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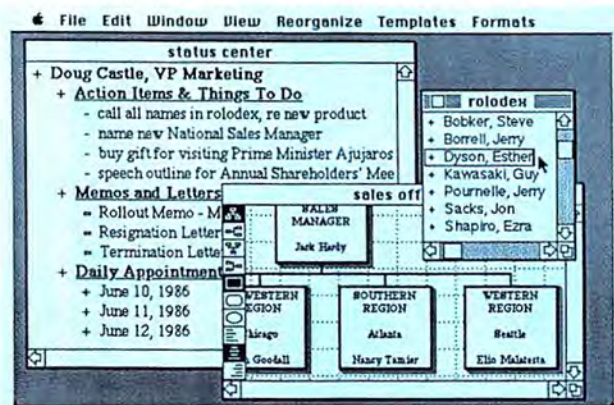
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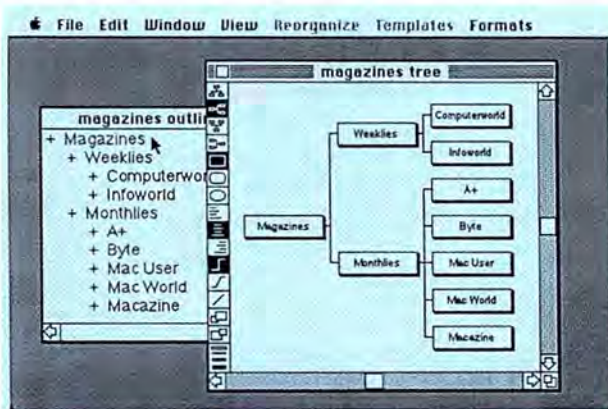
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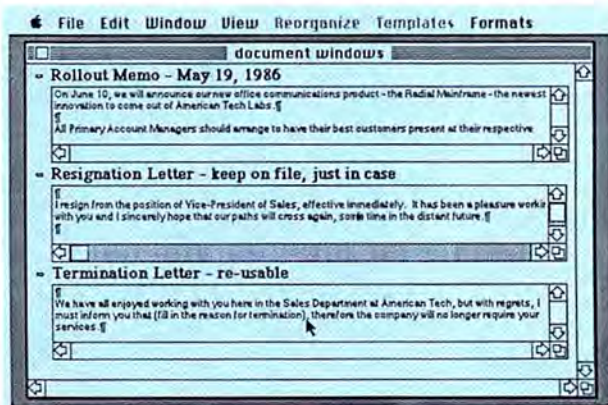


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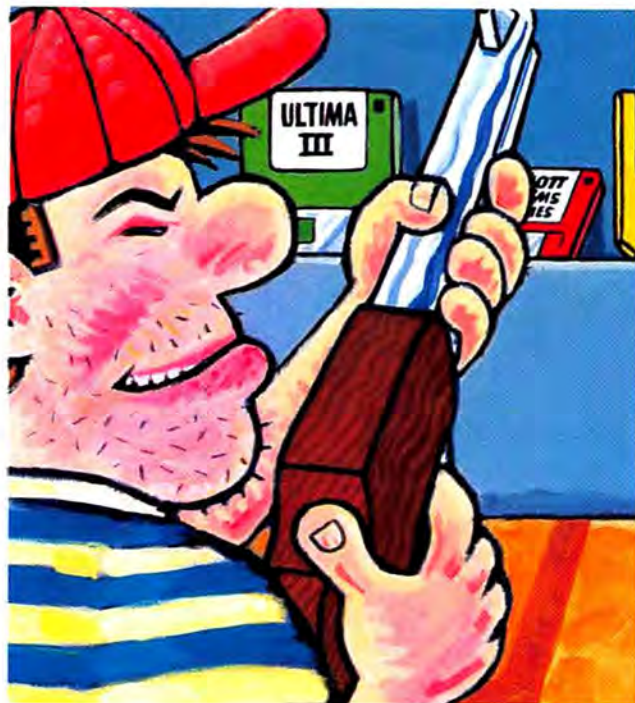
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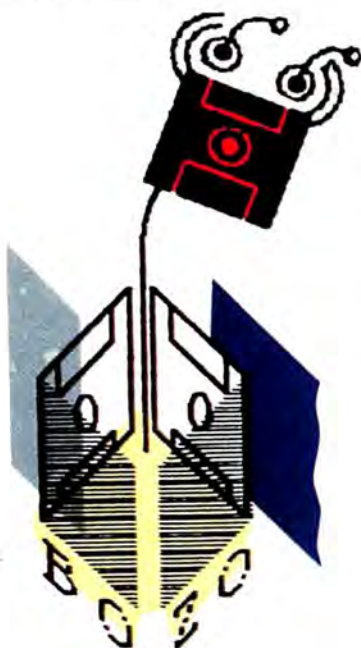
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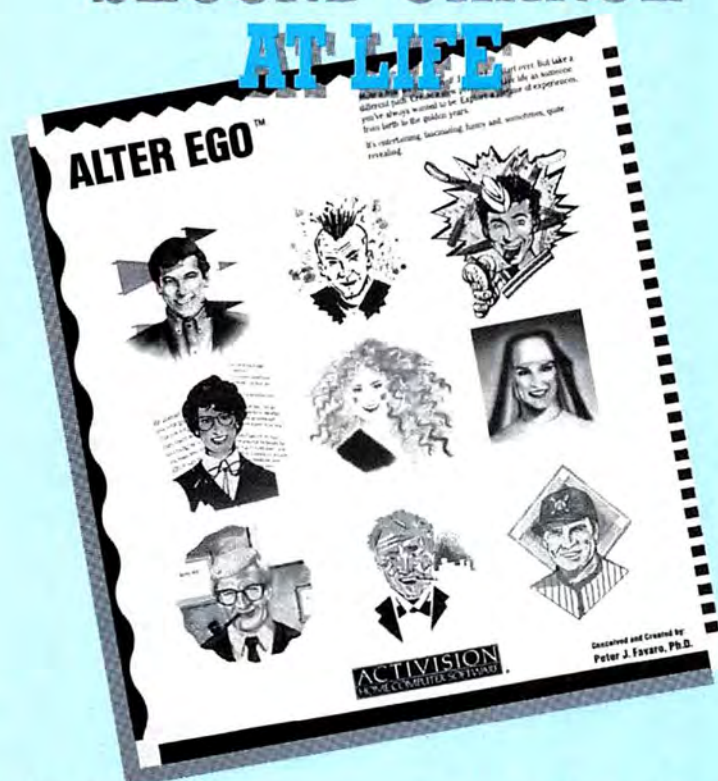
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by Neil L. Shapiro

## THE KEY TO SOFTWARE

**M**y first introduction to a key club came when I was about eight years old in the mid-fifties. My uncle, who must have been around 18 then, joined one of the first Playboy Clubs and received a gold-plated key as a token of membership in Hugh Hefner's just-burgeoning society. He flashed that key so often that it hardly seemed to matter that the closest Playboy bunny was a good 350 miles away.

Impressionable youth, I vowed that someday, I too, would be a member of a key club. But, alas, time tarnishes all dreams. I understand that if you join the Playboy Club these days you get a gold-colored, plastic credit card instead of a real, shiny gold key. I also know that there are some key clubs in which you just wouldn't want to be a member. A good example was my next experience with a key club. It came in the late seventies when I visited a friend who was then working for Hayden Publishers. He too was interested in keys, but not the bunny variety.

Instead he gleefully asked me if I would like to see the future of software, a device that would save all software publishers from the onslaught of software piracy. From he assured me, a revolutionary concept that I would just love.

So, OK, what was it? He pulled from his desk drawer an unassuming device. For you techies, it was a DIP header block; the rest of us would describe it as something that looked pretty much like one of the smaller chips in our computers but about four times as thick.

The plan, he told me, was to package it with a new compiler program for the Apple II that Hayden was then coming out with. The little device, which he called a "hardware key," would plug into the Apple's internal game (joystick) port. Each program would be packaged with such a hardware key and the disk would be unprotected. But the program would not run at all without the key being plugged into the computer. So, a legitimate owner could copy the software many, many times and satisfy any paranoid desire for multiple backups without having to resort to nibble programs and

parameter changes. But if a pirate tried to hoist the Jolly Roger on that program, his or her hopes would sink to the bottom of the sea since, without the hardware key, the floppy disks became only simply odd-shaped and not very aerodynamic frisbees.

He looked at me. I looked at him. We both looked at the hardware key. I wondered why a cold chill of premonition swept along my spine....

Within a year I had about four or five program with hardware keys. Each program was a utility of some sort — a programming language, terminal program, that sort of thing. They were all real productivity tools that I used quite a bit. This meant that every time I wanted to change from one program to another I had to swap one hardware key for another. That was probably the most annoying thing that anyone who has



never actually been tortured can imagine. But the swapping was nothing at all compared to the horror of hardware key failure.

My mother-in-law is a wonderful lady, except that one day she killed one of my hardware keys. I was writing a book on telecommunications and was using a certain terminal program both as a prime example in the book and as a tool to help me download such things as menu structures and command lists from various networks and electronic BBSs. The terminal program used a hardware key.

One day I left the hardware key on the side of my desk instead of in the little hardware key box I had designed. The key fell off the table (I don't know how) and my mother-in-law stepped on it and crushed it into shattered plastic oblivion.

I was desperate. I had a deadline to meet on the book and my terminal program wouldn't work. Luckily, I was friendly with the author of the program. I called him up and began screaming incoherently. He told me how to use a disk editor to change the program so

that it wouldn't need the hardware key to run.

After seeing the terrible fix the hardware key had placed me in he also determined that all future versions of his product would no longer be protected by hardware add-ons. He is still in business and his terminal program (completely unprotected now), in a new version, is one of the best sellers for the Apple II. So, he survived that decision.

Gradually, people began to hate these little keys that clunked around in software packaging. They were time bombs waiting to go off; no more than one person's distrust of other people made into an integrated circuit.

In about another two years, after a very brief period of popularity, the hardware key vanished from the realm of personal computing. I think many, many people must have sighed with relief. And so things stood until just recently.

The Macintosh is a funny machine when it comes to copy protection. The easiest form of protection is built into the system's *Finder* routines. The "Finder Attributes" may be set by a programmer to achieve various means of protecting programs from illicit copying.

The "invisible" bit can be turned on so that a file cannot be seen on the desktop. This now invisible file can then be hunted for by the application program. No invisible file? The application will not run. The "protect" bit and other such attributes work in similar ways. But it is very simple to defeat these *Finder* attributes with any number of public-domain and commercial disk editors.

Other protection schemes are based on the Mac's extremely smart and fantastically controllable disk drives. Some publishers have moved into very esoteric schemes to copy protect their products. These schemes involve everything from "bad sectors" to laser scratches burnt into the surface of the disk.

While we can debate the merits of copy protection forever, one thing is, at this point, undebatable: every method tried so far has failed. I am not aware of any program for the Macintosh that features a software protection scheme that has not been "cracked." Copy protection does not work, at least not much longer than the first few months of a product's availability.

Unfortunately, one other thing is also undebatable: There are people who think that pirating software is not low and dirty thievery. (They are mistaken.) So, software manufacturers are always on the lookout for new and better ways to improve their copy protection in order to stay one step ahead of the lowlife. The



latest solution to rear its Medusa-like head is the hardware key.

This is something which we, as a community, cannot allow to happen. It is, in my opinion, bad for everyone concerned, be they end user or manufacturer. The hardware key can spell disaster for anyone that has any sort of stake or interest in personal computing in general and the Macintosh in particular. Here's why. The scheme that is now going around is that the Macintosh hardware key will be easy to use. Rather than having to swap the keys for various programs, one key can protect six to eight programs and these programs may be from various manufacturers. It will just be a "coding" step needed for each program. The key itself will plug onto the serial port in the back, easy and convenient to reach. All of this sounds great but it leaves out a few problems.

The first problem is that nothing lasts forever — including hardware keys. Sooner or later some of the keys will malfunction or be damaged (maybe by a mother-in-law). The programs dependent on the use of the damaged key will cease to function. All of them will cease to function. *All*.

For some foreseeable future it will be possible to mail the key in and get a replacement. Of course even then, there will be that long delay (it will seem long even if it is short) before the programs that are now locked away from their rightful, legal, responsible owner can be accessed again. But isn't it also possible that the company making such a key may go out of business? That the key may someday be irreplaceable?

More importantly, is this a solution even for the manufacturer? I don't think so. There are three main reasons for people breaking copy protection. They are: simply because it is a challenging thing to do; the need for backups or hard-disk runnable copies; and to pirate. The people who break copy protection with pirating in mind are the minority. But once the other two groups break the protection then always, somehow, the software finds its way to the pirates.

A hardware key is simply the most challenging copy protection to defeat. And it is defeatable. All that will likely be needed will be some working knowledge of *MacNagy* or a different disassembler to poke around in the code and find out where the program looks for the key.

Presto, — in the click of a mouse the program no longer will need the key.

People will be able to have backups that do not call for the key. They will be able to place it on a hard disk and move the disk from machine to machine without worrying about the key. And, yes, the pirates will have the program too.

The real solution to this dilemma lies not in copy protection or in hardware keys. Educating the public to the fact that piracy hurts everyone can truly protect the software industry. The money that companies presently put into copy-protection schemes and into such designs as hardware keys would be far better spent on public education.

The solution certainly does not lie in all of us allowing ourselves to be potential victims of hardware problems that may make our software dollars so much vaporware.

I recommend that we learn from history. I do not personally intend to purchase any software that requires the use of any sort of hardware key. I suggest that everyone reading this plan on doing likewise. This seems the best way to get our message across.

This is one key club I'll not join. ☹

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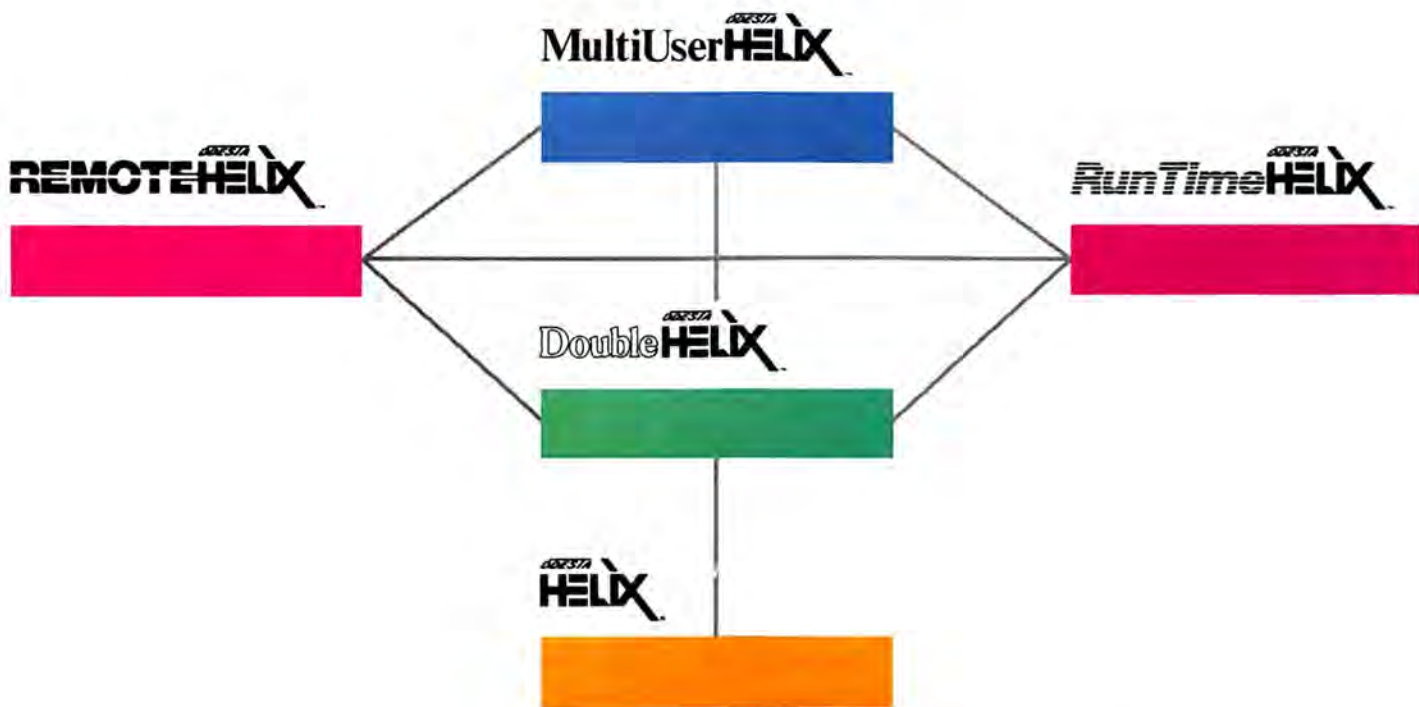
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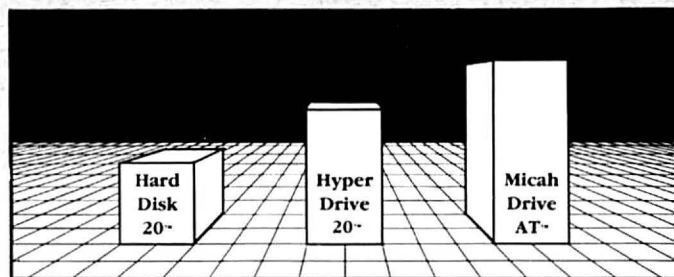
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**RICH MAN, POOR MAN?**

I greatly enjoyed your column, "The Famous Computer Columnists' School," (April 86). Great good fun. And when I saw myself listed alongside Wozniak and Budge as a "Rich Computer Person," I really had to laugh. I've been publicly bemoaning my poor royalties for *Balance of Power* — now nobody will believe me! Oh well, any time you want to hang out with me, my sheep, ponies, dogs, cats or ducks, you're welcome to give us a call. You can even pump my friend Betsy for "inside stuff." Betsy's a burro....

CHRIS CRAWFORD  
SAN JOSE, CA

**IT'S ALL IN THE CODE**

Thank you for your informative article on the new Macintosh Plus. Like many others, I have tried out the new machine in stores, and it looks like a real winner.

Has Apple changed the machine codes in the new Mac Plus? If so, does that mean that the codes found in *Inside Macintosh* won't work with the Plus? Please advise.

EDWARD A. COWAN  
ARLINGTON, TX

If you're referring to A-trap codes, they're the same. All the Toolbox calls work fine; in fact, there are a number of new ones. But the addresses of the calls may be different; be sure to use the "Get Address Trap" trap to locate correct addresses.—DB

**EAGLE EYE**

How about this Mac Bug of the Month: The cover of *MacUser's* March 1986 issue features a Mac that isn't a Macintosh Plus. The keyboard gives it away. The Plus has no indent of the keys on the lower left (or right) corners, unlike the original keyboards. The keyboard on the cover has the indents.

Guess you couldn't get a Plus in time for your deadline?

MIKE KENT  
VALPARAISO, IN

You've got good eyes. While preparing that article we saw a Mac Plus and got hands-on time, but we weren't able to photograph it. And we missed cropping off that corner! — SB

**A MINUS FOR THE PLUS**

I got a Macintosh Plus when it was brand new and it's a great computer. The megabyte really helps; I can install *Write*, *Paint*, *Draw* and *Word* in memory using *Switcher*, which is very convenient.

One thing that prospective buyers should be aware of, however, is that the

Mac Plus is not totally compatible with all the original Macintosh software. The Plus uses a different procedure for high-speed graphics, so something like *Airborne* is likely to produce a blank area on the screen where the action is taking place. To me this is a major design flaw. Actually, most Mac programs do work on the Plus, but this kind of inconsistency is annoying to action game lovers like myself.

JOHN WOLFENDEN  
CHAPEL HILL, NC

*Airborne seemed to work fine for us on the Mac Plus. The game problems tend to crop up with programs that use a technique called "screen flipping" to achieve their animation. The original Mac technical documentation discouraged using this technique, to ensure compatibility with future Macintosh architectures.* — DB

**WISHING ON A MAC**

I am the owner of an Atari 520 ST Monochrome System. I started reading Macintosh-related magazines when I was trying to decide which 16/32 bit machine to upgrade to. When I picked up your first issue, I was very impressed. All of the aspects of *MacUser* are far superior to any other computer magazines.

With *Antic* and *Analog* I have about 30 minutes of reading, whereas *MacUser* takes me several days to read. Your magazine is really jam packed with information. How do you all do so much in a month's time? I like the Macintosh but it costs too much for my pocket, so I had to settle for the Atari 520ST.

Even though I own a rival computer (hey, don't hate me!) I will continue to buy *MacUser*. I only hope there will be a magazine as good for the ST someday!

SCOTT DOWDLE  
MEMPHIS, TN

**A-B-C-D-E—FONTS**

This concerns Dan Cochran's answer (April 86) to Bruce Selzer, who asked about alphabetizing his font menu. Dan indicated that there are only two ways to do this: upgrade to a Mac Plus, or empty all fonts from the System (an impossibility, by the way) and re-install them in inverse alphabetical order.

Readers should be aware that there is a simple 2K public domain application called *SortMenu*, available in many User Group libraries, that does exactly what Selzer wants. Drag it to the System disk, run it once, and thereafter the DA and font menus automatically alphabetize themselves. This is both cheaper and easier than the two methods recommended.

User Groups that don't already have *SortMenu* can get it by sending a formatted disk and SASE to me c/o UUMUG, 338 OSH, University of Utah, Salt Lake City, UT 84112.

BANGS L. TAPSCOTT  
SALT LAKE CITY, UT

**BEST OF THE REST**

I'm puzzled at the exclusion of many established products, while several limited or discontinued ones are listed in the *MiniFinders*. In particular, I notice the omission of CE Software's *MockPackage* programs. Not only is it some of the most productive and well-designed software, and a real value for the price, its *MockWrite* bolsters one of the weakest Mac categories, word processing.

DENNIS B. APPLETON  
LYNBROOK, NY

**NO BACKTALK**

*MiniFinders* is a favorite feature. I am surprised that the advertisers have not forced you to stop publishing it.

ED C. EPP  
SUNDERLAND, MA

**THE TIME HAS COME**

Word processing is probably the most used application on all computers. I haven't seen an update on the "state of the art" in the Macintosh environment relative to this application for some time.

It would be of great interest to learn what has happened to the word processors, spelling checkers, and other types of word processing enhancement utilities for the Mac. I know there are new programs but I haven't the faintest idea about which ones are worthwhile. I would also like to know if any progress has been made in the area of print spooling and buffering, especially for



# SQUINT! SQUINT! SQUINT!

## THE VERDICT'S IN THE FINE PRINT!

### SO WHAT DO "THE REST OF US" THINK OF MACUSER?

"Premier Issue looks like a winner!" David LaComb, Schenectady NY 12304; "Best of the bunch!" Patrick J. Flynn, E. Lansing MI 48825; "Great first issue; keep it up!" Charles Fisher, Los Altos CA 94022; "The 'Macintosh' of Macintosh magazines. MacWorld now has a standard to shoot for." Devin B. King, Anaheim CA 92806; "Very pleased. I like it." Trent Reese, Austin TX 78750; "Excellent — well written and informative." Dr. Donald L. Kane, Satellite Beach FL 32937; "Reviews and ratings are the best." William R. Anderson, Rio Grande City TX 78582; "Very, very nice. But don't stop here!" David Wheelless, Midland TX 79701; "Super ideas - more!" James P. McIntyre, Louisville KY 40219; "Looks like a very good publication!" H. James Rosenberg, Chicago IL 60602; "Good! No gosh-wow articles. I hate gosh-wow articles. Keep this level." Merryl Gross, Lake Grove NY 11755; "The first issue set a very high standard of usefulness." Roscoe Fitts, Sweet Briar VA 24595; "Great articles. Best of any so far." R. Ponton, Visalia CA 93279; "It's great! Keep up the reviews and programming articles." Devon L. Petty, Hanover NH 03755; "About time a magazine for real Mac users came out." Gabriel Davidov, Dallas TX 75248; "Excellent!" Brett Sage, Jacksonville FL 32211; "Excellent!" M.J. Head, Wylie TX 75098; "It's great!" Denise Sims, Stockton CA 95207; "Excellent!" Nick Hademenos, Riverside CA 92504; "Best 'beginner' Mac magazine." Mark Davis, Los Altos Hills CA 94022; "Excellent product capsules." D.G. Detling, Oakland CA 94604; "Very good. Maybe very, very good" Charles Preston, Anchorage AK 99521; "Nice magazine. Much better than MacWorld." Richard Clone, Dallas TX 75219; "Very useful!" Jos. L. Anderson, Boston MA 02134; "The best Mac publication on the market!" Robert J. Milko, Oakton VA 22124; "Excellent!" Steven P. Young, Brooklyn NY 11218; "Best (Mac) magazine I've seen yet." Craig Dugas, Lake Orion MI 48035; "Excellent. Finally a new magazine to outdo MacWorld." David Lawrence, Anaheim CA 92804; "More informative than MacWorld." Tim Whelan, Regina Canada S4R 3E8; "Best I have seen yet. Keep it up." B.W. Murray, Richmond, Ontario, Canada; "Looking good!" H.M. Jakobsen, Jacksonville FL 32217; "Excellent." Bradford J. Sandler, Springfield PA 19064; "Excellent. Very fulfilling to read!" John Yeh, Honolulu HI 96815; "Great format, worth the money." R. Shuhert, Chicago IL 60690; "Lively format and writing. Enjoyed the articles thoroughly." Scott Brown, Wetherfield CT 06109; "Thanks!" Harvey Markley, Indianapolis IN 46222; "Very useful." E.M. Schaffran, El Cerrito CA 94530; "Excellent magazine." Gary Gross, Warren MI 48093; "Very good. Keep up the good work." R. Meynard, Longueuil, Quebec, Canada J4L 3J9; "Really impressed! The articles don't seem as biased as some magazines." R. Grasser, Grissam IN 46971; "A very cool alternative to MacWorld!" Greg Griffin, Westminster CA 92683; "Good, practical first issue." Theodore S. Darany, San Bernardino CA 92402; "Interesting and informative." J.E. Gwyn, Dover DE 19901; "Excellent first issue!" Tom Tarvin, Milford MA 01757; "An excellent first issue." Dr. James M. Todd, Brattleboro VT 05301; "Articles are good and useful." Forrest D. Reece Jr., Vero Beach FL 32961; "Great start." John Novak, Detroit MI 48221; "I love the magazine. It gives me good info." Andy Malucelli, Lafayette CA 94549; "Great! I particularly like the in-depth test reports on software." Steven A. Hale, Waltham MA 02154; "Very informative. Good, wide spectrum." Steven W. Norton, Utica NY 13501; "Great mag. Lots of info." Bob Colmer, Clearwater FL 33515; "Excellent. Loaded with information at all levels of experience." Alan E. Baltis, Elk Grove IL 60007; "Wonderful!" Jeff Scholl, Fairfield CT 06430; "Great! Watch out MacWorld!" C. Von Rosspach, Santa Clara CA 95051; "Best Mac mag yet. Thanks." Thomas L. Clough, Elgin IL 60120; "Fantastic magazine for the Mac." Michael G. Coffey, West Valley City UT 84120; "This magazine is great." Anthony Macias, Weaver AL 36277.

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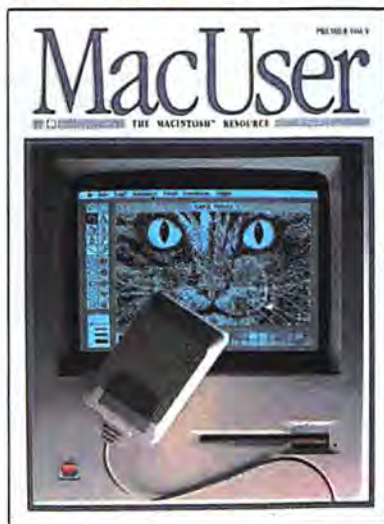
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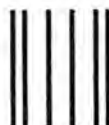
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**Word.** Is there a chance I'll see an article in *MacUser* covering these issues in the not too distant future?

JERE BASHINSKI  
OAKLAND, CA  
Yes. — SB

### THE FUTURE IN STRIPS

**W**hile reading Steven Bobker's article on the Cauzin Softstrip system, I could not help but think about the impact the device could have on the marketing of disk-based software. Now, for the price of a magazine ad, software publishers can send a demo version of their products to thousands of computer users.

Hopefully, the Cauzin System will catch on and desk top commercials will offer the user a new way of deciding which product to purchase.

MARK GLANDON  
CHILLICOTHE, OH

**I** have purchased a Cauzin Reader for use with my Apple Macintosh. The fit and finish of the mechanism are superb. The software is simple and easy to use in the finest Mac tradition. I have used it to read every softstrip I can get my hands on. The reader has performed perfectly, although some strips have required a second try.

So, now it's up to you. I have voted with my wallet and hope that you will support me. My reader is all warmed up and waiting.

MURRAY FOSTER  
FAIRFIELD, IA

*Starting with this issue, we'll be running at least a page of Softstrips every month. We'll include art from the Picture Palette, the best of public domain software and code listings from programming articles.* — SB

### FOR THE RECORD

**W**e appreciate your review of *Record Holder* (Quick Clicks, April); however, we would like to clear up two misconceptions. *Record Holder* provides full font support: newly created fields get the default font, but the font can then easily be changed. Also, though we don't provide LaserWriter system files, *Record Holder* works fine with the LaserWriter on a properly configured system.

On a separate note, we are now shipping version 2.1, which added several new features and enhancements including optimizing LaserWriter printing to make it much faster. We are sending this version as a free upgrade to all owners of the original *Record Holder*.

LAWRENCE C. KUEKES  
SOFTWARE DISCOVERIES, INC.  
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## MEDICINE FOR A SICK MOUSE



Is your mouse ill? Do you move it, only to find the cursor remaining obstinately in place? Have you cleaned the critter, only to find the problem is still there?

One sure cure is a new mouse. You can probably get a new mouse, but official Apple mice have a suggested list price of \$106 and the alternatives, such as Assimilation's

TurboTouch or Mouse System's A+ Mouse are not that much cheaper.

Another route is to replace any parts that are bad. What? You didn't know that was possible and neither did your dealer? Well, it is. Here are some parts, numbers and prices: new ball, PN 699-8001, \$9; retaining ring, PN 815-0409, \$1.80; cable, PN 590-0320, \$21; reconditioned mouse, PN 661-96155, \$36. Those are dealer prices; you should expect to pay more.

The reconditioning option requires that the ill mouse actually be sent to Apple. The whole process can take a week or two, so you should try to get a loaner for that period.

—SB

## DEATH NOTICE

Apple Computer, Inc., announced the passing of the Macintosh 512K personal computer on April 14, 1986. Its corporate role will be filled by the Macintosh 512K Enhanced personal computer, which contains the new 128K ROM chip set, an 800K, double-sided disk drive and 512K of RAM. The replacement computer will have the same keyboard, IO port arrangement and list price (\$1999) as the departed. It will not come with *MacWrite* and *MacPaint*. The new machine is available now. Spare parts and services for the departed are expected to be available indefinitely. —SB

## WE'RE SORRY

In our April issue, on page 143 in the *Picture Palette*, we published a stylized portrait from Alan Stevens. This illustration was, in fact, a close copy of an illustration by Marcos Oksenhendler that appeared in the New York *Sunday Daily News* on Dec. 1, 1985. We would

like to apologize to Mr. Oksenhendler and the *News* for this unintended plagiarism.

From now on, we can only accept digitized images if accompanied by a signed assurance that they represent original work. "Original work" does not include

modified versions of other peoples' creative efforts, whether fine art, photographs or illustrations.

Please don't let this stop you from using the Mac to its and your fullest potential, but be aware of the ethical and legal issues involved in creating artwork.

## THE MISSING 9K

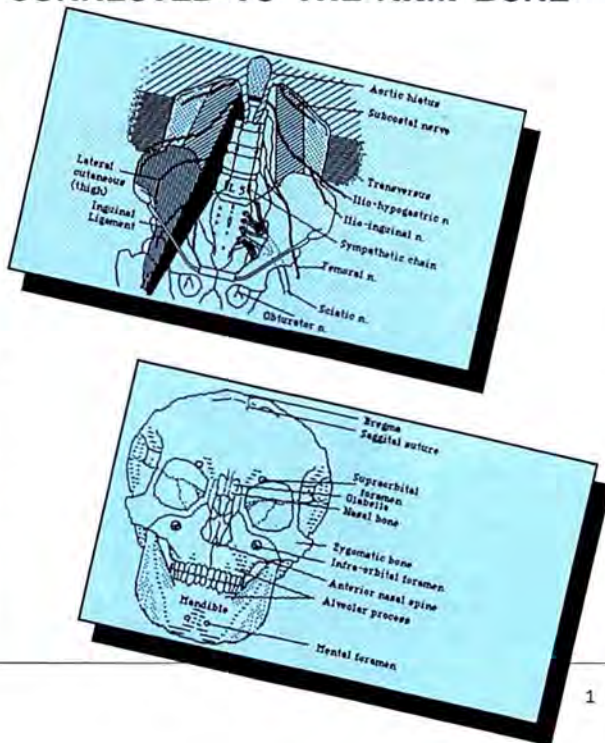
Sharp-eyed users of System 3.x and Finder 5.x have noticed that their former 400K disks now hold only 391K! What happened to the missing 9K, and, better yet, what happens when you stick a disk that had 90K available, that was loaded right up to the 400K mark, into this environment? Do you lose 9K of data, and, if so, how does the Mac determine which 9K to eliminate? A bad choice could be fatal to the disk!

The answer is simple, reassuring and somewhat historical. Nothing is lost! It's just that a K (or kilobyte) is now calculated accurately (as 1024 bytes). However, when the Mac was originally designed, it was decided that it would be easier for users to work with K's of exactly 1000 bytes. That strange accounting has persisted until now. The new System and Finder correctly convert the old (and larger) sizes to the correct, new values. As a check, multiply 391 by 1024. You should get 400,384, or 400K (in the Mac's old way of measuring K). —SB

## THE HAND BONE'S CONNECTED TO THE ARM BONE

Do you know the difference between your femur and your fibula? With the visual aid of *MacAnatomy*, you can find the answers fast.

*MacAnatomy* is an electronic atlas of human anatomy in full-sized *MacPaint* documents. Each disk contains fifteen pages, with six to eight drawings on each page, and there are four disk volumes available. Volumes cost \$95 each, \$350 for the complete four-volume collection. For further information, contact MacMedic Publications, Inc., 5805 Westheimer, Houston, TX 77057, (713) 977-2655. —RBK





# NEW ON THE MENU

## CAN THE JACKINTOSH BE A MACINTOSH?

At the recent West Coast Computer Faire, Data Pacific Inc. showed a product called a Mac Cartridge, a device that makes the Atari ST emulate a Macintosh when it's plugged in. It reportedly worked very well with programs that aren't too heavily copy-protected, and InfoWorld colum-

nist Jerry Pournelle wrote that the Mac-compatible ST ran *Excel* 20 percent faster than a Mac.

Don't go rushing down to your computer store just yet, though — Data Pacific uses the Mac's own ROM chips, which were bought from Apple, but the legal status of the

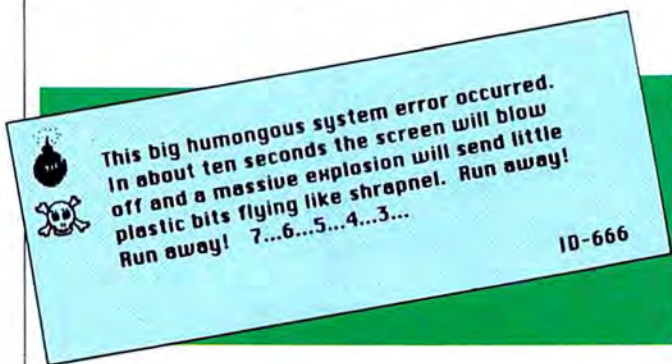
product is still somewhat hazy. Until Apple gives Data Pacific the green light to sell (or decides instead to pull the plug), the Mac Cartridge will not be available to the public. Contact Data Pacific Inc., PO Box 10805, Marina Del Rey, CA, 90295 for more information as it happens. —TFH



## NOT THE DIALOG BOX OF THE MONTH, BUT...

This mock error message was created by Al McAnespy of Houston, TX. A \$25 check has been sent off for his great sense of humor. Got something funny you'd like

to share? Send it on in to MacUser Funnies, MacUser, 25 West 39th Street, New York, NY 10018. Stick with us, kids, we'll make you a star!—TFH



## HELP IS IN THE CARDS



ALEX QUESADA

For those of us who are novice Macintosh users, or forgetful users, there is a helpful "desk accessory" called *MacHelp*. It is a snugly fitting cue card that is available in two sizes to fit either your Macintosh monitor or your keyboard, depending on how you use your Mac.

The *MacHelp* cue card displays keystroke shortcuts for Macintosh programs. You can take the guesswork out of

using popular software by using this reference guide.

*MacHelp* offers cue cards for five programs: *Word*, *Multiplan*, *Excel*, *Jazz*, *MacWrite* and *MacPaint* (the latter two are combined). Each cue card is priced at \$14.95. For further information, contact B. Christoffel, MacHelp Products, 630 W. Westleigh Rd., Lake Forest, IL 60045, (312) 295-1182.—RBK

## RUMOR MANAGER

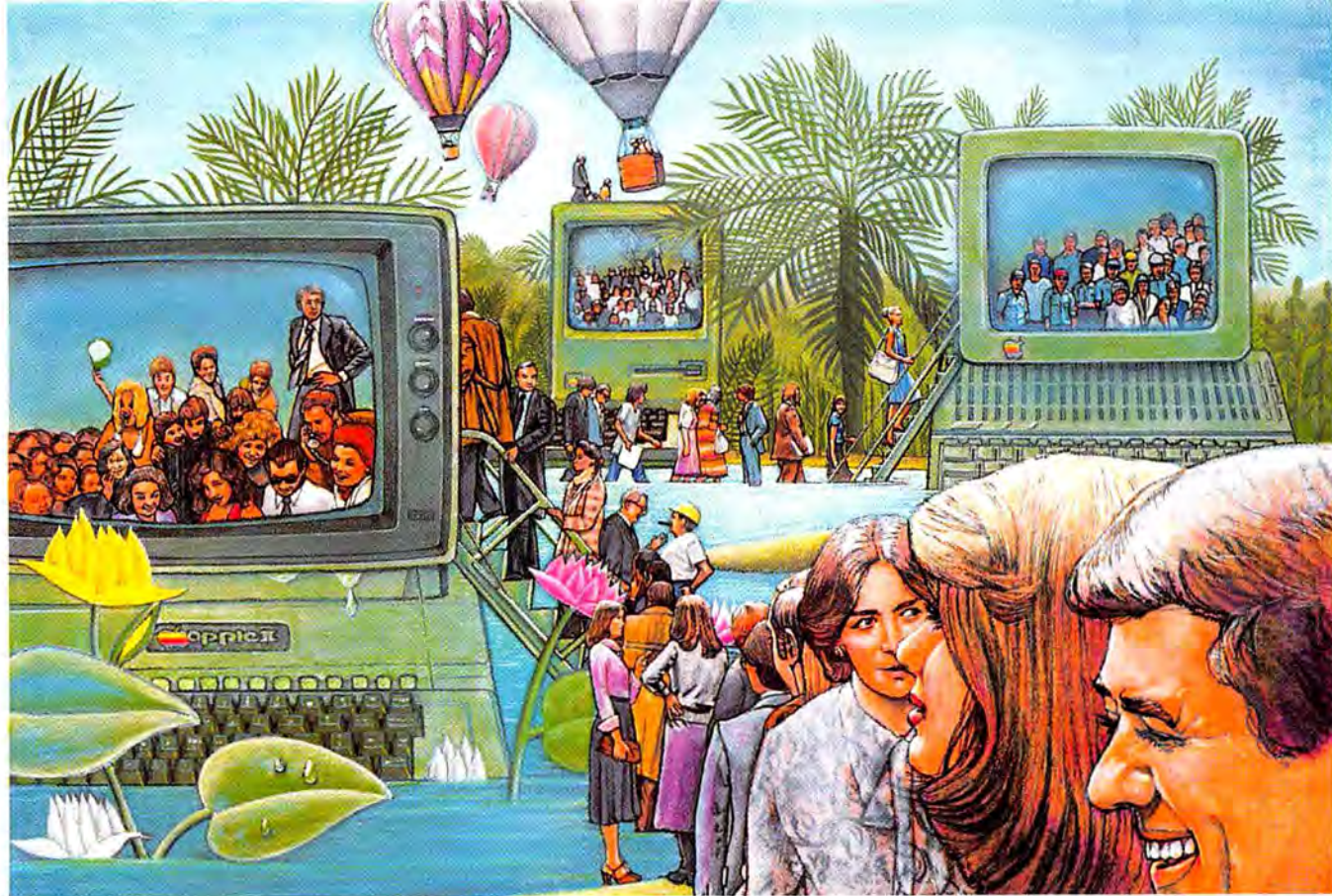
At least three different companies have color laser printers in the works. It seems the major problems are with the toner cartridge .... Ashton-Tate, with several excellent Mac products on its shelves, will actually get one to the market .... Recent developments in the Middle East have resulted in a large order of Macs canceled at the last second in a high-technology embargo .... Doug Clapp is debating a second career as a country and western singer.

Those who have seen him say he's a sure thing, but those who have heard him aren't so sure .... A supersophisticated home robot is in the works, and guess which computer will be its front end .... The game company squeeze is about to reach a critical point, with major players frantically bidding for what amounts to each other .... Steve Jobs has reportedly broken it off with his punk rock friend, but he was recently seen lunching at Spago with the gorgeous

star of a prime-time soap .... Apple will be producing and marketing its own really terrific new Mac software packages .... Plans for a laptop Mac have been temporarily shelved due to trouble meeting FCC regulations .... Coleco, the company that nearly went down with its Adam, is said to be readying a color Mac-compatible for release sometime in 1987. Maybe the new computers will be crafted in a cabbage patch? .... The proliferation of Mac

shows will continue unabated (see you all there) .... Commodore is considering having third-party developers use the Amiga's custom graphics and sound chips to produce a coprocessor board for the upcoming "open" Mac, giving it an Amiga emulation mode .... The price of AI products will drop to the value of the programs (in some cases, that means they might have to pay you to use them) .... A holographic display for the Mac?





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# NEW ON THE MENU

## FOR A SONG

Lotus has introduced an enhanced version of *Jazz*. Version 1A has a retail price of \$395, and claims to access the disk faster than the previous edition. It also features full LaserWriter support, and eliminates the key disk requirement for running the program on a hard disk. *Jazz 1A* can address up to 1 megabyte of RAM to permit larger documents. See your dealer for details or contact Lotus Development Corp., 55 Cambridge Parkway, Cambridge, MA 02142, (617) 577-8500. — TFH

## UPDATES

Do you have the latest versions of your programs? Most programs indicate what version they are when you look in the About . . . choice at the top of the Apple menu. If your version isn't the latest, contact the publisher about possible upgrades. Look for addresses in our MiniFinder section. Here's our list (as of press time). — SB

Aztec C	1.06g	MacBase	1.0
BatteryPak	1.11	MacDraft	1.1
Balance of Power	1.03	MacLabeler	2.0
ClickOn Worksheet	1.3	MacNosy	2.1
ColorChart	1.3	MacPaint	1.5
ColorPrint	2.01	MacSpell+	1.1
ConcertWare+	3.0	MacTerminal	2.0
Copy II Hard Disk	5.2	MacTools	4.5
Copy II Mac	5.2	MacWrite	4.5
Crunch	2.0	Mac Zap Copier	4.1
Dollars & Sense	1.3	Mac Zap Tools	3.5
Excel	1.01	Mac Zap Patcher	3.1
ExperLISP	1.04	MeasureTest	3.6
ExperLogo	1.1	Microphone	1.0
Factfinder	1.1	Micro Planner	1.1
Fedit	3.8	MS BASIC	2.1
Finder (HFS)*	5.2	MS Chart	1.00
Finder (MFS)*	4.1	MS File	1.01
FONTastic	2.7	MS Fortran	2.1
Font/DA Mover	3.1	MS Word	1.05
Fontographer	2.0	Multiplan	1.1
Hard Disk Utility	1.2	MusicWorks	1.1
Hayden Speller	1.2C	Omnis 3	3.10.MAC
Helix	2.0 r5	OverVUE	2.0d
Home Accountant	1.03	PageMaker	1.2
ImageWriter Driver	2.2	QUED	1.4
InTouch	2.1	Quickset	2.0
Jazz	1A	Rags to Riches	2.6
Just Text	1.1	ReadySetGo	2.1
LaserWriter Driver	3.0	Red Ryder	9.0
Draw	1.9	Resource Editor	1.0d11
Mach 1	1.1	Slide Show Magician	1.3
MacBackup	3.5	Smartcom II	2.2B
		StatWorks	1.2
		Switcher	4.9
		ThinkTank 512	1.2
		ThunderScan	3.1
		Top Desk	1.2
		TurboCharger	2.0
		VersaTerm	2.00
		*HFS is Apple's new Hierarchical File System that comes in ROM in the Mac Plus, MFS stands for Macintosh File System and is the old, "regular" file system.	

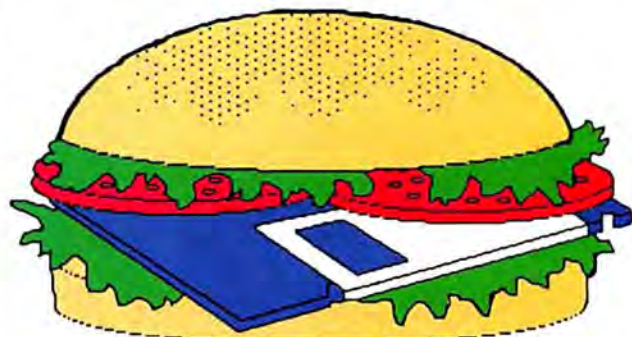
## BUG OF THE MONTH

This month's winner is Fred Schwartz from Ithaca, N.Y. Fred uncovered a nasty little critter in Microsoft *Chart*.

He explained that *Chart* has some problems dealing with stacked charts that contain negative values. When a stacked chart is created, any negative data values appear as positive values, resulting in an inaccurate chart. Instead of using the negative numbers correctly, *Chart* apparently sees them as their absolute values. The absolute value

of a negative number is the same number, only positive. This problem occurs with all of the different chart types.

A \$25 check has been sent to Fred. Get your bug reports in and you may be the next lucky winner. Send your reports to Bugsy, c/o *MacUser Magazine*, 25 W. 39 St., NYC, NY 10018. Remember to include all the details, such as what *Finder*, what fonts and desk accessories were in the *System*, and exactly how you stumbled on your bug.



Yes, but does it run *Excel*?

## BEWARE! LAWYERS ON THE LOOSE!

Recently, the New York Mac Users' Group (NYMUG) tried to register its newsletter's name (*Mac Street Journal*) as a trademark. As a result, NYMUG has been sued by both Apple Computer and McDonald's.

Apple's suit protests the use of the name since, in their not-very-humble opinion, it "is likely to cause confusion in the minds of the trade and of the public that [NYMUG]'s goods . . . are licensed, sponsored or otherwise offered by [Apple], whereas, in fact, they are not." Furthermore, Apple's brief claims that the use of the name is a "patent attempt to deceive the public . . . by hitching a free ride on the reputation" of Apple. It's not clear what is required of NYMUG — possibly donations of labor to the Mac assembly lines. If this wasn't so sad, it would be silly. I guess the

legal department has to justify its existence sometimes.

If you thought that was bad, read on. The hamburger people are unhappy with the use of Mac as prefix, in general, and in the title of this newsletter, in particular. They sent NYMUG a 42-page brief (isn't it wonderful what happens when you combine boredom with copying machines) that includes every trademark McDonald's has ever held (no, there has never been a fast food Mac Street Journal). They also offered NYMUG a generous deal: NYMUG could register its newsletter title as a trademark, as long as it refrains from using the word "Mac" in any advertising or editorial copy. I think I'll remember their generosity the next time I have a fast food attack.

Anyone for a MacDefense Fund? — SB



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by Michael D. Wesley

## THE SOFTWARE ODYSSEY

Money!

Developers, publishers and purveyors of software are understandably interested in making lots of it. Some of them, particularly in the Mac marketplace, have had a difficult time doing that. Sales of Mac software have not lived up to expectations, causing some major publishers and distributors to pull out of the Mac market entirely, or to cut back heavily on their Mac investments. For many publishers, the sales of Mac products have not been sufficient to justify the (often enormous) development costs. Dealers who can move IBM or even Atari software see Mac products gathering dust and eventually phase them out entirely.

I was wasting time waiting for a movie recently and I walked into a ComputerLand store to look for a piece of software I needed. Granted, ComputerLand would not have been one of my top ten choices if I had set out specifically on a software hunt, but I was on foot in San Francisco and it was there.

I thought I might get lucky when I saw a Mac Plus on display in the front of the store, but as I checked out all the software displays on the walls I found one Apple II rack and about nine for IBM. No Mac rack. After walking around a while I found a stand-up display rack in the back with a hundred boxes of *MacProject* and a handful of each of the other Apple MacPrograms. Ever faithful, I approached a salesman and asked if he had *Smartcom II*. He gave me a sad smile and said I had found all the Mac products, although they did have the Microsoft line and *Jazz* — but *Jazz* was out of stock.

I figured I got what I deserved and left, but I did need a copy of *Smartcom II* and I had another hour to kill, so I walked about a mile to a specialist software store I had driven by several times. Fortunately the walk itself was fun and beneficial, because the store was not

much help. It had hundreds of software packages for Apple II, Amiga, IBM and Atari, but only about ten titles for the Mac, none of them particularly useful and none even resembling *Smartcom II*.

The salesman/owner came by very quickly when he saw me in the Mac section and said that he could offer me a great deal on any Mac software I wanted because he was unloading the stuff and would no longer carry it. He was almost apologetic as he told me that he liked the Mac, but Mac software just didn't move.

I finally found a copy of *Smartcom* later, when I had wheels under my feet again, at the store that would have been my first choice. This is a place that specializes in Mac products, sells everything at a 20 percent discount off retail and does so well that the owner just moved into a larger space and acquired an Apple dealership.

Why the difference? And what is it about the Mac market that sometimes causes people to dump Mac software? One suggestion I heard recently is that Mac owners are usually individuals, not companies, and are much more price sensitive than IBM owners. Certainly, off-price distributors and dealers seem to

market. I sympathize, but also disagree.

I'm a bit of a fanatic about the Mac interface and what we call in our press material "the Mac ethos." I believe that people designing software for the Mac should take advantage of its great capabilities and create software that literally could not exist on other machines. Some people are doing this now and I'd like to see more, not less. Forget the money, give us that sexy software! Besides, sex always sells.

### TRADE SHOW FEVER

I promise to stop talking about trade shows. Just as soon as they stop cropping up and providing useful information. The latest one that I attended was the Office Automation Show in Houston. It was a lot smaller and quieter than the Mac expos or COMDEX. It took place at Astro Hall, a small convention center sandwiched between the Astrodome and AstroWorld amusement park. Most of the floor space was taken up by enormous booths from IBM, Hewlett Packard, Apple, Honeywell and Xerox.

The people who filtered through the show all wore suits and tended to be corporate decision-makers looking for



be successful where others are not.

Maybe another reason is that a lot of early Mac buyers got burned with bad or late software and are more selective in their buying. Or maybe Mac people don't use as much software as IBM owners. It could also be that the market just isn't as big as it should be. How do you sell more Mac software? Sell more Macs!

Whatever the reason(s), comparatively slow sales of Mac software have put a lot of pressure on small and large developers, and may lead to a nasty trend. I have to sympathize with software companies that work hard to provide IBM versions of their Mac software because there is so much more money to be made in the PC

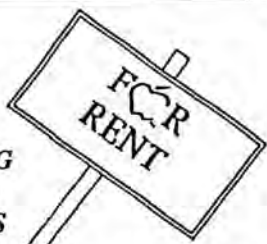
new systems to improve the efficiency of their departments or companies.

The only Mac products at the show were those displayed at the Apple booth. For the most part, these were "old" programs or had already been shown or announced at the Mac expo in February: multiuser *Omnis 3*; *MacServe* from Infosphere, running on an AST 4000; *Microphone*, *PageMaker*, *Word*, *Excel*, and *Jazz*, etc. and, of course, the whole contingent of Apple products.

Still, the show did have two items of significance for Mac owners. The first was simply Apple's presence at the show. Not only was it important for them to be there alongside IBM and the others, but the Apple booth carried the heaviest



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traffic throughout the show. And Apple set up a large hands-on section and gave desktop publishing workshops that were nearly always filled.

By its very presence, Apple made a clear statement that it intends the Mac and Mac Plus to have a major impact in the areas targeted for a heavy marketing push this year: desktop publishing, "desktop communications" (networking applications) and business productivity, a catch-all category for power tools like *Excel* and *Jazz*. Perhaps the Mac market will explode this year and make life easier for developers, publishers, distributors and dealers.

The second item that received quite a lot of attention, was the Xerox 6805 workstation, essentially unrelated, yet essentially related to the Mac. The 6805 incorporates much of the graphic desktop and windowing environment originated at Xerox, but seen first in the mass market on Macintosh. Unlike the Mac, the 6805 has a large screen display, a three-button mouse and the ability to run several operating systems, including (surprise) MS-DOS.

I noticed two major differences between the 6805 and the Mac. The 6805 screen was large enough to display a full page in actual size which made it much easier to visualize the final document and place things properly in their relationship to one another. But the layout process took a lot longer on the 6805 than it would have done on the Mac, and was infinitely more complicated. Every step seemed to require a return to one of many control windows, where font styles were adjusted or precise measurements entered. It took the demonstrator, presumably adept at the software, seven attempts to place a graphic properly, and the graphic itself never did appear on screen after 15 minutes' work — just a box where the graphic would be placed.

Newcomers touching the Mac for the first time at Apple's hands-on booth were generating finished publications in the same amount of time. Nevertheless, the 6805 is an impressive piece of equipment and an indication that more Mac-like office systems are on the way. And that Apple isn't the only computer company to notice the potential of personal publishing.

Speaking of desktop publishing, if you want to see what a Mac can really do, try to get a look at a copy of a poster that Aldus Corporation, the company that produces *PageMaker*, just sent out to announce a move to new headquarters. Created with *PageMaker*, *MacWrite*, *MacPaint*, the *LaserWriter* and digitized images, it's a stunning piece of work.

## SuperMac Dealers:

AK: Anchorage: Pictures Inc. 279-1515; Fairbanks: Empire Electronics; AL: Birmingham: AC3 Computing 942-9564; Montgomery: AC3 271-2211; AZ: Kingman: Computer Room 753-1711; Tempe: Computer Pro 829-7993; CA: Albany: ComputerLand 527-8344; Arroyo Grande: Computer Terminal 481-4860; Bakersfield: Computer Basics 339-5080; Computer Warehouse 327-3393; MicroAge 397-5864; Belmont: ComputerLand 595-4232; Berkeley: Winner's Circle 845-4814; Burlingame: ComputerLand 348-7731; Carmel: Computer Design 625-6150; Chico: Computer Center 891-1630; Concord: Infomax 889-2331; Costa Mesa: Coast Computer 646-8981; Dublin: ComputerLand 828-8090; Dublin Computers 829-8644; Fresno: OnLine Computers Plus 432-4324; Garden Grove: Inacom 898-2665; Hayward: Computer Center 538-7668; ComputerLand 538-8080; La Mirada: ComputerLand 739-0941; Long Beach: ComputerLand 595-6683; Los Alamitos: ComputerLand 594-6813; Los Altos: ComputerLand 941-8154; Los Angeles: Computer Showcase 474-6409; ComputerLand 837-5388; Los Gatos: West Computer 354-1210; Newport Beach: ComputerLand 476-8380; Oakland: ComputerLand 839-5230; Computer Store 763-7900; Palo Alto: Computer Attic 322-0639 & 328-0171; ComputerWare 323-7557; Pasadena: ComputerLand 449-3205; Petaluma: Executon 778-1242; Pleasanton: Home Business 646-3944; Rancho Cordova: A/C Computers 638-2242; Redwood City: Peninsula Office Supply 354-1333 and six other Bay Area locations; Riverside: Computer Kingdom 787-1142; Rocklin: A/C Computers 624-0601; Sacramento: Net Profit 638-0588; A/C 662-2100; Salinas: Peninsula Office Equipment 424-2103; San Diego: Byte Shop 565-8008; Computer Age 565-4042; Computer Merchants 565-2463; San Francisco: Software for Less 753-1066; Conroy Lapoint 982-6212; Computer Connection 781-0200; Computer Attic 398-4541; ERA Electronics 388-6361; Santa Ana: ComputerLand 929-2026; San Mateo: MicroAge Computer 348-2983; Santa Clara: Affordable Computers 249-4221; ComputerLand 246-4500; Santa Cruz: Affordable Computers 458-1644; Stockton: Stockton Computers 952-2028; Sunnyvale: Fry's Electronics 733-1770; Ventura: Computer Village 644-5226; W. 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Communications 549-8843; Little Neck: ComputerLand 423-5280; Manhasset: Computer Microsystems 627-5240; Melville: Computer Factory 351-8460; Merrick: Byte Shop 379-2983; Middletown: Computer Emporium 343-8740; Nanuet: Computer Factory 624-8006; NYC: ComputerLand/Third Avenue 624-8006; ComputerLand/Seaport 608-2266; ComputerLand 213-1000; Olden Computers 725-1234; Software Solution 608-9595; Computer Factory/52nd St. 664-0170; Computer Factory/Lexington 687-5000; Computer Factory/Broadway 344-0733; Computer Factory/47th Street 687-5000; Computer Factory/Maiden Lane 968-0100; Computer Factory/Third Ave. 980-1700; Portchester: A World of Computers 937-6562; Rego Park: Computer Factory 896-0700; Syosset: ComputerLand 496-4554; Vestal: Micro World 757-0500; White Plains: Computer Factory 681-6060; Whitesboro: Upstate Computer 768-8151; Yonkers: Computer Factory 793-1030; OH: Akron: ComputerLand 836-7800; Canton: ComputerLand 493-7788; Strongsville: CBM Computer 238-0068; Toledo: Abacus 865-1009; OK: Oklahoma City: OnLine Computers; Tulsa: ComputerLand; OR: Beaverton: Software Station 641-4667; Canby: Clackamas Computers 650-0379; Eugene: Computer Solutions 344-9877; Medford: ComputerLand; Micro Works 773-9861 Portland: Conroy LaPoint 620-4990; Moore's Audio Visual 233-5621; PA: Allentown: General Computer 266-1880; Gladstone: TJ Enterprises 785-5311 Monroeville: Computer Factory 856-1880; Pittsburgh: Computer Factory 355-0101; Columbia: Byte Shop 788-2525; TN: Knoxville: Educational Computing Systems 866-6731; TX: Abilene: Computer Shop 695-7326; Arlington: Hardin Computer 478-2775; Austin: ComputerLand 834-2499; Beaumont: Concept Computer 842-1163; Houston: Computer Craft 977-0247 Computer 956-7483; Laredo: ComputerLand 724-1551; Lubbock: Agiplex; Richardson: Metropolitan Computer 437-9119; Sherman: Business Computers 893-8634; Spring: Williams Computer 821-9813; Temple: Action Business Sys. 773-5351; Victoria: Computer Command 573-4305; Lewisburg: Computer Solutions 777-3770; WA: Bellevue: Conroy LaPoint 455-0206; Kennewick: 783-6420; WY: Shoshone: 452-2777; West Allis: Software Centre 545-5727; WY: Morgantown: Computer Corner 292-8298; WY: Casper: Computer Solution 265-8888.





# Introducing DataFrame

## The hard disk Apple used when they introduced the Macintosh Plus

When Apple rolled out their first major new product in almost two years, you know they weren't about to skimp. Not with millions of dollars of sales on the line, and John Sculley on the stage. So when Apple told us they had chosen our modestly priced DataFrame 20 megabyte hard disk to help demonstrate their new computer, we were very flattered. Especially since Apple had never before shown, let alone introduced, any of their computers using third-party hardware.

Why DataFrame? Because DataFrame was designed especially for the Macintosh Plus. It's the first hard disk to take full advantage of the new high performance SCSI port that comes with every new Macintosh. DataFrame is not only faster than competing external disks, but faster than internal drives as well. And Apple wanted to demonstrate this big advantage over the older 512K Macintosh.

But DataFrame's design is just as important as its performance. The drive comes preformatted so it's simple to hook up — just connect it to the computer and switch it on. DataFrame boots from the hard disk with no floppy required. It takes full

advantage of the new hierarchical file system, so all 20 megabytes are available all the time. And if you need even more storage you can daisy-chain up to eight drives or other SCSI-compatible peripherals.

But what really made the difference is our reliability. DataFrame's field-proven 5¼" disk drive has seen service in more computers than all the 3½" drives put together. Its 40 g shock rating is almost 50% greater than that of competing units for better resistance to the everyday bumps and jostling that can cause disk failure. And our advanced VLSI controller uses less than one-third the power of

competing units — so DataFrame operates coolly and quietly without a fan. It all adds up to a system so dependable that Apple chose it over every other SCSI drive, and even over their own HD20.

So if you're getting ready to roll out a high performance hard disk with your Macintosh Plus, whether in front of the whole world or just the whole office, consider the only disk that was good enough for Apple — **DataFrame**.

 **SUPERMAC**  
TECHNOLOGY  
1901 Old Middlefield Way  
Mountain View, CA 94040  
(415) 964-8884





# THE EVOLUTION OF MacDraft™

## NOW EVEN MORE POWERFUL

### OUR COMMITMENT

When IDD first released MacDraft a few months ago, we claimed it was the most powerful drawing tool available for the Macintosh™ and that it would evolve to be even greater. Now the evolution begins with these major enhancements.

### AUTOMATIC AREA CALCULATION

MacDraft can now automatically calculate the area of any object to scale, whether it's a simple rectangle or a 50 sided polygon.

### CUSTOMIZED FILL PATTERNS

In addition to MacDraft's palette of 64 fill and ink patterns, you can now dynamically edit and create your own patterns.



Courtesy: Bob White, Architect, Fernandina Beach, FL 32034

### UNIQUE TEXT CAPABILITIES

Auto dimension line and area calculation features now include the ability to detach text and change

font, style and size. Once detached, text values can be moved to another part of the drawing, such as an information table.

### MORE SCALES TO CHOOSE FROM

The foundation of MacDraft is its ability to draw to scale and have the grids, rulers and dimensions reflect the scale of the drawing. We now offer a 4x and 10x scale. You can create a drawing at one scale then convert it to another.

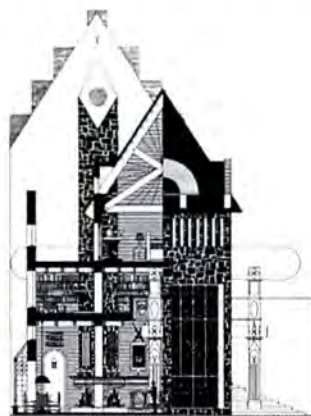
### PLUS THESE CLASSIC MACDRAFT ADVANTAGES

Create circles by radius or diameter, arcs by radius or by defining 3 points. For irregular shapes, our polygon and freehand tools offer dynamic editing, auto closure and the ability to add sides to an existing object.

Zoom in and magnify a portion of your drawing up to 8x; or zoom out and see as much as 4' x 4' in a single window, maintaining full drawing capabilities at any view.

MacDraft even lets you rotate objects in 1° increments.

MacDraft is compatible with other Macintosh applications, and now the PICT format makes it even more convenient.



Courtesy: Trout Creek Ltd., Vail, CO 81657

### DRAW YOUR OWN CONCLUSIONS

Incredibly, MacDraft is only \$269, including a backup disk. It's a good old fashioned value that just may convince you to put away your drafting pencil forever!

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MacDraft runs on a Macintosh™ 512K or XL and is compatible with the LaserWriter™. MacDraft is a trademark of Innovative Data Design, Inc. Macintosh is a trademark licensed to Apple Computer, Inc.







by Doug Clapp

## MORE FUN THAN STREET REPAIR



**H**i. I'm a software developer. I'm also a writer. A while back, I was only a writer, but times have changed. Now I'm both. So this piece is about the color of grass, from both sides. And schizophrenia.

For example: As a writer and Macintosh user, I hate copy protection. Everybody hates copy protection. I've railed against copy protection, just like all good computer columnists are supposed to rail.

As a fledgling developer, I lie in bed and think "God! If we don't copy protect it, people will steal it! We won't make any money! We won't make *as much* money, anyway! I've slaved away on this project for months, and people may *steal* it!"

I'm discovering this: it's easy to talk about someone else's pocketbook. When things get closer to home, they're... well... closer to home.

And maybe there's no good solution. Our solution was serial numbers, artfully embedded in the program code. No key disk nonsense, no assumption of larceny. TVs and Macintoshes have serial numbers, so why not software?

Then there's logistics. Writing, in comparison, is child's play: research it (optional), write it and send it in. Wait for check. Keep waiting. Child's play.

Developing software is like running a presidential campaign. Let's see: there's the manual, which needs to be written and typeset — often the equivalent of self-publishing a "real" book. Then there's pricing decisions. And product packaging. And creating advertisements — say hello to the Art Director — and deciding where the ads go.

Ads are tough. First, you need to be noticed. Blonds in Sweden know the feeling. Honesty in ads is also a good thing; unusual, but a good thing none-

theless. You won't get there if you don't try.

Hopefully, the software project began life as a spreadsheet. Hopefully, the spreadsheet was conservative, but hinted at possible profits. Hopefully, you didn't forget any costs.

These days, software projects often receive "outside funding." In other words, investors put up money, in hopes of getting it — and more — back. So add "keeping investors happy" to the above. Things are becoming complicated.

Writers have it easier. Write a lousy column or article and it's no big deal. Maybe nobody prints it. Or it gets printed, but doesn't get read. At the worst, it's inaccurate or disliked. Or both. Life goes on. If you make a complete fool of yourself, so it goes. What the hell?

With software, you have the chance to not only look stupid, but make entire companies look stupid. And squander lots of money in the process; not just your money, but other people's money. People who were counting on you. People who trusted you with *their* money.

Pass the Roloids.

Then there's getting along with everyone. Or, as I like to say: human interface and interaction considerations. Another tough one. Getting along means consideration. Tact. Even diplomacy, for chrissakes!

It's enough to make your skin crawl. Tact? Writers aren't supposed to be tactful! Writers aren't supposed to "get along" with other people! Why do you think we sit alone in little rooms everyday? Because Reagan doesn't need another Mideast envoy?

(The only tactful writer I know is Howard Katz. But Howard's primarily a renowned Canadian microcomputer pioneer, not a writer, so he doesn't count.)

What did we forget? Oh yes, the program! Pesky things. Easy to overlook in the hubbub of marketing.

Programs, unfortunately, require programmers. A good programmer is worthy of his or her hire, and usually knows it. Add that to "up-front" expenses.

Books on programming often talk about "data abstraction": isolating yourself from low-level tasks, seeing the big picture, the big algorithm. In other words, somehow getting from "Wouldn't it be a good idea if..." to an actual program.

In a perfect world that's just how it works: Good ideas become trained electrons, racing through little chips and wires. Clumps of magnetized particles somehow become "value" — value for many people, not just yourself.

Value: what a concept. And, you know, it's possible for a schlocky program to have great value. And vice-versa: it's possible to create a great program that nobody wants or needs. It's been done.

Ideally, real people talk to real programmers and the result is a real program that meets real people's needs.

Even the best programmers, though, have nasty habits. They like to know what you want. Exactly. Not "sort of" or "kind of like this but different," but *exactly*.

Programmer: "Four pixels? Two pixels? What should the button say? 'OK'? 'Continue'? What?"

You: "Are there any other choices?"

Programmer: "Yeah. About a million. What do you want?"

"Uh..."

Finally, it all comes down to the program and the terrible truth of programming: If it doesn't work, it doesn't work.

Again, writers have it easier. If a column contains a few "clunker" sentences or paragraphs, it's no big deal. An awkward transition? A mixed metaphor? A silly simile? Don't sweat it!

But foul up one tiny, insignificant pointer to some nondescript array and BOOM! The program begins to merrily munch through your screen buffer, horrible rasping noises spew from the machine, and the familiar "ID=2" appears on everyone's favorite dialog.

Is that fair?

No.

But those are alligator tears. Software development is more fun than street repair, being a policeman, driving a cab, pumping gas, or teaching anything to high school students.

And you might make a buck.

But it's easier to be a writer.



You're dialing through to another dimension. A dimension not only of sales and service, but of satisfaction. A connection into a wondrous warehouse whose boundaries are that of imagination. Next call, The Saving Zone!

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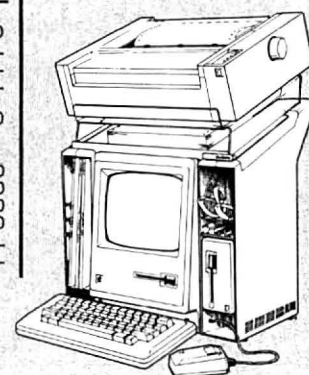
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# QUICK CLICKS



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## ACTA

List Price: \$59.95. Published by Symmetry Software, 761 East University Dr. Mesa, AZ 85203. (602) 844-2199. (800) 624-2485.

Creating outlines is definitely a love-hate situation. Either you hate it or you love it. For those who love it, outlining is a crucial step in the writing process. Up until now, only *ThinkTank* fit the bill. But Symmetry's *Acta* has an enormous advantage over *ThinkTank*: It's a desk accessory, one that doesn't skimp on the features that one would expect in such a program. That also means it's easily available in your favorite word processor.

Those comfortable with *ThinkTank* will immediately feel at home with *Acta*. There is one menu with all commands, including the commands for creating super- and sub-heads. These are redundant, though, because the mouse is used to move headings to the left or right, designating each level relative to its superior heading. Each heading can have as much text as desired, emulating the windows command in *Think-*

*Tank*, and the text can be hidden, or collapsed, under the first line, which then becomes a title for the section. An arrow can be activated in the heading indicating that there's something beneath the title. A heading can also contain a graphic element pasted in through the Clipboard.

The program's non-case sensitive Search command will find any word that contains the search string. The sort command allows either alphabetic or numeric sorts, in either ascending or descending order.

A particularly useful feature is that each heading, or family of headings, can have its own font, font size and style. The font selection is limited to eight specific faces (standard Mac stuff, including LaserWriter fonts), in various styles (bold, outline, italic etc.) and sizes up to 24 points. This is still an important capability, allowing related subjects to have their own identifying font.

Files can be saved under the *Acta* format, as MacWrite files and as generic text files. Header labels can be omitted, or you can specify numbered or lettered labels. You can create an outline while in MacWrite, save it to disk, and then immediately open

it from within the program. This simple capability adds significantly to *Acta*'s usefulness.

One serious flaw is the inability to print files from within *Acta*. The file must be saved to disk, and then opened within a word processor or text editor in order to print it.

Outline processing software has had a somewhat hard time gaining wide acceptance in the computer community. *Acta* makes the process immediate, practical and painless. If you can't live without *ThinkTank*, or have been unhappy with it, act on *Acta*. —DB



## MACBASE

List Price: \$149. Published by Eqtron Corp., 330 Bay St., Suite 1115, Toronto, Ontario M5H 2S8, Canada. (800) 622-2273, (416) 361-5002. Requires 512K+, version 1.0 not HFS-compatible, new HFS-compatible version expected.

MacBase is yet another entry in the relational database sweepstakes. It has some really outstanding features — and some really frustrating features.



Form design is the first step in creating a MacBase database. The form is designed using icon-selected tools. Unfortunately,

the procedure is both tedious and imprecise. Exact positioning of fields and labels requires a lot of effort, and even then, it sometimes proves impossible. Field labels and contents areas must be prepared separately, a real time-waster. However, users can create calculated fields easily. And while any font can be used anywhere in a form, only its 12-point size is available. Larger or smaller font sizes can appear in imported MacPaint graphics, but that's hardly a solution. This shortcoming is one of MacBase's greatest weaknesses.

Data entry is straightforward, and is often aided by the last data remaining as default data, when a new form is opened for entry. Forms can be merged to other forms and related to other forms. The relational aspects of this database resemble forms within forms. Clicking on a special icon on a related form will bring up the linked form. This nesting of forms works well, allowing relational power without great complexity. The user is not required to know a great deal about file structure or relational constructs. Forms can be nested as deeply as desired.

Data entry gets slow as databases get large, since each field is treated as a key field, and each record is sorted on all fields

as soon as it is entered. Entering data into a fairly large database on a floppy-based system is going to take considerable time. All this sorting and indexing does have its payback, though in quick searches. There are no slow MacBase searches. If your application involves much using and little entry, MacBase is a good choice.

Searches use a specially filled out data entry form. Just type what is desired into each field. There are some fairly severe limitations. AND and OR operators can't be used, and simple bounded searches often require two steps. For example, to find all managers between the ages of 20 and 30 in a personnel database, you must first search for all managers under 30, and then for all over 20.

Reports are created by designing yet another form and merging it with the master form. Thus, users are faced with the same problems that had to be coped with in the initial form design—only 12-point type is available and it is very hard to position fields precisely.

MacBase is very good at a very specific range of applications. If your application's needs fit, MacBase is excellent. So to be sure to at least check out MacBase when database shopping. —SB



## MACINDEXER

List Price: \$49.95. Published by Boston Software Publishers, 1260 Boylston St., Boston, MA 02215. (617) 267-4747.

One of the messiest and dirtiest of all writing chores is creating an index. The thought of doing one may well be the reason I've never completed a book manuscript. Just the thought of having to do one, or paying those strange people known as indexers to do one, gives me the chills.

Now I have one fewer excuse for not finishing that manuscript. *MacIndexer* will do most of the dirty work in creating an index. It won't do the creative stuff, the intelligent selecting of what goes in and what doesn't, and it won't do the sublevel items that are so important to the great index. But it will do the really dirty stuff — the looking at every word of every page to see if you want it in or out. You no longer have to sit there with index cards and hope that you don't write down too many page numbers wrong.

*MacIndexer* is a simple standalone application. It works best on reasonably small chunks of material at a time, say a chapter or so. That's not a problem, since the index fragments created are easily merged with the program's Merge command. However, since *MacIndexer* has a lot of work to do, reading each word, deciding if it is in or out,



and, if it's in, listing it and its location to the actual index file, it can be a bit slow. No matter how slow it actually runs though, it works many times faster (and at least as accurately) as any human indexer.

*MacIndexer* works with formatted and text-only *MacWrite* and *Word* files. It works in a slightly different way in each program. Since *Word* can have multiple files showing on its desktop all the time, *MacIndexer*'s keyword list (the document it uses to actually index) exists as a second window. It can be edited simply by clicking in it to make it active. *MacWrite*, on the other hand, can only have one document open at a time. To use *MacIndexer* with it, users install a special desk accessory (called *Keywords*, not surprisingly) and choose it when they need to edit the keywords list. The simplest way to use *MacIndexer* is just to tell it to index a document. It will then create a

listing of every word in that document. While it is working it can, and you should always let it, filter out what it calls "noisewords," words like "a," "the" and "and." Users can edit the noiseword list. Add as much to this file as you can, since the file as it comes is rather scanty. The larger this file, the faster the indexing will go.

After the basic index is created, it must be edited to remove unnecessary words. The place to edit an index is in the keyword list. Editing follows normal Mac conventions and is very easy to do.

One of the true horrors of manual indexing is a repagination of the manuscript late in the game. Possibly a section has to be added, or cut, in the worst case, right at the beginning. Before *MacIndexer*, that meant checking all the page numbers again, especially in those cases where a half a page of material was added, which left some page numbers correct and some wrong. Now, simply select *Renumber* from the *Index* menu, respond to the dialog box, and sit back and smile.

*MacIndexer* will also automatically generate word frequency counts. That feature will show you if you tend to overuse certain words, and which words they are. *MacIndexer* is a small but very valuable program that will fit well into any writer's software library. I guess this means my book will be out Real Soon Now. — SB

## MACQWERTY

List Price: \$35. Published by Paragon Courseware, 4954 Sun Valley Rd., Del Mar, CA 92014. (619) 481-1477.

*MacQwerty*, as you might surmise from its name, is a keyboard utility package. If you often type < when you really want a period, or > instead of a comma, one of the programs in this set can reconfigure your keyboard to type a comma when you type what the keycap says is >. Indeed, users can assign any character to any key.

Custom keyboard arrangements, which can be as limited as changing just one or two keys, or a full-scale keyboard reconfiguration, are created using the *Reconfigure* program. This program looks to a previously created text file in a specific format. Users create that file using any word processor or editor. The only requirements are that the simple format be followed exactly and that the file be saved as "Text Only."

The package also comes with two preset configuration programs. The first is called *Standard*, and it produces the usual qwerty arrangement of the actual keyboard. It is

vital to have this configuration available, so that the keyboard can always (and quickly) be reset to "normal."

The other configuration supplied is the Dvorak keyboard (pronounced like our anti-editor's name). The original qwerty arrangement was actually designed to slow typists down, so that the physical mechanisms of the first typewriters could keep up with them and not jam. The very inefficient qwerty keyboard became standard, and has remained the standard, in spite of the fact that we now type on ultra-quick nonjammable word processors. Professor Auguste Dvorak, a teacher in Washington state, devised a much more efficient keyboard arrangement in the late 1930's. Typists using machines with his keyboard have consistently, and by wide margins, won major typing speed contests.

The Dvorak keyboard is both easier to learn (by at least an order of magnitude) than qwerty, and much easier once mastered. Far less effort is spent and most users report far fewer errors.

*MacQwerty* makes it easy to install the Dvorak key arrangement in your machine. The disk contains a program called *Dvorak*.

Double click to run it. It will reconfigure the keyboard and return you to the desktop. The Dvorak arrangement will remain active until the Mac is rebooted.

All three programs are simple, do exactly what they claim to, are not copy protected and belong in every writer's utility kit. One



warning: the disk does not contain a System folder and so it will not boot directly. The best way to use these tools is to simply move them to your start-up disks. They're small, with *Reconfigure* (at 8K) being the largest, while *Standard* takes up 3K, and *Dvorak* a mere 2K. — SB



# QUICK CLICKS



## ORBITER

List Price: \$49.95. Published by Spectrum  
HoloByte, Inc., 1050 Walnut Street, Suite  
325, Boulder, CO 80302. (303) 443-0191.

In the wake of the space shuttle *Challenger* tragedy, a new awareness of the space program has arisen, one that deals with the purpose of space exploration, and with understanding the technology that is being used for the task. *Orbiter* is a personal window into the world of space that takes you on a voyage in one of the most capable space vehicles, the space shuttle.

*Orbiter* succeeds as a game, but it excels



as a simulation. This is one heck of a program. A total of 16 different missions can be attempted, including deploying a space telescope, retrieving a satellite, docking with a space station or even building a space station. The astronaut can either fly the ship manually (a skill that requires much practice), or have the on-board computer make most of the crucial decisions. Start out using the on-board computer, or you'll surely meet with frustration before long. When first playing *Orbiter*, only specific parts of a mission can be played: for the novice, getting familiar with the take-off routine (when not in auto-computer mode) can constitute a successful mission. Games can be saved to disk, so missions can be resumed at any time.

The main program screen is divided into four quadrants. Since there are more control panels than there is screen space, specific modules are summoned and made active as they're needed.

A full front window view is available, but the animation in this screen is less than silky smooth. It does serve its purpose, though, by adding to the realism of the simulation. There's also an aft view (from

the payload area) that's active when the bay doors are open. The status CRTs are more useful for determining how to fly the ship, as they show orientation with respect to Earth, and vital statistics, such as velocity, altitude, ship orientation and other vital data. There's a remote manipulator arm, a manned maneuvering unit (for venturing outside the craft), and weapons systems (for knocking out Soviet satellites?).

*Orbiter* is not copy protected, and with good reason: the documentation is crucial in order to fly this bird. Included with the manual is a paper-cutout space shuttle, provided to clarify the differences between different types of maneuvering orientation. The documentation is very good, explaining all of the on-board screens and controls (and there are a lot of them!), as well as explaining shuttle jargon. A special note: the first 10,000 program boxes have a real hologram pasted on them!

Mastering *Orbiter* will prove to be a challenge for even the most capable gamers. Successfully completing a mission in *Orbiter* doesn't mean that you're ready to fly the real thing; but it is the closest that most of us will come to sitting in that cabin. — DB

## RAGS TO RICHES INVENTORY

List Price: \$199.95. Published by Chang  
Labs, 5300 Stevens Creek Boulevard, San  
Jose, CA 95129. (408) 246-8020. Re-  
quires 512K+ and printer.

*Rags to Riches* is an accounting series with five modules: General Ledger, Accounts Payable, Accounts Receivable, Professional Time Billing, and, now, *Inventory*. All five modules are easy to use, make excellent use of the Mac interface and work with one another to provide a complete small business accounting system.

While the other four modules are essentially used by accountants in a company to maintain a set of books, *Inventory* is intended to be used as a point of purchase tool by sales people in retail or wholesale environ-

ments. It tracks sales, purchases and other inventory movements through the generation of tickets. These tickets can be printed individually and used as sales receipts.

*Inventory* can track sales by item, by department, by salesperson or by date. Not only does it record the number of items received, sold and on-hand, but it can be a valuable tool for determining how well a product is selling. A wide variety of reports are included that make it simple to audit the movement of stock.

*Inventory* operates around several inter-related windows. Double clicking on an item in one window brings up the related item in another window. For instance, to enter the sale of a Mac Plus on a new ticket, simply bring the Items window up and double click on Mac Plus. The new ticket will automatically record the sale and calculate tax, as well as deducting the item sold from inventory.

All of the *Rags to Riches* modules can be

used individually or integrated into a complete system. *Inventory* can be set up by pulling in data already in the *Ledger* module, and can even report automatically to the *Ledger* module.

*Rags to Riches* is an excellent accounting system for small companies who don't have huge numbers of accounts and want ease of use. *R to R Inventory* is among the best of the five modules in its operation and usefulness.—MDW



## BRIMSTONE

List Price: \$39.95. Published by Synapse/  
Broderbund, 17 Paul Drive, San Rafael, CA  
94903-2101. (415) 479-1170.

Read any good games lately? If not, curl up in front of your Mac with *Brimstone*, an interactive Arthurian novel that follows the exploits of Sir Gawain as he journeys down to the bottom of Ulro (which bears a remarkable resemblance to Dante's vision of Hell) and, hopefully, returns a better person for the experience.

*Brimstone* is packaged with a hardcover book that explains the background of the

scenario and its characters and lists the rules of play. Unfortunately, the fiction part of the book (about three-quarters) is downright awful, written in a pseudo-diary style that offers little advancement of the *Brimstone* plot. It seems to be more of a self-indulgence by game author James Paul, whose text is far better in the actual program. It also, by the way, serves as copy-protection, with the Mac asking you for the "third word in the fourth line on page 31" (this changes every time) to unlock the program.

Once you've plodded through the book, the real fun begins. The story, as explained in the typical third-person perspective often seen in non-electronic novels, is simple: Sir

Gawain falls asleep in his chamber, dreaming of a strange castle on a hill. There, he finds several challenges, but if all goes according to the story, he is tricked by the witch Morgan le Fay into taking King Arthur's chair and thereby committing treason. Condemned to a tiny cell in the middle of Ulro, he must find a way to escape from jail — and from Ulro itself.

The storyline is good, offering a mental workout without the danger of puzzle overload. Generally, the answers are always right there for those who look for them, yet you'll still have enough of a mental challenge to feel satisfied (and very smart) after figuring out the solution to a problem.

The action is explained on-screen in the



# Gold Collar Worker



*Photographed by Brian Thompson at the law library of Lang, Michener, Toronto, Ontario.*

**Name:** Bruce Lewis.

**Profession:** Managing partner, major Canadian law firm.

**Hobby:** Crafting reproduction William and Mary furniture.

**Work style:** Perfectionist. Demands 100% accuracy, superior quality and appearance in every legal document.

**Computer of choice:** Macintosh™ with a LaserWriter. Placed 65 Macintosh computers on the desks of both lawyers and staff. Networked them to share 9 LaserWriters. Plans to buy 100 more Apple computers this year.

**Favorite software:** Document Modeler™, a powerful expert system toolbox for documents. It enables Bruce to "clone" his 12 years of legal experience to assist other lawyers and staff. And it saves time.

**First application:** Bruce constructed a model of the dozen or so letters usually required for real estate transactions. The model prompts a secretary, step-by-step, to input every relevant particular of a transaction and then automatically performs any calculations, assembles the appropriate clauses and produces impeccable letters customized to the client's individual needs, precisely as Bruce specified. Result: a 35 minute job reduced to 10 minutes.

**Next application:** More document models, this time for more complex documents.

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\*Robert E. Kelley, *The Gold Collar Worker*, Addison-Wesley, 1985. Document Modeler is a trademark licensed to, and The Model Office Company is a trademark of, The Model Office Company Inc. Macintosh is a trademark of McIntosh Laboratory, Inc. and is used with its express permission.

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# QUICK CLICKS



third person, but players are spoken to by the program in the first person. For example, the computer might ask you to identify yourself. "I am Gawain," you'd type in. The story would progress with, "My name is Sir Gawain," said the knight with a flourish." It's a little schizophrenic, but you'll get used to it.

To communicate with the program, players type in full sentence commands via the keyboard (no menu shortcuts here, folks). To communicate with a person, you have to type the person's name and then use quotation marks to mark what they actually say. And the program punishes those who infringe on the sentence parser's limits by rebuking Sir Gawain sharply, then instructing him in proper communication.

A nice touch is that when you Save or Restore the game in progress (saves are



called "bookmarks" by the program) you'll see a complete list of Gawain's achieve-

ments so far. On the other hand, restoring a saved game involves going through the complete opening sequence again, which is a bit sloppy on the part of the programmers. Also, instead of just scrolling when the text is too long to fit on a single screen, the program asks players to press a key to continue. That would be fine — except, the key pressed is still saved in the buffer, adding it on to whatever you'll want to type the next time you give a command.

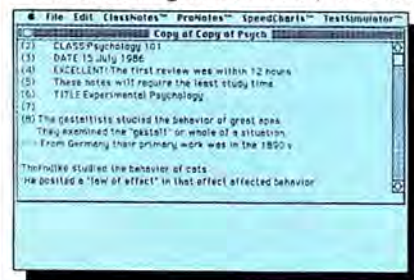
Still, *Brimstone* is a lot of fun, and its schizophrenia works — players (or should we say, readers) get the impression that they're actually reading a novel, with the added bonus of participating in the action as it goes along. It was a grand effort, and this time, it paid off. — TFH

## NOTEPRO

List Price: \$59.95. Published by Learning Skills, Inc., PO Box 8038, Reno, NV 89507. (702) 825-9537.

Some students are just good note-takers and users, but some never manage to get more than useless scribbles. Since taking and using notes is a vital part of the learning process, mastering the art of taking and using notes should improve test scores and overall performance.

And notetaking is not merely a school



activity. It is as vital, if not more important, in the business world. Those well-organized, fast-moving young executives didn't get on the fast track without lots of notes to help them along.

NotePro is a five-part educational program that will not teach you how to take notes, nor will it do magical things with your notes. It will teach you to make the most of any notes you do take, and, if you follow its directions, will make a better test taker of you.

The nicely designed package has several unique features. Each of the five sections consists of two major portions. The first is a self-running explanation of what that section does and how you should use it. The other portion is where you actually do your work. Users can always run the demos again and see the clear directions. While that feature obviates the need for printed documentation, the publisher has not stinted on the manual in any way. It is both complete and unusually informative. The manual makes it clear that this program is not a panacea, that good and effective use

of your notes requires hard work. And it then tells you exactly what to do.

The first section of the program is called "Classnotes." In this step users enter notes and, at the same time, restructure and reformat them. The program will suggest, based on what's entered, how much time should be allotted to each batch of notes.

The second section, "Pronotes," encourages and abets the restructuring of Classnotes into an outline format. The third section, "Speedreview," reviews previous work, highlighting individual items in turn. There are three speed ranges; users should start slowly and work up to the fastest.

The fourth section, "Speedcharts," helps users set up simple fact charts based on the facts and ideas in their notes. The comparison and contrast of ideas and facts will often clear up ambiguous points in the notes.

The final section, "Testsimulator," quizzes users, at varying speeds, on the material in the Speedcharts. The methods taught here should enable anyone to make optimal use of their notes. — SB

## MACFORTH, Level Two

List Price: \$249. Published by Creative Solutions, 4701 Randolph Road, Rockville, MD 20852. (301) 984-0262.

MacFORTH is the most complete and professional Forth for the Macintosh. It was released more than two years ago and has been thoroughly debugged and refined.

Forth is conceptually and functionally different from most languages; its internal structure is visible, accessible and easy to customize. A danger of this freedom is that too much time will be spent tweaking the system, and too little programming. That being said, an experienced Forth programmer can crank out good code very quickly; a beginner can do simple tasks much faster than in other languages, but will be lost putting together anything complex.

MacFORTH's treatment of the MacTool-

box is the best that I have seen. The ROM routines are pre-digested; a new user can create a window with four words of code. Experienced users have full access to details, but novices aren't burdened with unnecessary trivia.

MacFORTH programs have a fixed minimum size of about 20K, too large for DA's; code size grows very slowly from that minimum, however, so complex programs are relatively compact. The language is fast compared to Pascal or BASIC, but slower than C. A non-standard assembler is provided. Standalone applications cannot be produced with Level Two; a \$250 upgrade to Level Three is required for that, although there are no further licensing requirements for commercial sale.

Forth is not easy to learn, but MacFORTH makes the process as rapid and pleasant as possible. An excellent introductory text and computer-aided tutorial guide learners through the basics. Documentation is extensive and excellent. An active special

interest group (SIG) on CompuServe and a national users' group provide quick answers to questions, and a good library of tested routines. The publishers have shown great attention to upgrading the product and maintaining compatibility as the Mac evolves. Versions of the language for the Amiga and Atari will be largely source-compatible.

MacFORTH is suitable for serious programming, and an elegant and fun environment for hacking. — Nick Karp





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# SEE MAC RUN

**Save time and effort  
with *Tempo*, an  
autopilot for the  
Macintosh.**

IF HUMAN BEINGS ARE CREATURES that tap keyboards and push mice around a desk, then *Tempo* is a tame monkey with a perfect memory. It can record anything from a simple word being typed in *MacWrite* to a complex sequence of mouse movements in *MacPaint*. Then it can repeat the performance on demand, flawlessly and at high speed. *Tempo* is also intelligent, as it has the power to look at what it is doing and respond accordingly.

This ability to record and play back a sequence of Macintosh commands offers three benefits. First, *Tempo* can save time by providing a quick shortcut for repetitive actions in any application. For example, in *MacWrite* you can assign the name of each character in your best-selling novel (or tongue-twisting product in your company report) to a single command key. When you need to type the name, it can be entered with a single keystroke (and the command key) — all the characters appear just as if you had typed them out in full. In *MacWrite*, you can assign different combinations of font and point sizes to a single key, so that switching between different typefaces is greatly speeded up. The possibilities are limited only by your imagination — any sequence of mouse and keyboard activity can be recorded.

The second benefit of *Tempo* is that it provides a means of recording complex operations in a form that can be used by people with little

previous experience of a particular program. For example, a single keystroke can convert a blank *MacWrite* document into a standard piece of stationery, complete with letterhead and date; or a spreadsheet in *Jazz* can be created and formatted, much like the macro facility offered by *Excel*. This means that someone who is expert at a particular Macintosh application can use *Tempo* to record a sequence of difficult commands for colleagues to use.

Third, *Tempo* has buried within it the power to make the Macintosh do some quite extraordinary things. *Tempo* can be left to run the Macintosh unattended — automatically performing a specified series of time-consuming tasks (for example, recalculating a large accounts file, or generating a sequence of three-dimensional animations) without any human intervention. It can be used with a communications program to keep trying a busy number until the line is free. It can even wait until the early hours of the morning, telephone Japan for the closing stock market prices, paste the results into a spreadsheet and analyze the data, draw a graph and then wake you up with a *ConcertWare* medley!

## UP TEMPO!

The package arrives as an application sporting an icon that looks like a Macintosh in heaven. This application automatically installs *Tempo* into any chosen *System* file where it ap-

by Max Whitby







# SEE MAC RUN

pears as a new choice in the Apple menu. Although *Tempo* looks and behaves much like a regular desk accessory it is actually very different. For starters, it fattens a *System* file by a hefty 60K. Those without a hard disk, and who have not yet upgraded to Apple's new 800K floppy internal drive, may find themselves pushed for space. Another difference is that *Tempo* is not compatible with the *Font/DA Mover*. It must be moved into and out of systems using its own installation program.

*Tempo* can be used anywhere desk accessories are available. Once installed, it is activated either by selecting "Tempo" with the mouse as an item from the Apple menu, or by typing COMMAND-SHIFT-ZERO. (FKEY aficionados need not fear the loss of a valuable slot — *Tempo* seems to survive if the zero function key is reassigned). The first time it is run, it asks which drive should be used as the default to store the command sequences — known as *macros* — that it learns.

## TUNING IN

*Tempo* shows it is active by placing a cloverleaf command symbol that appears as the rightmost item in the menu bar of the current application. Once *Tempo* has been invoked, it will remain in the menu bar even if you quit one program and start another. When a new application is launched, the Macintosh beeps to indicate *Tempo* is still around. This ability to survive between trips to the *Finder* is one of *Tempo*'s best features. It means that macros can be written that link together several different applications. The possibilities, are mind boggling!

To begin with, there are five active options in *Tempo*'s pull-down menu. As these options are selected, the cloverleaf symbol in the menu bar changes to indicate what is going on: "R" means a macro is currently being recorded; "." (an ellipsis) means that recording has been suspended temporarily; "E" means a macro is being edited; and so on.

As these symbols change, so do the menu choices available. "Start Recording" becomes "Stop Recording," for example. Only relevant options are presented at any given

## THE WRITE ANGLE

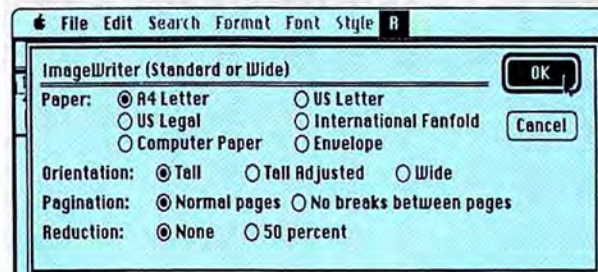
A simple *Tempo* macro can be used to automatically format a blank *MacWrite* document to standard settings.



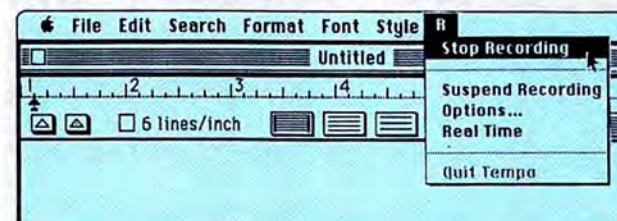
Start off by summoning *Tempo* from the desk accessory menu.



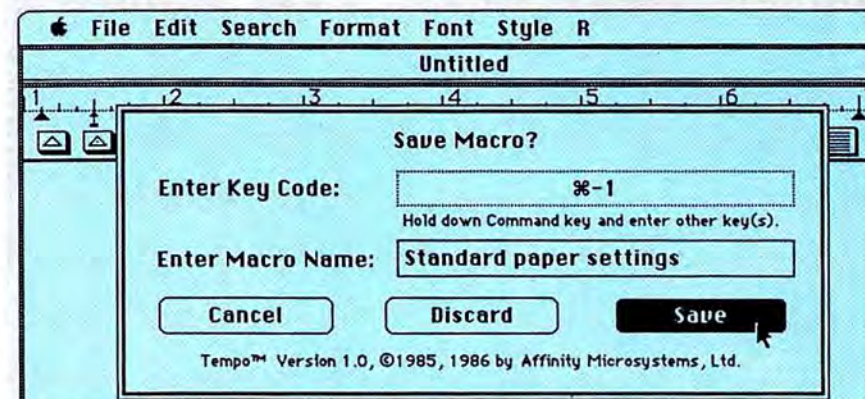
Then choose "Start Recording" from the cloverleaf menu. The symbol will change to an "R" to indicate that commands are now being recorded.



Change the ruler, font and printing settings as desired. You could also type in some text for a letterhead or change the format of the document in any way you like. *Tempo* will remember everything you do, so be careful not to make any mistakes.



Once you are satisfied with the setting, select "Stop Recording" from the *Tempo* menu.



Finally, hold down the command key and type the character that you will use to start the macro in the future — the numbers 1 to 9 are convenient and easy to remember. You can also give your new macro a name. And, if you make a mistake in the recording, you can "Discard" the macro and start over again.

*Tempo* should now have recorded everything you've done. Next time you open *MacWrite*, the untitled document can be formatted to your standard settings simply by holding down the command key and typing "1." Sit back and watch the Macintosh taken over by a phantom operator!



moment, which makes *Tempo* easy to use while cramming a great deal into a small space.

## FOR THE RECORD

The basic technique for recording a macro could hardly be simpler. You simply select "Start Recording," perform the action or series of actions you want to record, and then choose "Stop Recording." *Tempo* presents a dialog box that is used to name your new macro and to assign it a command key equivalent.

All combinations of the command, option, shift or caps-lock keys can be used with any character on the keyboard — giving 450 possible macros in each application! The only constraint is that command key combinations which are already used (for example, COMMAND-X, COMMAND-C and COMMAND-V for Cut, Copy and Paste) should be avoided.

## PLAYBACK

There are two ways to run a *Tempo* macro. The first is simply to type its command key equivalent — which is

fine provided you can remember what esoteric combination you used! The second way is to select "Tempo Command" from the cloverleaf menu. This provides a dialog box with a library listing of all available macros. Macros stored on other disks can be imported and an editing feature is provided to make changes to an existing recorded sequence.

Editing involves replaying a macro, and then stopping it at the point where the modification is to be made — rather a tricky operation. A better policy is to keep all *Tempo* macros fairly simple. This might sound like a limitation but in fact it is not. One macro can be instructed to link automatically to another — so there is no constraint on the overall complexity of the finished chain. By keeping elements short and modular, it is much easier to correct mistakes and make changes.

## BRANCHING OUT

*Tempo's* real intelligence lies in its ability to branch between macros. By selecting the "Options" menu item

## FRESH START

Along with *Tempo* comes a small double-clickable application called "Set Startup." By making this file the Finder's startup application, it is possible to select a *Tempo* macro and have the Macintosh run it automatically when the machine is turned on. For example, such a macro could open *Tempo* and format a blank document ready for input. More mischievous possibilities arise when sending disks to friends or colleagues — "OK TO ERASE HARD DISK?"!!

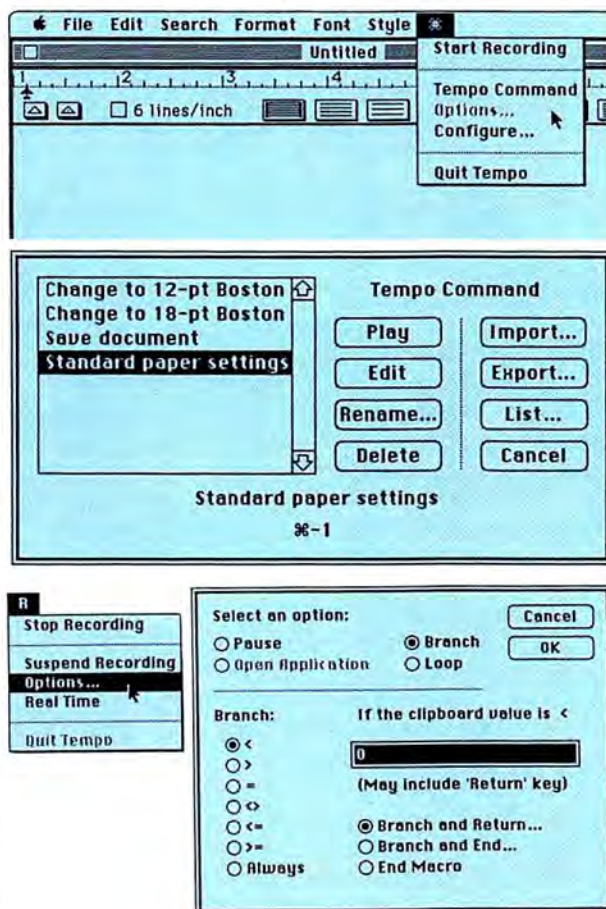
during a recording, a dialog box appears that reveals *Tempo's* logical heart. By selecting "Branch" and then "Always" you can simply instruct *Tempo* to jump directly to another macro. (This should really be the default setting, but unfortunately it is not.)

But there are much more sophisticated possibilities. *Tempo* can be instructed to examine the contents of the Clipboard and then do different things depending on what it finds there. Both text and numbers can be compared using a full range of logical operators. By recording a COPY TO CLIPBOARD just before selecting "Options," it is possible to use a critical piece of information (such as the contents of a spreadsheet cell) to decide what the macro will do next. This ingenious feature makes it possible, for example, to write a macro that will scan a column of numbers

*Tempo's* cloverleaf command symbol shows that it is installed into the application and activated. As you can see, there are five options in *Tempo's* pull-down menu. As they are selected, the symbol changes to show what is going on — for example, "R" indicates that a macro is being recorded.

Invoking "Tempo Command" from the *Tempo* menu will display a library listing of all the macros you have recorded so far and the commands that can be applied to them.

Selecting *Tempo's* "Options..." menu during a recording allows you to jump from the current macro to another, using the "Branch ... Always" function. What's more, you can instruct *Tempo* to look at the Clipboard and act according to what it finds there.



## IT'S THE REAL THING!



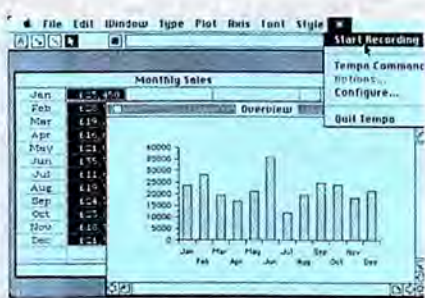
*Tempo's* "Real Time" command should be used when it is necessary to record precise mouse movements — such as in this example, when using the paintbrush in *MacPaint*. With "Real Time" off, complex brush movements play back as simple straight lines between start and end points.



# SEE MAC RUN

## ALL JAZZED UP!

*Tempo* can give Jazz macro capabilities to rival *Excel*. A simple example is a macro that automatically creates a 12-row table for monthly information and formats the next column for financial data. A second macro can record the steps necessary to convert a worksheet selection into a graph. Both sequences are easy to record and can be used again and again, saving large amounts of valuable time.



in a spreadsheet, highlighting all those above a chosen value.

There are other powerful commands available in the Options dialog. A macro can be paused for a fixed period from one second to 24 hours. It can be instructed to wait until a particular time of day or night (perhaps when the cost of connecting with a database is low). And it is also possible to instruct *Tempo* to repeat a macro a specified number of times or until a certain logical condition is met.

### TIME KEEPING

There is another important option in the *Tempo* menu called "Real Time." Normally, when *Tempo* records a sequence of mouse movements, it remembers only the position of the mouse at the start and at the end of holding down the button. In *MacPaint*, for example, a complicated curve drawn with the pencil

will replay as a straight line between the two end points!

Usually, this is a desirable feature since it makes the files created by *Tempo* much more compact and it also means that small mistakes — like moving the mouse too far down a pull-down menu — are not recorded. However, the "Real Time" option provides a way to record *exactly* what the mouse does. It is often the way to sort out occasional problems with macros that play back out of sequence.

The final important facility *Tempo* offers is the ability to pause a macro at specific points to allow information to be entered. For example, *Tempo* can pause just before a file is saved to let the user choose a filename. It is even possible to create *Tempo* dialog boxes that appear at the appropriate moment, telling the user what to do next.

### EASY DOES IT

The beauty of *Tempo* is that although it has these powerful features that will appeal to sophisticated users of the Macintosh, it is simple enough to help even new and inexperienced users get better value from their machines. It is more like an extension of the operating system than a new application in itself, and as such it is something that takes a while to get used to.

*Tempo* is not without a few shortcomings. One that is not mentioned anywhere in the otherwise excellent manual is that *Tempo* slows the Macintosh down to as little as 40 percent of its normal operating speed during replay. This is not serious in most applications — but it does lessen the advantage of leaving *Tempo* to complete a series of time-consuming

tasks, such as a run of hour-long *Easy 3D* merges.

Another occasional problem is that *Tempo* seems unable to record a few unusual Macintosh commands. FKEYs (like COMMAND-SHIFT-3 to save the screen to disk) and mouse clicks in the *VideoWorks* castmember window are cases in point.

For a piece of software that so profoundly affects the operation of the Macintosh, *Tempo* seems remarkably free of bugs. (Bugs have been a deadly problem with *MacTracks* — a less sophisticated macro desk accessory that has been around for over a year). Heavy use of *Tempo* seemed to reveal a few more system crashes than usual, but certainly not so many as to discourage me from using *Tempo*. A few programs are totally incompatible, including *ThinkTank 1.0*, *ReadySetGo 2.0*, and *AppleTalk* with an HD20 and the old ROMs. *Microsoft Word*, *OverVUE*, *Switcher* and no doubt several others have problems that can be worked around. The manual covers known incompatibilities in a straightforward manner.

At \$99 *Tempo* deserves a place in anyone's software library. Even if you rarely venture beyond *MacWrite* and *MacPaint* it has a great deal to offer — with plenty of power in reserve as you learn more about your Macintosh.

*Max Whitby is an English author and frequent contributor on both sides of the Atlantic.*

## A SMALL WARNING ABOUT LARGE DESK ACCESSORIES

Desk accessories as large as *Tempo* (60K when installed) can cause havoc in the *System* heap. When such DAs are installed and active, they can cause system crashes, typically ID=28 (the application and *System* heaps have collided).

Be wary when using large DAs. Save more often than you usually do. Try not to run more than one DA at a time.

*Tempo* has shown some touchiness with some SCSI peripherals. That's probably because their *Systems* also make large demands on the *System* heap.

It's probably wise to check with the manufacturer before installing *Tempo* in a *System* file that is to reside on a SCSI peripheral. — SB

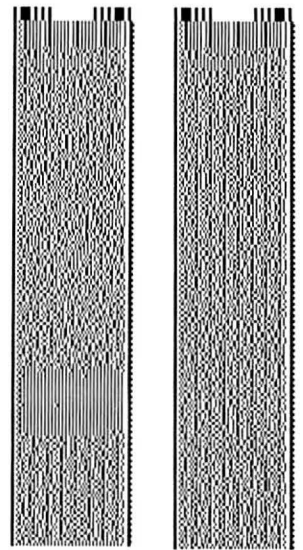
## TEMPO

Overall Rating:	■ ■ ■ ■ □
Follows Mac Interface:	■ ■ ■ ■ ■
Printed Documentation:	■ ■ ■ □ □
On-Screen Help:	None
Performance:	■ ■ ■ ■ □
Support:	■ ■ ■ □ □
Consumer Value:	■ ■ ■ ■ ■

**Comments:** Powerful macro generator with the ability to link macros and survive program quits and launches. **Best Feature:** The ability to link macros over several applications. **Worst Feature:** The slowdown of the Mac's operating speed during macro replay. **List Price:** \$99. Published by Affinity MicroSystems, Ltd., 1050 Walnut St., Boulder, CO 80302. (303) 442-4840, (800) 255-5550. Version reviewed: 1.1. Not copy protected.



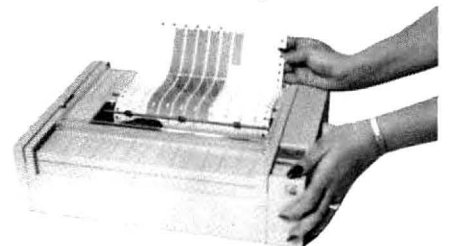
# COMMUNICATE BETWEEN COMPUTERS...



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## ON PAPER



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### TECH SPECS

The Reader is lightweight and portable. It comes complete with all the software and cables you should need to connect it to your PC; Apple II series; or Macintosh computer. It has its own power supply and connects to standard RS232 ports (or to the Apple //e cassette port).

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For Free Information Please Circle 151 On Reader Service Card.



# THE JOY OF HARD DRIVING

***How to make the most  
of those millions of  
bytes on your hard disk.***

**by  
Sharon  
Zardetto  
Aker**

WHY WOULD YOU WANT TO GET A hard drive for your Mac? After all, you have a perfectly good and large collection of floppies, and feeding them to Mac at intervals is a small price to pay in order to save on the large price of a hard drive, right?

Wrong. A hard drive is more than just a replacement for 50 or so floppy disks. Einstein would have loved hard driving: its myriad advantages can be summed up in two words — time and space.

## **SPEED**

A hard disk is a lot faster than a floppy disk. Not only does it spin faster, but it spins constantly, saving the time it takes a floppy to get up to speed when the drive turns on. And, if you're fortunate enough to be using a SCSI interface for the drive, you save even more time in disk access operations.

Where do you see this time savings? Everywhere. Most speed benchmarks for hard drives are given in terms of how fast you can open or quit an application. That may be useful for comparing different drives, but it misleads you as to the real speed advantage of hard drives; after all, you probably don't open and quit applications that often, and an extra half-minute at the beginning and end of a computing session may not be all that important.

The important speed differences are found while you're working in an application. Many large applications are only partially loaded into memory when you start them. As you work, some portions of the program are dumped in favor of other segments that have to be called up from the disk; these may be later replaced by still other program elements. Each time a new segment of the program is loaded into memory, you have to wait for the disk access. These delays can be avoided if you have enough memory to set up a large RAMdisk, or a RAMcache, but if you're using a hard drive, you don't need the extra memory; hard disk access is fast enough to cause only barely perceptible delays in loading new program segments.

Many applications, like *MacWrite* and *Word*, load only a portion of a document at a time into memory. When you jump from one end of the document to another, or scroll through large areas, the application has to go back to the disk to get another piece of the document — and you have to wait. The wait is practically painless with a hard drive.

Opening and saving documents takes time regardless of whether the entire program and/or the entire document is held in memory. On a 512K Mac, for instance, both *MacPaint* and its document are in RAM. But, opening even a small (4K) *MacPainting* takes about 6 seconds from a floppy; in addition, it takes another 4 seconds just for the Open box to come up. The same operation with a hard drive is cut down to a total of about 3 seconds — and that's







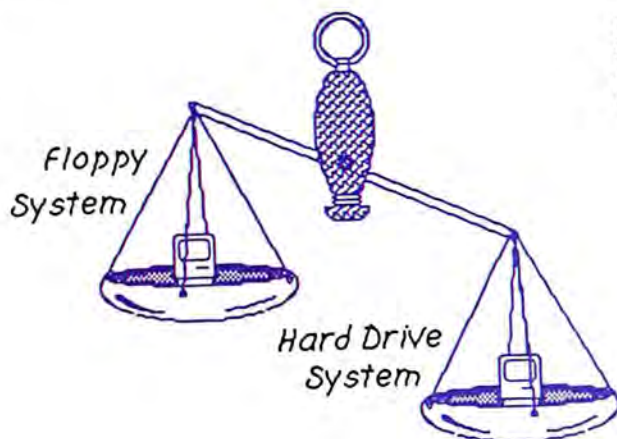
# THE JOYS OF HARD DRIVING

using the Apple HD 20, not one of the fastest hard drives around.

Any time you hear the drive whir when you're using floppies is time that can be saved when working with a hard drive: pulling out a desk accessory; turning Scrapbook pages; cutting and pasting; running a BASIC program.

## THE GIANT SYSTEM

It doesn't take long before the new Mac owner starts trimming the *System* file to make more room on a disk. Cut down on those desk accessories, rip out those fonts! In the "early days" (128K, no external



There's lots of room for fonts and desk accessories when you're using a hard drive.

## FOOLING THE FINDER

When you do a considerable amount of work on the desktop — rummaging through folders, moving documents around, trashing some files — you wind up with a lot of open windows. A messy desktop adds delays every time you return to the *Finder* from an application, but it also takes time to clean up after yourself before opening an application. If you don't want to take time to close all the windows on the desktop, but you do need to have them open for a while, you can open them without the *Finder* finding out: hold down the Option key when you open a folder. Since the *Finder* won't "notice" that you've opened a folder this way, when you quit back to the desktop, the folders will be closed, and your desk will be neat.

It's too bad the "Close All" command that used to be in the File menu in the *Finder* has disappeared; it would be handy to clean the desk before opening an application. But, if you have *Tempo*, you can create a "Clean Up" macro. Just record a single selection of "Close" from the File menu, and set it to loop about ten times; that will close all the windows on the desktop. Another technique is also simple. First, make sure that nothing in the window is selected (highlighted). Then hold down the Option key while selecting "Close" from the File menu. That will close all open windows.

Or, take advantage of a little quirk in *Tempo*. If *Tempo* is active on the *Finder*'s menu bar and you use a macro to launch an application, your desktop activities are "forgotten" — totally. If you've moved icons around, they'll be back in their original positions; if you've put things in the Trash, they'll be back in their folders unless you specifically empty the Trash before launching.

drive), *System*-trimming became an art that still needs to be practiced to a considerable extent — if you're working with floppies.

A hard drive takes away the size constraint on the *System* file; mine is a relatively modest 510K. You can fill the Apple menu to the brim — it holds 16 accessories without resorting to any little tricks that cram in even more. And, you don't have to worry about the size of the desk accessories, either — the days of the 1K Puzzle and Calculator are gone. Four of the accessories I use the most — Affinity's *Tempo*, PBI's *Locator*, Symmetry's *Acta*, and Hayden's *CheapPaint* — are 69K, 35K, 35K and 27K, respectively.

Not only can you have numerous and large desk accessories, but a simple accessory like the Scrapbook can have an extremely large file, with dozens of pages of pictures and text always available.

And fonts — you want fonts? You can have — well, probably as many as you want, in as many sizes as are available. Working with a *System* version 3.0 or higher, an overstuffed font menu just scrolls when you drag to its bottom. (You don't need the new ROM in the Mac Plus for this: the new *System* file gives you scrolling menus on your Mac.)

## PERMANENT ACCESSORY FILES

Although it seems only a minor

convenience at first, working with a single *System* for every application is a major hard-driving benefit. With the same *System*, you always have the same desk accessories; more importantly, you always have the same desk accessory files available.

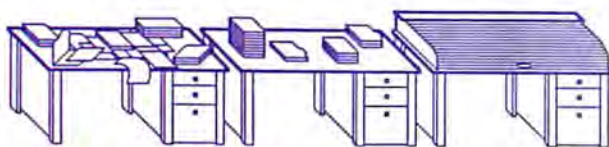
How many times have you pasted something in the Scrapbook, or jotted something in the Note Pad, only to discover it missing the next time you pulled out the accessory? Each disk with a *System* on it has its own Scrapbook and Note Pad files; the information you store on one disk stays there unless you specifically copy the file to another disk. On a hard disk, you work with only one file for each desk accessory.

Having different disks holding different Scrapbook and Note Pad files can be annoying and time-consuming, but having different disk files for something like a Calendar desk accessory cripples its effectiveness. The kind of constant, immediately available information that you have as a hard driver will make you wonder how you ever managed on a floppy system.

## THE OLD SWITCHEROO

*Switcher* is a great program; it can handle four applications in 512K of memory, or eight with 1024K. Theoretically.

Why theoretically? Because, despite the fact that *Switcher* can juggle



Desktop strategies. (1) Sloppy and slow. (2) Neat and fast. (3) Avoiding the issue.



the information, you have to make it available: the installed applications, a *System*, and usually the *Finder*, all have to be on accessible disks — and you have to leave some room for your documents, too. You run out of disk space long before you reach *Switcher's* capacity.

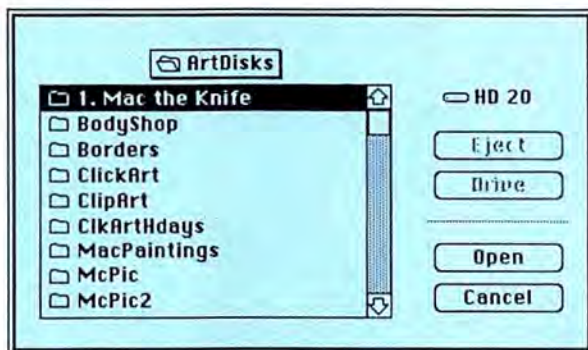
With a hard drive, there's no problem when it comes to room for the applications and the documents — and that wonderfully permanent *System* file.

## HARD DRIVE STRATEGIES USING HFS

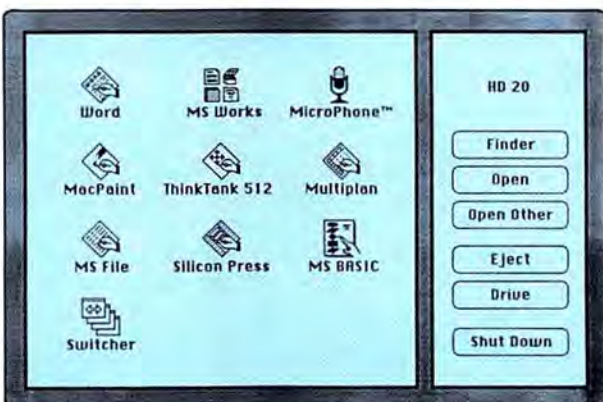
Okay, so I talked you into it — you just ran out and got yourself a hard drive. Now, get yourself organized so you can handle all those megabytes of information quickly and easily.

The necessity for Apple's HFS — Hierarchical Filing System — is obvious once you start using a hard drive. Can you imagine scrolling through every file in the hard drive to find the one you want? HFS lets you open and save documents using the folders you created on the desktop.

Arrange your hard drive to make this opening and saving of documents as efficient as possible. Keep no more than seven main folders on the desktop (on the "root level"). Most Open boxes show at least seven items in the scroll area; this means you won't have to scroll to get to the



To keep folders or documents that you access often at the top of the alphabetical list, you can cheat by adding numbers to the names.



Using the *MiniFinder* is one way to avoid returning to the desktop between applications.

folder you want.

Keep items you use often on the first level inside a main folder, so you can get to them by opening only one folder. If you keep a lot of documents or folders at any level, you'll be doing a lot of scrolling. On the other hand, the deeper your folders are nested (a folder in a folder in a folder....), the more things you have to open to get to the item you want. After you've worked in HFS for a

while, you'll know how to balance the use of folders and the storage of documents.

If there's a certain folder you use more often than others in the same level, make sure it comes first alphabetically; that way, it will always be automatically selected in an Open box when you get to that level. You don't have to rack your brain for a folder name that is both appropriate to the subject and early in the alphabet: prefixing any folder name with the number 1 will put it ahead of items starting with alphabetic characters.

## COPY UNPROTECTION

If you disliked copy protection when you worked with floppies, you'll hate it when you graduate to a hard disk. There you are, with 20 megabytes of information stored neatly in one place, and you still have to feed in a key disk when you open an application.

Until software companies wake up and at least provide installers for the hard drivers among us, there are ways around the problem. But, the roundabout ways for hard drive copies are necessarily different from making a backup floppy. (Here's where I have to put the disclaimer: we're talking about copying a program that you bought, making a backup copy for your personal protection.)

*HardDiskUtil* from FWB Software lets you

install almost any protected program onto your hard disk. This simple program requires specific "patch" files to do its job. It comes with files for many popular programs, including all the major business packages. As with all programs of this type, it is constantly being upgraded, and new patch files are available on a San Francisco bulletin board that is open (for a fee of under \$20 per year) to all registered *HardDiskUtil* owners. This neat little program is really a necessity for proper use of your hard disk.

### PRODUCT INFO

*HardDiskUtil*, \$89.95, FWB Software, 2040 Polk Street, Suite 215, San Francisco, CA 94109, 415-474-8055.

## WHAT'S IN A FOLDER?

You must have a *System* folder when you're working on a hard drive. Under HFS, the *System* and the *Finder* must either be in the *System* folder, or on the root level of the drive — loose on the desktop. Dedicated files for desk accessories must also be in the *System* folder; the Scrapbook and Note Pad, for instance, look to the *System* folder to find their stored information.

Beyond the *System* folder, there are a number of situations where certain information must be kept together in a folder, although the name of the folder doesn't matter.

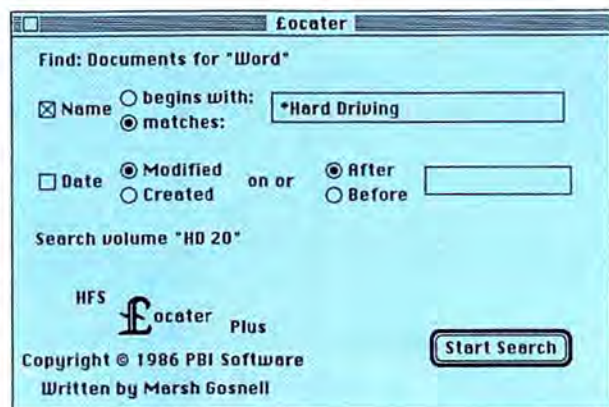


# THE JOYS OF HARD DRIVING

Some of these constraints will disappear as programs are designed to be more fully compatible with HFS. When you use *Switcher*, for instance, all the applications you're installing, as well as *Switcher* itself, must be in the same folder. The current version of Microsoft *BASIC* can only read and write files at the root level of the drive. Some programs, like Magnum's *Slide Show Magician*, need all the related documents in the same folder as the application.

## CLEANLINESS IS NEXT TO SPEEDINESS

Every time you quit an application and return to the *Finder*, the desktop is "rebuilt" to look the way it was when you left it. If you keep a sloppy desk, with many files open, it will take that much longer to rebuild. With 16 megabytes on an Apple HD 20 with only the main window



*Locater's* main window lets you enter the search criteria for a file; asterisks and question marks serve as wild cards in the file's name.

open, and eight items in that window, it takes about 18 seconds to quit from *MacPaint* and return to the desktop. With a dozen folders open, it takes nearly 40 seconds.

You can save time by keeping a neat desktop; or, you can stay a slob and just avoid visiting the *Finder*

between applications.

One way to do this is by using the *MiniFinder*. This is easy to set up while you're at the desktop; just select some of the applications on your drive and choose *USE MINIFINDER* from the Special menu. When you open an application and then quit it, you won't return to the desktop. Instead, you'll be presented with icons for the applications you chose.

Using *Switcher* is another way to avoid a detour to the desktop between applications. If your computing usually consists of using the same few applications, you can set up a *Switcher* document that will always load and open the same applications for you.

If you're not the plan-ahead type, the *MiniFinder* and *Switcher* aren't your best bets. Instead, try something like BatteryPak's *Launcher* desk accessory or PBI's *Locater DA*. *Launcher*, once activated, comes into play any time you quit an application. Instead of going to the desktop, you get an Open box that lets you pick and open any application. In *Locater*, you can find any document, and set it to open — with its application, of course — as soon as you quit the current application.

## START DRIVING

There you have it: why you should get a hard drive, and what you should do with it. It's easy to work more efficiently when you have the hardware that lets you turn into a speed demon and a pack rat. ☞

Sharon Zardetto Aker is a contributing editor of *MacUser* and author of many computer books.

## FINDER OF LOST FILES

It's easy to forget where you stored a file on a hard disk. Maybe you remember the name of the folder it's in...sort of; or, maybe you at least remember the name of the document...sort of. Or, maybe you know the name of the file and the folder that you thought you put it in, but it's just not there.

There's a new desk accessory that can save you: *HFS Locater Plus*.

The HFS part you know about. The *Locater* part finds the file you've lost. The *Plus* part includes: setting up search criteria for the file; manipulating file once you find it; creating disk catalogs; creating new folders; and, launching directly into another application when you quit the current one.

When you're searching for a file, you can type its full name, or use "wild cards" for characters you aren't sure of. You can specify a date, and look for files that were either created or modified on, before, or after that date. You can search only for documents for a specific application. If you have a general idea of where you left the file, you can set the search starting point at any folder, further specifying whether or not to look through the folders inside that folder. (You can also skip the Search feature and just select a specific file.)

Once you've found your file, you can copy, rename, or delete it, or move it to another folder. You can also "Get Info" on it, or set it up to launch when you quit the current application — or launch immediately if you're in the *Finder*.

*Locater* can create a text file that catalogs all the files on your disk, or on any part of it. You can catalog the contents of a specific folder, or all *MacPaint* documents regardless of where they are, or all the files created in the month of May.

*Locater* is more than a useful desk accessory — it's an absolute necessity with a hard drive. It's not perfect — I'd like to see a Find Folder option, and be able to search for text files, and use an auto-open into the current application when a file is found — but even as it stands, it's a terrific bargain.

*Locater* is just about to be released as we go to press. While the release version of the program was reviewed, the final documentation is still at the printer. With luck, the manual will not only describe the features available, but will also provide a few suggestions on how to make best use of *Locater*. It's not immediately apparent, for instance, that if you want to search a disk other than the default hard drive, you can access it using the *START SEARCH AT* . . . menu option. It also might take a while to realize that *Locater* can be used as a backup utility for the work you do each day or week. *Locater* is a terrific tool that can be used in many different ways.

## PRODUCT INFO

*HFS Locater Plus*, \$34.95, PBI Software, 1111 Triton Drive, 2nd floor, Foster City, CA 94494, 800-843-5722.



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# GOOD THINGS IN SLIM PACKAGES

SOFTWARE IS A FIELD OF UPS AND downs, of winners and losers, of trends. Right now, integration is the rage. Programs that do many things are usually perceived of as being more valuable and better than programs that can only perform one function. Programs like *Excel*, *Crunch* and *Jazz* — all of which combine functions such as spreadsheet number crunching, database management and text editing in a single package — have been getting lots of attention lately.

There's no question that programs like these have their place — unfortunately, that place is not on a 128K Mac. With their hefty RAM requirements, these packages can only play with the big boys — at least 512K of RAM and we'd prefer a hard disk as well, thank you.

Users with 128K Macs (and your numbers are still large) aren't left entirely without options, though. If you've been thinking about integration but balk at the cost of upgrading your equipment, there are less-touted programs available that will definitely fit your machine and might very well fit your needs.

Both Haba Systems' *Quartet* and Haydens' *Ensemble* are integrated programs whose debuts predated the release of *Jazz*. Unlike their much-publicized competition, these two programs were, in fact, designed for use on the 128K Macintosh. Both offer database, mathematical, text and charting capabilities. Other than that though, they don't have a whole lot in common.

Every integrated program has to have a particular area of strength, a

---

## ***Quartet and Ensemble* offer the benefits of integration to 128K owners.**

---

format or basis for its other applications to revolve around. While *Quartet* has definite database capabilities, it's primarily a spreadsheet. *Ensemble*, on the other hand, offers considerable mathematical power, but is essentially a database.

### **FOUR IN A BOX**

Experienced spreadsheet users will have no difficulty adapting to *Quartet*. Both old hands and new users will enjoy its well-written and organized documentation. Novices, in particular, will find the tutorial portion of the user's manual a real pleasure, with its easy-to-follow, one-step-at-a-time introduction to general spreadsheet terminology and specific *Quartet* functions.

For those who like to jump in with both feet, the "About Quartet" file available through the Apple menu, provides an extensive list of on-screen help selections. *Quartet's* inclusion of help as an option in each dialog box is an unusual, but useful, feature as well.

*Quartet* is copy protected, with a system that uses the key-disk method. That is, you are asked to insert a valid master after launching a copy. After validation, you return to the

copy and work there. Each work disk will have over 125K of free space, so *Quartet* can be used with single-drive systems without much of the disk swapping normally associated with such systems. Unfortunately lacking is a hard disk installer, so while the program can be copied to a hard disk, it will still ask to see a master disk each time it is launched.

*Quartet's* opening screen presents a standard spreadsheet grid topped by the familiar Mac menu titles. The columns are headed by letters, while the rows are indicated by numbers. A *Quartet* spreadsheet can extend up to 62 columns across and 99 rows down. However, 128K of memory will only let you fill between 1000 and 2000 cells per spreadsheet (the exact number depends on how big the cell entries actually are). If you run *Quartet* on a 512K Mac, the number of cells available increases to between 15,000 and 20,000.

The program has its own built-in font, Escondido 10, which it will use regardless of what else is in the *System* file. This easily readable font allows approximately nine characters per cell (in the default cell size). Making individual columns wider or narrower is a snap, though, and even global changes can be affected with little more than a click. However, Escondido 10 is both the beginning and end when it comes to fonts you can use. And about the grandest thing *Quartet* can offer in text formatting is underlining, so don't give up your word processor just yet.

User-designated cell ranges can be set aside as blank (unlined) text areas to create multiline worksheet titles,

*by Donna Barron*



descriptions, explanations, legends for graphs and even uncomplicated letters or memos. Individual text areas hold up to 1000 characters, and any spreadsheet can contain the equivalent of up to 22 typed pages.

In addition to the standard text entering and editing functions that apply throughout the program, *Quartet* provides built-in tabs and word wraps in these specially designated text areas. Text areas can also be protected so you can't inadvertently overwrite them when using the Copy or Paste functions.

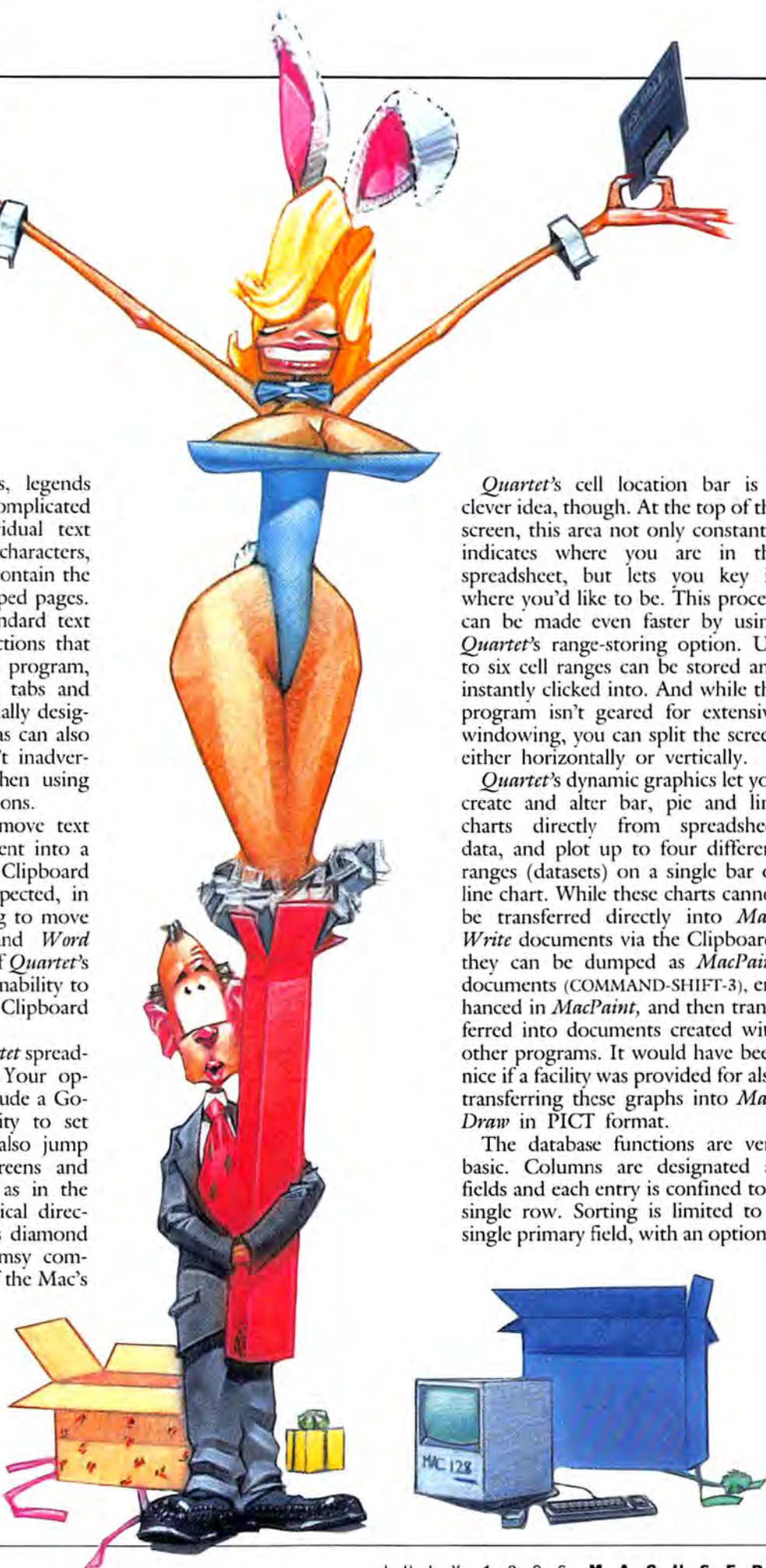
We found it easy to move text from a *MacWrite* document into a *Quartet* text area via the Clipboard (the text appeared, as expected, in Escondido 10), but trying to move text between *Quartet* and *Word* proved impossible. One of *Quartet*'s real inconveniences is its inability to show the contents of the Clipboard with doing a Paste.

Moving through a *Quartet* spreadsheet is straightforward. Your options are flexible, and include a Go-To feature and the ability to set screen ranges. You can also jump quickly between two screens and scroll diagonally as well as in the usual horizontal and vertical directions. However, *Quartet*'s diamond cursor control seems clumsy compared to the immediacy of the Mac's scroll bars.

*Quartet*'s cell location bar is a clever idea, though. At the top of the screen, this area not only constantly indicates where you are in the spreadsheet, but lets you key in where you'd like to be. This process can be made even faster by using *Quartet*'s range-storing option. Up to six cell ranges can be stored and instantly clicked into. And while the program isn't geared for extensive windowing, you can split the screen either horizontally or vertically.

*Quartet*'s dynamic graphics let you create and alter bar, pie and line charts directly from spreadsheet data, and plot up to four different ranges (datasets) on a single bar or line chart. While these charts cannot be transferred directly into *MacWrite* documents via the Clipboard, they can be dumped as *MacPaint* documents (COMMAND-SHIFT-3), enhanced in *MacPaint*, and then transferred into documents created with other programs. It would have been nice if a facility was provided for also transferring these graphs into *MacDraw* in PICT format.

The database functions are very basic. Columns are designated as fields and each entry is confined to a single row. Sorting is limited to a single primary field, with an optional





## GOOD THINGS IN SLIM PACKAGES

subsort on a secondary field. However, mathematical operations can be performed on the data in numeric fields.

*Quartet's* powerful spreadsheet capability and ease of use are its most attractive features. Haba has recently enhanced both by offering a \$49.95 set of spreadsheet templates that virtually negates the need to design your own spreadsheets. The 37 time-saving templates include complex "what if?" operations such as break-even and expense analyses and light insurance planning. These can be used as is or modified to a particular need.

### A GATHERING OF APPLICATIONS

While *Ensemble* can match many of *Quartet's* computational operations, it does so without a visible spreadsheet. *Ensemble's* on-screen persona is as a data entry form and its major thrust is as a report and form generator.

On opening the program, you are presented with a blank screen on which to create the format in which the data will be stored. At the top of

the screen are eight menu titles, and, at the bottom you'll see seven indecipherable icons. This is not a program you can just dive right into.

*Ensemble* comes with three separate disks. In addition to the program itself — which uses the same copy protection scheme as *Quartet* — there is a guided tour (actually, this is a basic tutorial) disk and a disk with a set of examples (advanced templates). Unfortunately, the guided tour is basic to the point of being boring, and the examples are so complicated that they verge on being incomprehensible.

While the icons are explained and instructions for designing forms are given at length in the comprehensive and picture-packed manual, there are so many things to learn, so many commands and combinations to remember, that attempting to master the program is a real undertaking.

Setting up a form requires the creation of various text boxes that can be dragged to exactly where you want them. To give them their due, the program's authors have offered users tremendous flexibility, allow-

ing them to create multipage data entries that combine variable and static text fields as well as picture or graphic fields. The program even provides a variety of shapes, lines, patterns and prints to help decorate and personalize forms and charts.

Once you get past setting up the forms, filling in, altering and utilizing data is fairly straightforward. However, here again the user is faced with eight more (and different) indecipherable option icons. It would have been much simpler and better if, instead of showing an icon with a tiny Macintosh, the search icon just said "Search."

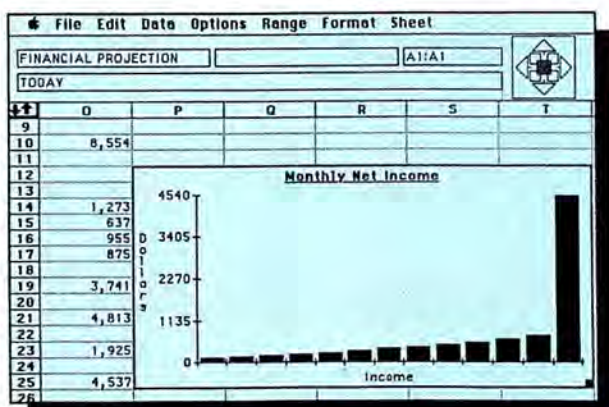
Since it is essentially a database, *Ensemble's* greatest power is where you'd expect it to be — in its search and list capabilities. For quick information retrieval, each data entry can be assigned three key fields to sort on. For more involved searches, the specification icon can be clicked, and search instruction entered in the dialog box that appears. These instructions can include both logical and mathematical operators, and any field names in a given file or files can be utilized to set up search criteria.

Despite the fact that it's not set up like a spreadsheet, *Ensemble* has very strong computational abilities and can link data between up to three files. Computations can be built into forms ("always add these two figures") or set up via conditional statements ("increase the value of this field 10 percent in all entries dated after June 15"). *Ensemble* does not use windowing to show the various files in use. However, up to three files can be opened for concurrent use. These files appear as icons on the *Ensemble* desktop and can be brought to the screen individually (not at the same time) by clicking their icons. Users can shift in and out of files on the desktop to pull out the data necessary to specify a search or computation.

*Ensemble* has considerable charting ability and offers a choice among ten different formats, many of which have a three-dimensional appearance. The charts created are directly related to lists made during searches of the database.

(continued on page 139)

*Quartet's* dynamic graphics let users create charts directly from selected spreadsheet data.



Most of *Quartet's* functions occur in or work from a spreadsheet layout.

File Edit Data Options Range Format Sheet						
EXERCISE 1				A1:A1		
	A	B	C	D	E	F
1						
2		January	February	March	April	
3	Income					
4	Salaries					
5	Interest					
6	Dividends					
7	Total:					
8						
9	Expenses					
10	Mortgage					
11	Auto					
12	Household					
13	Personal					
14						
15						
16	Balance					
17						
18						



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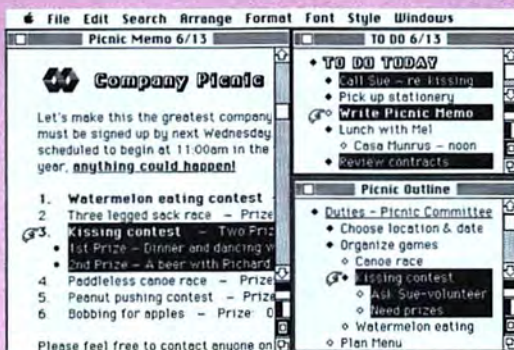
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# FLIERS

FLIERS. THEY'RE PART OF THE mass media we all see every day, tacked to school bulletin boards, lampposts, mailboxes and community meeting halls. They can do anything from publicizing a garage sale or club meeting to helping find lost pets. They're one of the best ways to organize neighbors, spread the word, or find an apartment. And, with a little help from the Mac, they're beautiful, cheap and easy to produce.

## WHAT'S YOUR STYLE?

The key element of a flier, or of any one-page visual, is in the use of white space, where there's no graphic or text.

Back in the pre-Mac days, most fliers were handwritten, said only what they had to, and didn't place a heavy emphasis on graphics or visual effects. When photos were needed (to identify lost pets, for example) they were simply taped to the flier master before it was photocopied. While those fliers were hardly stylish, at least they were functional.

Owning a Mac opens up a veritable universe of style. Want an attractive border or unusual typeface? There are hundreds available on the market, or you can even design your own. Graphics can be imported easily enough, and if you don't like the way one flier comes out, it's simple to change it and just print it out again.

Of course, the style of your flier depends heavily on the purpose it

## ON THE FLY

**Find a pet, sell your  
home or tell the world  
about your club with  
the world's cheapest  
ad medium—the flier.**

will be used for. Attention-grabbing headlines like "REWARD" need far less visual embellishment than heads announcing club meetings, school dances or puppies for sale. Make your visuals match the story you're trying to tell.

## CLIPPING ART

The graphics available for Mac owners to use are as diverse as the works they'll be used for. Clip-art type disks are plentiful, spanning the gamut from light, cartoonish designs all the way to sophisticated drawings or digitized images. If you're not much of an artist, or don't have the time to create a graphic that's as good as it should be, make use of what already exists and save yourself a lot of aggravation. Since virtually all clip-art comes in the form of

*MacPaint* documents, they can even be modified to create personalized effects.

Among the best art programs for creating fliers are:

*Mac the Knife, Volumes 1 and 3:* Volume One is chock full of high-quality graphics that are flexible enough to accommodate a wide variety of situations. It includes a number of small, icon-type symbols that come in handy as graphic header elements, and also offers a wide variety of interesting borders. Volume Three is geared more towards seasonal work—holiday parties and the like. This graphics set includes a few large showcase pieces, which make attractive centerpieces for setting text around, plus a lot of small, humorous dingbats and some interesting, new-wavish art.

T-Maker's *ClickArt Publications* offers a useful collection of block graphics particularly geared towards newsletter-style work, but these are useful for any publication design.

Simon & Schuster's *Mac Art Dept.* features a wide collection of large objects, with motifs ranging from travel to business to personal possessions. This disk also includes a nice selection of borders.


Springboard's *Art a la Mac, Volumes 1 and 2*, consist of a large sprinkling of small, diverse elements that can be used individually or in groups to create cartoonish vignettes. If you'll be trying to inject a sense of humor into your fliers, these are worth a second look.

**BY TRACIE FORMAN HINES AND DAVID BIEDNY**



# FLIERS ON THE FLY

## ADOPT ME



**SIX ADORABLE, TINY KITTENS NEED GOOD, LOVING HOMES!**

HOME-RAISED, LOVING EIGHT WEEK-OLD KITTENS ARE AVAILABLE FOR ADOPTION TO GOOD HOMES. TWO GRAY TABBY MALES WITH GREEN EYES; TWO RED TABBIES (ONE MALE, ONE FEMALE) WITH GOLD EYES; ONE BLACK MALE WITH YELLOW EYES; ONE GRAY TABBY/WHITE WITH GREEN EYES. GENTLE, RAISED WITH KIDS.

**ALL ARE HAPPY AND HEALTHY!**

GRAY KITTEN \$50-\$52	GRAY KITTEN \$50-\$52	GRAY KITTEN \$50-\$52	GRAY KITTEN \$50-\$52	GRAY KITTEN \$50-\$52	GRAY KITTEN \$50-\$52	GRAY KITTEN \$50-\$52	GRAY KITTEN \$50-\$52	GRAY KITTEN \$50-\$52	GRAY KITTEN \$50-\$52
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This flier was created entirely in *MacPaint*, using various styles and sizes of the Athens font. The kitten was clipped from *compuCRAFT's Mac-Art Library—Variety Pak*, and stretched slightly to fit our layout. The white space along the bottom is a result of printing on the *LaserWriter*, which automatically puts a border margin along the bottom.

There are also a number of books that contain public domain graphics, such as the *Clipper Art* series, that have been widely used by advertising agencies for years. If you have a *ThunderScan* or other digitizer, using graphics books offers a bottomless well of diverse, realistic artwork.

## FONTS

No matter what kind of fonts you'll be using in your fliers, remember that the typeface must be large. Large enough to read from a distance, large enough to attract the eye. We recommend a font size of at least 14 point, though for a real eye-catcher, go for something as large as 72 points. (*MacWrite* can't handle fonts larger than 24 points, so large headlines should be created in *MacPaint*.) The headline should be much larger than the main body copy, if any, and the accompanying text should be short and to the point. You're trying to create interest with a flier, not give away the entire story.

The fonts that come with the *MacWrite* disk are fine for those on a tight budget, although of course,

you can get as fancy as you want. *MacWrite* and *MacPaint* create beautiful, professional-looking text and graphics, and of course these can be augmented by just about any fonts you like. Any font can be saved to the *Scrapbook*, then inserted into the flier and stretched to fit individual specifications.

There are almost as many good sources for new fonts as there are good fonts. Among the best commercially produced fonts:

*Mac the Knife, Volume 2* contains excellent fonts for body copy. Paris, Sunnyvale, Rome and Montreal all print out exquisitely on an *ImageWriter*. This collection offers a wide variety of fonts in smaller (12- and 24-point) sizes. *Mac the Knife, Volume 3* is a good choice if you're looking for highly stylized, large fonts for headlines. Just about every font in this package is useful.

Kensington's *Headline Fonts* was one of the first display face packages available, and it's still one of the best. The package is offered in small to medium sizes (up to 36 points), and in larger sizes (up to 72 points) for

## Garage Sale

AUGUST 18, 1986 • 9am - 7pm

**LOTS OF GREAT STUFF**  
**!!!CHEAP!!!**

- ➔ LIVING & DINING ROOM FURNITURE
- ➔ CARPETS & RUGS
- ➔ CHILDRENS CLOTHING
- ➔ FULL BEDROOM SET
- ➔ HOME ELECTRONICS
- ➔ TOOLS & HARDWARE



Just head on over to:

**300 BERNLEY ROAD**  
**FT. LAUDERDALE**  
Between Bane & Sterling The green house

This ad was laid out in *MacDraw*. The various fonts used include Joe Clement, Kim Deitch (from *Mac the Knife, Vol. 3*), and Sydney and Montreal (*Mac the Knife, Vol. 2*). The icons were obtained from *Mac the Knife, Vol. 1*, and the human torso came from *Hayden's Body Shop*.

the 512K and larger Mac. All are attractive and very usable.

There are also a lot of fonts available in the public domain, available from users' groups and BBSs. With a little investigative work, you'll be sure to dig up the perfect font for the job at hand.

## PHOTOS

There are two ways to create fliers with actual photos, which are essential for finding lost animals, and also come in handy for selling big-ticket items like furniture: either digitize them using one of the Mac digitizers, or use the old fashioned method of literally pasting them to the paper just before photocopying.

## LEAFLETS

Designing and laying out a leaflet presents some interesting problems. First, of course, leaflets require a completely different look—for the most part they consist of an attention grabbing cover page, two inner pages that deliver the information, and a back page that is often blank, or contains only details like addresses



# FOR THE BEST IN MAC GRAPHICS, ONE PRODUCT SCANS ALONE.

## "Best Peripheral Device"

**MacUser**

The editors of *MacUser* named ThunderScan the Best Peripheral Device of 1985. Here's what they said: "ThunderScan from Thunderware is an astonishing device that transfers images to the Mac by scanning them using a snap-in device that replaces the ImageWriter ribbon...Easy to hook up and use, relatively inexpensive, this device should be owned by anyone who uses graphic images on the Mac."

## "Best Hardware Product"

**MACazine**

We didn't finish first here, but in this case we don't object to second best. Of all the hardware products on the market, ThunderScan finished second only to the Mac 512 as the Year's Best Hardware Product.

## "Best Graphics"

**MACazine**

Based upon their personal use, the readers of *MACazine* voted ThunderScan the Best Graphics System of 1985.



To get the best graphics from the world's most graphic computer, experts and users agree: Nothing works like ThunderScan. Because only ThunderScan replaces ImageWriter's ribbon cartridge, scans printed images and turns them into high-resolution MacPaint documents. Just \$229 complete including our powerful image enhancement software (no video camera required). Get yours today. Or contact us for more information and sample ThunderScanned images.

ThunderScan, as shipped, is compatible with the 128K or 512K Macintosh, ImageWriter I & II and LaserWriter. Compatibility with the wide-carriage ImageWriter and Mac Plus requires accessories. Contact us directly for answers to your compatibility questions.



**Thunderware, Inc.**  
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Orinda, CA 94563  
(415) 254-6581

**ThunderScan**

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# FLIERS ON THE FLY

or club meeting times. That's not a hard and fast rule; it's just what most people do.

The most important thing to remember when creating a leaflet is that the page must be split evenly along the top and bottom, with the center used as a fold line. You'll get the most precise layout by creating the page in *MacDraw*.

## DO YOU NEED A PAGE LAYOUT PROGRAM?

Probably not. Fliers are relatively small undertakings easily accomplished using just *MacPaint*. Page layout programs are expensive for such small jobs. If you have one, experiment with using it. If you don't have one, don't feel you have to buy it just to create a flier. Page layout programs are primarily designed for producing newsletters, and their special features are geared to creating multiple page documents with consistent formats. They're not really designed for precise drafting.

## PRINTING PROBLEMS

The ideal printing medium for your fliers is obviously the Laser-

Writer, which produces the kind of quality printing most people would expect from a typesetting shop. If you have a LaserWriter available, this should be your hands-down first choice.

Alas, most of us still use the ImageWriter as our day-to-day workhorse. While it presents a few problems that the LaserWriter doesn't, it sure does beat printing out your fliers on a Gestetner machine!

If you'll be printing your flier on an ImageWriter, it's a good idea not to use large areas of black, since the result will be a thin collection of dark gray stripes. If black shapes are essential to your visual presentation, go ahead and print it out, but expect to have to fill in the stripes with a felt-tip marker before photocopying.

Did we say photocopy? Yes. It's much cheaper in the long run to photocopy your fliers than it is to print them on either the ImageWriter or the LaserWriter. With the former, the wear and tear on your ribbon will probably entail replacing it, while the latter is sure to run short

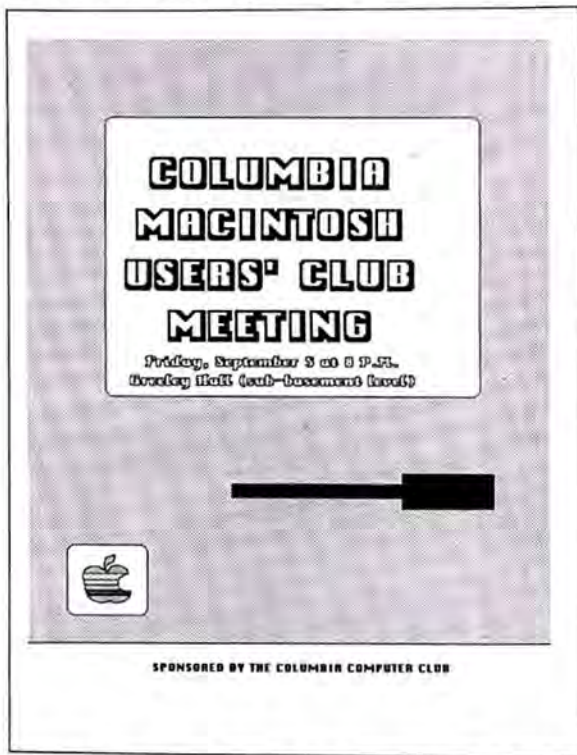
on toner in its cartridge. This is especially true for print runs of more than a dozen or so. Photocopying can also tighten up the final look of the flier, closing up tiny holes and smoothing out rough edges.

## FINAL NOTES

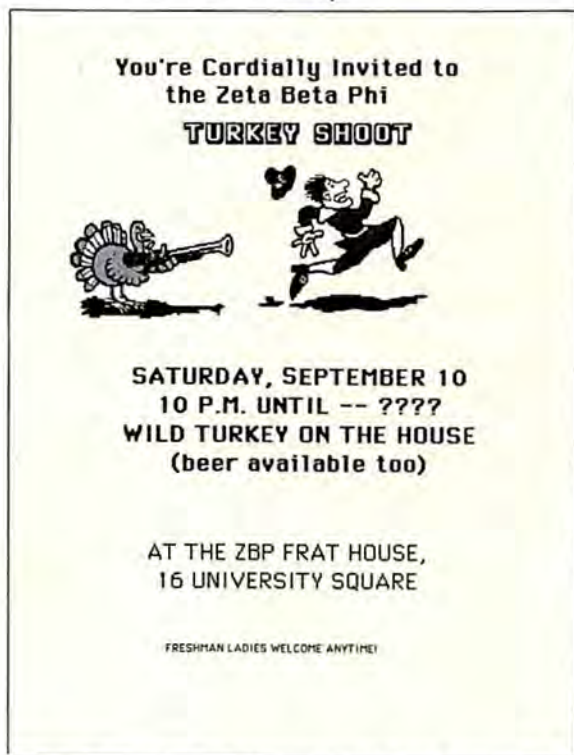
Remember, the point of a flier is to fit as much info as possible into relatively restricted design. You're trying to attract as much attention as you can, which means you can't clutter up the page with too much tiny gobbledygook. Keep it short, sweet and to the point.

Fliers are often not designed with graphics, since they're usually written off the cuff—that's why graphics make fliers really stand out. The larger the type, the better your finished product will look (especially on ImageWriter).

Finally, if you hate the way your finished product turned out, tear it up and create another. With the Mac, you're not tied to any single "look," so relax and have fun with it. After all, creativity is what the Mac is all about. ☐



What easier way is there to attract Mac users' attention than by showing them a mock-up of the machine itself? This flier was created entirely in *MacPaint*, using standard drawing tools and a combination of fonts. This flier was the ultimate in quick and dirty—and effective.



This was also created entirely in *MacPaint*. The turkey chasing the pilgrim was taken "as is" off Springboard's *Art a la Mac, Volume 2* (Variety Pack) disk and colored in using the Paint Bucket. All of the lettering is various styles of Geneva, cleaned up in *FatBits* when necessary.





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So use Sony 3.5" or 5.25" floppy disks, and avoid disk error. If you use somebody else's, you could be sorry.

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# PICTURE PERFECT

## Learn to forget black and white and color your Mac slides

ONE LATE WINTER DAY, OUR graphics company received a call from a local nonprofit organization which needed slides to accompany a lecture presentation. Was there any way, using microcomputers, to get fast, professional-quality color slides with minimal expense? We considered the Apple II and the IBM, but although these computers are great for creating interactive presentations without costly specialized hardware and software, they can't produce the jaggies-free text essential to professional-quality slides.

We had often talked about using the Macintosh/LaserWriter combination to create presentation graphics. The lack of color was the Mac's most serious drawback, but we knew there must be a way. There was. Here's how we did it.

### DECISIONS

We received typewritten specs: The presentation would consist of text and flow charts detailing the services of the organization. Decision number one: What software should we use? There was no need for a specialized program to generate graphs and bar or pie charts. We elected to use *MacDraw*, because it allows for easy manipulation of lines and boxes, offers rulers and a grid for alignment, and, unlike *MacPaint*, fully utilizes LaserWriter fonts. Most important for our purposes, *MacDraw* allowed us to see the entire page as we worked. (See "Mastering

*MacDraw*," *MacUser*, November 1985.)

The next decision was which fonts to use, and in what size. We couldn't consider the many fonts available for the ImageWriter (as the LaserWriter doesn't do a satisfactory job of smoothing them for high-quality output). If we were working in *MacPaint*, this wouldn't have been a problem, as fonts typed into *Paint* and printed on the LaserWriter look just fine. The only problem is that the *Draw*/LaserWriter graphics resolution is compromised. One way around this is to use the *CheapPaint* desk accessory to create display text, and paste it into the *MacDraw* layout. Since our charts required a lot of text, we decided to limit ourselves to one compact, sans serif laser font. We chose Helvetica in 18 to 24 point type sizes that would be ideal for projection.

### LESSONS TO BE LEARNED

We installed the LaserWriter fonts in *MacDraw*'s system file. (You can allow the LaserWriter printer driver to substitute its fonts for Mac's fonts during printing, but if you do that, you can't accurately judge the placement of text on the graphics.) We began with the flowcharts, drawing the boxes, connecting them with lines and then entering the text. It wasn't long before we encountered *MacDraw*'s notorious bug.

In version 1.9 or lower, automatically aligned text can be a problem. "Automatically aligned text" is text created by typing without first selecting the text tool. Such text is gracefully attached to the object that's currently active. Gracefully, that is, until we started to manipulate it. After moving boxes around to experiment with layouts, we discovered that the text was no longer

centered in the boxes. *Lesson one: create separate text objects, turn off the grid feature, and center each text object manually in its box.*

We also had a few surprises in store with the "REDUCE TO FIT" feature. Sometimes we'd "SELECT ALL" and try to move the grouped objects — how depressing it was to watch helplessly as the objects collapsed into a shrunken mess. (Usually, UNDO undid the damage.) *Lessons 2, 3 and 4: Save. Save. Save.*

### CONTINUITY ABOVE ALL

We found that a horizontal orientation worked best for our slides. All Mac programs that use the standard Page Setup dialog box can produce output in the horizontal, or landscape, mode. When some of the flowcharts didn't fit well in a horizontal orientation, rather than deviate with a vertical format, we redesigned them to maintain consistency.

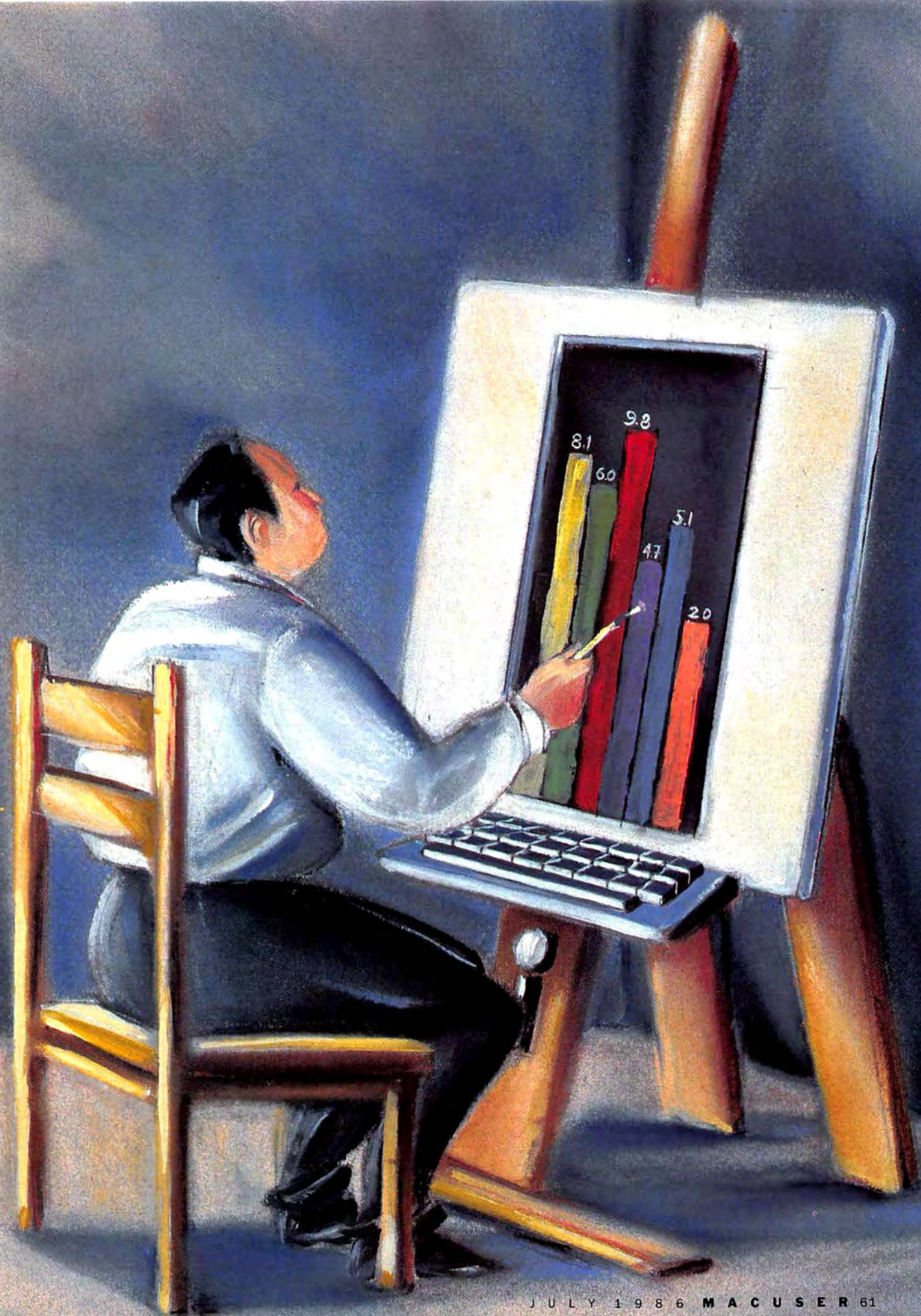
Visual continuity from slide to slide was assured, thanks to the Mac's Cut and Paste feature. For the text charts, we chose to box the title of each slide. After laying out the first one, we cut the box and title, and then pasted it into the Scrapbook. As we started each new chart, we pasted in the box and replaced the old title with the current one. In this way, the size of the boxes and position of the text within them remained constant. We used bullets to accent each paragraph (the bullet character is produced by typing OPTION-8).

### WHAT YOU SEE MAY NOT BE WHAT YOU GET

When printing on the LaserWriter, "what you see" on the screen doesn't always match "what you get," so it's essential to do final proofreading on LaserWriter out-

by Roberta Schwartz and Michael Callery







## PICTURE PERFECT

put. That's when you'll discover, for example, that bullets print very small (we returned to *MacDraw*, cut the bullets and used small circles instead).

Some of our charts were quite complex and filled the page, leaving very small margins. These charts printed fine as one page on the ImageWriter, but the same images printed as two pages on the LaserWriter. Instead of manually reducing the entire design (an extremely tedious procedure), the simplest way to deal with this was to use the reduction feature in the LaserWriter's print dialog box. A 90 percent reduction adequately squeezed the edge-to-edge chart onto a standard page. In the final printing, we printed every chart at this reduction so that we'd have consistent type size throughout.

### THE COLOR CONUNDRUM

Once we had created a set of typeset-quality charts, all that was left was to add color to them. While people with large budgets can use a professional slide color system that works with colored filters, these typically start at \$2000 and go way up in price, so for us they were out. We tried coloring in the boxes with markers, but the color came out shaded and unprofessional looking. After much deliberation and experimentation, we took a labor-intensive, but inexpensive, route: transparent color overlays.

Transparent overlays, which are available in most art supply stores, are used by many commercial artists to color illustrations for publication. They come in full (18" x 26") and half (14" x 17") sheets at an average cost of \$15 per full sheet. The range of colors and values is astonishing.

The darker hues don't allow the text to show through very well, so we selected four pastel colors. Using overlays is relatively simple. Cut out a piece of the sheet slightly larger than the area to be colored. After peeling it from the backing material, lay it over the area. Then, with a very sharp artist's knife, just trim away the excess. The result is smooth, flat color. We made some copies of the LaserWriter prints and practiced our



A colored slide created entirely in *MacDraw*.

cutting on them before we did the final pieces.

### LET THERE BE SLIDES

Once our charts were printed and colored, it was time to produce the final product. Start by photographing the work. Some tips for successful photo shooting:

1. Use a copy stand.
2. Provide adequate lighting. (We used photo flood lights.)
3. Use a shutter release cable so that you don't move the camera as you cock the shutter.
4. Take a test roll, with bracketed shots. Bracketing means photographing each graphic at the f-stop

indicated by the light meter, photographing it again with the f-stop one step lower, and again with the f-stop one step higher. Note the stop for each photo.

When our test roll was processed we discovered that the charts had light spots; the transparent overlays have a slight sheen to them and they reflected the light. We sprayed each chart with a matte spray (also available in most art stores). An alternative to spraying would be to lay a sheet of nonglare glass over the charts when you photograph them.

We were also surprised to discover that the f-stop one step lower than that indicated on the light meter

### PRESENTATION POINTERS

Planning is probably the most difficult part of creating a presentation. We've found *ThinkTank 512* particularly helpful for scripting and storyboarding. Using *Switcher* to go back and forth between *ThinkTank* and *MacPaint*, you can outline your talk, make rough sketches of each visual and paste the sketches into the outline. Then, the slide show capabilities of *ThinkTank 512* let you preview your presentation before the production work begins.

In deciding how many visuals you need, remember that it's better to have many simple screens than a few complex ones. Don't put too much information on one slide or transparency.

Presentation graphics should convey key points, the ideas you want your audience to take home. As a general rule, limit each visual to approximately 15 words; you want your audience to listen to you, not read your chart.

Although graphs, charts, diagrams and clip-art can spruce up a show and relieve

the impact of too much text, be sure they serve as enhancements, not distractions. Keep graphics simple. Where it's necessary to include more than three lines on a line graph, make more than one slide and highlight that portion of the graph that is of current interest. Instead of countless bars across the screen, use stacked bars. The critical component of a pie chart can be exploded. Once you've decided what to include in each screen, concentrate on creating visual continuity throughout the presentation. Lines, boxes, icons and color can be used as unifying elements.

If all this sounds overwhelming, then start small. Limit your first presentation to black and white graphics. Don't worry about following rules — most of it is plain common sense. Trial and error will be your best teacher. If, along the way, you need a little guidance, there are numerous books available. *Presentation Graphics on the Macintosh*, by Steve Lambert, should give you all the inspiration you need.



gave the best results. That's why bracketing is so essential.

### THEY SAID IT COULDN'T BE DONE

For less than \$200 (including film and processing), we produced 40 professional-quality slides. The organization informed us that the presentation was well received. We did it all with the Mac — in color.

### MEETING YOUR NEEDS

Since we did this project according to tight specifications, there was little room for creativity. For your presentations, there are many alternatives to consider.

For example, you can add some pizzazz with clip-art. There's an incredible variety of such art available for the Mac and, happily, much of it is quite good. *The Mac Art Dept.*, *ClickArt Publications* and *MacMemories* come to mind.

For presentations that include business graphics (charts, graphs and so on), use a program like Microsoft *Chart*, *Excel* or *Jazz* to create your graphic and copy it into the Clipboard. Exit the program, bring up *MacDraw*, and paste the graphic into a *Draw* document. Each component of the graphic will become a *MacDraw* object. (For example, when a pie chart from *Excel* is brought into *MacDraw*, each piece of the pie is composed of three objects: an arc and two straight lines. Such a chart is quite small, occupying only a quarter of a page or less. To magnify it, first **SELECT ALL**, then **GROUP** all objects, and finally, grab the corner of the graph and stretch it. You can now enhance it.)

If you need color overlays for very small areas, or if you'd like to experiment with a variety of colors, look into a product called the Computer Graphics Color Packet. The package includes a sampling of eight Cello-Tak color sheets, a graphic knife and instructions for using the material.

### TRY TRANSPARENCIES

Instead of using slides, consider making your presentation with an overhead projector, using transparencies. Simply print your final graphics on overhead film instead of

(continued on page 139)

Microsoft *Chart* is good for creating the basic graph, but not for manipulating it. Create the plain vanilla pie chart divisions within *Chart*, and copy them to the Clipboard.

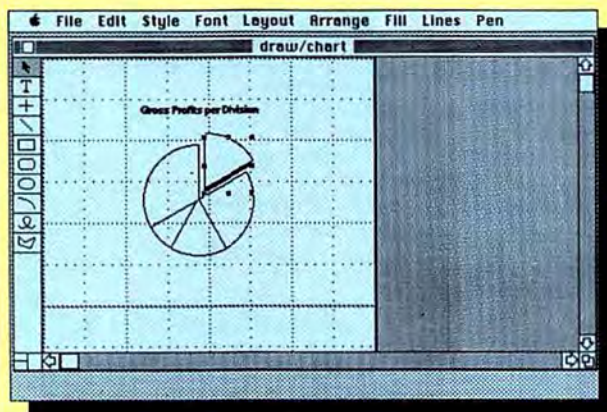
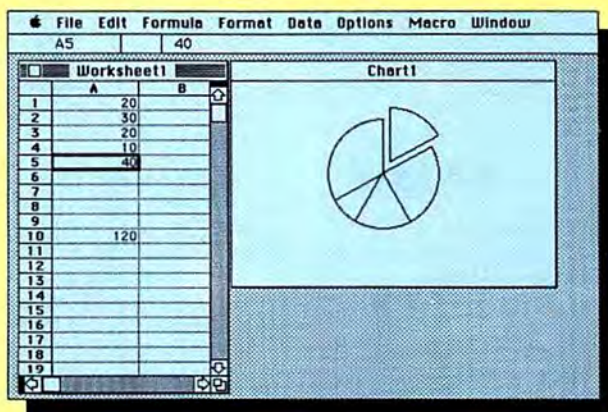
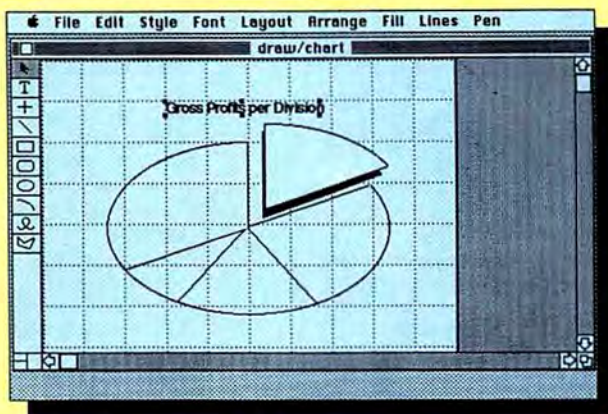


Chart elements pasted into *MacDraw* can be handled as objects. Each separate element of the chart can be given a different fill pattern, sized independently, and stretched using the object "handles."

Every segment of the chart was selected, **GROUPED**, and stretched horizontally to introduce a perspective effect. The detached piece was duplicated, filled with black, and sent to the back of the original, creating an instant drop shadow, which adds to the three-dimensional effect.



Gross Profits per Division



The final product with color.



# Every day

## SOFTWARE

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Smart Eyes (speed reading tutor) . . . . .	\$36.		
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Tempo (power user's macro utility) . . . . .	79.		
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<b>Assimilation</b>			
Mac-Memory-Disk (reqs. 512k) . . . . .	22.		
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<b>Casady Company</b>			
Fluent Fonts (two-disk set) . . . . .	29.		
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Copy II Mac (includes MacTools) . . . . .	20.		
<b>Challenger Software</b>			
Mac3D (3D graphics, CAD features) . . . . .	125.		
<b>Chang Labs</b>			
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Rags to Riches Receivables (reqs. 512k) . . . . .	99.		
Rags to Riches Payables (reqs. 512k) . . . . .	99.		
Rags to Riches Three Pak . . . . .	249.		
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<b>DataFood</b>			
DrawForms (requires MacDraw) . . . . .	30.		
MacForms (requires MacPaint) . . . . .	42.		
<b>Datavis</b>			
MacLink (transfer Mac/IBM files) . . . . .	89.		
<b>Digital, etc.</b>			
Maccountant . . . . .	99.		
Turbo Maccountant . . . . .	325.		
<b>Dow Jones</b>			
Straight Talk . . . . .	59.		
Spreadsheet Link . . . . .	62.		
Market Manager PLUS . . . . .	125.		
<b>Dreams of the Phoenix</b>			
Day Keeper Calendar . . . . .	27.		
Quick & Dirty Utilities Vol. 1 . . . . .	27.		
Quick & Dirty Utilities Vol. 2 . . . . .	27.		
Twelve-C Financial Desk Accessory . . . . .	27.		
<b>Electronic Arts</b>			
Financial Cookbook . . . . .	32.		
Deluxe Music Construction Set . . . . .	32.		
<b>Enabling Technologies</b>			
Easy 3D (create solid 3D objects) . . . . .	59.		
<b>Enterset</b>			
Quickpaint (find MacPaint files fast) . . . . .	27.		
Quickset (icon-driven accessory) . . . . .	27.		
Quickword (word processing tool) . . . . .	32.		
MacGAS (requires 512k, external drive) . . . . .	55.		
<b>1st Byte</b>			
Speller Bee (spelling-learning tool) . . . . .	\$39.		
KidTalk ("talking notebook") . . . . .	39.		
Smoothtalker (version 2.0) . . . . .	49.		
<b>Forethought</b>			
Factfinder (free-form entry) . . . . .	84.		
FileMaker (custom forms & reports) . . . . .	105.		
<b>Fortnum/Southern</b>			
MacInooga Choo-Choo (reqs. 512k) . . . . .	21.		
MacChemistry . . . . .	89.		
<b>FWB Software</b>			
Hard Disk Util . . . . .	57.		
<b>Great Wave Software</b>			
ConcertWare+ (music composition) . . . . .	39.		
<b>Hayden Software</b>			
DaVinci Buildings . . . . .	9.		
DaVinci Interiors . . . . .	9.		
DaVinci Landscapes . . . . .	9.		
Turbo Turtle . . . . .	9.		
I Know It's Here Somewhere . . . . .	20.		
Hayden:Speller . . . . .	27.		
Art Grabber with Body Shop . . . . .	29.		
MusicWorks . . . . .	46.		
Home Design & DaVinci Interiors . . . . .	52.		
Score Improvement System for the SAT . . . . .	58.		
VideoWorks & Musicworks Bundle . . . . .	58.		
Commercial Interiors & Building Blocks . . . . .	65.		
<b>Hippopotamus Software</b>			
Hippo Computer Almanac . . . . .	20.		
<b>Ideaform</b>			
MacLabeler (print disk labels) . . . . .	29.		
<b>Innovative Data Design</b>			
Paste-Ease (requires MacPaint) . . . . .	35.		
MacDraft (requires 512k) . . . . .	139.		
<b>Kensington</b>			
Graphic Accents . . . . .	29.		
Type Fonts for Text . . . . .	29.		
Type Fonts for Headlines (reqs. 512k) . . . . .	42.		
<b>Layered</b>			
Notes...For Excel . . . . .	42.		
Notes...For Jazz . . . . .	42.		
Front Desk (scheduling & organizer) . . . . .	77.		
<b>Legissoft/Nolo Press</b>			
WillWriter (prepare your own will) . . . . .	27.		
<b>Linguist's Software</b>			
MacCyrillic . . . . .	39.		
SuperFrench/German/Spanish . . . . .	39.		
Tech (1000 different symbols) . . . . .	59.		
MacArabic . . . . .	59.		
MacKana/Basic Kanji . . . . .	59.		
MacSemitic/Coptic/Devanagari . . . . .	59.		
MacKorean . . . . .	59.		
MacGreek . . . . .	59.		
MacHebrew . . . . .	59.		
MacGreek/Hebrew/Phonetics . . . . .	89.		
<b>Living Videotext</b>			
ThinkTank 512k (outline processor) . . . . .	101.		
<b>Magnum</b>			
McPic - Volume I . . . . .	28.		
McPic - Volume II . . . . .	28.		
The Slide Show Magician . . . . .	34.		
<b>Manhattan Graphics</b>			
Ready Set Go (requires 512k) . . . . .	105.		
<b>Microsoft</b>			
Flight Simulator . . . . .	special		
Entrepreneur . . . . .	29.		
Learning Multiplan and Chart . . . . .	39.		
Chart 1.0 . . . . .	72.		
Logo 1.0 . . . . .	75.		
Basic 2.1 . . . . .	89.		
Multiplan 1.1 . . . . .	105.		
File 1.02 . . . . .	\$111.		
Word 1.05 . . . . .	111.		
Fortran 2.1 . . . . .	169.		
Excel 1.0 . . . . .	225.		
<b>Miles Computing</b>			
Mac the Knife - Volume I . . . . .	21.		
Mac the Knife - Volume II (fonts) . . . . .	25.		
Mac the Knife - Volume III . . . . .	27.		
<b>Mindscape</b>			
The Perfect Score: SAT . . . . .	47.		
<b>Monogram</b>			
Forecast (tax planning) . . . . .	41.		
Dollars & Sense . . . . .	81.		
<b>Nevins Microsystems</b>			
Turbocharger (requires 512k) . . . . .	55.		
<b>New Canaan MicroCode</b>			
Mac Disk Catalog II (requires 512k) . . . . .	32.		
<b>Odesta</b>			
Helix (requires 512k, external drive) . . . . .	219.		
<b>Palantir</b>			
MacType (supports Dvorak keyboard) . . . . .	26.		
MathFlash (math flash card drills) . . . . .	26.		
WordPlay (crossword puzzles) . . . . .	26.		
Accounts Receivable . . . . .	69.		
General Ledger . . . . .	69.		
Inventory Control . . . . .	69.		
inTouch (communication to emulation) . . . . .	79.		
<b>PBI Software</b>			
Icon Switcher . . . . .	14.		
Icon Fun & Games Library . . . . .	14.		
Icon Business Library . . . . .	14.		
<b>Peachtree</b>			
Back to Basics General Ledger . . . . .	89.		
Accounts Payable . . . . .	89.		
Accounts Receivable . . . . .	89.		
<b>Polarware</b>			
Graphics Magician . . . . .	49.		
<b>Practical Computer Applications</b>			
MacBackup (free upgrades) . . . . .	45.		
<b>ProVUE Development</b>			
OverVUE 2.0 (power-packed database) . . . . .	149.		
<b>QED Information Sciences</b>			
Typing Made Easy . . . . .	36.		
<b>Rubicon Publishing</b>			
Silver Palate Collection (NY's finest!) . . . . .	29.		
Dinner At Eight (recipes to wines) . . . . .	35.		
<b>Satori</b>			
BulkMailer (mailing lists) . . . . .	79.		
<b>Scarborough Systems</b>			
MasterType (arcade typing tutorial) . . . . .	25.		
<b>Sierra On-Line</b>			
MacOneWrite (cash disbursements) . . . . .	137.		
MacOneWrite (accounts receivable) . . . . .	137.		
<b>Silicon Beach Software</b>			
Accessory Pak 1 . . . . .	21.		
Silicon Press (printer utility, 512k) . . . . .	42.		
<b>Simon &amp; Schuster</b>			
The Mac Art Department . . . . .	24.		
Paper Airplane Construction Kit . . . . .	24.		
Typing Tutor III . . . . .	35.		
<b>SMB Development</b>			
MacMate (requires 512k) . . . . .	35.		
<b>SoftStyle</b>			
Colormate Art (color graphic images) . . . . .	25.		
Colormate (color printing utility) . . . . .	49.		
Epstart . . . . .	27.		
Jetstart . . . . .	27.		
Toshstart . . . . .	27.		
Tlstart . . . . .	49.		
Laserstart . . . . .	59.		
Decision Map . . . . .	79.		



# Big Sale.



*On the Ashuelot, Marlow, N. H.*

## Go with the flow.

For some people, ordering computer products by mail is a terrifying leap into uncharted waters. For our customers, it's a breeze.

Because, as you can see, every day is sale day in our home port of Marlow, NH (pop. 542), and we always keep the wind at our backs.

Don't get us wrong. The Macintosh market can be more turbulent than the nearby Ashuelot River on prom night. Companies are constantly trying to blow each other out of the water with new

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But, fear not. By keeping our nose to the grindstone and our eyes on the stars, we're able to chart a true course of low prices and high product support. And we're certainly not wet behind the ears. We've been the Mac mail order flagship ever since the mighty micro was launched two years ago.

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number is for support as well as sales. There's no point in sinking good money into a product only to drown in confusion. So, just give us a call and we'll put you right back on course.

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Systems Control MacGard \$55  
Surge suppressor, static protector.



BrainPower  
StatView 512 + \$179  
Powerful statistical analysis.



Flight Simulator \$35  
Mac takes flight.



Kensington Travelling Disk Case  
Free with \$100 order!

# MacConnection™

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# Connection.

MacDaisywheelConnection	\$45.
MacPort-Adaptor	85.
Numeric-Turbo	145.
<b>Compucable</b>	
Mac to Hayes Smartmodem cable	16.
Mac to Imagewriter cable	16.
Mac Plus to Hayes Smartmodem cable	19.
Mac Plus to Imagewriter II cable	21.
<b>Cuesta Systems</b>	
Datasaver AC Power Backup (90 watts)	call
<b>Curtis Manufacturing</b>	
Diamond (6 outlets)	29.
Emerald (6 outlets; 6 ft cord)	36.
Sapphire (3 outlets; EMI/RFI filtered)	47.
Ruby (6 outlets; EMI/RFI filtered; 6 ft cord)	55.
<b>Epson</b>	
AP-80 (Imagewriter compatible)	call
FX-85	call
FX-286 (replaces FX-185)	call
LQ-1000 (letter quality dot matrix)	call
<b>Ergotron</b>	
MacTilt (incl. external drive bracket)	75.
MacBuffer 256k	219.
MacBuffer 512k	319.
MacBuffer 1 Megabyte	489.
<b>Hayes</b>	
Smartcom II (communications software)	89.
Smartmodem 1200	call
Smartmodem 1200 Package	call
<i>Includes modem, software and cable.</i>	
Smartmodem 2400	call
Transet 1000	call
<b>IOMEGA</b>	
Bernoulli Box (dual 10-MB storage)	2475.
10-Meg Cartridge	48.
Head Cleaning Kit	69.
<b>Kensington</b>	
External Disk Drive Cover	8.
Mouseway	8.
Mouse Pocket	8.
Travelling Disk Case	8.
Mac Dust Cover	9.
Imagewriter (II) Dust Cover	9.
Mouse Cleaning Kit w/Mouse Pocket	16.
Universal Printer Stand	17.
Disk Case (holds 36 Mac disks)	19.
Disk Drive Cleaning Kit	19.
Tilt/Swivel	22.
Polarizing Filter	31.
Surge Suppressor	35.
Starter Pack (includes Tilt/Swivel)	53.
A-B Box	62.
Control Center	62.
<b>Koala Technologies</b>	
KAT Graphics Tablet	139.
MacVision (digitizer)	169.
<b>Kraft</b>	
QuickStick (Mac joystick)	special
<b>Micah</b>	
MicahDrive AT (20 Meg internal drive)	1195.
<b>Microsoft</b>	
MacEnhancer 2.0	163.
<b>Mirror Technologies</b>	
MagNet 20x External Hard Drive	989.
<b>Mouse Systems</b>	
A+ Optical Mouse	59.
<b>N<sup>2</sup> Products</b>	
Mac to Modem cable (6 feet)	19.
Mac (Plus) to Printer cable (6 feet)	19.
Mac to Transet 1000 cable (9 feet)	19.
Mac Plus adapter cable	19.

<b>Paradise Systems</b>	
Mac 10/20 to Mac Plus adapter cable	\$19.
Mac 10 (10 megabyte hard disk)	599.
Mac 20 (20 megabyte hard disk)	849.
<b>PBI Software</b>	
Switch Box	36.
<b>PKI</b>	
McD 800k External Drive	285.
<b>Summagraphics</b>	
MacTablet 6"x9"	329.
MacTablet 12"x12"	399.
<b>Systems Control</b>	
MacGard (surge protection)	55.
<b>Thunderware</b>	
Thunderscan (high-resolution digitizer)	175.
<b>Video 7</b>	
MouseStick	39.
<b>Western Automation</b>	
DASCH RAMdisk 500k	299.
DASCH RAMdisk 1000k	359.
DASCH RAMdisk 2000k	435.

## DISKS

<b>Single-sided Diskettes</b>	
BASF 3 1/2" Disks (box of 5)	10.
Fuji 3 1/2" Disks (box of 10)	19.
Sony 3 1/2" Disks (box of 10)	19.
MAXELL 3 1/2" Disks (box of 10)	20.
3M 3 1/2" Disks (box of 10)	21.
Verbatim 3 1/2" Disks (box of 10)	22.
Memorex 3 1/2" Disks (box of 10)	23.

<b>Double-sided Diskettes</b>	
Fuji 3 1/2" Double-sided Disks (10)	26.
Sony 3 1/2" Double-sided Disks (10)	29.
MAXELL 3 1/2" Double-sided Disks (10)	30.
Verbatim 3 1/2" Double-sided Disks (10)	31.
3M 3 1/2" Double-sided Disks (10)	33.

## INFORMATION SERVICES

<b>Compuserve</b>	
Compuserve Information Service	27.
<b>Source Telecomputing</b>	
The Source (subscription & manual)	30.

## MISCELLANEOUS

<b>Automation Facilities</b>	
Floppyclene Drive Care Kit	19.
Floppyclene Drive Care Refill	10.
MacPak Complete Care System	29.
<b>Clean Image Ribbon Co.</b>	
Clean Image Ribbon Kit	12.
<b>Computer Coverup</b>	
External Disk Drive Cover	4.
Imagewriter (II) Cover	8.
Mac (Plus) & Keyboard (two covers)	10.
<b>Diversions</b>	
Underware Ribbon	9.
Colorpens	10.
Jumbo Colorpens	13.
ColorPack (includes Colorpens)	19.
<b>Environmental Software Company</b>	
The Clutch (holds 8 disks)	9.
MACATTIRE (Rip-stop nylon dust covers)	
External Drive Cover (400k & 800k)	7.
Numeric Keypad Cover	7.
Numeric Turbo Cover	8.
Imagewriter (II) Cover	11.

Wide Imagewriter Cover	\$13.
Mac (Plus) & Keyboard Cover	15.
Laserwriter Cover	17.
Mac (Plus) & HD20 & Keyboard Cover	18.
<b>I/O Design</b>	
Imagewriter Color Transfer Ribbon	10.
Imageware	45.
Imageware II (Imagewriter II case)	49.
Imageware wide	49.
Macinware Plus (Mac Plus carrying case)	69.
<b>Innovative Concepts</b>	
Flip & File Micro (holds 25 disks)	9.
Flip & File (holds 40 disks)	18.
<b>Innovative Technologies</b>	
The Pocket Pak (holds 6 disks)	10.
The Easel (holds 20 disks)	14.
The Disk Directory (holds 32 disks)	21.
<b>Kalmar Designs</b>	
Teakwood Roll-top Case (holds 45 disks)	14.
Teakwood Roll-top Case (holds 90 disks)	21.
<b>Magnum</b>	
Mouse Mover (let your mouse ride!)	14.
<b>Moustrak</b>	
Moustrak Pad (standard 7"x9")	8.
Moustrak Pad (large 9"x11")	9.
Imagewriter Pad	12.
<b>Ribbons Unlimited</b>	
Imagewriter Color Ribbons	5.
Imagewriter Ribbons Six Pack	27.
Imagewriter Rainbow Six Pack	27.
<b>Smith &amp; Bellows</b>	
Mahogany Disk Case, made by New England Craftsman (Holds 90 disks)	28.

## OUR POLICY

- We accept VISA and MASTERCARD.
- No surcharge added for charge cards.
- Your card is not charged until we ship.
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- All shipments insured: no additional charge in the U.S.
- Allow 1 week for personal and company checks to clear.
- UPS Next-Day-Air available.
- COD max. \$1000. Cash or certified check.
- 120 day limited guarantee on all products.\*
- To order, call us anytime Monday thru Friday 9:00 to 9:00, or Saturday 9:00 to 5:30. You can call our business offices at 603/446-7711 Monday thru Friday 9:00 to 5:30.

## SHIPPING:

Accounts on net terms pay actual shipping  
**Continental US:** For printers and drives add 2% for UPS ground shipping (call for UPS Blue or UPS Next-Day-Air). For all other items, add \$2 per order to cover UPS shipping. We will automatically use UPS 2nd-Day-Air at no extra charge if you are more than 2 days from us by UPS ground. **Hawaii:** For printers and drives, actual UPS Blue charge will be added. For all other items, add \$2 per order. **Alaska and Outside Continental US:** Call 603-446-7711 for information.



# is sale day at MacC

## Software Publishing

PFS:File/Report	\$99.
<b>Springboard</b>	
Art a la Mac Vol. 1-People and Places	23.
Art a la Mac Vol. 2-Variety Pack	23.
<b>State of the Art</b>	
Electric Checkbook	42.
<b>Symmetry</b>	
Picture Base (clip art manager, 512k)	48.
<b>T/Maker</b>	
Click Art Personal Graphics	29.
Click Art Publications	29.
Click Art Letters	29.
Click Art Effects	29.
ClickOn Worksheet	46.
<b>Target Software</b>	
MacLightning (reqs. 512k, external drive)	53.
<b>Telos Software</b>	
Business Fivision (512k, external drive)	219.
<b>Think Educational</b>	
Mind Over Mac	28.
MacEdge II (math & reading)	28.
<b>TML Systems</b>	
TML Pascal	69.
<b>Videx</b>	
MacCalendar (incl. reminder system)	52.

## GAMES

### Activision

Championship Star League Baseball	22.
Hacker (you're on your own!)	27.
Mind Shadow (Who am I?)	27.
Borrowed Time (murder mystery)	27.
Alter Ego (become someone else)	36.
<b>Ann Arbor Softworks</b>	
Grid Wars (3D graphic arcade)	22.

### Artworx

Bridge 4.0	21.
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### Bantam Electronics

Sherlock Holmes: Another Bow	27.
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### Blue Chip

Millionaire (stock market)	35.
Tycoon (commodities)	35.
Baron (real estate)	35.
Squire (personal finance, reqs. 512k)	35.

### BrainPower

Think Fast (improves recall)	23.
Chipwits (robot simulation)	26.

### Broderbund Software

Lode Runner (you'll never sleep!)	24.
Ancient Art of War (military strategy)	27.

### CBS

Murder by the Dozen (mystery)	25.
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### Electronic Arts

Golden Oldies Vol. 1 (software classics)	24.
One on One/Dr J vs Larry Bird (reqs. 512k)	27.
Pinball Construction Set	27.

### Epyx

Rogue (the mainframe classic!)	24.
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## MacConnection Special of the Month through July 31, 1986

### KRAFT SYSTEMS & MICROSOFT SPECIAL

#### Kraft Systems QuickStick

A dual-purpose device combining the cursor response of a mouse with the convenience, speed and fun of a joystick.

- Two-button joystick
- 4 separate modes of operation
- Combines work and play!

#### Microsoft Flight Simulator

Whether you're a WWI Flying Ace, a businessman cruising in your jet, or just taking your single-engine plane for a spin, you'll find Flight Simulator to be the most realistic and challenging program of its kind.

- Includes 118 different airports
- Fly the U.S., Canada, Mexico and the Caribbean
- 512k or Mac Plus recommended

Buy both as a package for only \$69.

Temple of Apshai Trilogy (4 levels)	24.
Winter Games (Olympic events)	24.

### Hayden Software

Masterpieces (jigsaw puzzles)	9.
Perplex & Word Challenge II	24.
Sargon III (9 levels of chess)	29.

### Infocom

Difficulty levels shown in italics	
Seastalker (junior)	23.
Ballyhoo (standard)	23.
Cutthroats (standard)	23.
Enchanter (standard)	23.
Hitchhiker's Guide (standard)	23.
Planetfall (standard)	23.
Wishbringer (standard)	23.
The Witness (standard)	23.
Zork I (standard)	23.
Zork II (advanced)	26.
Zork III (advanced)	26.
A Mind Forever Voyaging (advanced)	26.
Infidel (advanced)	26.
Sorcerer (advanced)	26.
Suspect (advanced)	26.
Deadline (expert)	29.
Spellbreaker (expert)	29.
Starcross (expert)	29.

Suspended (expert)	\$29
Invisicues (hint booklets)	6.

### Miles Computing

Fusillade (arcade-maze)	21.
MacAttack (3-D tank simulation)	27.
Harrier Strike (3-D flight simulation)	27.
MacWars (3-D space simulation)	27.

### Mindscape

Rambo: First Blood Part II	24.
James Bond 007: "A View to a Kill"	24.
The Luscher Profile	24.
Stephen King's "The Mist"	24.
Racter (converse with your Mac!)	27.
Balance of Power (world politics)	30.
Brattacus (requires 512k)	30.
Déjà Vu (murder mystery)	33.

### Origin Systems

Exodus: Ultima III (fantasy adventure)	38.
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### PBI Software

Strategic Conquest (war strategy)	29.
Fokker TriPlane Flight Simulator	35.

### Penguin

Crimson Crown (sequel to above)	24.
The Quest (beware of the dragon!)	24.
Xyphus (role playing adventure)	24.

### Practical Computer Applications

MacGolf (requires 512k)	36.
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### Psion

Psion Chess (3D and multi-lingual)	31.
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### Scarborough Systems

Make Millions (business simulation)	29.
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### Sierra On-Line

Frogger (classic video game)	24.
Championship Boxing	24.
Ultima II (role-playing adventure)	35.

### Silicon Beach Software

Airborne! (digitized-sound war game)	20.
Enchanted Scepters (text & graphics)	21.

### Sir-Tech

Mac Wizardry (fantasy)	36.
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### Spectrum Holobyte

GATO (submarine simulation)	26.
Orbiter (requires 512k)	27.
Tellstar North Level I (reqs. 512k)	27.

### Unicom

Futura (sci-fi adventure)	24.
Utopia (science fantasy game)	24.
Animal Kingdom (ages 6-12)	27.
Decimal Dungeon (math, ages 9 and up)	27.
Fraction Action (arcade style math game)	27.
Mac Robots (pre-school program)	27.

### Videx

MacCheckers/Reversi	28.
MacGammon/Cribbage	28.
MacVegas	34.

## HARDWARE

### Assimilation

Mac-Epson-Connection	40.
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1-800/Mac&Lisa

600U

# MacConnection™

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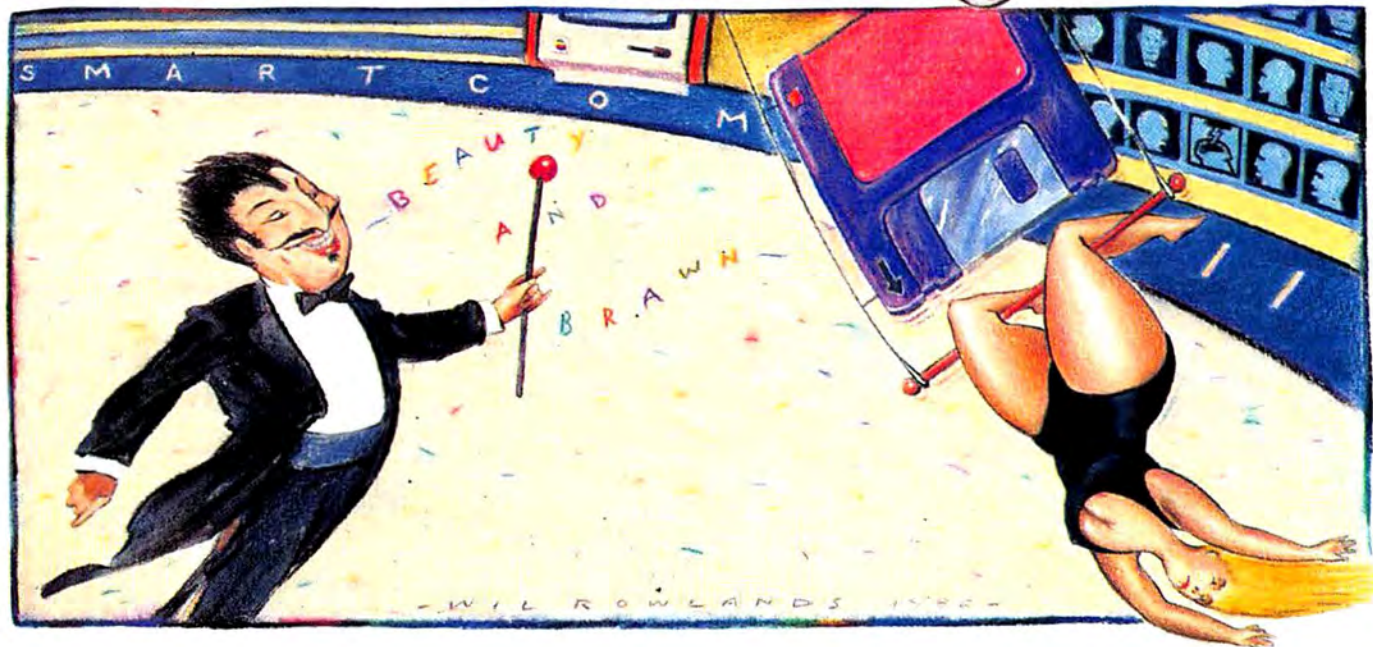
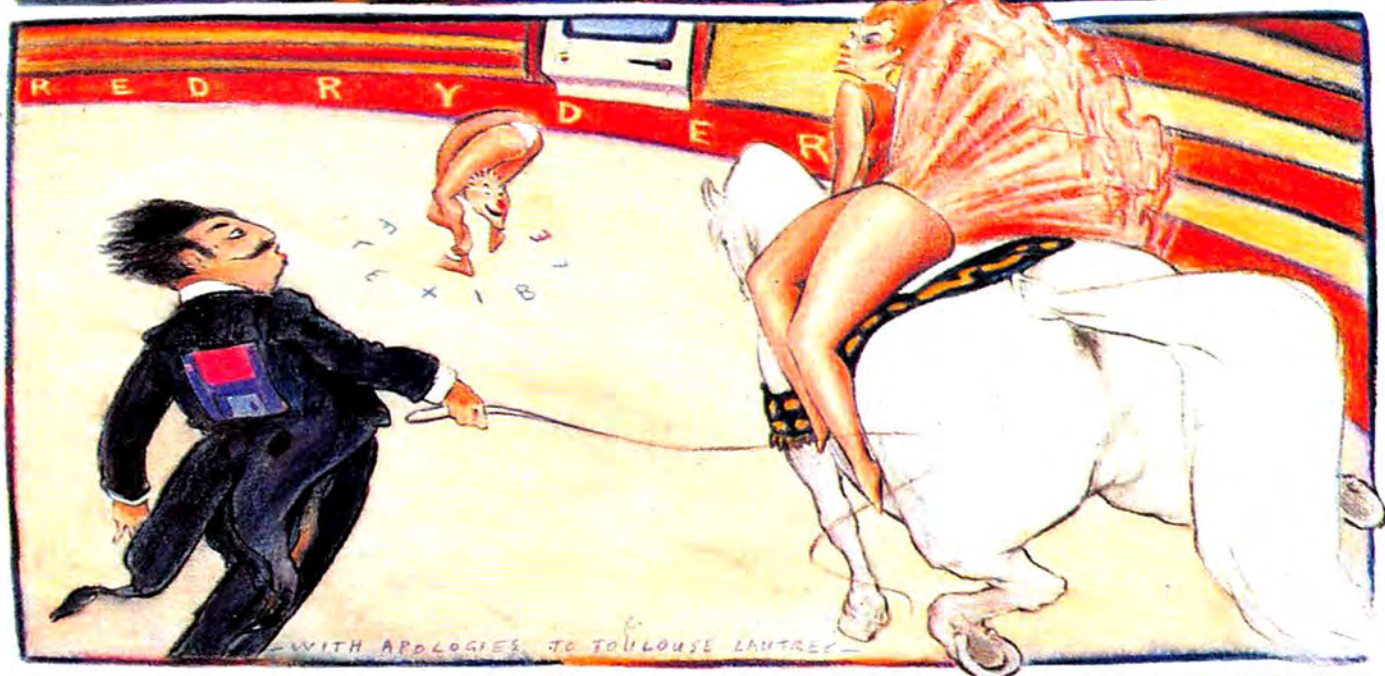
All items subject to availability. Prices subject to change without notice.

\* Defective software replaced immediately. Defective hardware replaced or repaired at our discretion. Some items have warranties up to five years.

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# 3-RING CIRCUITS

***Microphone, Red Ryder and Smartcom offer a telecommunication circus.***

COMPUTERESE IS GREAT STUFF. Take some computer term, stick the word "power" in front of it, and you're suddenly a "power user." Let's consider, for example, "power telecommunications." Has a nice ring to it, it's sort of obvious what it is, and yet, it sounds sort of forbidding. Something for hackers, not for the rest of us. Right?

Not any more. *Microphone*, *Smartcom II* and *Red Ryder*, the three telecommunications programs discussed here, are for all of us. They have features to start even the newest telecommunicator off on the right foot. And they have features to satisfy the most demanding expert.

Much of their ease of use comes from their ability to automate the entire telecommunication process. Neophytes can use the procedure examples provided, while more experienced users will create their own procedures.

Two of these programs (*Microphone* and *Red Ryder*) can automati-

cally create custom procedure documents on demand. All three have power that IBM PC users can only dream of. And all are excellent programs. You're going to have a hard time deciding which one to use.

## PRECOCIOUS

Software Venture's *Microphone*, the newest of these programs, is possibly the most powerful. Its extensive (and complicated) script (the *Microphone* version of a macro procedure) facility and its many options make it a power user's delight. Still, it has many features designed to make it easy for a novice to get started. New users need not shy away from this one.

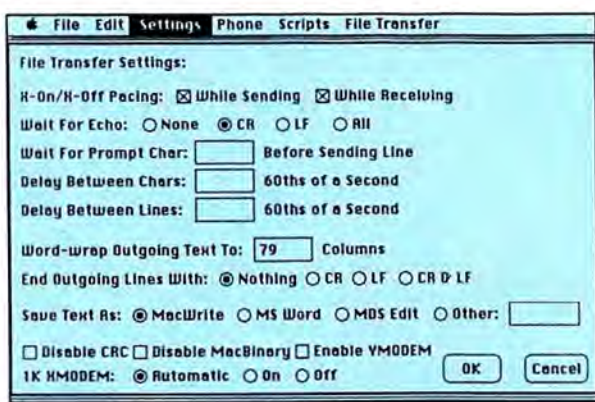
*Microphone* was written by Dennis Brothers, of *MacTEP* (the very first Mac telecommunications program) fame, and the program reflects his "power user" orientation. For novices, *Microphone* can appear quite intimidating at first glance, but the manual (written by someone named Neil L. Shapiro) will calm the worried novice, and the examples provided on the disk are excellent. For instance, there is a sample CompuServe document on the disk. When opened, a "Log-On" button appears

***by Robert R. Wiggins***



# THREE-RING CIRCUITS

*Microphone's* file transfer box can be daunting. Fortunately, the default choices cover most cases.



at the bottom of the screen. All the user needs to do is click on this button (setting the baud rate first if other than 300 is desired). The prewritten script then begins. It asks for the phone number, dials it, and gets to the "User ID:" prompt (regardless of whether the number given was a CompuServe number, a Telenet number, or a Tymnet number). Then it asks for the user ID, sends it, then asks for the password, sends that, and finishes logging on. Enjoy your session on CompuServe and, when finished, just click on the "Log-Off" button.

The information that the "Log-On" script requested is saved to disk so that subsequent log-ons will not require any action on the part of the user besides clicking the "Log-On" button. Similar sample documents and scripts are supplied for The Source, Delphi, Dow Jones, and MCI Mail.

To help novices write their own scripts, *Microphone* has a very powerful feature called WATCH ME. Just select it off the Script menu, and *Microphone* will watch the sequences entered, as well as the prompts from the other system, and use these to generate a script. When done, select END WATCH ME and the script is ready to use next time. The scripts generated by WATCH ME are sometimes less than optimal, but they are functional, and can be cleaned up later when the user has gathered some experience and confidence.

But the real beauty of *Microphone* is in its power user features. Scripts can be called in three ways: via on-screen, user-definable buttons along

the bottom of the screen (up to 10, depending on the widths of the names of the scripts); via COMMAND-key sequences (*Microphone* allows every key to be used except TAB, CAPS LOCK, SHIFT, OPTION, ENTER, BACKSPACE and RETURN, although since the COMMAND key is also used to send control codes used by most systems, not all keys are practical for use); or via a menu item in the Scripts menu (and with the new scrolling menus the Mac Plus provides, the number of scripts that can be put in the menu is so great that anyone who exceeds it should be writing terminal programs, not using them).

Then there's the script language itself. It's almost a programming language, with commands like IF, THEN, ELSE, WHILE, UNTIL, and WHEN. And as the abundant examples show, virtually any sequence of events can be handled by a script.

Still not enough power? How about the new 1K Xmodem? Although it's not in widespread use, it makes *Microphone* to *Microphone*

transfers 40 to 50% faster than regular 128-byte Xmodem transfers. Or Ymodem, which allows groups of files to be received (unfortunately, this is a receive-only feature)? Or autoreceive when receiving from another Mac running *Microphone*?

Power users will quickly discover the power of the INSTALL BUTTON script command. For instance, a script which logs onto CompuServe can install buttons for scripts used when on CompuServe (log on, get mail, log off, etc.). One of the buttons installed could be for a script called DELPHI. Clicking on that button would invoke a script to log onto Delphi and change the buttons to correspond to scripts associated with Delphi. One of these buttons could be for a script called DOW JONES. And so on.

*Microphone* has a few flaws, but remember that this is its first release. The program is a youngster compared to the others. Keep in mind that the early releases of *Smartcom* and *Red Ryder* were nowhere near the programs they are now. For a first release, *Microphone* is a superior product. And Software Venture's announced upgrade policy means that getting even better versions will be relatively painless. Bug fixes and fine tuning updates will be provided at cost (\$5 to \$10), while major enhancements will be rarer, but more expensive.

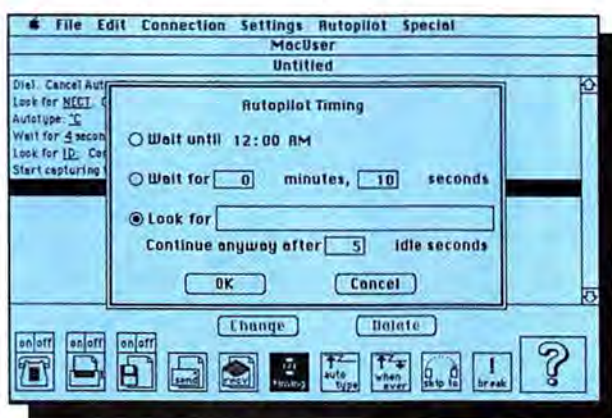
Some of the dialog boxes are busy to the point of confusion, the VT100 emulation is not as complete as could be (for example, there is no highlighting support), and the program is unable to quit to a mini-finder. Also, the screen updating



*Red Ryder* in VT100 mode on an IBM mainframe. Note the correct use of boldface (or intensified) type. No other Mac terminal does VT100 as well.



Smartcom II's totally icon-based autopilot (command language) creation dialog. It can't be much easier than this.



doesn't keep up above 1200 baud and slows down even more during script execution. But these are minor quibbles compared to the power it provides.

#### POWERFUL

The best word to sum up *Red Ryder* is powerful. *Red Ryder* began as a *MacTEP* variant, written in BASIC, with a highly entertaining and slightly scandalous manual written by the author, Wat Buchanon. *Red Ryder* was also one of the first shareware products for the Mac, meaning that it is distributed for free, but if it is found suitable and useful, the registration fee is to be sent in to the author. When Wat passed away, his friend and partner Scott Watson picked up the baton and wrote an application version of *Red Ryder* which has metamorphosed so many times that even Wat might not recognize it, except for the folksy nature of the manual. Scott has kept at it with a dogged determination, and the current version of *Red Ryder*

(8.0) incorporates so many features that it might be the most powerful terminal program for the Mac once all of its features can be uncovered.

For novices, there is the quite readable manual, although as with most Mac programs, few will read it. Most *Red Ryder* functions are fairly obvious. The only difficulty most first-time users will have is setting the baud rate, except for true novices who will try to click on the baud rate (and it will change!). Since *Red Ryder* is distributed as shareware, and many users will never see the distribution disk, examples are harder to come by, but *Red Ryder* does have a feature similar to *Microphone's* WATCH ME called WRITE A PROCEDURE FOR ME. Just select the menu item and *Red Ryder* will watch what goes across the line in both directions and create a procedure which can be used in the future to duplicate the sequence.

For power users, *Red Ryder* is chock full of goodies. It allows up to 30 macros, which can be called up

either through the keyboard or via on-screen buttons. Only ten can be visible and available at a time, but by selecting scroll arrows in the Macro Status Bar, any of the three sets of 10 can be made active. Macros can also call Procedures, further enhancing their power. And starting with version 8.0, the macro buttons can have labels (previously, the actual macro text appeared in the button).

*Red Ryder* also has a host mode, allowing it to be manipulated remotely to send and/or receive files, and while in host mode it allows ASCII text transfers to be appended to existing files. For file transfer, *Red Ryder* fully supports Kermit and supports CompuServe B protocol for downloads, in addition to Xmodem.

*Red Ryder's* VT100 terminal emulation is excellent, fully supporting all VT100 features. It also supports a 40 x 12 display size featuring very large type. That should be useful to the visually impaired. *Red Ryder* supports RLE graphics (for display only), so that weather maps and other pictorial data available on some of the major on-line services can be viewed. *Red Ryder* also has an option for using the OPTION key as the CONTROL key (most terminal programs use the COMMAND key, and so can *Red Ryder* if that is desired) which allows all of the Command-key shortcuts in the menus to be available. And as an added incentive to get users to register, a license for *Red Ryder* includes *Red Ryder Host*, an excellent BBS system, at no additional charge.

In short, *Red Ryder* includes just about every feature that any *Red Ryder* user asked for. This makes it a very flexible tool, but with flexibility comes confusion, since the number of choices can sometimes be overwhelming, especially for a new user. This is *Red Ryder's* biggest drawback. However, once mastered, *Red Ryder* provides enough options to satisfy the most rugged power user.

#### PRETTY

The prettiest of the three is *Smartcom II*. Some purists consider *Smartcom II* to be the quintessential Macintosh application. The interface is very visual, with icons for the major

### TIME WAITS FOR NO PROGRAM

No sooner does a telecommunication program come out than its next version is rumored or announced. Both *Red Ryder* and *Smartcom II* have had many releases (5 for *Smartcom*, more than 10 for *Red*). By the time you read this, it is likely that new versions will be out.

In fact, no sooner did we complete this review than a beta version of *Red Ryder*, version 9.0 arrived! A night-long examination turned up a bit too much instability to include it in this review. However, we can let you in on some of its new features.

The most important changes are to the procedure language. Several commands are no longer supported or have been replaced, and many new commands have been added. Many of the new commands add graphic effects. Users now can set up their own pull-down menus and dialog boxes. Other commands will allow batch uploading, downloading and message sending. And much more. Most of this stuff is for the real power users, but everyone will benefit from the procedures that can and will be developed.



## THREE-RING CIRCUITS

	Smartcom II	Microphone	Red Ryder 3.0
<b>Command Language</b>			
Ease of use	Excellent	Very Good	Very Good
Power	Excellent	Excellent	Excellent
Number of key equivalents	26	47 possible (1)	30 (10 at a time)
Number of on-screen buttons	None	10 maximum	30 (scrollable - 10 at a time)
Complex statements	Yes	Yes	Yes
Automatic procedure generation	No	Yes	Yes
Unattended operation	Yes	Yes	Yes
<b>Data Capture</b>			
Size of screen buffer	Available memory	Available memory	User set - 1-99 screens
Add to text file	Always	During single capture (2)	In host mode
Echo to printer	Yes	Yes	Yes
Print text selection	Yes	Yes	Yes
Full cut and paste support	Yes	Yes	Yes
<b>Protocols Supported</b>			
XMODEM	Yes	Yes	Yes
CRC XMODEM	No	Yes (can be disabled)	Yes (can be disabled)
MacTerminal XMODEM	Yes	Yes	No
1K XMODEM	No	Yes (can be disabled)	No
Compuserve B	No	No	Yes (download only)
YMODEM	No	Yes (download only)	No
KERMIT	No	No	Yes
Hayes Verification	Yes	No	No
<b>Terminal Emulation</b>			
TTY	Yes	Yes	Yes
VT52	Yes	Yes	Yes
VT100	Very Good (see text)	Fair (see text)	Excellent (see text)
40x12 screen size	No	No	Yes
80x24 screen size	Yes	Yes	Yes
132x24 screen size	No	Yes	Yes
<b>Miscellaneous Features</b>			
Graphics support	Proprietary format (3)	None	RLE graphics (3)
On-screen timer	No	No	Yes
On-screen transfer timer	Yes	Yes	Yes
On-screen help	Yes	No	No

(1) Use of all keys for Scripts makes some terminal control features unusable.  
 (2) While a capture file is open, capture can be toggled on and off, but once closed it cannot be added to.  
 (3) Use of Hayes graphics requires the other user to be using Smartcom II. RLE graphics is a standard graphics format.

functions, and even the process of writing an autopilot (the *Smartcom* version of a macro procedure) is icon-based. Its dialog boxes are well laid-out and easy to understand, yet not insulting to the power user.

*Smartcom II* is from Hayes, the doyen of micro telecommunications companies, and not surprisingly works best with Hayes modems, although it can be made to work with any Hayes-compatible modem (some of its features, such as the cute phone dialing animation, will not work in those cases). And since Hayes has a reputation for quality to maintain, it has expended considerable effort on *Smartcom II* (version 2.2A is the fifth release since the product was introduced in 1985).

Novices find *Smartcom's* icon-oriented interface makes getting started simple. Click on the phone icon and a dialog box appears for entry of the phone number. Animation tracks the call progress, and when the connection is established the phone icon inverts, and it's ready to rip. To hang up, just click on the phone icon again.

Writing autopilots (Hayes' term for procedures or scripts) is just as easy. Select NEW... from the Autopilot menu and a dialog box appears with icons along the bottom. Click on the PHONE-ON icon and the autopilot sequence "Dial..." appears in the dialog box. Click on the TIMING icon and a dialog box appears where the event to be waited for can be

selected, such as "Look for...", and the prompt being looked for can be entered.

In fact, once all the communications and terminal characteristics are set, *Smartcom II* users need rarely pull down a menu. There's even an on-line help facility. Just click on the question-mark icon to get a dialog box showing all the available help items.

For power users, several features have been added to *Smartcom II* in version 2.2A that were sorely lacking in the previous versions (but Hayes was listening). The most important addition is keyboard invocation of autopilots. In version 2.2A, autopilots can be assigned to OPTION key combinations (only letters can be used, limiting the number to 26, but since autopilots are connected with a document and autopilots can "Skip to" other documents, the number of keyed autopilots can be increased). The OPTION key invocation is also intelligent: If an autopilot consists of only one line which is an "Autotype" statement, the autopilot dialog box is not displayed at the bottom of the screen, and that autopilot is loaded into memory so that subsequent invocations will be instantaneous.

Other features in *Smartcom II* version 2.2A include the ability to designate an autopilot as "Auto Startup," to be executed when the document is launched from the desktop (this autopilot can also be "Skipped to" from other autopilots); support for a startup document (if a document named "Smartcom Startup" is available, then it will be opened when *Smartcom* is launched, and if it contains an "Auto Startup" autopilot, that will be executed); baud-rate detection (if the modem connects at a baud rate other than that which the document is set for, the document is reset to the actual baud rate) and baud-rate retention (when a document is set for 2400 baud and the modem has fallen back to 1200, the next dialing attempt will still be made at 2400); full VT100 emulation (except that highlighted text is displayed as reverse video).

Not only power users will appreciate  
*(continued on page 138)*



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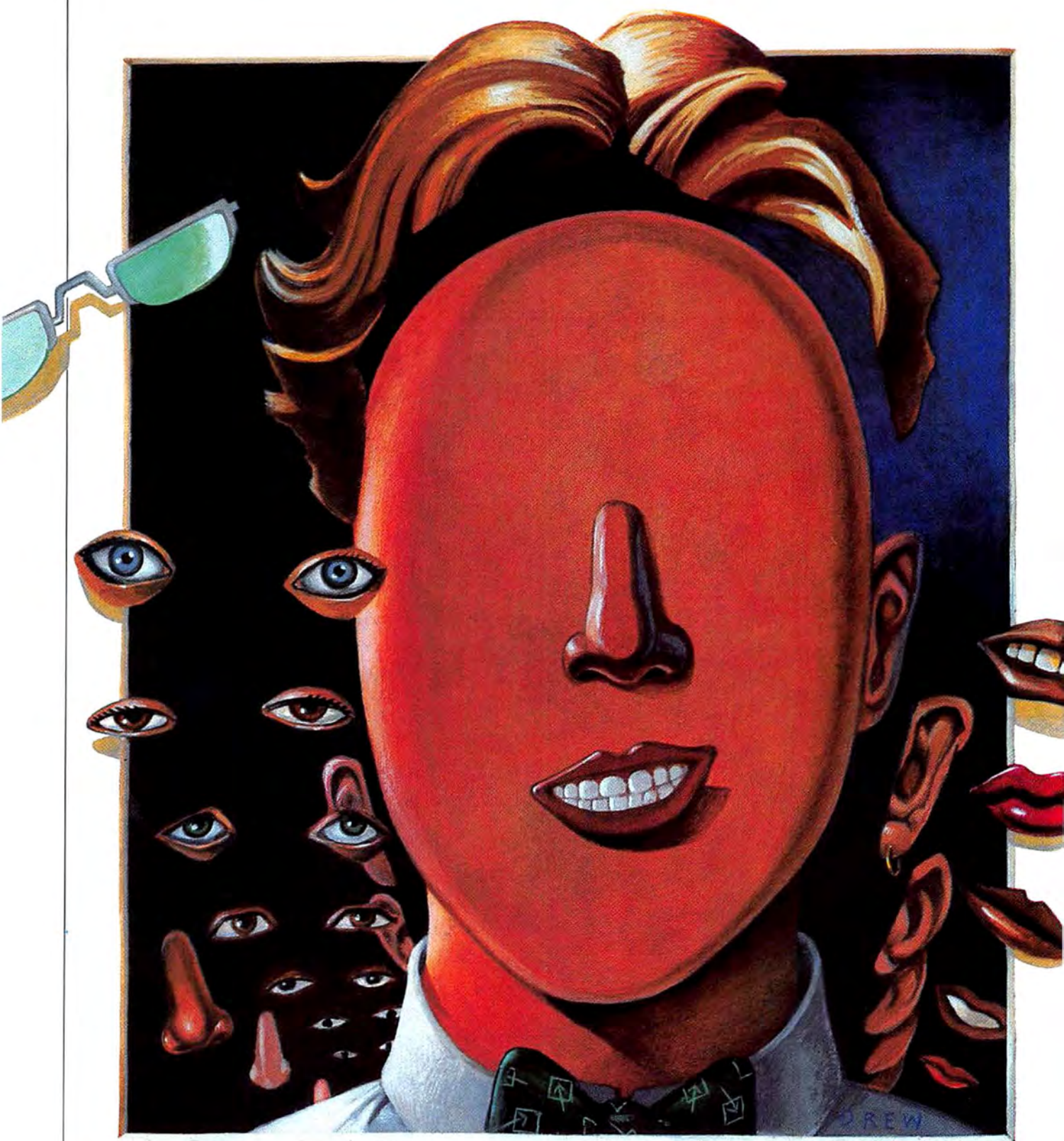
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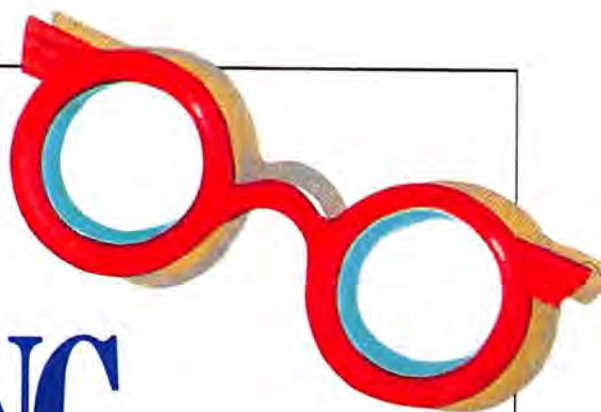


KIM DREW





# MAKING FACES...



## WHAT A MUG!

Making faces has always been a way for people to pass time. Sometimes it has been for fun. And sometimes it's been serious. Police departments regularly use "Identikits" to make illustrations of the faces of people they wish to find.

Making faces takes on a new dimension with the help of an innovative program and the Mac. *Mac-a-Mug*, from Shaherazam Software, is both entertaining and fun. It produces faces from basic facial features and details. Users have numerous features to pick and choose from. There is so much data that separate system and program disks are required. Since lots of graphics are involved (especially in the feature files), a 512K or larger Mac and an external drive is a must. *Mac-a-Mug* is actually written in BASIC and the package includes a runtime BASIC module, which means that users do not have to supply their own copy of BASIC. Indeed, if we didn't tell you that, you might never find out why the program appears to run so slow-

***Mac-a-Mug can help  
you make faces you  
can be proud of.***

ly! And it's slow, nearly intolerably so.

## A FACE APPEARS

Clicking on the *Mac-a-Mug* icon brings up a picture frame screen (where the actual creation will take place) with sets of scroll bars to either side of it. At least they look like scroll bars. Users have a shock in store for themselves when they actually use them, however.

The scroll bars (where the feature selections are made) are *Mac-a-Mug*'s main operational device. Each scroll bar unit includes different choices of features, each covering a different area—eyes, mouths, heads, beards, sideburns and so on.

The scroll bars operate in a very odd, jerky manner, not at all like

regular scroll bars. Their behavior seems to be the result of what they do. A lot happens every time they're used, and since it happens in BASIC, the actions are not as smooth as they would be using the Mac's ROM directly.

Click on a scroll bar to go through its selections. As you move through the selections, the different items covered by that scroll bar show up in the picture frame, where the features are projected like slides on a screen. The area of the face being worked on changes with each scroll. Each selection automatically replaces what was there (of its type) before it.

The scroll bars move in increments when using the scroll arrows. Unless the bar portion of the scroll is used to slow down the action, the files seem to zip by. Mouse clicks need to be very firm and precise if you plan on getting what you want. And the clicks do not seem to record at times. Use can be pretty frustrating. The actual graphics consist of letters in fonts (really, and they're big fonts!).

BY Daisy Genovese



# MAKING FACES

## TO SAVE

There is no SAVE option in the menus, and so the only way to save your creation is through the Clipboard. By selecting the COPY TO THE CLIPBOARD option, you save the current face onto the Clipboard. This is only short-term saving. For long-term saving, the image must be transferred from the Clipboard into the Scrapbook or *MacPaint*. Keep in mind that since faces consist of parts of fonts, those fonts must be in the System file in order for *MacPaint* to re-create the face. Put a copy of *MacPaint* on the program disk.

All this can easily be bypassed by simply screen dumping the face creations to *MacPaint* documents on the disk using COMMAND-SHIFT-3, later to be transferred onto your *MacPaint* disk. Since the whole image is saved as it appears, not as carefully positioned letters of special fonts (which is what it really is), it can be modified by a copy of *MacPaint* that does not have access to the special *Mac-a-Mug* fonts.

To view a piece saved to the Clipboard, select the SHOW CLIPBOARD option. The face being created on-screen is then replaced by the saved face in the picture frame for about 3 seconds. After that, the face being worked on reappears. To delete an item from the Scrapbook enter COMMAND X to cut

## FACIAL FEATURES

Male and female features are arranged in a strange manner on the scroll bars. Male features begin on the left hand side of each bar going towards the center, with female features beginning on the right hand side of the bars, working from there towards the center. Thus, male and female features can easily be mixed if desired. In light of this, the Sex menu seems unnecessary. Its only purpose seems to be to reset the scroll bars to the left for male and right for female features.

*Mac-a-Mug* includes a very useful option called Refresh. When creating a face, the selections overlap. For instance, eyeglasses overlap heads. *Mac-a-Mug's* capability for handling this is amazing. A click on the Refresh button at the bottom of the



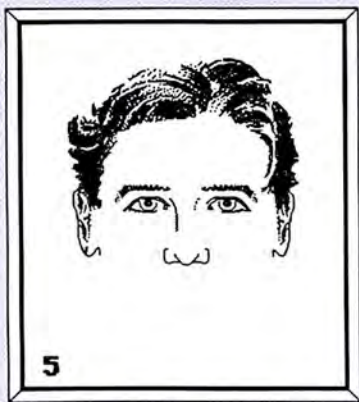
Head = 10

Begin with your head selection.



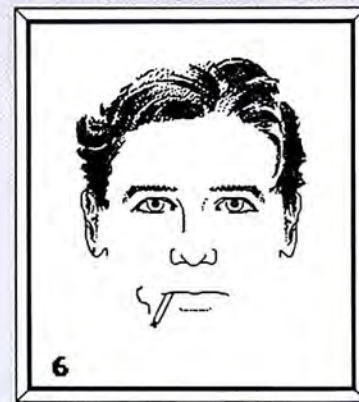
Eyebrows = 7

Next, search for the perfect eyebrows.



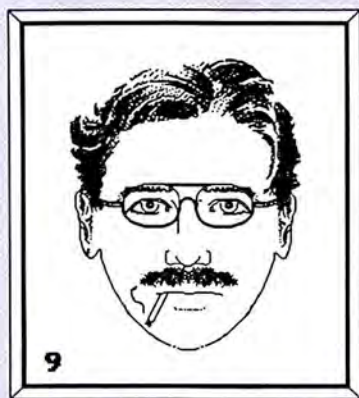
Nose = 12

A nose to match.



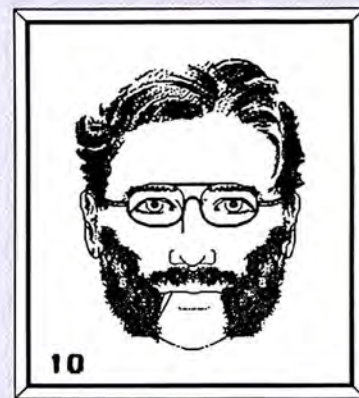
Mouth = 8

A distinct mouth.



Moustache = 7

The hairy lip, known as the moustache.



Beard = 7

Finally, a beard finishes the *Mac-a-Mug* face.

picture frame allows the features to be shown without a trace of overlapping. A menu option lets the user decide if the activation of this feature should be left to the Mac (in the

Auto mode), or manually done through the Refresh button. Auto Refresh causes refreshing to automatically take place after every selection without clicking the Refresh





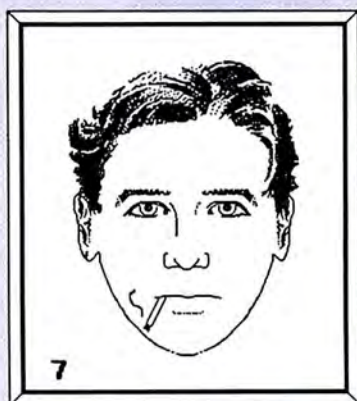
Eyes = 17

Eyes to match.



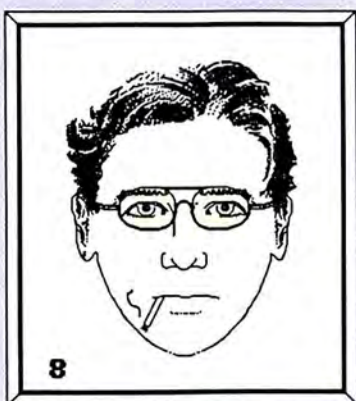
Ears = 5

Now, the ears.



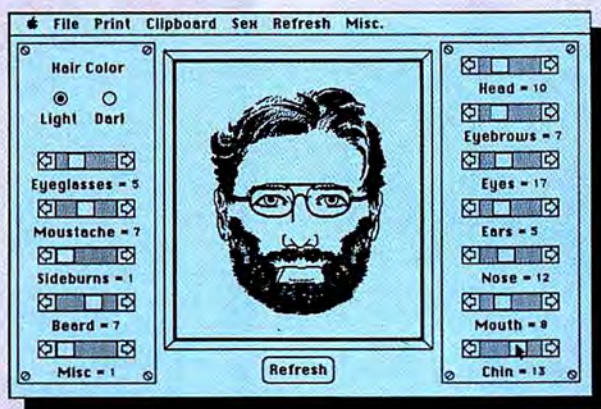
Chin = 13

A chin to round it all out.



Eyeglasses = 5

Next, glasses for the look.



The finishing touches (beard on the chin portion) were made in *MacPaint*. Voila! the final creation. This is what the *Mac-a-Mug* screen actually looks like. Note how the scroll bars denote the position of the selections. Do you know this man?

button. In manual refresh mode, refreshing is controlled by the creator.


To allow the most possible differences among characteristics for dif-

ferent people, there is a Miscellaneous scroll bar where things like headware, wrinkles, jewelry and other details reside as options. To complete the picture, there is also a

Hair Color selection button giving the option of light and dark hair. These two options affect all the hair selections made within a creation. If dark hair color is selected for the head, the eyebrows will also be dark. There is no way that both light and dark selections can be used simultaneously for the same creation.

One of the best features is that faces can be refined further in *MacPaint*. This allows a limitless number of variation. Here is where the creator can make things as real to life as possible. The best and easiest way to do this is to put a copy of *MacPaint* on the Program disk. It is simple to transfer a face by using COPY and PASTE commands from the Clipboard or Scrapbook. Another advantage to this ability is that you can now use the LaserWriter to print your creation instead of an Image Writer. After the *MacPaint* transformation takes place, the possibilities are endless. And, of course, you can now paste your creations into other programs.

Since all graphics are held within fonts, they can be edited using any of the available font editors and moved to and from the system disk with Apple's *Font/DA Mover*. This lets users alter the features on the scroll bars. With scroll bar modification, this means that "feature libraries" are in the future of this program.

Now it's time to go ahead and make some of the best faces at everyone without even twitching a muscle of your own. 

## MAC-A-MUG:

Overall Rating:



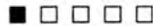
Follows Mac Interface:



Printed Documentation:



On-Screen Help:



Performance:



Support:



Consumer Value:



**Comments:** A disk full of creative entertainment. **Best Feature:** The refresh capability allows the refinement of overlapping features to occur spectacularly. **Worst Feature:** The operation of its scroll bars is very slow and awkward. **List Price:** \$59.95. Published by Shaherazam, PO Box 26731, Milwaukee, WI 53226. (414) 442-7503.



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# GAMES TO

# SHOOT OR BOOT

***The best (and worst) games you can buy right now.***

LOOKIN' FOR A GOOD TIME? Someone out there must be, judging by the number of calls we get at the *MacUser* offices asking us for our picks of the "hot" games in town. We've compiled this list of the best and the brightest in entertainment software for the Mac. It's by no means complete (great stuff comes into the office almost every day), but it'll get you started in the right direction — and just maybe, it will save you a few calls in the process.

## **MYSTERY**

**Deja Vu: A Nightmare Comes True** (Mindscape; \$49.95) revolutionized the notion of a sentence parser, making this hardboiled murder mystery among the easiest adventures to learn — even for rank novices. Spectacular high-resolution graphics all behave as icons, letting players simply click on objects in order to examine them, move them, open them, or anything else. Buttons along the top of the screen are clicked for all commands.

Besides its ease of play, **Deja Vu** offers a meaty storyline in which players must solve a murder and a kidnapping — after they find the drug that will restore their lost memory, that is.

**Borrowed Time** (Activision;

\$44.95) has a user interface that isn't quite as friendly, but the game itself is chock-full of suspense and surprises. If you, as Detective Sam Marlowe, don't think and act like a real tough-guy gumshoe, you'll never solve the murder (yours) before it happens. Chew on a couple of nails (in a pinch, try broken glass) before sitting down with this one.

## **ADVENTURE**

**Wizardry** (Sir-Tech, \$59.95) was among the first role-playing adventure games, and it's still among the best. The first scenario, *Proving Grounds of the Mad Overlord*, lets a six-character party join together to explore the ten subterranean levels that lead to Werdna, the evil wizard. Tricks, traps and a good sense of humor spice up this dungequest.

**Ultima III** (Origin Systems; \$59.95) is an all-encompassing role-playing treat that challenges a party of up to four characters to find and destroy the murderous Exodus, offspring of the two foes in previous **Ultima** adventures. Good graphics and sound and a touch of humor add to this strategy-oriented journey.

You can solve **Rogue** (Epyx; \$39) three dozen times and still never play the same game twice. That's because the attributes of each treasure, such

as a pink potion or a wooden staff, change every time you play — as does the map of each dungeon level. The object of this hack-and-slash swordquest is to find an amulet hidden somewhere below the fifteenth level, and return to the surface with it — if you survive.

## **SIMULATION**

**Gato** (Spectrum Holobyte; \$39.95) is an absorbing simulation of World War II submarine combat. You have to stay on your toes and watch all your instruments, besides, of course, keeping an eye on various enemy ships, to stay afloat. Twenty different missions are included on the disk, and when you're finished with those, you can make your own.

Those who'd rather take to the skies than the water will enjoy **Fokker Triplane** (PBI; \$59.95), an exciting World War I flight simulator. Three types of action ("Touch 'n Go," "Dogfight" and "Seek 'n Destroy") plus ten practice missions let armchair aces test their mettle. Wind factors, cloud ceilings and the distance and heading needed to reach a destination are options that let players stretch their skills as they build confidence.

**MacGolf** (Practical Computer Applications; \$59.95) can actually

**by Tracie Forman Hines**



# GAMES TO SHOOT OR BOOT

help golfers improve their games by letting them test different clubs and stances under all kinds of circumstances. But more important, it's a lot of fun, even if you don't even play miniature golf. Excellent graphics and digitized sound effects add realism to the two courses (more available on separate disks), and up to four players can compete at a time.

## FINANCIAL

Enjoy the vicarious thrill of making — and possibly losing — a fortune? **Make Millions** (Scarborough; \$49.95) gives players a cat's eye view of what it's like to be in the drivers' seat of a major corporation. The object of this exercise is to acquire a controlling interest in each of Wikki Wikki Island's five interrelated industries. Fantastic graphics combine with realistic personality simulations (the first true example of AS — Artificial Stupidity) to really make players feel like the boss — with all the attendant ulcers and headaches you could expect from a real business. The ultimate goal is to acquire all five keys to your office safe.

Blue Chip's entire line of financial games (**Baron**, **Millionaire**, **Tycoon** and **Squire**; \$50 to \$60 each) simulate the ups and downs of stock, real estate or commodity markets, without simulating being foreclosed on your home. By following the *Financial Journal*, keeping a close watch on scatter-charts of current prices and investing wisely, players can amass a small fortune — and learn a little something about high finance at the same time.

## ACTION

**Winter Games** (Epyx; \$39) lets armchair athletes compete against each other in events ranging from figure skating to bobsledding all the way to the dreaded biathlon. Excellent graphics, animation and sound effects add to the ol' thrill of victory and agony of defeat, and the multiple player option lets your friends get in on the fun.

**One on One** (Electronic Arts; \$39.95) lets players step into the sneakers of basketball greats Larry

Bird and Dr. J in a half-court competition against another human or the Mac. The person who scored the last point gains control of the mouse, while the loser plays using the keyboard until he makes another shot. Bird and Dr. J each have different strengths and weaknesses (the Doctor is faster, but Bird is much stronger) that make strategies very different for each player.

**Pinball Construction Set** (Electronic Arts; \$39.95) lets players design an unlimited number of pinball boards, complete with bumpers, drop targets and ball-eating holes. Fantastic digitized sounds are available to users of 512K or larger Macs, and images can be enhanced or ported over from *MacPaint*. Although the manual is very sketchy, eventually players will be able to figure out enough to simulate their favorite tables on the Mac screen.

## INTERACTIVE FICTION

**The Mist** (Mindscape; \$39.95) is based on a short story by Stephen King, and his writing style is perfectly suited to this grisly tale. In (where else?) a small New England town, mysterious mist has suddenly appeared. Can you fight your way through a sickening array of hellish monsters, rescue your son and save both your lives? Despite a very quirky sentence parser, this game will keep players coming back for more — if only to find out how it all turns out.

**Brimstone** (Synapse/Broderbund; \$39.95) was a really pleasant surprise. While the term "interactive novel" has been used as a catch

phrase to describe most text adventure games, **Brimstone** is one of the first true examples of it. The game's third-person narrative is a bit disconcerting to veteran adventure game players, but initial discomfort quickly fades and players find themselves engrossed in the adventures of Sir Gawain, a Knight of the Round Table, as he journeys down to Hell and back — literally. There are few real puzzles to solve here, but it's a very interesting journey nonetheless.

A tip of the hat is in order to Infocom, the company that virtually pioneered the text adventure genre with **Zork** (\$39.95 to \$44.95 each). The **Zork** trilogy is still as playable as it was the day it was released, with an open-ended storyline that lets players solve various riddles in their own way and time.

On a more lighthearted note, Infocom's game translation of Douglas Adams' bestselling **Hitchhikers' Guide to the Galaxy** (\$39.95) is among the funniest text adventures around, although several highly illogical puzzles will prove too frustrating for most of us.

## PARTY GAMES

**Mind Prober** (Human Edge; \$50) offers a series of true/false questions about a person's personality, then prints a four-page report based on the answers it receives. In the same vein, **The Lüscher Profile** (Mindscape; \$44.95) offers a detailed color-preference test that's impossible to lie about, then prints a report. Both of these pop-psychology programs are a lot of fun in crowds — or on first dates.

*The Mist*, an all-text adventure, is written in the bone-chilling style of horrormeister Stephen King.





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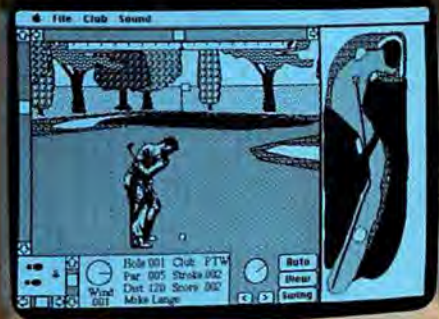
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# GAMES TO SHOOT OR BOOT

## STRATEGY

The Ancient Art of War (Broderbund; \$49.95) recreates a number of famous historical battles, and gives the armchair general the option to pick his or her computer-controlled opponent. Armies consist of knights (armed fighters), barbarians (your basic big lug), archers and scouts, and scenarios range from the mythical (Race of the Gods) to the pseudo-historical (Custer's Last Stand). Each battle is based on capturing a given number of enemy flags. When you get tired of the scenarios provided, you can make your own.

**Balance of Power** (Mindscape; \$54.95) is the first computerized peacegame, requiring players to walk the delicate balance between over-aggression and wimpiness in the nuclear age. Can you, as President of the United States or Premier of the U.S.S.R., maintain the peace without losing too much global prestige?

## WORDS

Like crossword puzzles? **Word-Play** (Palantir; \$49.95) might just be the ultimate play on words, offering crossword addicts more than 50 disk-based games ranging in difficulty from Easy all the way to Diagramless. Puzzles are laid out on a 23 by 23 square grid, with an option to create your own crosswords when you've played through all the games. The Proof option even lets you see how you're doing on a puzzle-in-progress.

**Perplexx** (Hayden; \$39.95) has its roots in the board game *Scrabble*, allowing up to four players to test

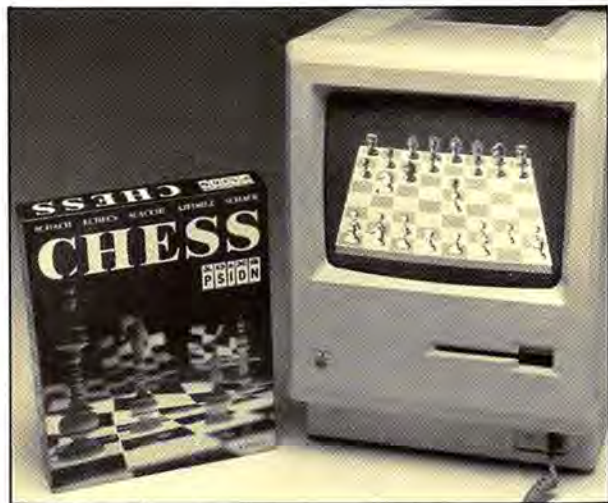
Two different views of the playing field — and enough foreign languages to baffle Henry Kissinger — are available in *Psion Chess*.

their verbal skills against each other or the computer. The rules can be changed, and the game's 90,000 word dictionary will prove up to most verbal challenges.

## CHESS

**Psion Chess** (Psion; \$59.95) offers great graphics and an unusual three-dimensional mode that lets chess players see the board as if they were actually sitting in front of it. It also features a tournament-style time clock, and a choice of play languages including French, Spanish, German, Italian and Swedish.

On the other hand, **Sargon III** (Hayden; \$49.95) contains a much larger selection of complete games on the disk, plus adds openings and endings just so you can practice up for those big games. It lacks a game clock, but makes up for that with a terrific 100-page manual that provides a tutorial on the basics of chess, plus includes a listing of classic



games contained on the disk and a good-sized bibliography.

## BOMBS AWAY!

Not all games are good. What follows is a list of absolute clunkers, games that you wouldn't want to play, even if they paid you.

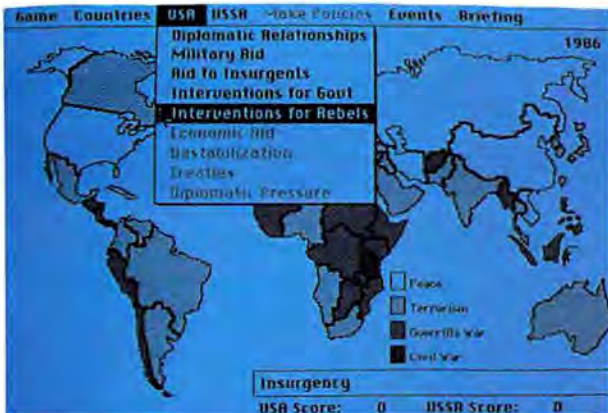
**Real Life** (Relational Systems Corporation; around \$40) might be about real life if you're a member of a hell-and-brimstone born-again society that thinks that everyone who doesn't belong to their sect is a wino, hooker, gambler or child-molesting homosexual. Jerry Falwell might not be offended by the content of this text adventure — but everyone else will be.

**Monkey Business** (The Other Valley Software; around \$30) is an unbelievably bad rip-off of the old arcade hit, *Donkey Kong*. But its thick, low-res graphics and choppy sound effects make this game look like it could have been programmed in the 1970's for the old Atari 2600 cartridge machine.

**Scott Adams Adventures** (currently available in a set of twelve from Star Systems Software; \$59.95) first appeared at about the same time as the original *Wizardry*. Unlike the latter, these are outdated, clunky and offer about as much chance for creativity as a standard rat's maze. If you don't think along the same quirky lines as Scott Adams, you'll never get very far in these games.

Tracie Forman Hines is the Senior Editor of *MacUser*.

**Balance of Power** challenges players to keep the peace, even when their honor's at stake.





# For all of you who thought Dennis Brothers was crazy to give away MacTEP, here's MicroPhone.<sup>TM</sup>

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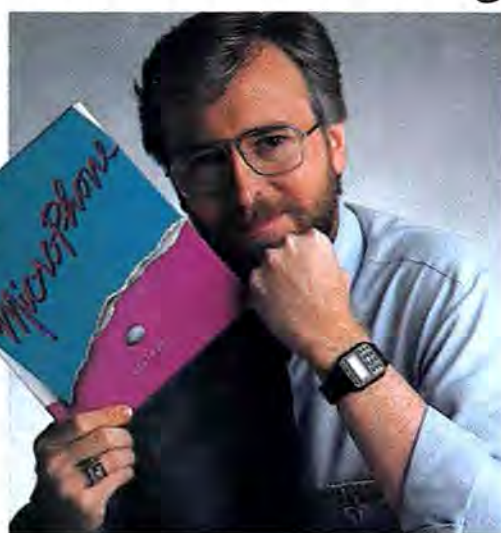
Dennis gives you two ways to create these macros. The first is to set MicroPhone in the Watch Me,<sup>TM</sup> the recording mode.

The program looks over your shoulder as you conduct a communications session following your keyboard and menu commands.

MicroPhone can remember not only an uninterrupted string of keyboard commands, but also wait-for-prompt conditions. In fact, virtually any series, no matter how long or complex.

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The second way to generate macros is through



MicroPhone's unique "Script" window. Open it and you'll discover an extensive set of functions which can be called up and linked with a series of mouse clicks. The resulting macro is extremely powerful. The method is Mac-simple.

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BY TED SALAMONE

# UNDER CONSTRUCTION



## Building your own entertainment keeps game programs fresh.

WHEN A GAME GETS TIRESOME OR boring, what do you do? Put it back on the shelf and spend more money to get something new that may or may not be better? There are some games you'll just never get bored with, no matter how often you play. That's because they come with built-in editors that allow us to literally create our own fun.

### AN EXERCISE IN STRATEGIC ACTION

Perhaps one of the most challenging Mac games, Broderbund's *Lode Runner* comes with 100 different screens, all with fast action combined with different strategic twists. Using the keyboard or the mouse, players climb ladders and move around platforms while gathering gold and evading pesky Bungeling

Empire guards. The *Lode Runner* (that's you) has only quick moves, fast thinking and a gun that burrows holes, which can either be used for a hasty escape or to set traps for pursuing guards.

The game's dozens of built-in screens will keep you going for months, until you figure out each screen's individual strategy. But unlike many action games, you'll never get tired of this one. Bored with the Bungelings? Sick of old screens? Indulge! Activate the Editor menu to design and create your own screens. The components are provided, so all you have to do is bring the (mental) glue.

As a *Lode Runner* Architect First Class, there is a lot of power at your disposal. You can place screen pieces anywhere. CUT, COPY, PASTE, CLEAR, UNDO or SAVE changes. Revert to the original if the latest blueprint hasn't fared as well as expected. About the only thing you can't do is edit the original screens — although of course, you can recreate them while in the Edit mode.



The building blocks (literally) consist of drillable bricks, ladders, drill resistant bars, nasty trap doors (which look like ordinary bricks during play) and gold chests. Highwires make chasm crossing a snap. Invisible ladders allow access to the next level once all chests have been recovered. Players include you, the venerable *Lode Runner*, and up to five guards. And, in case you make a mistake during creation, a blank square may be used to erase incorrectly placed pieces.

Though the game generator is easy to use, there are a few tricks to doing it better. First, become familiar with the game itself. Study and master the screens the game provides before designing your own.

Next, make duplicates of finished boards before experimenting with them. (Use the COPY function to accomplish this.) The originals should be saved to another disk for even greater safety.

Avoid saving a blank screen in a series, since the program interprets blank screens as the final screen in a given game. Also, you don't need to use blank squares to remove pieces. Placing the piece-shaped cursor over its on-screen double and clicking is just as good.

Whatever your involvement level, *Lode Runner* is accommodating. Up to 750 boards can be created across five different games. Even the most rabid action fan can't get bored with a selection like that!

#### **BUILD YOUR OWN BOXER**

So you "coulda been a contender?" Here's your second chance. Sierra's *Championship Boxing* (see *MacUser*, March 1986) packs plenty of pugilistic possibilities, allowing would-be Don Kings to actually create and groom their own contenders.

Updated to reflect recent changes in the boxing world, *Championship Boxing* includes a roster of every modern champ, the highest ranked contenders, and humorous cartoon and animal characters. In the strategy mode, you manage the boxer by "shouting" advice; in the arcade mode, you directly control every bob, weave and hammer with the keyboard. *Championship Boxing's*

graphics, ringside humor and action are outstanding.

One of the program's best features is the option to modify original characters or create new boxers from scratch. Instead of icons, buttons are used to highlight choices. The procedure is a simple one, requiring less than five minutes.

By researching the stats on a real boxer, you can create a working simulation. If that sounds like too much effort, then just activate a few variables and put your bruiser in the ring.

The list of items to be filled in is pretty comprehensive, with each statistic humorously illustrated during the creation screens. General stats include age, weight, height, reach and record in the ring. Number of KOs and the number of times KO'd are listed. The right selection even makes it possible for the program to update the record after every match. (Two of my boxers were doing so poorly I got tired of the stats and eventually deactivated this function.)

As in real life, reputation means a lot. Arm your pugilistic progeny with a "best punch," designate when he tires or fights his best (early, middle rounds, etc.) and identify how hard he hits. Likewise, imbue him with defensive characteristics, punching accuracy and a level of aggression.

Susceptibility to cuts and injuries, speed and type of character round out the choices. With such a mix and match approach you can recreate just about anyone's boxing habits and abilities.

Since this is one of the easiest construction sets, I have only one tip. Don't ever take a dive!

#### **BUILDING ARCADE THRILLS**

*Pinball Construction Set*, by Electronic Arts (see *MacUser*, January 1986), may have originally been developed for other computers, but the Mac version is a great, and quite Maclike, game unto itself.

Five ready-to-play games are included on the game disk, along with editing tools and a box full of goodies. While it runs on all Macs, only Macs with 512K or more of RAM can take advantage of its exceptional

digitized arcade sound capabilities.

Despite the intuitive way players select and drag parts from the bin to create new pinball machines, the program does have its hazy areas — most of which can be traced to *Pinball Construction Set's* (very) sparse documentation. A complete guide to using each segment of the construction phase is conspicuously missing from the manual. Here's some of what isn't in the documentation:

Up to 128 parts may be built into each game. Multiple balls (via the ball grabber), bumpers, two sizes of flippers, and the pinball version of a Venus Fly Trap can be set anywhere, moved or duplicated. Supplement these with kickers, drop targets, spinners, slingshots, rollover or knife edge targets. The possibilities are almost endless.

Nonreactive barriers and lanes can be placed, manipulated and painted. These pieces, called polygons by *Pinball Construction Set*, may be hammered into shape or cut loose with a scissor that actually works like a nail puller. A brush icon provide effortless custom paint jobs and pattern fills, and especially complicated graphics jobs can be imported directly from *MacPaint*.

The table environment is totally defineable through the gravity, ball speed, ball elasticity and bumper kick slide controls. Set scores at your leisure. Toggle the bonus multiplier on or off; wire multiple targets together and set the corresponding bonuses. This last feature is done with a soldering iron cursor. A wire cutter is provided just in case changes are in order.

Musical tones are defined at the same time as score values are. Select from nine possibilities, including complete silence. You'll probably want to experiment with the audio's tones and volume settings, as the sound effects are staggering.

Despite its impressive features, there are still a few shortcomings. Parts cannot be rotated to create a better fit, and certain traditional targets and table sounds are not available.

When you create your custom pinball sets, bear the following tips



## UNDER CONSTRUCTION

in mind. Shape the table first. Place the polygons next, developing travel and drain lanes. Then throw in a couple of flippers, followed by non-reactive guideposts and targets. Be sure to play-test your creation often, tweaking problems with a cautious eye to make sure you don't replace one problem with another.

Once the play action is just right, save the design and open it with *MacPaint*. Add artwork and text to the backboard (which is displayed to the right, above the player scores) as well as the tabletop. With a little practice, who knows? A couple of great designs might just open the doors to a new career at Bally-Midway.

### BATTLE BY DESIGN

Broderbund's *The Ancient Art of War* (see *MacUser*, April 1986) allows armchair generals the pleasure of recreating ancient battles, fighting fictitious wars, or even altering past battles. After becoming familiar with the built-in scenarios, would-be warriors can run through a six-step procedure to build a custom battle.

As with the regular scenarios, *The Ancient Art of War's* generated games are filled with flourishes. Two full screens of terrain may be laid out with all sorts of mountain, forest, plains, footpath or water icons. Bridges, forts and villages populate these environs, along with squads of hostile — and friendly — troops. Possible combatants include long-bow archers, bare-fisted, scantily-clad barbarians, armored knights (on foot!) and spies.

The object of each game is to capture all the enemy's flags. After an aerial preview of the battleground, the player takes appropriate action, gathering information, readying troops, attacking or defending. When enemy squads meet they usually wind up in combat (the exception is when one squad is so outnumbered that it's captured outright). Selecting ZOOM brings up a close-up tactical screen, where the outcome of a battle can be controlled by issuing commands (advance, attack, hold your ground or retreat) to each type of warrior. Just click on the desired button during the battle.

Once a conflict has ended, the overview returns, and the armies continue to march in the directions they were instructed to. You'll need to think fast, especially at the higher game speeds, or when playing against Sun Tsu, the most intelligent computer opponent.

Don't let the scope of this program intimidate you. The average (non-war) gamer can play and fully understand his or her first game in under 45 minutes. Designing a battle, which can be done knowledgeably after just one or two games, requires a mere 15 to 20 minutes. The detailed game manual has an entire section devoted to campaign creation techniques.

Once a blank disk is readied as a Campaign disk, proceed to make the map, laying out the terrain and fortifications. Approximately one fifth of the entire battlefield is visible during this phase. A minimap in the lower left corner of the screen shows the relationship between the detail area being constructed and the entire battlefield.

Place your chunks of terrain, which are actually icons, where desired. Once in place they cannot be moved, although they can be covered with another terrain type. Clicking buttons switches between assorted, water, mountain or forest parts boxes. The terrain library also supplies ready-made villages, forts and bridges, as well as some basic pieces of the other types.

The next step is to position the opposing forces' starting positions and designate headquarters. As in capture the flag, one side loses if the enemy captures its flags or all its forces.

Squads can have a maximum of 14 soldiers, who can be any combination of the four soldier types. It is useful to provide a balanced mix for parties on the move. Archers should be in the overwhelming majority when garrisoning fortifications if you hope to hold the forts. Adjust the food supply levels and condition of the troops with slide bar controls; don't forget to specify a marching cadence (stopped, slow march, march or fast march). Up to 20 squads total may be placed on the

battlefield. You can try to make the forces relatively even for a beginner's game. Stack the odds in the computer's favor (it always plays the black side) if you want a real mental workout.

Troop formations are important when encountering hostile forces. In the beginning select a protective stance, which can be adjusted just before combat if you feel the need. Open formations are best for an archer-heavy squad, since it reduces the chances of literally stabbing your own troops in the back.

As in real battles, terrain type plays a major role. Movement is easiest on the plains and more difficult in the hills, mountains and waterways. (Set the game to the hardest options and few squads will survive a dunk in the drink.)

Finally, select the opposing leader. Choices include the goddess Athena, Caesar, Genghis Khan, Alexander the Great, Sun Tzu and Crazy Ivan (the comic relief).

The last thing to do is establish the default rules, which are the settings the program defaults to if players don't change any options. Are the waters to be deep and dangerous or shallow and safe, the mountains low and safe or high and dangerous? Will forts train troops slowly or quickly? Will villages and forts supply food? The choices are yours.

Now all you have to do is write the campaign's storyline and title. A screen-sized scroll records your tale of destiny as well as its title. When done you can access the campaign as easily as any others. Just don't save the new campaign to your original game disk, as it will replace another one already there and lose the old campaign forever.

This is such a well-conceived construction set that very little is left to chance. Become very familiar with the game and its strategies and soon you'll be creating great scenarios.

### A PLAY ON WORDS

To many people, the pen is mightier than the sword, and anyone who can complete the *New York Times* Sunday crossword is a mighty wordsmith indeed. Crossword puzzlers could easily find themselves



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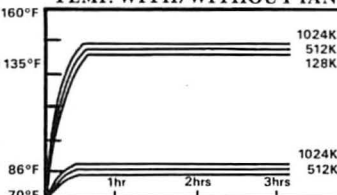
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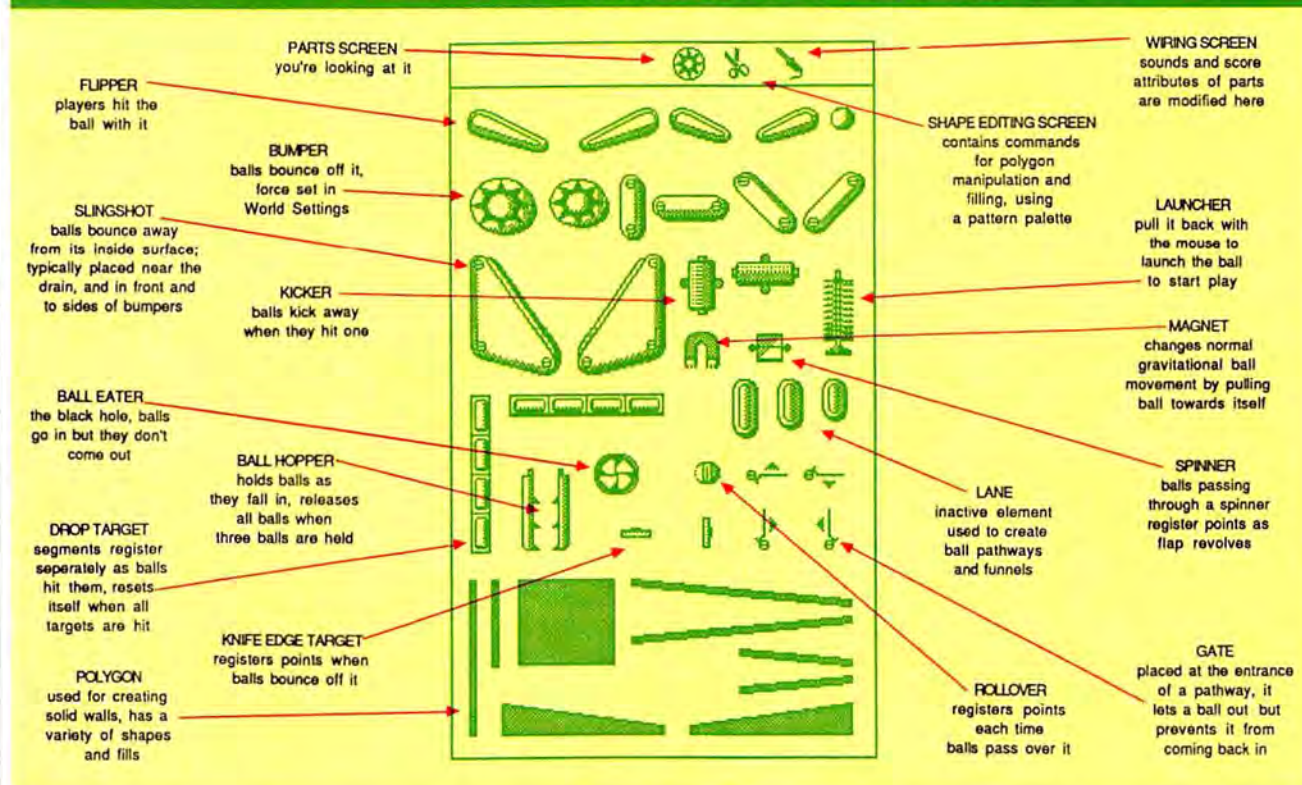
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# UNDER CONSTRUCTION

## PINBALL CONSTRUCTION SET TOOLBOX



addicted to Palantir Software's *WordPlay*; it comes equipped with multiple levels of crossword puzzles and (you guessed it!) the ability to create your own.

A slim manual explains the puzzles' five levels of difficulty. (A sixth option is a diagramless puzzle without the darkened squares, which are so useful in indicating how long an answer should be. This is somewhat similar to playing chess while blindfolded.)

*WordPlay* uses the mouse and keyboard, though not on a mutually exclusive basis. The cursor control scheme takes a little getting used to, but after a few sessions, it should be second nature.

Players enter responses or guesses (displayed differently on-screen) with the keyboard. Answers for the entire screen or selected areas can be shown. Likewise, incorrect entries are identified by question marks.

Various fonts may be selected. Printout options are numerous, including options to output blank, in progress (completed sections printed) or solved puzzles. Clues may be

printed on the page with the puzzles or on separate pages.

The manual devotes little space (one side of one page) to explain the construction set capability. Though the instructions are adequate and do tersely explain the procedure, a little clarification would make things easier, especially on novice puzzle makers. Fortunately, though, the program is intuitive enough that creation techniques become apparent after the first puzzle is done.

Puzzles from 4 to 23 squares per side can be handled. Those bigger than 15 by 15 must be scrolled. If you don't view full lists of clues, but remain content with those for the highlighted square, you can expand the window to avoid scrolling. (This little secret was not well explained in the manual.)

To create a custom puzzle, select the NEW option and choose WORK instead of PLAY. Make it either standard or diagramless. (Unless you are heavily into freeform crossword puzzles, work with standard puzzles.)

After setting dimensions, *WordPlay* suggests laying out the black,

non-text squares. Some will find it easier to enter the solutions first, then drop in the delimiters.

Filling in the solution is a critical step. You must enter all the answers first, then the clues. If you veer from this path, any alterations in the puzzle layout will cause the clues to be out of sync.

To enter a clue, first click on the desired square. Then move the cursor and click on the clue box. If you don't perform the latter step, the clue overwrites the solution. I learned that the hard way.

Even though the manual says to fill in the Across, then the Down clues, it is all right to take a different approach. I filled in all the Across, then went back and did the Down clues. There is plenty of room, even for the longest clues.

Two problems might pop up during puzzle construction. Accidentally hitting the Option key instead of Shift can prevent clues from being entered. If you hear a beep when filling in a clue, it has not been accepted. Clear the keyboard by

(continued on page 141)



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MacExpress is the Application Manager that instantly provides your programs with all of the common and many unique user interface features. It can be used in conjunction with Pascal, C, or 68000 assembly, and is more than a simple library or skeletal program. MacExpress is a kernel that directs and controls your application's user interface through a sophisticated message sending architecture.

It informs your program when application specific actions are required and allows you to override any of the default behavior. This table shows just a few of the many MacExpress features and how they are added to your programs by a simple routine call or even by merely setting a bit in a parameter. Call now for all the details about how MacExpress can work for you!

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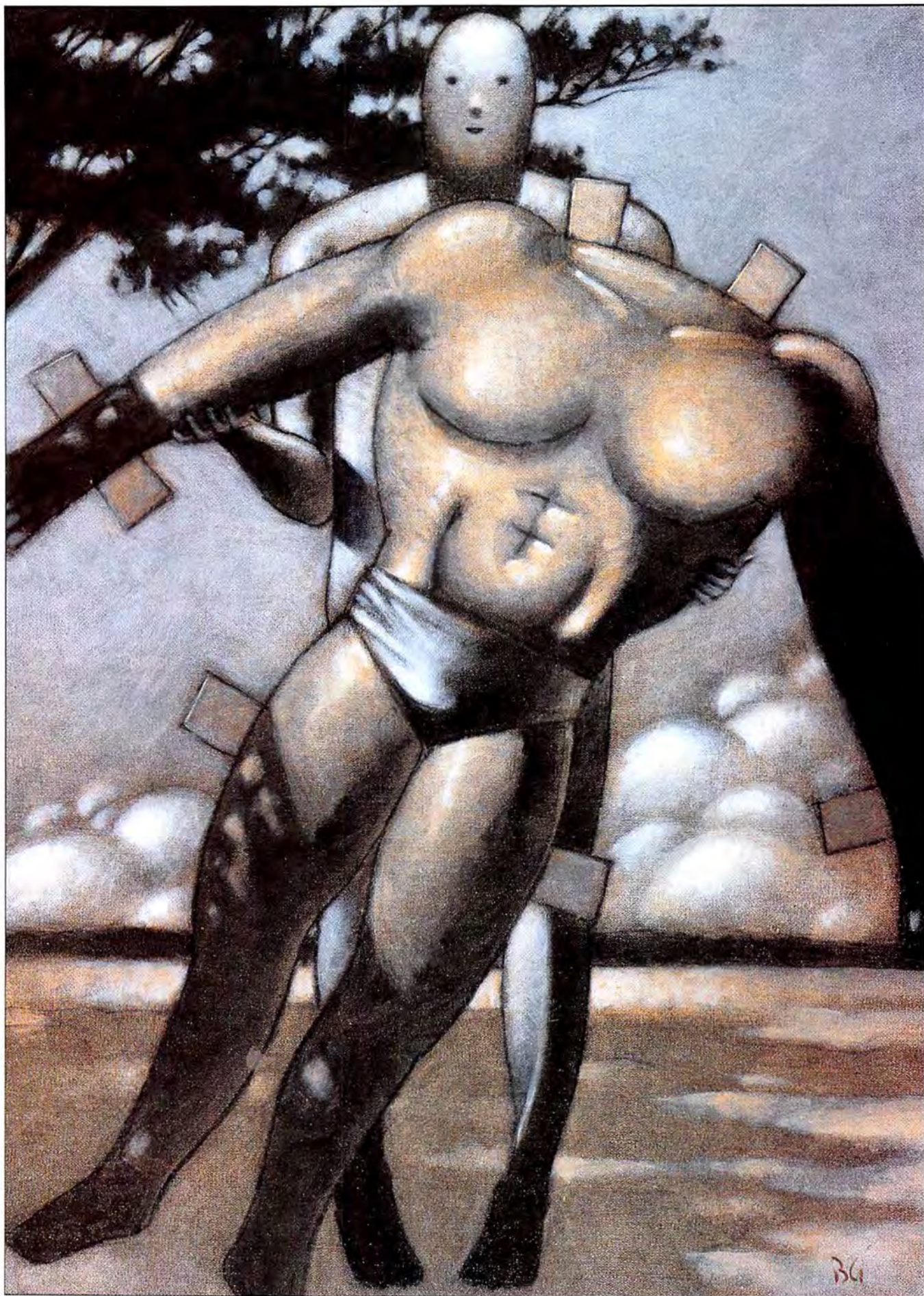
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BART GOLDMAN



# BEYOND BARE BASIC

**Build up your BASIC muscles by using CLR machine-language libraries.**

MORE MICRO PROGRAMMERS know BASIC than any other language. Yet BASIC is often scoffed at as "too weak" and "not powerful enough." That's not really true. Take Microsoft BASIC 2.1 and add a generous helping of the CLR machine-languages and you have a powerful tool. While the lack of a compiler (which is due Real Soon Now) is a drawback, the availability of a good runtime module makes developing in BASIC practical.

The Clear Lake Research machine-language libraries are the best thing to happen to Microsoft BASIC since version 2.0 was released. I can already hear some of you asking: "What's a machine-language library?" The rest of you are asking: "What makes the CLR libraries so great?"

In simplest terms, a machine-language library is a collection of routines that can be accessed from BASIC just by using their names the way keywords are used; they offer a way to extend the power of BASIC.

What makes the CLR libraries so great is the variety and number of routines that they provide. They have something for the BASIC programmer of every level of expertise, from simple commands for sorting and text-handling to accessing resources using pointers and handles.

Clear Lake Research offers three independent libraries. ToolLib pro-

vides over 100 new commands, including scroll bars, wide access to the Mac's QuickDraw routines and ways to deal with resource files. MathStatLib contains about 20 more statements that provide matrix operations (handling numbers in arrays), statistical calculations and sorting functions. The third CLR library, which is not covered here, is SpeechLib. It lets users make the Mac talk from BASIC, using Apple's MacinTalk driver.

## USING YOUR LOCAL LIBRARY

To use a library routine in a BASIC program, first call it using BASIC's LIBRARY statement. For example, to use ToolLib, write:

```
LIBRARY "ToolLib"
```

After that, any routine in the library can be used by naming it, and providing parameters for it just as you use arguments with BASIC keywords. For example, **ChangeCursor 4** changes the cursor to the familiar wristwatch, and **SortString 25, LastName\$(0)** sorts 25 elements of the array LastName\$, beginning at element 0.

There are a few restrictions on using the new commands. The majority of numeric arguments for the routines must be integers. Thus the % sign must be repeatedly typed to define variables as integers. That gets tedious. Defining all variables as integers with DEFINT alleviates that

problem, but causes a worse one — each command must then have a precision definition tacked on to it so it will match the type of variables used with it.

Something else that takes getting used to is the fact that any variable used with a library command must be initialized before it is used. For instance, the command **OpenResFile "PatternResource", ref%** opens the named resource file and gets a reference number for it that can be used anywhere in the rest of the program. However, if this statement is the first time the variable ref% has been used, the program will stop with an error; you have to initialize ref% ("ref%=0") before you use it.

There are a few more restrictions. A library that is being used must be on the same disk as BASIC itself; if the library is incorporated into the program (see sidebar), then the program has to be on the same disk as BASIC.

These small restrictions are nothing when compared to the freedom that the new routines provide. There is no way to describe all the routines that the CLR libraries provide in a magazine-sized article — that would take a book. Instead, we'll take a look at some of the highlights.

## SLINGING STRINGS

The most simple of all the Tool-

*by Sharon Zardetto Aker*



# BEYOND BARE BASIC

## Left

A string in a textbox is automatically wrapped, and you have the choice of three justification options.

## Right

A string in a textbox is automatically wrapped, and you have the choice of three justification options.

## Centered

A string in a textbox is automatically wrapped, and you have the choice of three justification options.

Figure 1. The `TextBox` routine prints text with automatic word wrap in a previously defined area of the screen.

Lib routines is an alternative to the `PRINT` statement. `DrawText` is used in exactly the same way `PRINT` is used: `DrawText a$`.

How could the simple `PRINT` statement be improved upon? Well, a loop that prints a short string 1000 times with the `PRINT` statement takes 100 seconds to run. The same loop using `DrawText` takes 3 seconds.

`TextBox` is another simple yet elegant routine. With it, you can print any text within a previously defined area. Within the textbox, whose coordinates are stored in an array, text is printed with automatic wrap-around — and it can be justified left, right or centered. If you've ever written routines that compare the width of a printing area and the pixel-width of a string, and then wrote a routine that would search the string for a space to break it, and then split the string to print it on two lines — well, then you know how useful `TextBox` will be. (And your routine probably didn't include justification options!)

## TANGLING WITH RECTANGLES

Points, lines, rectangles, polygons and regions are the "shapes" easily handled with `ToolLib` because of its access to `QuickDraw`. It's amazing how much can be done with just a rectangle.

To begin, it's very simple to load an array with rectangle coordinates. A simple example is `SetRect rect%(0),20,10,200,20`.

Compare that to the four assignment statements needed in regular BASIC to accomplish the same purpose. Programmers can also set up a rectangle array by referring to the two points that define the upper left and lower right corners, if those points are stored in arrays: `Pt2Rect corner1%(0),corner2%(0),rect%(0)`.

Once the rectangle is set, it can easily be redefined, using its coordinates. `Offset` will keep the proportions intact but place it in a different part of the screen; `InsetRect` will change the height and/or width in or out by the specified number of pixels.

Your program can test whether a

given rectangle is empty (`EmptyRect`), find out if a certain point falls within its boundaries (`PtInRect`), and even "map" its contents (`MapRect`). Given two specified rectangles, `EqualRect` will test to see if they are equal; `SectRect` calculates their intersection; `UnionRect` calculates their union.

## A REAL DRAG

The most impressive of the routines available is `DragGrayRect`. When an icon is moved on the desktop, the icon itself doesn't move to the new location until the mouse button is released — what moves is an outline of the icon. `DragGrayRect` lets your program perform this minor miracle very easily with rectangles. (`DragGrayRgn` lets you do it with other shapes.)

Once your program has detected a click in the "target" rectangle, it can issue the `DragGrayRect` command, and the rectangle's outline is dragged around the screen until the mouse button is released. You specify the area within which the outline can

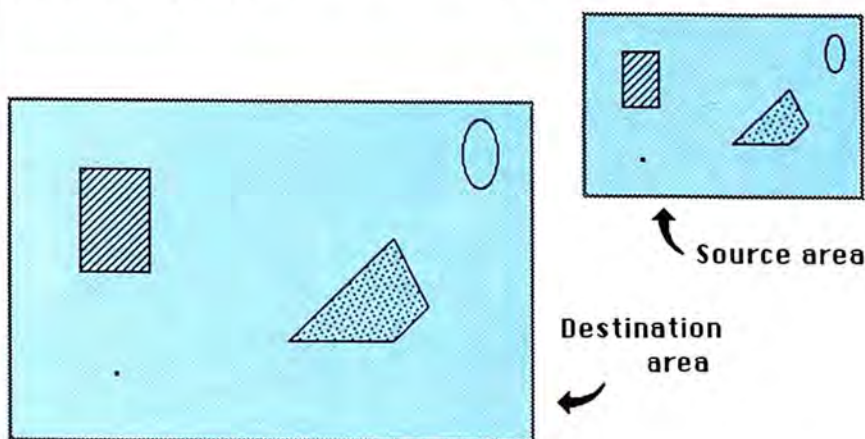


Figure 2. Mapping takes a point, rectangle, polygon or region from one area of the screen and places it in a congruent position in a second area.

## THE STATEMENT MOVER

CLR's `ToolLib` has over 100 statements in it, but you'll never use them all in a single program; on the other hand, there are many times you'll be using routines from more than one library in a single program. A large library takes longer to "bind" to your program when you use the `LIBRARY` statement; using multiple libraries means they all have to be on the disk with BASIC.

The Statement Mover utility provided with the CLR libraries lets you create a "sublibrary" made up of any statements from the main libraries. This single, smaller library can then be incorporated into the program itself, alleviating both the access speed and the separate file problems.



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Anyway, now that I'm big I spend most of my time visiting my Underground SafeHouse™. I get there using AT&T, my Mac and a Hayes-compatible modem. Then, I copy files published daily by the Underground for us Mac enthusiasts. I'll tell you how easy it is later. First, I better introduce myself.

My name is Joey Daniels, and I'm the son of Jerry Daniels, national director of Mac Underground. Dad asked me to put on this trenchcoat and hat and sit in for our corporate image, Mr. Rick of Casa Blanca.

Dad chose the name Mac Underground and the whole French Resistance schtick to illustrate our dedication to producing high-grade intelligence for and about the Mac.

Some people got the name *Underground* mixed up with *underworld*, though. And let's face it, Mr. Rick's a good guy but kinda scary looking. That makes people think only the very hardcore computer users can figure out our software and benefit from our online information service and product discounts. So Dad asked me to tell you that's not true, and...

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\$39.95 to join the Mac Underground for a year! Dad gladly takes your money and sends you a copy of *Underground Courier™*. That's our desktop communications software. You use *Courier* and a Hayes compatible modem to enter an Underground SafeHouse. A SafeHouse is one of several "host" systems we've set up around the U.S. They house the files you'll read about in a minute. All you need to know about your SafeHouse is its phone number. *Courier* will walk you right in the front door.

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# BEYOND BARE BASIC

## LICENSING THE LIBRARIES

If you want to prepare a program with CLR libraries for commercial distribution, CLR has licensing agreements available in which you agree to pay a licensing fee to CLR for the use of their copyrighted routines.

If you create a public domain or shareware program, contact CLR for permission to distribute the program with their routines in it.

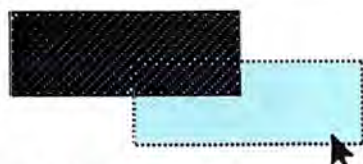


Figure 3. The DragGrayRect command lets you move outlines of objects.



Figure 4. Yes, real scroll bars in BASIC!

BASIC Routine	CLR Routine
Dog	aardvark
Giraffe	cat
Zebra	Dog
aardvark	Giraffe
cat	goat
goat	horse
horse	mole
mole	unicorn
unicorn	vixen
vixen	Zebra

Figure 5. The CLR SortString command disregards upper and lowercase characters.

move, defining boundaries against which it will be "pinned" and boundaries outside of which it will disappear; you can even constrain the drag to horizontal or vertical movements.

When using DragGrayRect, you supply the coordinates of the original mouse click; the routine returns the offset coordinates — how far the outline was moved, and in which direction. The outline disappears when the mouse button is released, but with the offset coordinates you know where to re-draw the rectangle to make it "move."

## SCROLL BARS!

Of the things missing from basic BASIC, one item comes to mind more often than anything else: scroll bars. These commands are probably the most complicated of ToolLib's commands, and the otherwise excellent manual falls short in explaining them fully, but once you get them up and running, they work beautifully.

The NewScroll statement sets up the scroll bar, using array coordinates to define its size and placement on the screen. NewScroll also allows the programmer to decide whether the scroll bar is visible or not, and provides the minimum and maximum values for the scroll box, as well as its initial position.

The ScrollText statement does the rest of the work. It takes the strings in an array that has been previously named and prints them in the rectangle defined, scrolling them as the user manipulates the scroll bar.

Detecting a selection in the scroll area so it can be highlighted is a very difficult problem. First, you must figure out which string was clicked on by calculating the number of pixels from the top of the scroll area to the mouse click point. Then, using the height of the font that the strings are printed in, display the string which was selected.

The ScrollText statement supplies an index of which string of the array is at the top of the scroll area, so your program can figure out which one was clicked on. Executing the ScrollText routine again can highlight the selected string once sup-

plied with the proper information.

This sounds like a lot of work — and it is — but you only have to write the routine once, and then it can be used in all your programs with minor variations.

## OUT OF SORTS

If you've written sort routines, you know there's always an efficiency trade off: a simple bubble sort doesn't take much memory, but it's not fast enough with large numbers of items; a more complicated sort algorithm gives you more speed, but also takes more memory. Then there's the problem of string sorts that assume a capital Z comes before a lowercase A; you must UCASE\$ everything to get it to work right.

In CLR's SortString command, uppercase letters precede lowercase letters only when the strings are otherwise equal. The simple command: `SortString 10, string$(1)` sorts the first ten strings in the array string\$, starting with the first element.

Numeric sorting is just as easy; there are separate commands for sorting integer, single precision and double-precision arrays. And, with the addition of a single optional argument to the Sort statement, the sorting can be done in descending order.

Each of the sorting commands can have an index associated with it, so your program can keep track of the original positions of the array elements. The benefit of this indexing is apparent if another array needs to match the order of the sorted one.

Here's an example. Assume you have an already alphabetized list of students in one array, and their final grades in another array. Printing the first four elements of each array yields this list:

Bernstein 85  
Green 92  
Gosnell 89  
Wolfson 77

Sorting the grade array and printing out the elements gives:

Bernstein 77  
Green 85  
Gosnell 89  
Wolfson 92

Wolfson may be pleased with this



# Artificial Intelligence Update

## Transform Your Macintosh Into A Powerful A.I. Workstation For Less Than \$500 ... And Make It Fly ! \*

In 1983, I was developing an expert system tool in LISP (the *defacto* standard). It was a shock when I encountered a true LISP workstation - both the price (\$100,000) and its capability (phenomenal !!). I rushed out and bought one, and it immediately justified the expense. My code development speed increased 10 TIMES because of the incremental compiler, integrated editor, and rich environment. But I also wanted to deliver my completed application. In 1984 Apple answered my prayers by giving us the Mac!

This tool had a powerful 68000, windows, a mouse, menus; in short, all of the things I was used to on my LISP machine, except LISP! I realized that until I had a good LISP on the Mac, I was limited in what I could accomplish. With a team of skilled LISP programmers, we started to create a powerful development environment for the Mac, with an incremental native code compiler, macros, multiple edit windows, automatic matching parenthesis and indentation. Along the way we added control of the Mac toolbox, 3-D graphics with perspective, spherical graphics and an object oriented SmallTalk like class system. The result is an incredible environment that rivals features found ONLY on \$100,000 systems, and is available today at microcomputer prices of less than \$500.

Our next task was to port across expert system tools to the **ExperLisp** environment. With the help of Science Applications, the 3000+ lines of LISP source code in OPS5 was running in less than two weeks, and *outperformed* a \$30,000 workstation. **ExperOPS5+** is now available with a user interface that includes dialog boxes and pictures for less than \$500! Next was another powerful expert system builder called **ExperFacts**. It can chain both *forwards and backwards*.

If all of this just seems too good to be true, just remember how far technology has come. The \$100,000 system has 2MB of memory. Amazing! But not as amazing as the MacPlus; it has 1MB to 4MB of memory for 1/20 of the price!

The future of Artificial Intelligence is just starting today. This revolution will only succeed if hundreds of thousands of

professionals encapsulate their expertise into expert systems. This requires powerful A.I. development tools on microcomputers. We have delivered these tools now, the rest is up to you. The only limitations now are the experts. Not just LISP programmers and knowledge engineers, but also accountants, lawyers, architects, engineers and other professionals.

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Denison Bollay,  
Founder and President,  
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## ExperTelligence Takes the Lead in Lisp Workstations

SANTA BARBARA, Ca. - ExperTelligence announced today that it has sold more LISP compilers than any other A.I. vendor. Additionally, the company announced that its expert system shell **ExperOPS5** has been sold to more than 1000 customers. This is a larger installed base of users than all of the other A.I. vendors combined.

Headquartered in Santa Barbara, the publicly held company has pioneered many firsts in the industry: the first incremental compilers on the Mac (**ExperLogo** in '84,

**ExperLisp** in '85); the first 3-D tools (with automatic perspective) and spherical graphics embedded in **Lisp** and **Logo**; the first complete expert system shell on a microcomputer (**ExperOPS5**, developed in **ExperLisp** by Science Applications International). Soon to be announced the first **CommonLisp** compiler for the Mac.

## Prolog II : The Real Thing

MARSEILLES, France - PrologIA announced that it has chosen **ExperTelligence, Inc.** to distribute its famous **PrologII** in the U.S. **Prolog** was invented in Europe (Marseille, France and Cambridge, England). It is the European A.I. language of choice, and was selected by the Japanese as the basis of their Fifth Generation Project. This version of **Prolog** was created by the inventors of the language, and includes the latest developments.

## Knowledge Engineers Wanted

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arrangement, but Bernstein certainly won't like it. Taking a look at the index for the grade array, however, shows their original positions:

```
77 4
85 1
89 3
92 2
```

The solution here is to use the index numbers to print the list of students. When element 1 of the grade array, which is 77, is printed, the program checks its index: it used to be in the fourth position of the array. So, that number — 4 — is used as the index subscript for the student that will be printed. This

method gives the proper list:

```
Green 92
Gosnell 89
Bernstein 85
Wolfson 77
```

MathStatLib even includes a handy "unsorting" routine; it randomizes the order of any number of elements in a numeric array and is called the Shuffle statement.

## MATRIX OPERATIONS

The majority of MathStatLib is composed of matrix operation commands and statistical functions. Any two-dimensional array is easy to visualize as a matrix of numbers in rows and columns. With matrix operators, programs can do such things as find the minimum or maximum value in the array, set one matrix to equal another, or transpose the row/column values in the array. Other commands perform operations with two arrays and store the results in a third: add the two together, subtract one from the other, or multiply them together.

Most of the matrix operations are available in integer, single and double-precision versions. These commands can easily be applied to one-dimensional arrays by considering the array to be a single column or row matrix.

MathStatLib's statistical functions include minimum, maximum, mean and standard deviation functions. There are also functions to compute a sum and a t-test, and evaluate cumulative probabilities for various distributions (chi square, F, T and others).

## RESOURCE-FUL PROGRAMS

Resources are at the very heart of Macintosh programming. Every Macintosh application has a "resource fork" in which important information is stored. Resources are things like cursors, icons, pictures, patterns, alert boxes, and even numbers and strings.

With ToolLib, you can create resource files for your BASIC programs. Since the resource file can be stored in the program itself (it can't be seen in the listing, but it's accessible with ToolLib statements), it is now possible to easily create the

equivalent of a resource fork for your BASIC program.

With a well-designed resource file, your program can do the equivalent of "Get alert box #301, put the question mark icon in it, and print this string in it." That same alert box can have a different icon and a different string the next time it is used. Once its template is stored in the resource file, it's always there, so just pull it out when the program needs to use it.

Aside from the convenience of programming this way, there is an increase in speed, and a saving of memory. Instead of creating a pattern from scratch by reading the appropriate values into an array and storing them there, you can just "Get pattern #5."

## A DEVELOPER'S TOOL

The difference between BASIC with CLR and "bare" BASIC is like the difference between BASIC 2.0 and BASIC 1.0: vast. Once you work with the CLR routines, you won't ever go back to bare BASIC.

When Microsoft comes out with its BASIC compiler — an inevitable, if long-delayed, product — they'll probably advertise it as being a developer's tool. Don't believe it. While the currently available (from Microsoft) runtime module is good, if you want to do real development with BASIC you'll need more than it or the compiler — you'll need the CLR libraries too.

BASIC, compiler and CLR — now that's a developer's toolkit. ☐

Sharon Zardetto Aker is a contributing editor of *MacUser* and author of many computer books.

## AND MORE TO COME...

The CLR people can't leave well enough alone — fortunately. They are currently working on more routines which will be released either as a ToolLib update or a second ToolLib library, probably by the end of the summer.

Two of the new routines give the results you see here: keyboard equivalents for menu commands, and style options for menu items. The keyboard equivalents add the commands to the menu, but you don't have to do any further programming: the traps you write for normal BASIC menu selections are automatically triggered by the assigned command-key equivalent.

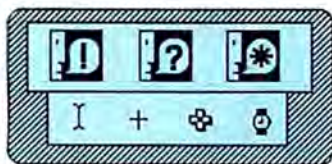


Figure 6.

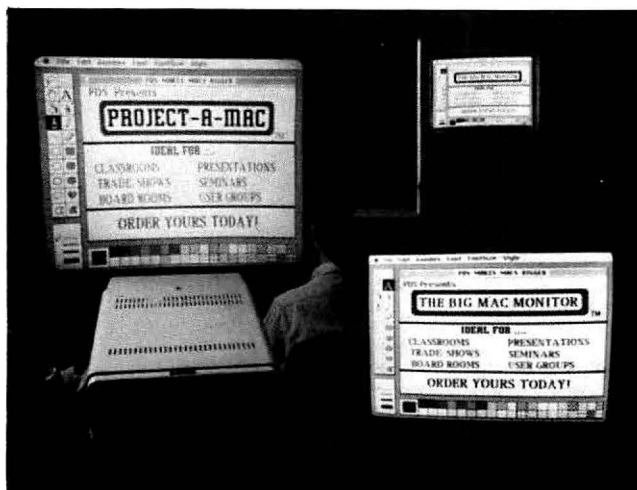


Figure 7.

**CLR MACHINE-LANGUAGE LIBRARIES: ToolLib, MathStatLib, SpeechLib**  
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Exceptions Dictionary

and more!

The libraries are \$35 each plus \$3 for postage and handling (\$6 for overseas delivery). For a limited time, CLR ToolLib and MathStatLib can be purchased together for \$50 + \$3 postage and handling. Texas residents include sales tax. Visa and Mastercard® cards welcome. Microsoft BASIC 2.0 or 2.1 is required but not included. To order or request a brochure, call 1-800-835-2246 x199 7 days a week, 24 hrs a day. (In Kansas, 1-800-362-2421 x199)

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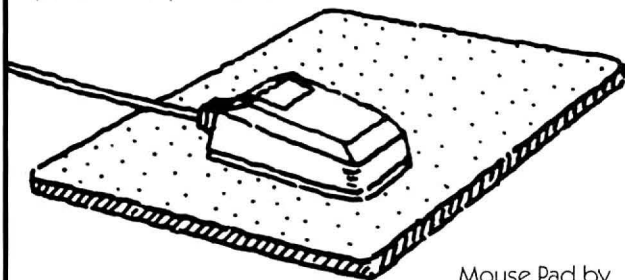
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
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# A TASTE OF PASCAL

**Our four-part series on this honey of a language begins with a "Shell" program.**

PASCAL WAS THE FIRST HIGH-LEVEL language for the Macintosh. Of course, it didn't really run on the Mac, but rather on the Lisa (as the Mac XL used to be known). In fact, when Apple programmers started writing the original Mac software in *Lisa Pascal*, nothing ran on the Mac. From those prehistoric days, Pascal has retained both popularity and utility. Most of the first commercial Mac programs were written in *Lisa Pascal*. There is still a good deal of development going on in Pascal, only now there are Pascal compilers that run, and run well, on the Mac.

In this series of articles we'll show programmers who have at least a basic knowledge of Pascal how to start writing their own programs, programs that use the Mac interface and Toolbox routines. Since all Macintosh Toolbox routines are designed around the Pascal programming language, and since *Inside Macintosh* documentation itself uses Pascal for all of its examples, we'll do the same.

We'll be using the *TML Pascal* (*MacLanguage Series*) compiler. It conforms exceptionally well to the

*Lisa Pascal* system and adheres to the standard Macintosh interface. Since our goal will be to create standalone applications for the Macintosh, the interpreted *MacPascal* system will not be used. But before we start to build applications for the Macintosh, we should review a few Pascal terms and concepts.

MemTypes are predefined Pascal types used by many of the Macintosh ROM routines, and are defined in *TML Pascal* precisely as they are in *Inside Macintosh*. *TML* provides a file called "MemTypes.ipas" for inclusion in Pascal programs requiring these types. MemTypes are used throughout the Macintosh system, and are defined separately. Other types and variables are used by the Macintosh system, but are defined in files where they're needed. The actual declarations are shown in Figure 1.

A SignedByte represents any eight-bit character in memory. Because Pascal packs SignedBytes to the bit level and an unsigned value is not packed, SignedByte is used instead of Byte.

Ptr is a pointer to a SignedByte. In other words, a Ptr holds the memory address where a SignedByte can be found. A Handle is used to point to a pointer. While this may sound confusing, it is essential, because the Macintosh uses a dynamic memory configuration known as a Heap. When the Mac's Memory Manager allocates memory on the Heap, it can move blocks of memory around to obtain a large enough area for a new item that needs it. When this is done, pointers are not updated and may point to areas of memory where data no longer exists. The Memory Manager will update handles so data can still be accessed.

A ProcPtr is used to point to Pascal procedures or functions so ROM routines can call them — thereby allowing Macintosh ROM routines to have some way of know-

by  
**Steven  
Martin**







# A TASTE OF PASCAL

ing that user-defined routines exist. We will see how this is used later when some of the Macintosh Toolbox routines are discussed.

Fixed, like LongInt, are 32-bit numbers with fixed decimal places for fast number crunching, where moderate accuracy is needed. They are primarily used by the QuickDraw graphics routines.

A Str255 is a string consisting of 255 characters, the largest size string allowed by the Macintosh system. The first byte, String[0], contains the length of the string. The characters are held in bytes 1 to 255 of the String. StringPtr is a pointer to a String, and will typically point to the first (length) byte. A StringHandle points to a StringPtr, allowing dynamic memory allocation of Strings by the Memory Manager.

## THE TOOLBOX

What is the Macintosh Toolbox? The Toolbox is a set of predefined functions and procedures that exist, ready-made in the Macintosh's ROM. These are the routines that automatically manage the handling of windows, menus, dialog boxes, desk accessories and dozens of other Mac features. The existence of these

```
SignedByte = -128..127;
Byte       = 0..255;
Ptr        = ^SignedByte;
ProcPtr    = Ptr;
Fixed      = LongInt;
Str255     = String[255];
StringPtr  = ^Str255;
StringHandle = ^StringPtr;
```

FIGURE 1

routines make the Macintosh unique, since all programmers can use them to create a program that adheres to the standard Macintosh interface.

These routines also make the Macintosh more complicated to program. Programmers find it difficult to remember all the built-in features of the Macintosh and how to use them. For this reason, Apple has divided the Toolbox into categories known as managers. Functions that operate on the same class of items are all part of the same Toolbox manager. For instance, all window manipulation procedures are part of the Window Manager.

## CALLING THE TOOLBOX

Using Toolbox routines is identical to using any other Pascal function or procedure. The routine's name is used, along with any parameters the routine needs to complete the task. For example, to change the size of the current font to 12 point, use:

```
TextSize(12);
```

This invokes the Macintosh ROM routine TextSize. The formal Pascal declaration for TextSize looks like this:

```
Procedure TextSize(size: Integer);
```

TextSize is a procedure accepting one parameter that is an integer. It is not necessary to declare this procedure in the program since the Pascal system has an Include file that defines this procedure for us. We do have to tell the compiler we wish to use that file. With *TML Pascal*, the method of informing the compiler that we wish to include a file in our program is with the {Si} directive. Thus, to include the file that has the declarations for the MemTypes discussed above we would have a line in our program like this:

```
{Si MemTypes.ipas}
```

Note that with the new Hierarchical Filing System (HFS) on the

## OUR FIRST PASCAL LISTING . . .

Program Shell:

```
Program that defines an empty shell application. This program
incorporates the minimal code required to handle window and menu
manipulations. Desk accessories are also handled.
Copyright © 1986 by Steven Martin April 3, 1986
(Si Pascal2:PascalSystem:MemTypes.ipas )
(Si Pascal2:PascalSystem:QuickDraw.ipas )
(Si Pascal2:PascalSystem:OSIntf.ipas )
(Si Pascal2:PascalSystem:ToolIntf.ipas )

Const
  AppleMenu = 256;      (Desk Accessories)
  FileMenu  = 257;      (For the File Menu.)
Var
  { Global program stuff }
  Finished: Boolean;      (Used for program termination.)
  { Screen stuff }
  DragArea: Rect;        (Area where window can be dragged.)
  GrowArea: Rect;        (Area that window's size is allowed.)
  Screen: Rect;          (Screen area.)
  { Window stuff }
  myWindow: WindowPtr;   (Window pointer.)
  ----- End of Globals -----
Procedure InitThings;
{ This procedure initializes all of the necessary Toolbox Managers. }
Begin
  InitGraf(@ThePort);    (Initialize QuickDraw)

  MoreMasters;            (Extra pointer blocks at the bottom of heap.)
  MoreMasters;
  MoreMasters;
  MoreMasters;
  MoreMasters;
  { Initialize everything in case this is the Startup Application. }
  InitFont;
  InitWindows;
  InitMenus;
  TEInit;
  InitDialogs(Nil);

  Finished := False;      (Program terminator set to false.)
  FlushEvents(EveryEvent,0); (Clear all previous events.)
End; { InitThings }

----- The Setups -----
Procedure SetUpWindows;
{ Creates our applications window. }
Var
  WRect: Rect;           (Rectangle holds size of our window)
  TypeOfW: Integer;      (Type of Window we will be using)
  Visible: Boolean;       (Set true if we want our window to be visible)
  GoAway: Boolean;       (Set true if we want a GoAway (close) box)
  RefVal: LongInt;       (Reference number returned by Window Manager)
```

Begin

```
{ Create this window with NewWindow. Could use Resources and GetWindow. }
SetRect(WRect,4,38,496,335);
TypeOfW := 0;              (Regular document window.)
Visible := True;           (Will appear immediately.)

GoAway := True;           (Give it a Close box.)

myWindow := NewWindow(Nil, (Let Window Manager allocate it.)
  WRect, (Defines window size.)
  'Untitled', (Window title.)
  Visible, (Will be visible at start.)
  TypeOfW, (Behind everyone else.)
  Nil, (32-bit value that can be used by App.)
  RefVal);

End; { SetUpWindows }
-----
Procedure SetUpMenus;
{ Set up the Menu Bar, and add the desk accessories. }
Var
  MenuTopic: MenuHandle;
  Apple: Str255;
Begin
  Apple[0] := chr(1);
  Apple[1] := chr(20);
  MenuTopic := NewMenu(AppleMenu,Apple); (Chr(20) = Chicago Font Apple)
  AppendMenu(MenuTopic,'DRVA'); (Put an Apple on the Menu Bar)
  InsertMenu(MenuTopic,0); (Adds it to Menu Manager list.)

  MenuTopic := NewMenu(FileMenu, 'File'); (So we can quit!)
  AppendMenu(MenuTopic,'Quit/Q'); (Has a keyboard equivalent.)
  InsertMenu(MenuTopic,0);

  DrawMenuBar; (There it is.)
End; { SetUpMenus }
-----
Procedure SetUpLimits;
{ Set the Rectangle Screen to the size of the entire Macintosh screen.
Set DragArea to allow the window to be dragged without moving it off
the screen. Set GrowArea to define the maximum allowable size the
window will be allowed to have. }
Begin
  Screen := ScreenBits.Bounds; (Size of the screen.)
  SetRect(DragArea,Screen.left+4,Screen.top+24,Screen.right-4,Screen.bottom-4);
  SetRect(GrowArea,Screen.left,Screen.top+24,Screen.right,Screen.bottom);
End; { SetUpLimits }
-----
```



Macintosh and Macintosh Plus we must specify a pathname for the compiler to find where the Include files are located. This is done by including the disk volume name and the folders which contain the needed files, each separated by a colon. Thus, if the MemTypes.ipas file were on a disk called Pascal2 and in a folder called PascalSystem, then the proper directive would be:

```
{SiPascal2:PascalSystem:
Memtypes.ipas}
```

## THE SHELL

Knowing which Toolbox routines need what parameters can be difficult. Here, we'll explain the important procedures as we encounter them, and explain how they're used. To do this we will examine what is known as a "Shell" program. This program is extremely simple and will only allow us to open a window, create our own menus and use desk accessories. It won't do anything else, but it will provide a place to learn how the Macintosh ROM routines are used. Later, we'll see how to add procedures to the Shell program in order to create our own application. Listing 1 gives the full source code for the Shell program.

Looking at the Main program body, we see that it consists of only four procedures. While this could be considerably more complex, these four blocks are all we need. We also notice that there are only about a half dozen globally declared constants and variables. Each will be examined as we run into them in the program. Here's a brief explanation of each section of the program.

The InitThings procedure handles the initialization of the Macintosh Toolbox routines. Each of the Toolbox managers the program will use must be initialized before it can be called from the program. In some cases we could assume that these routines have already been initialized by another application (like the *Finder*), but it could turn out that our program is the Startup program. So we must always call these Init routines at the beginning. InitGraf is a routine that initializes QuickDraw. There is a global variable called ThePort already declared in the QuickDraw.ipas file. This variable must be passed to InitGraf to set up the proper location for the QuickDraw variables.

The MoreMasters routine creates a block of master pointers (handles)

in the Macintosh's heap so that dynamic memory management can be done. Calling this procedure five times should create enough master pointers for most applications, although five is not the limit.

Next, we have the various calls to initialize the Toolbox routines. (We'll do all of them even if we won't need them all.) The parameter passed to InitDialogs is a ProcPtr which points to a set of routines that will be used by the system if there is an error. Passing a Nil to this routine tells the system to use the standard bomb dialog boxes we have all come to know and love.

After the Inits we set our own global variable Finished to False. This boolean will tell us whether or not QUIT has been selected from the File menu.

Finally, we call the FlushEvents routine which clears the Event Managers queue of pending events. This clears up any tasks that may have been left unfinished by a previous program. We use the predefined constant EveryEvent to make sure we clear every event. After InitThings is finished the menu bar will be blank and the desktop will be

(continued on page 142)

## ... GOES ON ...

```

Procedure SetUpThings;
{ Calls each of the setup procedures }
Begin
    SetUpWindows;           { Do this one first to keep low on heap. }
    SetUpMenus;
    SetUpInits;

    InitCursor;             { Ready to go! }
End; { SetUpThings }

{----- The Main Loop -----}
Procedure ProcessMenu_in(CodeWord: LongInt);
Var
    Menu_No,
    Item_No,
    DNA: Integer;

    NameHolders: Str255;    { Name holder for DA or Font. }
Begin
    If CodeWord <> 0 then
    begin
        Menu_No := HiWord(CodeWord);
        Item_No := LoWord(CodeWord);

        Case Menu_No of
            AppleMenu: begin
                GetItem(GetHandle(AppleMenu), Item_No, NameHolders);
                DNA := OpenDeskAcc(NameHolders);
            end;
            FileMenu: begin
                Case Item_No of
                    1: Finished := True; { Quit }
                end; { Case Item_No }
            end; { Case Menu_No }
        end;

        HiliteMenu(0); { Turn off menu highlighting }
    end; { If }
End; { ProcessMenu_in }

{-----}
Procedure Update_Scroll_Bar_Areas(ofTheWindow: WindowPtr);
Var
    BarArea: Rect;
Begin
    { Right bar first. }
    BarArea := ofTheWindow^.portRect;
    BarArea.left := BarArea.right - 16; { Just the Scroll bar area. }
    InvalRect(BarArea);
    BarArea := ofTheWindow^.portRect; { Now the bottom bar. }
    BarArea.top := BarArea.bottom - 16;
    InvalRect(BarArea);
End; { Update_Scroll_Bar_Areas }

{-----}
Procedure ResizeWindow(theWindow: WindowPtr; MouseLoc: Point);
Var
    NewSize: LongInt;
    Width,
    Height: Integer;
Begin
    NewSize := GrowWindow(theWindow,
        MouseLoc,
        GrowArea);

    If NewSize <> 0 then
    begin
        Height := HiWord(NewSize);
        Width := LoWord(NewSize);

        Update_Scroll_Bar_Area(theWindow); { Erase where Scroll Bars were. }

        If Height < 16 then Height := 16;
        If Width < 16 then Width := 16;

        SizeWindow(theWindow,
            Width,
            Height,
            True); { Causes update flag to be set. }

        Update_Scroll_Bar_Area(theWindow);
    end; { If }
End; { ResizeWindow }

{-----}
Procedure DealWithMouseDown(Event: EventRecord);
Var
    Location: Integer;
    WindowPointedTo: WindowPtr;
    MouseLoc: Point;
    WindowLoc: Integer;
Begin
    MouseLoc := Event.Where;
    WindowLoc := FindWindow(MouseLoc, WindowPointedTo);
    Case WindowLoc of
        inMenuBar: ProcessMenu_in(MenuSelect(MouseLoc));
        inSysWindow: SystemClick(Event, WindowPointedTo);
        inContent: If WindowPointedTo <> FrontWindow then
            SelectWindow(WindowPointedTo)
        else
            begin
                { Do something. }
            end;
        inGrow: If WindowPointedTo <> FrontWindow then
            SelectWindow(WindowPointedTo)
        else
            ResizeWindow(WindowPointedTo, MouseLoc);
    end;
End;

```



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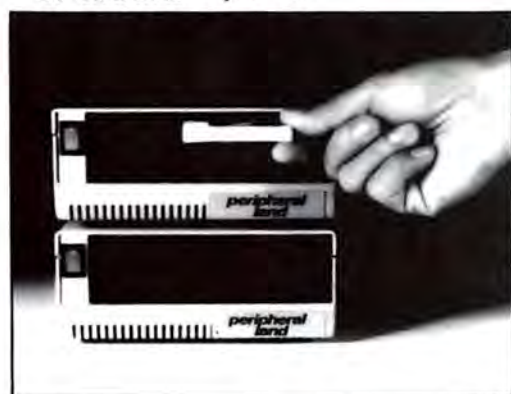
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# TIP SHEET


Monthly tips and techniques that save time and trouble.

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## MACWRITE


 When attempting to paste a *MacDraw* graphic into a large *MacWrite* document, you usually get a message informing you that the Clipboard is too large to transfer. To make matters worse, the Paste command fails. To get around this, first Paste to a new, empty *MacWrite* document, then Cut and Paste into the desired document.

LARRY D. YORK, LEWISVILLE, TX


 When printing *MacWrite* 4.5 documents, the program often takes a very long time to scroll the page out of the printer after it has finished the last page. The delay's length is in direct proportion to how much scrolling has to be done. Avoid this time-waster by choosing the on-screen Cancel box as soon as the last line of output has completely finished printing. This causes the printer to take over and scroll the page out, while *MacWrite* regains immediate control.

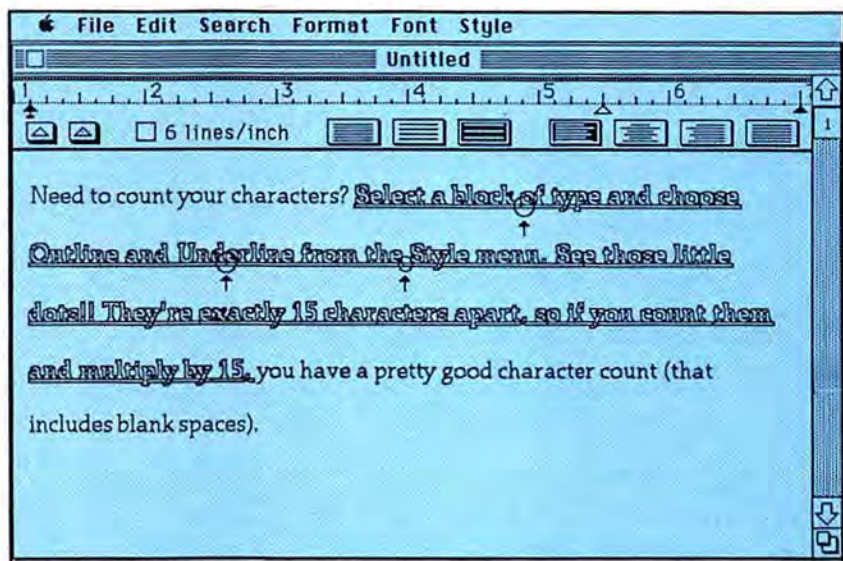
MARTY CZACHOR, JR., SPRINGFIELD, PA


## FINDER

 If you have booted up on one disk's *Finder* and you want to use another disk as the startup disk, run the other disk's *Finder* like an application by double-clicking on it while holding down the Option and Command keys.

DAVID CHANG, HOUSTON, TX

 Here is a quick way to organize icons alphabetically using *Finder* 4.1. Begin by opening the disk or folder to be alphabetized. Then select BY NAME from the View menu. Choose SELECT ALL from the Edit menu and drag all of the files (grab them by the mini-icons located to the left of the file names) out onto the desktop. They will show up there as normal icons piled on top of each other. Now select BY ICON for the original folder or disk, and drag the icons back onto the disk or folder's grayed icon. The files will be arranged




 Need to count the number of characters in a line, series of lines, or document in *MacWrite* 4.5? Select the line or lines and choose underline and outline from the Style menu. If you look closely at the on-screen underscoring, you'll notice that at each 15 characters

alphabetically (from left to right, top to bottom).


CHARLES DUNN, ITHACA, NY

## MACINTOSH PASCAL

 If your Macintosh pascal program is very large, or it's just a memory hog, avoid "out of memory" problems by using the "hideall" command to hide all the windows. Then show them only as called for and necessary during execution. An open program window can consume over 20 percent of the available memory in a 512K Mac!

CLIFF MORRISON, SALT LAKE CITY, UT

## FILE

 Here's a simple method for speeding up data entry into *File*. Rather than leaving the database window open


(including spaces), there's a small dot inside the double underscore lines. Count the dots, multiply by 15, and add the number of characters to the right of the last dot. The dots don't appear in the line when printed.

PAUL BALYOZ, FLAGSTAFF, AZ

to the screen size (default setting), close it up as far as it will allow; this shows two lines only. Since *File* redraws the screen after completing an entry (hit the Enter key to go to the first field of the next entry), keeping the window small requires less to be redrawn, speeding things up considerably.

JERRY CHAPMAN, INDIANAPOLIS, IN

## DISKS

 If you change labels on your disks fairly frequently, you'll often see a build-up of the sticky residue left over from the old labels. The easiest way to remove it is by dabbing it with a little rubber cement thinner on a Q-tip. This cleans the disk without damaging its plastic casing. Just be very careful not to get any thinner in any of the openings as that could destroy the disk.


STEPHANIE FERM, JAMAICA ESTATES, NY

Compiled by David Biedny and Steven Bobker




# TIP SHEET

## MACPAINT

 There are a number of keyboard shortcuts that can be used to change the font of text that's just been entered.


COMMAND-SHIFT-PERIOD changes the entire block of text to the next lower font shown in the Font menu, and COMMAND-SHIFT-COMMA changes it to the font directly above the one currently checked in the listing.

SHARON SCHWARTZ, WESTPORT, CT


 *MacPaint* doesn't allow users to specify how many copies of a document to print. It's one at a time. To work around this, duplicate the document in the *Finder* with the DUPLICATE command from the File menu, one copy for each print. Hold down the Shift key while selecting the documents (or drag a group selection), and then choose PRINT from the File menu. *MacPaint* will print out each file, resulting in multiple copies of the original file.

SETH BRENNER, HARTFORD, CT

## FONT/DA MOVER


 While in the *Font/DA Mover* main screen, holding down the Option key as you select a desk accessory file will display the size of the file's data and resource forks in the lower left hand corner, as well as indicate whether or not the desk accessory has PICT resources (bit-mapped graphics).

JOHN EVANS, PROVO, UT

 Hold down the Option key when closing a list of fonts or DAs, and the disk they're on will eject itself. Hold down the Option key when quitting, and all disks will be ejected.


NICK KARP, NEW YORK, NY

## MACDRAW

 If you're having trouble laserprinting small white type in a *MacDraw* document, first type the text in Outline style, fill in the background, stretch the document to double its size (both horizontally and vertically), and then specify 50 percent reduction in the Page Setup dialog. That should solve the problem.

ROBERT MCDOWELL, NEW YORK, NY


## SYSTEM

 Not sure of what version of the *System* file you're using? Apple's *Resource Editor* can tell you. In *ResEdit*, double-click the *System* file, and scroll through the window until you find the resource type "STR." Open it, and you'll

find a number of STR resource files. Locate the STR with ID = 0, open that (by double-clicking on it), and you'll see the version number and date that that *System* was created.


LAWSON G. STONE, NEW HAVEN, CT


## EXCEL


 Need to use *Excel* on a single 400K-drive 512K Mac? *Excel* doesn't require the full 512K of RAM, and a 215K RAMdisk that contains the *System*, *Finder*, and *ImageWriter* files can


## SPECIAL FROM APPLE


Apple's Chris Espinosa gave *MacUser* a large group of hints and bug reports that his group at Apple had compiled. Most apply to the most recent *Systems* software and a lot are arcane and esoteric, but a lot are useful. Here are the highlights.


 When using the new *ImageWriter* driver (version 2.2), picture quality is darker for faster quality than for Best quality. This is a feature, not a bug.


 Desk accessories with a DRVR ID = 0 are not copied by the *Font/DA Mover* (version 3.1).

 The Times, Helvetica and Courier fonts have been altered slightly to improve spacing on the LaserWriter, when used from a Mac Plus. This may affect text spacing in existing documents. There is no workaround and no fix.

 In any of the 5.x series *Finders*, dragging a file out of the Trash onto a different volume removes the file, permanently, from both the Trash can and the destination volume. Remember, that in HFS, each folder is a separate volume. Therefore, be sure to put things back into their original folders if you remove them from the Trash.

 If you're using *Finder* 5.1 or 5.2, duplicating a file in the Trash (*Why would anyone want to do that?* — Ed.) can cause a system crash.


 The 2.2 version of the *ImageWriter* driver sometimes forgets how to recognize an *ImageWriter* II, and assumes it has different paper handling routines than it actually does and no color. This will be fixed in the next driver version.

 When the *LaserWriter* driver (version 3.0) encounters a change in style, and then a change back, in a

be created. *Excel* works fine with the remaining memory. Some disk shuffling will arise when work files are saved to a data disk.


JOEL S. PESKOFF, FOREST HILLS, NY


## WORD


 When using *Word* and the *Finder* in *Switcher*, don't delete any *Word* documents that are being worked on in that session. Wait until after quitting *Switcher* to delete in the *Finder*.


PAUL FRIEDMAN, SARASOTA, FL


downloaded font (or in a Macintosh bit-map font), it re-downloads the original style. This fills up the LaserWriter's virtual memory very quickly, and the LaserWriter resets in the middle of the print job.

 The LaserWriter Plus can lose track of the Apple to Adobe character mapping on the new fonts, causing some optional characters not to print and others to print incorrectly. This doesn't always happen. The solution is to power the LaserWriter off and then on.

 Version 3.0 of the *LaserWriter* driver can release the System font (Chicago 12) on a Mac Plus behind the back of the Font Manager. The next time the System font is needed, a crash occurs. This is rather rare.

 Sometimes the mouse will lock when starting *Font/DA Mover* version 3.1 or *Installer* version 2.1. The solution is to reset and try again.

 During a Shut Down, both *Finders* 5.1 and 5.2 fail to close desk accessories and don't send a GoodBye-Kiss. This will cause accessories with open files to have serious problems. When using these *Finders*, be sure to close all DAs before shutting down.

 Screen dumps (FKEY-3 or COMMAND-SHIFT-3) behave differently with the new ROMs. They are queued, rather than executed immediately. This means that pending actions (such as releasing the mouse button) take place before the FKEY action (such as taking the screen dump). And that means you will no longer be able to screen dump showing menus pulled down. A possible solution is to use the public domain Camera desk accessory, which waits for a specified time interval and then takes a screen shot. This queuing applies to all FKEYs (0 to 9).



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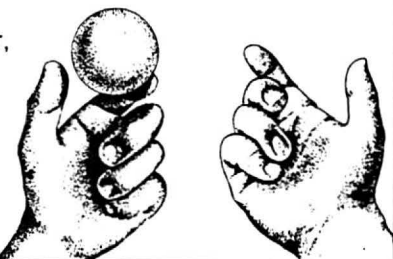
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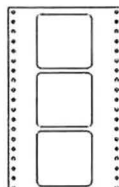
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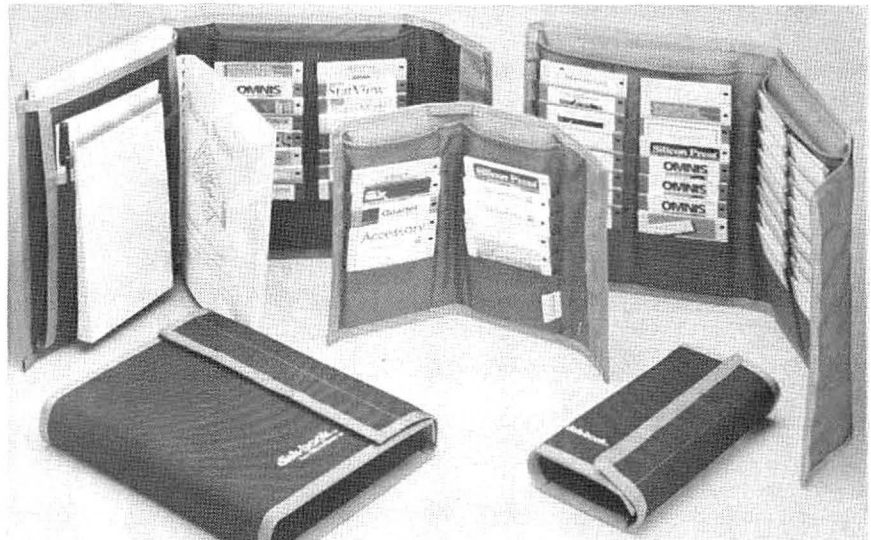
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by Dan Cochran

## ANSWERS FROM THE MAC TEAM

*Got a Mac problem? Something that you'd like explained? Something you can't find the answer for anywhere else? Apple's Dan Cochran will answer your questions every month in this space. When the questions are too tough for him, he'll get the answers from other members of the Mac team. So ask what you need to know and get your answers straight from the source!*

Send your questions to Dan care of **MacUser**, 25 West 39th Street, New York, NY 10018. Dan will read all of your questions, but, unfortunately, he may not be able to answer individual queries. Watch this space for the pick of each month's Q & A crop.

I recently purchased a Mac Plus and the dealer tells me I need to buy a fan for the machine. Something about the heat caused by the additional memory. Is a fan really necessary for the Mac Plus and if so why hasn't Apple built one into the machine?

MIKE HENNINGER  
KANSAS CITY, MO

I had an after-market 512K upgrade done on my 128K Macintosh and noticed an unusual increase in the amounts of bombs and error messages. After reading many conflicting reports on power supply overheating, I installed a fan box which sucks air out of the vent in the carry handle. It looks ugly, but the bombs and error messages have virtually disappeared. However, I'm concerned about the effects of forcing air into the machine. If air gets forced in, so does dust and other possible contaminants. Is this something to worry about?

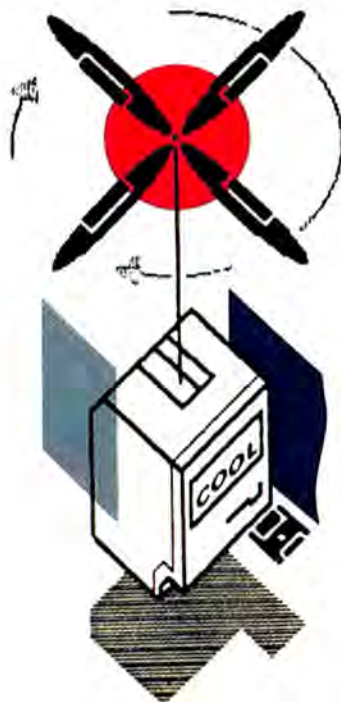
JAMES COBB  
NORFOLK, VA

*I've received a number of questions relating to fans and whether or not they are actually needed. All of the Macintosh products we have shipped to date, including the*

128K, 512K and Macintosh Plus are well within the guidelines we've established for proper convection cooling. These guidelines specify that the internal temperature of the boards shouldn't be more than 15 degrees Celsius higher than the outside temperature (ambient room temperature). The temperature is measured by a special probe placed 1/4 inch from the circuit boards. In a conventional operating atmosphere a fan is not required for any of our Macintosh CPU products as they are shipped.

Certain aftermarket upgrades, most noticeably the HyperDrive, significantly raise the internal temperature of the machine and therefore fans are appropriate and even required. With so many after-market RAM upgrades on the market I can't provide a list of those that conform to our guidelines. With respect to the Mac Plus, it's true that there are 16 more RAM chips on the motherboard than there are in the 512K machine. However, the use of seven new CMOS components has held the power consumption and heat level to the same level as the 512K machine.

Forcing air into the Macintosh in a dusty, smoky environment is certainly something to be concerned about. If you operate your machine in such an environment I'd forgo a fan and try to cool the local environment as much as possible. In cases like this, heat is usually the lesser of the two evils. Thanks to Ed Colby, Didier Diaz and Rod Archer (Manager for Environment Lab Services) for this information.



Using the Resource Editor, how can I change the design of icons? I'm able to edit the Icons and save them but when I return to the desktop the icons I've changed looked the same.

NELSON HAUKAP  
AMES, IA

I recently made a program that I wanted to make more professional looking by using a neat icon. Is there any way possible using either Macintosh Pascal or Microsoft BASIC to make my own custom icons?

TERRY BIRD  
NEW YORK, NY

Rather than rehash the Icon Story again I'm going to tell you where to find the definitive information on Icon creation, editing and bundling. First, get hold of a copy of the Premiere and November 1985 issues of **MacUser**. Bill Steinberg's two-part article, entitled "The Gourmet's Icon Cookbook," tells all. Second, get a hold of the **ResEdit** program and documentation that comes with the May 1985 Software Supplement. Third, take a look at Macintosh Technical Note #48 on Bundles. Macintosh Technical Notes are produced by Macintosh Technical Support and are available at \$25 for a subscription covering all notes produced in a year. Tech Notes are also available on many electronic services and bulletin boards. In particular, they will be found in Data Library 8 of the Macintosh Developer's SIG on CompuServe (it's open to all, not just developers). If you want your own copy sent directly from Apple, get a subscription by writing to:

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The May 1985 Software Supplement is also available from the same address for \$75.00.

I just got my Mac Plus today and I love it, but there's something that's bothering me. I've been using a Mac for quite a while now at work, so I'm very used to it and the settings I use on the Control



Panel. Although the new control panel is much clearer, there is no way to set the number of times a menu item blinks when you select it. It's really driving me crazy to watch everything blink three times. Is there any way of turning this "feature" off?

STEVE NICHOLSON  
SOUTH SAN FRANCISCO, CA

*Yes. For space reasons the menu select blink control was removed from the new Control Panel desk accessory that ships with the new Mac Plus system (versions 3.0 and higher). Control panel settings need to be preserved when the Macintosh is turned off so that they will be present the next time you turn your machine on. This information is kept in 20 bytes of parameter RAM stored in the clock chip along with the current time and date setting. The clock chip is powered by the battery in the back of your Macintosh so the settings are preserved even when the power is turned off.*

Even though you can't set the menu-blink control with the new Control Panel, the number of times the menu item will blink is stored in the global variable MenuFlash. The default value for this variable is 3. If you're a programmer you can write a routine to modify the value of this variable by calling the ToolBox procedure SetMenuFlash. If you're not into programming simply boot a disk with an old Control Panel and set the menu to blink according to your preferences. As long as your battery holds out and provided you don't again alter the settings you'll be in business.

My question deals with x-ray devices used to screen passenger carry-on baggage in airports. Does this process kill the information stored on disks if you send them through the machine?

KIM ALLAN MACNAB  
SASKATCHEWAN, CANADA

*Information is stored on diskettes magnetically. Theoretically, x-rays shouldn't affect them. I and others here at Apple don't believe a word of it. I have personally lost information on disks which I believe were caused by airport security devices, possibly the magnetized entryways that you walk through prior to plane boarding. For that matter, whether it's superstitious or not, I don't even like to put my Macintosh through these devices.*

Keep in mind also that the motorized bag movers, both for checked baggage and carry-on bags, have large motors, often right under the carrying surface. These motors have large magnetic parts and may do as much damage as x-ray machines.

*Have all your media inspected by hand.  
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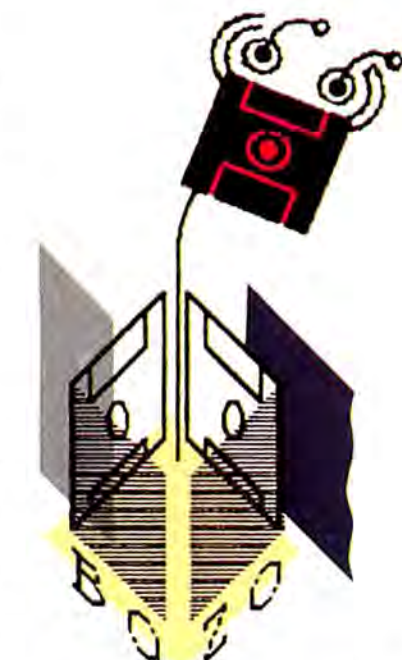
When using *ResEdit* and *Fedit*, I've noticed dialog boxes that allow you to check boxes labeled SYSTEM HEAP, PURGEABLE, LOCKED, PROTECTED, PRELOAD, INITED, CHANGED, BUSY, BOZO and BUNDLE. What do they all do or mean?

TIM THOMAS  
BELLINGHAM, WA

*They mean trouble if you don't know what you're doing. These boxes allow you to set and modify a group of bits we refer to as a file's Finder attributes. The Finder needs information about each file on the desktop and these bits specify such things as whether a file can be copied, whether a file is visible on the desktop, whether a file is in use, and whether a file has its own personal icon associated with it.*

While these attributes are primarily of interest to the programmer there are some valid reasons for users to know about them. Most of these Finder attributes are discussed in the File Manager chapter of *Inside Macintosh*. Indiscriminate modification of these bits can result in a lot of headaches and problems. Don't mess with them if you're not sure, but if you insist on experimenting make certain you're working with a back-up copy of the files in question.

This isn't so much a question as a comment on your answer to another question. In the April '86 issue of *MacUser*, on page 116, you stated that "...there is no way to force the old flat-file structure on a volume that's over 400K in size." This may be true if you are operating from within the new HFS structure. But if you bring up the Mac Plus with a 400K MFS boot disk you



can put in a blank disk, initialize it and you'll find you have an 800K MFS volume!

KENELM W. PHILIP  
FAIRBANKS, AK

*You're right! I stand corrected and thanks for passing this info on to our readers. We'd also like to thank the many other people who brought this to our attention.*

I have a new Mac Plus and a number of pieces of software for it, but the copying program I use only initializes the disks for 400K and I'd like all my work disks to have the full 800K available. Is there any way I can get around this and still manage to get the copy-protected programs onto an 800K volume?

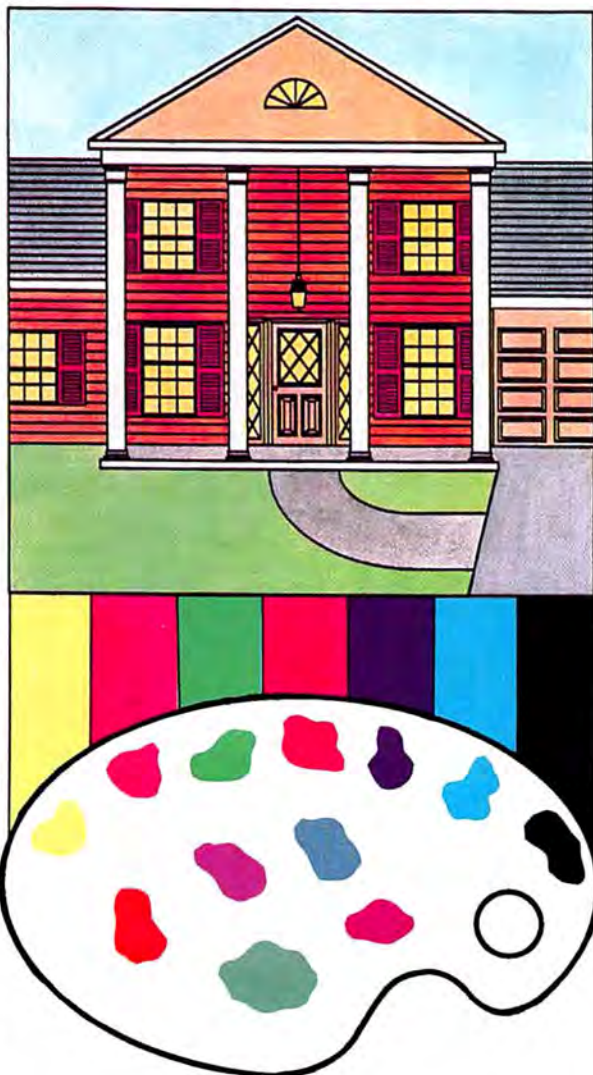
DENNIS HOWARD  
GLENDEVE, MT

*I assume that you're only interested in copying these programs for your own use and back-up. The current versions of most whole volume copy programs automatically initialize destination disks as 400K MFS volumes. (Remember that most of these programs were written before 800K volumes were possible.) If this is the case you're out of luck until a new version that supports 800K formatting comes out. Most copy program publishers are preparing new versions that will work both with HFS and 800K flat-file (MFS) volumes. Some should be available by the time you read this. Check with your program's publisher to see if yours is one of them.*





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# MINIFINDERS



Ever go into a computer store and wish you had someone you could trust tell you what the various programs and accessories do and how well they do it? These *MiniFinders* detail items chosen by the editors. Each one has been rated from 1 to 5 mice. **Red names indicate this month's additions.** Dates at the end of an entry indicate a major review. And, since so many of you have asked, we've included a code that indicates whether or not a program is copy protected. CP means copy protected, NCP means not copy protected and CP? means we don't know the status. If you do, write us at *MiniFinders*, c/o MacUser, 25 West 39th St., New York, NY 10018. Next time you have to find products you can count on, count on MacUser!

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## INTEGRATED SOFTWARE

**Crunch** is an icon-driven relational spreadsheet that features versatile charting and database capabilities. Strong financial logic, date and mathematical functions. Spreadsheets can be linked. The manual is clear and concisely written. Macros are not supported. \$195. Paladin, 2895 Zanker Rd., San Jose, CA 95134. CP (Jan 86)

**Ensemble** lets users create a database of words, pictures, and/or numbers; graph data; generate custom forms and link files for applications such as mail merge. Can perform calculations and math functions on data. Capacity limited by RAM and disk size. \$299.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

**Excel** is THE power spreadsheet. Of the Mac, of the world. Has 256-column by 16,384-row capability. Features include a powerful, easy to use macro function (with a recorder to make creation simple) and elaborate charting facilities. Can link multiple spreadsheets. 512K+ Mac and external drive required. \$395. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (Prem)

**Jazz** provides well integrated modules for word processing, graphs, worksheets, databases and communications. Each of the modules is substantial. HotView, where data placed in any module automatically updates all other documents that use that data, is best feature. Jazz provides adequate coverage of most data and communications needs of small businesses. Requires 512K+ and external drive. Version 1A requires 800K drive. \$595. Lotus, 55 Cambridge Parkway, Cambridge, MA 02142. CP (Prem)

**Quartet** is an integrated program that works on a 128K Mac, built around a powerful spreadsheet with a full range of functions. It can also be used as a database and provides good quality charts from spreadsheet data. Documentation is adequate, but not too well organized. \$199. Haba Systems, 15154 Stagg St., Van Nuys, CA 91405. CP

## BUSINESS ACCOUNTING

**Accountant's Choice** is a powerful system built around a relational database, with functions accessed through menus. Standard reports are provided but most can be customized. Multiple journals allowed. Number of accounts determined by disk space. General Ledger can stand alone or integrate with other modules, not yet available. Requires 512K+, printer and external drive. \$695. Sierra Information Systems, 10201 Torre Ave., Cupertino, CA 95014. CP (Dec 85)

**AMS General Ledger** is a Ledger with five preset journals: Cash Disbursements, Receipts, General, Sales, and Purchases. Other modules are planned. Account ranges are preset. Menus and data entry are very straightforward. Flexible summary reports are built in, but customer and vendor information is very minimal. \$295. Applied Micro Solutions, PO Box 860, Fort Collins, CO 80522. CP

**Gallery Finance** is a one-write system with General Ledger, Cash Disbursements, Payables and Receivables in a single package. Additional modules to be added. Data entered in a journal is automatically posted to appropriate record card. Requires 512K+, printer and external drive. \$795. Micromax Systems, 6868 Nancy Ridge Dr., San Diego, CA 92121. CP (Dec 85)

**Hardisk** is a complex integrated hard disk system (General Ledger, Receivables, Payables, Inventory, Payroll and Job Cost modules) that does not use Mac interface. Fully menu driven. Manual is detailed but complicated, with a few extra pages that make it Mac-specific. Flexible reporting, statements and account numbering; huge numbers of accounts, transactions, profit centers and detailed financial analysis. Requires hard disk and printer. \$695 per module. Great Plains, Box 9739, Fargo, ND 58109. CP? (Dec 85)

**MacOneWrite** Cash Disbursements is a simple, one-write check writing system. Limited functionality, but does allow some detailed information. Menus clear and easy to follow, but check printing can be confusing. Other modules planned. 512K+ and printer required. \$245. Sierra, PO Box 485, Coarsegold, CA 93614. CP (Dec 85)

**Palantir** is a simple, inexpensive accounting system for a 128K, one drive Macintosh. Manual is clear and concise; program uses icons for common operations; menus are clear and detailed, with most operations easy to find and use. Flexible report formatting and a customized chart of accounts. Program is written in *Microsoft BASIC* so it is very slow. Nice design but the speed is intolerable. Requires *Microsoft BASIC*, printer. \$145 per module. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Dec 85)

**Rags to Riches** integrated accounting modules (General Ledger and Accounts Receivable) uses Mac interface to the hilt. Information entered in one window automatically transfers. Menu commands all have command keystrokes, as can accounts. No detailed or flexible reporting. Very easy to use, although it can be confusing to operate with several windows on screen. Requires 512K+ and printer. \$295 per module. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. CP (Dec 85)

**Strictly Business** General Ledger features clear, well-outlined set-up procedures and operations. Very flexible, with a custom chart of accounts; user-defined journals; up to 99 profit centers per company with up to 100 departments each; and customized reports. Program print spools and allows printing of multiple documents. Requires 512K+, printer and external drive. \$395. Future Design, 13681 Williamette Dr., Westminster, CA 92683. CP? (Dec 85)





## PERSONAL FINANCE

**Dollars & Sense** is a bookkeeping program suitable for personal, home and small-business use. Easy to use, with a good manual and excellent on-screen help. Will handle up to 120 separate accounts or money categories. Uses standard double-entry accounting techniques. Reports can be generated and either viewed on-screen or printed. Has simple graphing and charting facilities. \$149.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP

**Electric Checkbook** does exactly what the name says: keeps a running account of checkbook transactions, balances checkbook to bank statements, tracks bills, and even prints out checks. Provides detailed financial statements, calculates net worth, lists expenses by category and tracks your personal cash flow. \$79.95. State of the Art, 3191-C Airport Loop, Costa Mesa, CA 92626. CP

**Financial Cookbook** provides nearly 3 dozen "recipes" to help users figure out financial formulas (i.e., mortgage costs at different percentage rates) by inputting pertinent data. Very user-friendly. \$44.95. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP

**Financial Utilities Pack** is a set of applications that allow users to figure annuities, compound and simple interest, depreciation and amortization. Simple and well documented. \$69. Cognitive Software, PO Box 26948, Austin, TX 78755. NCP

**Forecast** is a tax estimating and what-if program designed to work with and use *Dollars & Sense* files. Straightforward, easy to use program. \$69.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP

**The Home Accountant** is a complete and easy to use financial system. Data entry is intuitive. All kinds of reports, including charts and checks, are easily generated. Entered data will update all relevant material. \$150. Arrays, 11223 South Hindry Ave., Los Angeles, CA 90045. NCP (Apr 86)

**WillWriter** uses a rule-based system to create wills valid in all states except LA. Simple to use, comes with a complete book on wills. \$39.95. Legisoft/Nolo Press, 950 Parker St., Berkeley, CA 94710. NCP (Jan 86)

## DATABASES

**Business Filevision** is a masterpiece of Macintosh programming, the only true graphic database on any micro. Much more powerful than the original, accepts *MacPaint* graphics. \$395. Telos Software, 3420 Ocean Park Blvd, Santa Monica, CA 90405. CP (Feb 86)

**Factfinder** is a free-form information organizer (medium-duty database). Users enter data on to factsheets in any manner desired and select keywords. Searches are by name or keyword. Only one factsheet can be open at a time. Publisher offers free telephone support (800 number). \$149.95. Forethought, 1973 Landings Dr., Mountain View, CA 94943. NCP (Feb 86)

**File** is a flexible data manager. Creates files for a variety of data, including simple graphics. Files are created in simple row/column format, but reports and forms are easily customized by moving field names around on a blank form. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. CP

**FileMaker** is a nonrelational database that combines lots of power with ease of use. Data entry is extremely flexible and all items in all fields are indexed so that multiple criteria searches are both simple and fast. Calculation fields make the creation of invoices and similar documents a snap. Reports can include graphics and multiple data layouts are easy to construct. \$195. Forethought, 1973 Landings Dr., Mountain View, CA 94943. NCP

**Filevision** is a simple database that can change the way you think about data and data organization. Records are based around user created graphics screens. Screens and records can be linked in complex ways. \$195. Telos Software, 3420 Ocean Park Boulevard, Santa Monica, CA 90405. CP

**1stBase** is a small, easy-to-use database that allows users to join or append files. It is the simplest, most accessible relational database available for the Mac. Supports calculated fields, including statistical summaries such as averages. Integrates with *1stMerge* and *1stPort*. \$195. DeskTop Software, 244 Wall St., Princeton, NJ 08540. CP

**Hellix** is a relational database that makes extensive use of icons. Excels in database setup and forms generation. Setup is made easy by the adherence to the Mac interface. The manual is clear, thorough and well-indexed. Too complicated for most simple database applications, excellent where a relational database application is required. Requires a 512K+ Mac and external drive. \$395. Odesta, 4084 Commercial Blvd., Northbrook, IL 60062. NCP (Mar 86)

**The Housekeeper** is a home inventory database. Users can keep track of assets for both tax and casualty purposes. Specialized reports are easily generated. \$59.95. Aegis Development, 2210 Wilshire Blvd., Santa Monica, CA 90403. NCP (Dec 85)

**I Know It's Here Somewhere** stores information in a simple filing system. Ideal for general household or small business use. Can cross reference up to five files at a time; perform simple, wild card, or multiple key searches, and print selected items or whole files. \$59.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

**Interlace** is a flexible relational database that makes it simple to create single or multiple files and establish links between files. Excellent report generator gives full control over appearance, style of output. Requires 512K+, second drive or hard disk highly recommended. \$129 retail, \$95 direct. Singular Software, 5888 Castano Dr., San Jose, CA 95129. CP (Apr 86)

**MacBase** is a forms-oriented relational database. Unfortunately, precise forms are hard to create. Allows calculated fields and has quick and powerful search capabilities. Best when much data is to be looked up, but not frequently entered. Requires 512K+. \$195. Eqtron Corp., 330 Bay St., Toronto, Ont M5H 2S8, Canada. NCP (Jul 86)

**MegaFiler** is a simple file manager. Its limited capabilities have been far surpassed by cheaper and easier to use programs. Valuable only in conjunction with *MegaForm*. \$195. MegaHaus, 5703 Oberlin Dr., San Diego, CA 92121. CP

**Omnis 3** is a power database, featuring concurrent multiple file management. Can handle 24 files, 12 at a time, and is fully relational. Allows user to create custom environments including user-defined menus, commands and dialogs. Good report generation capability. Comes in single and multiple user versions. \$495 (single user version). Blyth, 2655 Campus Drive, San Mateo, CA 94403. CP (Mar 86)

**OverVUE** is a power-packed relational database that has extensive sorting, summarizing and report generation capacity. Has macros and a charting function. Good manual. The program tries to anticipate every need conceivable in manipulating data. It can exchange files with a very wide variety of other programs (including IBM software). \$295. ProVUE, 222 2nd St., Huntington Beach, CA 92648. NCP (Nov 85)

**Professional Bibliographic System** is a database designed for storing and retrieving bibliographies. Predesigned forms for 20 types of entries. Citations automatically formatted with correct punctuation for printing. \$295. Personal Bibliographic Software, PO Box 4250, Ann Arbor, MI 48106. CP (Feb 86)

**Record Holder** is a flexible, easy-to-use form-oriented data manager. Set up is particularly simple and the search features are powerful. \$49.95. Software Discoveries, 99 Crestwood Rd., Tolland, CT 06084. NCP (Apr 86)

## NUMBER CRUNCHING

**ClickOn Worksheet** is a 50-row by 20-column spreadsheet that loads onto any system disk as a desk accessory. Though small in size, it has remarkable capabilities for a desk accessory. It produces line, bar and pie charts and changes





# MINIFINDERS



in the worksheet automatically reflect in charts. \$79.95. T/Maker Company, 2115 Landings Dr., Mountain View, CA 94043. NCP

**Multiplan**, the first Mac product from someone other than Apple is beginning to show age. Still a very capable basic spreadsheet with simple sorting, 63 columns by 255 rows, many built-in functions, other standard spreadsheet features. \$199.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (Mar 86)

**ProAnalysis** is a powerful real estate investment analysis program. This program uses the Mac interface as well as any program yet published. Analytic power is combined with report generating so good you have to see it produce an extraordinary product. Requires 512K+. \$295. Technalysis Services, 14555 DeBell Rd., Los Altos Hills, CA 94022. CP

**StatView** is a high-powered statistical calculation package. Easily and efficiently handles all the common statistical techniques and many uncommon tests. Has a user-definable area as well. Easy to use and well documented. \$199.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (May 86)

**StatWorks** is a general-purpose statistics package that is both powerful and easy to use. Handles all standard tests and procedures. Single variable and multivariate statistics are supported. \$125. Cricket Software, 3508 Market St., Philadelphia, PA 19104. NCP (May 86)

## GRAPHICS & DESIGN

**Animation Toolkit I** lets users prepare "film clips" of moving objects which play back at varying speed, like old-fashioned flip books. Drawings are built pixel by pixel in frames, using some of the tools from *MacPaint*. They can be copied and altered easily from frame to frame. Each film clip plays repetitiously as it is being constructed. A limited animation tool, but a lot of fun. \$49.95. Ann Arbor Softworks, 308 1/2 S. State St., Ann Arbor, MI 48104. CP

**Art Grabber with Body Shop** is a desk accessory that lets users browse *MacPaint* documents, selecting and copying as they choose. Selections can be larger than screen size. Also included are *MacPaint* documents and templates to allow the creation of people in your art. \$49.95. Hayden, 600 Suffolk St., Lowell, MA 01853. NCP

**Chart** is the standard to be matched in presentation graphics programs. Users can easily create area, bar, column, line, pie, scatter and combination charts. A total of 42 styles are provided. Limited to 100 data items (64 in a series) on a 128K, approximately twice that on a 512K. \$125. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. CP

**ClickArt Special Effects** is a *MacPaint* enhancement desk accessory. Allows the user to distort, stretch, rotate and use perspective on *MacPaint* documents. A necessary addition for all serious users of *MacPaint*. \$49.95. T/Maker, 2115 Landings Dr., Mountain View, CA 94043. NCP (Apr 86)

**ColorPrint** facilitates color printing on the standard ImageWriter. *MacPaint* files set up as overlays are read into *ColorPrint*, and the program controls proper positioning registration and colored ribbon switching. Good results require lots of hard work, but it's cheaper than an ImageWriter II. \$49.95. Esoft Enterprises, PO Box 179, Owasso, OK 74055. NCP (Mar 86)

**Cricket Graph** easily generates 12 graph types. Multiple windows can be displayed. *Graph* prints in up to 8 colors with up to 16 patterns. Self-generating macro formatting. *Switcher*, HFS, LaserWriter and plotter compatible. \$195. Cricket Software, 3508 Market St., Philadelphia, PA 19104. NCP (Jun 86)

**DaVinci Building Blocks** features predrawn blocks of brownstone, garden, and skyscraper portions that can be cut and pasted together to form landscape and architectural drawings. Fun for even non-pro's. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01853. NCP

**Easy3D** is a three-dimensional, solid modeling masterpiece. Four variable light sources, powerful sculpting tools and an

exquisite user interface make this program a must-have for Mac graphics enthusiasts. Requires a 512K+ Mac. Enabling Technologies, Inc., 600 South Dearborn, Chicago, IL 60605. NCP (May 86)

**Fluent Fonts** is a two-disk collection of fonts. Forty-nine different items are included. All install easily in user Systems. Most are well executed and some are extraordinarily nice. This is a real bargain for font lovers. \$49.95. Casady, PO Box 223779, Carmel, CA 93922. NCP

**Fontastic** is the best font editor now available for the Mac. Features a large editing window with a grid to make positioning easy. Select letters to edit by clicking on a matrix of the font. Allows scaling of existing fonts and previewing the various styles (italic, bold, etc.). \$49.95. Altsys, PO Box 865410, Plano, TX 75086. NCP (Dec 85)

**Fontographer** is a complex but excellent laser font creator. The fonts created have 300 bits per inch resolution. The fonts are actually downloadable PostScript files. \$395. Altsys Corp., PO Box 865410, Plano, TX 75086. CP

**FullPaint** is an expanded version of *MacPaint*. Features include full-screen drawing, multiple documents open simultaneously, brush editing, movable tool palettes, special text effects and much more. It fills the gaps left by *MacPaint*. \$99.95. Ann Arbor Softworks, 308 1/2 State St., Ann Arbor, MI 48104. CP (Jun 86)

**Home Design** is a home planning tool that includes three disks full of *MacPaint* files of household items needed to design a home. *Art Grabber Installer* is included for easy maneuvering of items. The professional home designer, as well as the amateur, will feel at ease using this program. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01854. NCP (Jun 86)

**Human Forms** allows users to create perfectly proportioned humans in any posture or position. Contains over 1000 separate body parts. Tiny X's mark make limb, head and detail placement perfect. Requires *MacPaint*. \$59.95. Bert Monroy, 205 Luquer St., Brooklyn, NY 11231. NCP

**Icon Switcher** changes icons for applications and the documents they generate, permitting you to customize icons for personal work. New icons can be built pixel by pixel in the program or created in *MacPaint* and pasted in. \$19.95. PBI Software, 1155B-H Chess Drive, Foster City, CA 94404. NCP

**The Mac Art Dept.** is a collection of over 150 graphic images ranging from foods to hands holding signs to borders. Best suited for letterheads, memos, other business use. \$39.95. Simon & Schuster, Computer Software Div., 1230 Ave. of the Americas, New York, NY 10020. NCP (Mar 86)

**Mac-a-Mug** is an Identikit type program for creating faces from facial feature files. Uses scroll bars that are slow and jerky. Lots of creative fun. 512K+ Mac required. \$59.95. Shaherazam, PO Box 27731, Milwaukee, WI 53226. CP (May 86)

**Mac the Knife/Vol. 1: Treasury** contains over 500 pieces of clip art in the form of *MacPaint* documents and two new fonts. The art is well organized and mostly high quality. The rulers, for on-screen measurement, and the disk label templates are particularly useful. If you only plan on getting one clip art disk, this would be a good choice. \$39. Miles Computing, 21018 Osborne Street, Canoga Park, CA 91304. NCP

**Mac the Knife/Vol. 2: Fonts** contains over two dozen new fonts. Some of these (Paris and Stuttgart, for example are real stunners). If you do a lot of word processing try Paris 9 point (it's a big 9 point) as your text face and use High quality printing. Some fonts have single key fractions (1/2, 3/4). \$49. Miles Computing, 21018 Osborne Street, Canoga Park, CA 91304. NCP

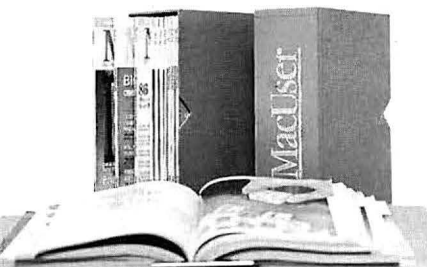
**Mac The Ripper** is a two-disk set of highly stylized graphics and large display typefaces. Both are extremely well done, and represent the high-end of the clip-art disk category. \$49.95. Miles Computing, 21018 Osborne Street, Canoga Park, CA 91304. NCP (May 86)

**MacDraft** is an object-oriented graphics program. It sports advanced features such as variable scaling, single degree rotation, complex arcs and a FatBits-like magnification



## For Future Reference

Keep your copies of **MacUser** in these specially designed binders or library file cases. Binder holds 12 issues. Box file holds 10-12 issues. Binder and box file are constructed of heavy bookbinder board with maroon leatherette cover. **MacUser's** logo is hot-stamped in gold. Very attractive!



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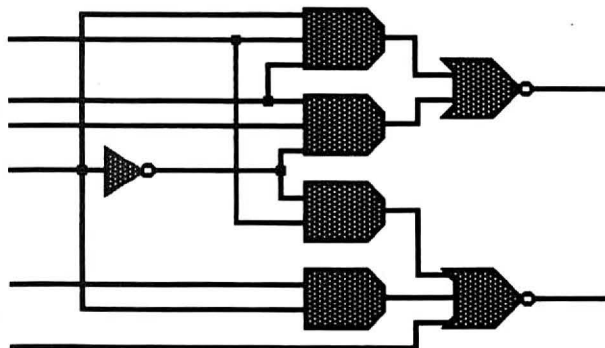
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# MINIFINDERS

mode. It has some annoying quirks and a few bugs, and is best used to complement MacDraw, not replace it. \$239. Innovative Data Design, 1975 Willow Pass Rd., Concord, CA 94520. CP (Feb 86)

**MacDraw** is an object-oriented structured graphics program. Can be used to design forms, create presentation materials and do technical illustrations. Drawing sizes up to 8 feet by 10 feet are possible. Text can be easily generated and integrated in the graphics. *MacPaint* documents can be pasted into *MacDraw*, but not manipulated. \$195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

**MacPaint** is the graphics program that started a whole new genre. Still the best freehand graphics tool. Version 1.5 supports 512K+ Macs and the LaserWriter. Multiple tools, patterns and features too numerous to describe. A work of art for artists. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Nov 85)

**MacPublisher** is a tool for creating newsletters. Allows multiple page issues. Layout is fairly easy but hard to do precisely. Runs on a 128K Mac but is slow; a 512K should be considered a requirement. Printer support, including LaserWriter, is good. Ideal for informal newsletters, not yet a professional tool. \$99.95. Boston Software Publishers, 19 Lodge Hill Rd., Boston, MA 02132. CP

**MacPublisher II** is the souped-up version of *MacPublisher*. Allows *MacWrite* and *Word* files to be imported and edited from within the program; saves each element separately; allows up to 96 pages in an issue (limited by memory); supports kerning, borders, cropping, telecommunications, command keys and a wide variety of printers; and it runs on 128K, single-drive Macs. \$195. Boston Software Publishers, 1260 Boylston St., Boston, MA 02215.

**Magic Slate** is a graphics and design program with built-in special effects and custom features. Fun but sometimes difficult to use. Great for pattern design, block and geometric graphics and watercolor-style "washes." Requires 512K+. \$99. Devionics, PO Box 2126, Covina, CA 91722. CP (Feb 86)

**M.U.D (MacroMind Utility Disk)** is a disk of various utilities for *MusicWorks* and *VideoWorks* owners. It also contains *CheapPaint* and *Art Grabber+*, two graphics desk accessories that are musts for graphics enthusiasts. Hayden, 600 Suffolk St., Lowell, MA 01854. NCP (Feb 86)

**PageMaker** is an advanced layout and makeup program. Can easily create multiple page documents. Output is optimized for LaserWriter. Good documentation. \$495. Aldus, 411 First Avenue South, Seattle, WA 98104. CP (Nov 85)

**PictureBase** is a program and accompanying desk accessory for organizing *MacPaint* and *MacDraw* elements and files. Graphics are organized into libraries, and can be searched for by keywords. A multitude of display options, and an advanced interface make this package indispensable for quick access to graphics files. \$69.95. Symmetry Corporation, 761 E. University, Mesa, AZ 85203. NCP

**PosterMaker** can enlarge *MacPaint* drawings by up to 3200 percent. Full-screen cut and copy are supported, so any portion of a *Paint* document can be selected and scaled. Borders can be added automatically. Includes some nice digitized graphics files. Easy to use and fun. \$39.95. Strider Software, Beecher Lake Rd., Pembine, WI 54156. NCP

**ReadySetGo** is a page makeup program for 512K+ Macs. Users build up pages from blocks of text, graphics and rules. Resizing and scaling of blocks are supported. Each block can be precisely positioned. Text and art may be pasted in from another source or created within the program. Good LaserWriter support. \$195. Manhattan Graphics, 163 Varick St., New York, NY 10013. NCP (Apr 86)

**Slide Show Magician 1.3** is useful for creating full screen audio-visual presentations on the Mac. Frame branching, improved editing capabilities, external cassette recorder synchronization and digitized sound capabilities make this much more powerful than the original. \$59.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Mar 86)

**Storyboarder** produces working animated storyboards for use in film and video production. Imports graphics files from *MacPaint*; allows screen masking to simulate television, 35mm or 70mm screen widths; allows limited animation and special effects. Storyboards can be printed in several formats. \$495. American Intellware, 330 Washington St., Marina Del Ray, CA 90292.

**VideoWorks** is a full-featured animation package. Professional quality animations are easily accomplished using the tools provided. Features frame-by-frame and real-time modes. Comes with an art disk of predrawn images and *Art Grabber* (which allows the user to use any part of a *MacPaint* document in *VideoWorks*). Includes many special video and sound effects, and on-disk examples. \$99.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (Nov 85)

## COMMUNICATIONS

**InTouch** comes with its own communications command language able to do unattended sessions. Supports Xmodem, MacBinary and Kermit. Has a macro key function. Many sample set up documents and command language files provided. \$145. Palantir, 12777 Jones Rd., Houston, TX 77070. CP (Prem)

**MacTerminal** provides basic telecommunications and terminal emulation for the Mac user. Doesn't have macros nor any sort of auto redial/auto logon capability. Best for those needing faithful VT100 or IBM 3278 emulation — it is superb at those. \$99. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Prem)

**Microphone** is a high-powered terminal program that's easy enough for novices. Very powerful command language allows full automation of communications, if desired. \$74.95. Software Ventures, 2907 Claremont Ave., Berkeley, CA 94705. NCP (Jul 86)

**Red Ryder** is a full-featured telecommunications program that supports MacBinary, Xmodem and Kermit. Remote service procedures, auto procedure writer and keyboard macros allow automation of many operations. It is shareware and a real bargain. \$40. The FreeSoft Corp., 10828 Lacklink, St. Louis, MO 63114. NCP (Jul 86)

**Smartcom II** balances power and ease of use. Capable of unattended operation and has a very powerful command language. Supports MacBinary, Xmodem, and Hayes Verification protocols. The large screen buffer can easily be archived both to the printer and to disk. \$149. Hayes, 5923 Peachtree Industrial Blvd., Norcross, GA 30092. NCP (Jul 86)

**Telescope** is the power telecommunicator's terminal program. Can be configured to emulate any terminal and has all the advanced features (except unattended operation). The documentation does not adequately explain the many features and much of the power will be unavailable to all but the pros (who can figure it out on their own). \$125. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Prem)

**VersaTerm** features include DEC VT100 and VT52, Tektronix 4014 graphics terminal and Data General DG200 emulation. Supports Xmodem and MacTerminal Xmodem protocols and MacBinary. *VersaTerm* is easy to use and well documented. \$99. Peripherals, Supplies & Computers, 2232 Perkiomen Ave., Mt. Penn, PA 19606. CP (Prem)

## WORD & OUTLINE PROCESSORS

**Document Compare** allows users to compare any two *MacWrite* 4.5 ASCII or MDS documents. Differences in spelling, punctuation, formatting and wording are detected. Differences appear highlighted and the documents can be printed out with differences highlighted. Not HFS compatible. \$99. The Model Office Company, Inc., The Gooderham Flatiron Building, 49 Wellington Street East, Toronto, Canada M5E 1C9. CP (May 86)

**EgWord** is a *MacWrite* lookalike that allows full Japanese kanji word processing on the Mac. Does a superlative job of



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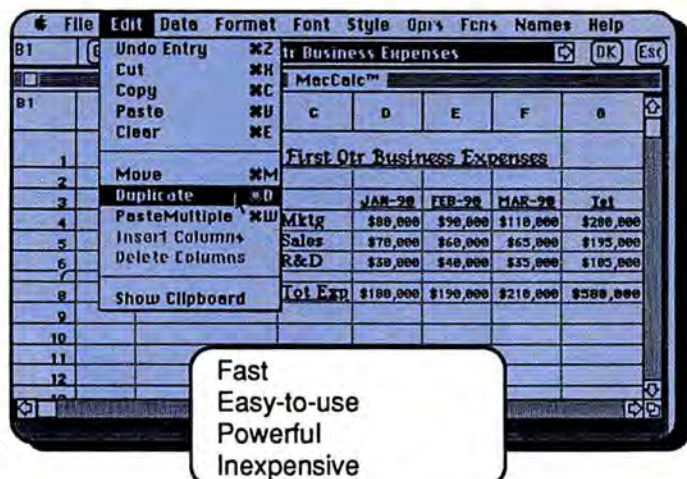
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# MINIFINDERS



making Japanese text-entry as easy as possible, given the difficulties of the language. Great for students of Japanese, may find a place in international business as well. \$300. Counterpoint Systems, PO Box 1685, Cambridge, MA 02138. CP (Apr 86)

**1stMerge** is a mail-merge program that integrates data files with documents after a blueprint for documents has been designed. Features on-screen help, and the ability to add and search records. Requires *MacWrite*. \$95. DeskTop Software, 244 Wall St., Princeton, NJ 08540. CP

**Hayden: Speller** checks spelling errors in *MacWrite* and *Word* documents against a dictionary of 20,000 common words and user-created dictionary. Reasonably fast and quite simple to use. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

**Just Text** is a professional level word processor and page makeup program that generates PostScript output. Comes with a set of LaserWriter utilities that allow total manipulation of art and text. Requires LaserWriter or other PostScript compatible output device. \$195. Knowledge Engineering, GPO Box 2139, New York, NY 10116. NCP (Dec 85)

**LaserFonts** are new fonts designed for the LaserWriter. Users download them to their machines. Very high quality and very simple to use. *Willamette* (in Medium, Light and Extra Light) looks like Avant Garde. *MicroFonts* provides tiny, expanded and condensed versions of the LaserWriter's own fonts. \$29.95 each. Century Software, 2306 Cotner Ave., Los Angeles, CA 90064. NCP

**Le Conjugueur** is a desk accessory that simplifies finding the right spelling for a French verb. Type a verb, select a person and a tense, and *Le Conjugueur* presents the correct form (and can even insert it for you). Good for casual French speakers or students. \$49.95. Editions Ad Lib, 220 Grande-allee, Quebec City, Quebec, Canada, G1R 2J1. NCP

**Liberty Spell Checker** is a fast, effective interactive checker. The dictionary is smaller than average, but well chosen. Unfortunately, it has a few misspelled words. \$59.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP

**MacIndexer** is a good writer's utility that takes much of the mechanical work and time out of preparing an index. Works with *MacWrite* and *Word*. Can generate word frequency counts. \$49.95. Boston Software Publishers, 1260 Boylston St., Boston, MA 02215. CP (Jul 86)

**MacLightning** is an interactive spelling checker that is both very fast and has an extensive, well thought out dictionary. Exists in the System as a desk accessory. \$99.95. Target Software, 14206 SW 136th St., Miami, FL 33186. NCP

**MacSpellRight** is a spelling checker that works with *MacWrite* 4.5 (not 2.2!). Allows the user to create custom dictionaries. Works from within *MacWrite*. \$89. Assimilation, 485 Alberto Way, Los Gatos, CA 95030. NCP

**MacWrite** is the basic word processor that comes with the Mac. While it doesn't have every bell and whistle, it is more than adequate for most users. Features include document size limited by disk space, global search and replace, page numbers indicated in the scroll bar and excellent LaserWriter compatibility. Easy to use and well documented. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

**MegaForms** is a well designed forms generator and processor. Forms design is easy. Can use data from *MegaFiler*. The form filling and print functions are slow, possibly too much so for large scale use. \$295. Megahaus, 5703 Oberlin Dr., San Diego, CA 92121. CP (Feb 86)

**QuickWord** is a word processing accessory that adds sophisticated glossaries to *MacWrite*. Simple to install and use, yet powerful and efficient. \$49.95. EnterSet, 410 Townsend St., San Francisco, CA 94107. NCP

**Spellswell** is an effective and powerful standalone spelling checker. It has many advanced features such as capitalization and homonym checking and comes with a large, well-chosen dictionary. Full-featured, easy to use, with keyboard

equivalents for menu commands. \$49.95. Greene, Johnson, Inc., 15 Via Chualar, Monterey, CA 93940. NCP (May 86)

**Word** is a power word processor for the Mac. It has just about every feature your heart could desire. Supports keyboard commands as well as the mouse. Does mail merge and multicolumn text. Integrates with the rest of the Microsoft line. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. CP (May 86)

## ORGANIZATIONAL TOOLS

**Acta** is an outline processor in desk accessory format. It has practically all the power of a standalone program, and then some. Can save files as *Acta* outlines, *MacWrite* or text files. A must-have for those who do outlining. \$59.95. Symmetry, 761 E. University Dr., Mesa, AZ 85203. NCP (Jul 86)

**DecisionMap** organizes data to facilitate decision making. Unique weighting abilities make this a powerful tool. The decision analysis process is long and some times complex, but never difficult. \$145. SoftStyle, 7192 Kalanianohe Hwy., Honolulu, HI 96825. CP

**MacProject** allows a user to plan and track a project from beginning to end. Uses CPM to produce schedules with start and finish dates for each task. Can report on resource interdependencies and generate all needed printed reports. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Mar 86)

**MicroPlanner** is a heavy-duty project planner. Excellent, but slow, at the mechanics of project planning. Reports are its weakness. Speed is much improved when a hard disk is used. \$395. MicroPlanning Software USA, 235 Montgomery St., San Francisco, CA 94104. CP (Mar 86)

**Mindsight** is a professional level decision support and business planning package. Can work with IFPS on mainframes, and is able to transmit models in both directions. Powerful and easy to use. Requires 512K+. \$195. Execucom Systems, PO Box 9758, Austin, TX 78766. CP

**ods/Consultant** is a program that lets users organize ideas and helps in thinking through and solving problems. Easy to use thanks to extensive use of icons and on-screen help. This program introduces some low-level AI (artificial intelligence) concepts. \$200. Organization Development Software, 1011 E. Touhy Ave., Des Plaines, IL 60018. CP (Apr 86)

**ThinkTank 128** is a basic outline processor. The interface is not the standard Mac interface, but is simple to use and efficient. Printer support is limited, but files can be printed in a draft-style mode. Only for 128K owners; 512K+ owners should get *ThinkTank* 512. \$99.95. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. CP

**ThinkTank 512** is a very fast and intuitive organizational tool that can handle word processing chores in the midst of structuring a plan or outline. Full keyboard control is possible. Can store and paste graphics into outlines. Slide show features allows high presentations to be created. Good report formatting and printing capability. \$195. Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043. CP (Jan 86)

## DESK MANAGERS

**Battery Pak** is a set of 8 handy desk accessories including scientific and RPN calculators, a background text file printer and a 250-page note pad with search and phone dialing capabilities. Comes with an installer and the best manual we've seen in a long time. \$49.95. Batteries Included, 30 Mural St., Richmond Hill, Ontario, L4B 1B5, Canada. NCP (Dec 85)

**The Desk Organizer** is a free-form desk management system based on card index style files. Has many features including alarms, report generation and calculation. The Meta feature lets the program run along with another application. \$99. Conceptual Instruments, 269 W. Walnut St., Philadelphia, PA 19144. NCP





**Front Desk** lets small businesses and offices easily keep track of  
 \*\*\* personnel schedules, activities and payments. The program  
 can keep track of up to 15 employees, functioning as a day-  
 week- and month-at-a-glance calendar. \$149.95. Layered,  
 85 Merrimac St., Boston, MA 02114. CP (Dec 85)

**MacOffix** combines many of the simple and necessary office  
 \*\*\*\* functions in one easy-to-use package. Features include  
 simple word processing, forms design, form letter produc-  
 tion, report generation and filing. Good design nearly makes  
 the manual unnecessary. \$79. Emerging Technology, Inc.,  
 4760 Walnut St., Boulder, CO 80301. CP

**My Office** lets you handle your files and papers in much the same  
 \*\*\*\* way you did before you got a computer. Excellent use of  
 graphic symbols makes this program the easiest to use of its  
 type. \$129.95. DataPak, 14011 Ventura Blvd., Sherman  
 Oaks, CA 91423. CP (Prem)

**Quickset** is a set of desk management and organizational tools  
 \*\*\* that can be used as desk accessories or applications.  
 Modular design allows users to add only selected items to  
 System disks. Functions include note filer, card filer, calen-  
 dar, phone dialer, financial and statistical calculators and a  
 file encryptor. \$49.95. EnterSet, 410 Townsend St., San  
 Francisco, CA 94107. NCP (Dec 85)

**Sidekick** is a set of desk organization applications and accesso-  
 \*\*\*\* ries. Functions include phone dialer and logger, desk  
 accessory terminal, calculator, clock, editor and more.  
 When required resource files are included modules take up a  
 lot of disk space, and are best used with a hard disk.  
 \$84.95. Borland International, 4585 Scotts Valley Dr.,  
 Scotts Valley, CA 95066. NCP (Dec 85)

**Top Desk** is a set of 7 self-installing (and self-removing) DAs.  
 \*\*\*\* Menu Key adds Command key sequences to programs,  
 Views allows looking at and moving data between up to 8  
 MacWrite documents, BackPrint allows background printing  
 from most applications, Shorthand adds a glossary, Blank is  
 a screen saver, Encrypts scrambles files for protection, and  
 Launch transfers to another application. \$59.95. Cortland  
 Computer, PO Box 9916, Berkeley, CA 94709. CP (May 86)

## UTILITIES

**Accessory Pak 1** is a set of useful applications and utilities. *Paint*  
 \*\*\*\*\* *Cutter* alone is worth the price. That program allows users to  
 browse and manipulate full page MacPaint documents.  
 \$39.95. Silicon Beach, 11212 Dalby Pl., San Diego, CA  
 92126. NCP (Nov 85)

**Copy II Mac** was one of the first back-up programs available for the  
 \*\*\*\*\* Mac. Does efficient sector and bit copies and in its latest  
 version can back up virtually all Mac software. Features  
 graphic displays of copy progress. Comes with *MacTools*, a  
 multiuse utility that can recover many damaged files.  
 \$39.95. Central Point Software, 9700 S.W. Capitol Highway,  
 Portland, OR 97219. NCP (Apr 86)

**Disk Ranger** is a speedy cataloguing program that doubles as an  
 \*\*\*\* efficient labelmaker. Comes with pinfeed labels. Works with  
 regular and hard disks. Can catalog HFS systems. \$49.95.  
 Mainstay, 28611B Canwood St., Agoura Hills, CA 91301.  
 NCP (Mar 86)

**Dubi-Click Calculator Construction Set** lets users design per-  
 \*\*\*\*\* sonalized calculators with a variety of standard and special  
 functions. Multiple functions can be attached to a single  
 key. Finished calculators can be saved as installable desk  
 accessories or as clickable applications. \$99. Dubi-Click  
 Software, 18201 Gresham St., Northridge, CA 91321. NCP  
 (Apr 86)

**Fedit** is the best disk editor available for the Mac. The program  
 \*\*\*\*\* also includes extremely powerful disk and file repair and  
 recovery facilities. All Mac owners should have this tool on  
 hand for emergencies. \$40. MacMaster Software, 939 E. El  
 Camino Real, # 122, Sunnyvale, CA 94087. NCP

**Hard Disk Util** uses patch files to allow users to mount and run  
 \*\*\*\*\* specified programs on their hard disks. The list of patches is

constantly expanding. \$89.95. FWB Software, 2040 Polk  
 St., San Francisco, CA. NCP

**MacBooster** is a disk-cache program that adds a great deal of  
 \*\*\*\* operating speed to a 512K Mac. It installs easily from its  
 master disk. Can increase the speed of your 512K Mac by 2  
 to 3 times. Not for Mac Plus. \$50. Mainstay, 28611B  
 Canwood St., Agoura Hills, CA 91301. NCP

**Mac Disk Catalog II** is a utility that will quickly organize a  
 \*\*\*\* moderate size disk library. Easy to use with powerful  
 reporting and label-making features. \$39.95. New Canaan  
 MicroCode, 136 Beech Rd., New Canaan, CT 06840. NCP  
 (Dec 85)

**MacLabeler** lets users instantly index and print labels for all the  
 \*\*\*\* disks in a burgeoning collection. Choose border type and  
 orientation of your label; index by folder or document.  
 Starter set of labels is included. \$49.95. Ideaform, PO Box  
 1540, Fairfield, IA 52556. CP (Prem)

**MacLink** lets users transfer data between Macs and PCs. Simple  
 \*\*\* to install and run, high-performance software. Can do  
 special format transfers such as 1-2-3 to *Multiplan* and  
*WordStar* or *MultiMate* to *MacWrite*. Contains both Mac and  
 PC disks, interface cable is optional. Has Mac and MS-DOS  
 disks. \$125, \$155 with 8-ft interface cable. DataViz, 16  
 Winfield St., Norwalk, CT 06855. NCP

**MacMatel** combines RAMdisk and print spooling functions in a  
 \*\*\*\* compact package. Both parts are efficient, work well and  
 have on-screen help. \$49.95. SMB Development Asso-  
 ciates, PO Box 3082, Chatsworth, CA 91311. NCP

**Mac Memory Disk** creates a RAMdisk on 512K Macs. The  
 \*\*\* RAMdisk's size is user selected up to 316K. Has auto startup  
 and auto file transfer features. Simple to use, on-screen  
 dialogs prompt for all actions. \$29. Assimilation, 485  
 Alberto Way, Los Gatos, CA 95030. NCP

**MacNosy** is a global disassembler. A very advanced user can use  
 \*\*\*\*\* this program to look into the code of virtually any program.  
 This advanced tool can take you places no other Mac  
 program could dream of going IF you have the skill to guide  
 it. The documentation is sparse. For pros only. \$85. Jasik  
 Designs, 343 Trenton Way, Menlo Park, CA 94025. NCP

**The Macintosh Reference System** consists of the contents of  
 \*\*\*\* *Inside Macintosh* arranged into a simple database on a disk  
 and a deck of 750 color coded cards that contain the same  
 information. Very useful for programmers and developers.  
 \$109.95. TOM Programs, 1500 Massachusetts Ave. NW,  
 Washington, DC 20005. NCP (Mar 86)

**MacQwerty** is a set of three keyboard utility programs. *Reconfi-*  
 \*\*\*\* *gure* allows users to assign any character to any key.  
*Standard* sets up a normal qwerty keyboard and *Dvorak*  
 changes the key arrangement to the very efficient Dvorak  
 layout. \$35. Paragon Courseware, 4954 Sun Valley Rd., Del  
 Mar, CA 92014. NCP (Jul 86)

**MacServe** converts a Mac and a hard disk into a disk and print  
 \*\*\*\* server. Uses the AppleTalk network and is easily hooked up.  
 Users can partition the hard disk into multiple volumes  
 (read-only for common access and read-write for private  
 access). Runs in the background, so users can work on all  
 machines in the network. Comes with a backup and restore  
 utility. \$250. Requires 512+ or Mac XL. Infosphere, 4730  
 SW Macadam, Portland, OR 97201. CP

**MacZap** is a three-part disk and memory utility. It can be used to  
 \*\*\*\* recover some damaged files and disks, compare disks,  
 analyze disk structure and make back-up copies of most  
 disks. \$60. Micro Analyst, 5802B Gloucester, Austin, TX  
 78723. NCP (Jan 86)

**Ncryptor** is a simple, safe program that lets users password their  
 \*\*\*\* files. The same program is used for encoding and decoding.  
 This is the best product in its category. \$39.95. Mainstay,  
 28611B Canwood St., Agoura Hills, CA 91301. NCP

**Packer** is a simple utility that compresses files. It can be used to  
 \*\*\*\* save disk space and also protect files. Typical space savings  
 range from 20 to 50% depending on the original file type  
 and size. This is the best program of its type so far. \$29.





## MINIFINDERS



Bobbing Software, 67 Country Oaks Dr., Buda, TX 78610.  
NCP (Jul 86)

**PC to MAC and BACK** has both Mac and MS-DOS disks. This program easily and efficiently transfers text and other data between PCs and Macs. Fortunately, the documentation is excellent. Does special format transfers such as WordStar to MacWrite. Includes a cable for direct Mac to PC connections. \$149.95. dilithium Press, 8285 SW Nimbus, Beaverton, OR 97005. NCP

**Quick & Dirty Utilities, Volume One** is a disk chock full of the handiest programs you have ever bought. Included are a super disk cataloguer, a desk accessory mover and more. Several desk accessories including a menu bar clock and a terminal are on the disk. "File info" and "Q&D Filer" are two file management desk accessories that you'll wonder how you got along without. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Nov 85)

**Switcher** is Andy Hertzfeld's contribution to Mac productivity. This program lets users run several programs at once (up to 8 on a 1-megabyte or larger machine). Switching between the programs is near instantaneous. Slick and easy to use; every 512K Mac user should get it. Requires 512K+. \$19.95 from Apple, free from MAUG on CompuServe, from Delphi and included with some third-party applications. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

**TurboCharger** is a disk-cache program. Can dramatically speed up operation (250 to 500% improvements are common). Features include auto-startup and write buffering. Only works on a 512K Mac but is a must for one. \$95. Nevins Microsystems, 210 Fifth Ave., New York, NY 10010. NCP

**TurboDownload** is a desk accessory designed specifically to increase the speed of Xmodem data transfers from national databases to your Mac. Speed increases range upward from 50% to over 300% at 2400 baud. \$39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP



**Twelve-C Financial Desk Accessory** brings all the power and functionality of a Hewlett-Packard 12C programmable calculator to your desktop. Can be programmed and all registers can be viewed while calculator is running. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP

**TypeNow** is a desk accessory that allows the Mac and ImageWriter to function as an electronic typewriter. Type can be placed into blanks in complex forms easily. Typing can be recorded and played back or "boilerplate" stored and used as needed. \$39.95. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP (Jan 86)

**XL/Serve** converts a Mac XL into a disk and print server. Uses the AppleTalk network and is easily hooked up. Users can partition the Mac XL's hard disk into multiple volumes (read-only for common access and read-write for private access). Runs in the background on the Mac XL, so users can work on all machines in the network. Comes with a backup and restore utility. \$195. Infosphere, 4730 SW Macadam, Portland, OR 97201. NCP (Nov 85)

## LANGUAGES

**Aztec C** is a C language program system that will appeal to users with a UNIX background. It uses many UNIX conventions and in the more expensive versions comes with standard UNIX utilities, including the VI editor. Good, solid system. \$199 basic system, can't produce standalone applications; \$299 development system, can produce standalone applications; \$499 commercial system, development system plus utilities and strong technical support by publisher. Manx Software Systems, PO Box 55, Shrewsbury, NJ 07701. NCP (May 86)

**Hippo-C Level 1** offers a good basic learning environment for newcomers to the C programming language. The programs limits and restrictions are severe and standalone applications cannot be created. A good place to begin the study of

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Filemaker	32.44	My Office & Executive Office	Call
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C. \$149. Hippopotamus, 985 University Ave., Los Gatos, CA 95030. CP

\*\*\* **MacAsm** is a software development system that allows programs to be written in assembly language. Programmers can assemble, edit and test software, and an integrated resource compiler lets independent applications run from their own icons. \$125. Mainstay, 28611B Canwood St., Agoura Hills, CA 91301. NCP

\*\*\*\* **Mac C** is a good, highly Mac-oriented implementation of this popular development language. Assembler and linker built-in. \$375. \$475 with Toolkit and floating point package. Consulair, 140 Campo Dr., Portola Valley, CA 94025. NCP

\*\*\* **MacExpress** is a development environment or shell. Programmers use it to save time and effort when developing standalone applications for the Mac. Easy to use for those with a strong technical background. \$50 test drive package, \$495. AL-Soft, Inc., PO Box 927, Spring, TX 77383. NCP (Feb 86)

\*\*\* **MacForth** is an implementation of the popular Forth programming language. Level 1 is a simple, introductory version with limited support of the Mac Toolbox. Excellent tutorial and references sections in the manual. Level 2 supports the Mac Toolbox fully. Level 3 extends the language so that professionals can produce standalone applications. All levels are supported by the publisher via telephone and electronic BBSs (the publisher even has a private SIG on CompuServe). \$149 (Level 1), \$249 (Level 2), \$499 (Level 3). Creative Solutions, 4701 Randolph Rd., Rockville, MD 20852. NCP (Jul 86)

\*\*\*\* **Mach1** is a multitasking implementation of Forth that allows local variables and text files. Can create standalone applications. Several windows can be up with different operations in each, operating concurrently. Execution is fast. \$49.95. Requires 512K. Palo Alto Shipping, PO Box 7430, Menlo Park, CA 94026. NCP (Apr 86)

**Macintosh 68000 Development System** is a fairly traditional

\*\*\*\* assembly language package. The two-disk set provides an excellent editor (*Edit*), an efficient assembler, a linker, an executive, a resource compiler called *RMaker*. The files included in this two-disk set have all the basic equates, process definitions, and trap calls. \$195. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

\*\*\*\* **Macintosh Pascal** is Apple Computer's version of this very popular programming language. Loaded as it is with innovative teaching features, this interpreter is an excellent introduction to Pascal. The documents are mostly references, get a good tutorial textbook. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. CP

\*\*\* **MacScheme** is a LISP dialect with "artificial intelligence" capabilities. Has a large appetite for RAM. Interpreted language with Toolbox access limited to a small part of QuickDraw. Includes many examples and a LISP tutorial. \$125. Semantic Microsystems, 4470 S.W. Hall St., Beaverton, OR 97005. CP? (Jun 86)

\*\*\*\* **Megamax C** is an easy to use, full version of C. Has a compiler, linker, disassembler, editor and much more. Good for beginners. Excellent documentation. \$299.95. Megamax, PO Box 851521, Richardson, TX 75085. CP

\*\*\*\* **Microsoft BASIC** was the Mac's first programming language. This interpreter (it's not a compiler) now supports the Toolbox and the whole Mac interface can be implemented in your programs. For nonprogrammers there are lots of programs available (in user group libraries and magazines) to run. There have been several versions. \$150. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. NCP

\*\*\*\* **Microsoft Logo**, from Microsoft's MacLibrary, written by LCSi. An excellent implementation of Logo, taking full advantage of the Mac's user interface. Uses three windows. Turtle looks like a turtle, and its screen actions are very precise. Windows can be resized and moved about. \$124.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052-6399. NCP

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# MINIFINDERS

**QUED (Quality Editor for Developers)** is the ultimate source code editor. Loaded with useful and well thought out features, it will make any programmer's life much easier. It is not a word processor, however. \$65. Paragon Courseware, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Mar 86)

**TML (MacLanguage Series) Pascal** is a good Pascal compiler, capable of producing standalone programs. Can use most existing Lisa Pascal programs with only slight modification. Requires 512K. \$99.95. TML Systems, PO Box 361626, Melbourne, FL 32936. NCP (Jun 86)

## EDUCATION

**A Bill Becomes A Law** is a multiple-choice, role-playing adventure in which students try to pass a bill requiring apples in every federally sponsored school lunch. A good insight into political maneuverings on Capitol Hill for students. \$59.95. Queue, 5 Chapel Hill Dr., Fairfield, CT 06432. CP (Mar 86)

**Astronomy** is a low-level package with basic features. Slow speed and sparseness of information makes this program of limited use to novices, but still useful to experienced astronomers. \$35. E & M Software Co., 95 Richardson Rd., N. Chelmsford, MA 01863. NCP (Apr 86)

**ChipWits** is a combination game and teaching tool. Players create programs to maneuver robots through a set of 8 mazes. The programs are written in ChipWit's built-in icon-based programming language (IBOL). IBOL is a nearly perfect introduction to programming for nonprogrammers. \$49.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

**DietMac** is a database consisting of about 800 foods with nutritional information, from which to choose from for planning daily menus. The Modify Food Data option allows users to customize and update data. Some on-screen help. \$79. Tess Data Systems, Inc., 17070 Red Oak Dr., Houston, TX 77090. CP (May 86)

**MacChemistry** is a two-disk set consisting of a titration program (predetermined compounds, not user modifiable), a periodic table program, MacNest (a scrapbook with indexing), and a disk of MacPaint files depicting everything from lab equipment to molecular structures of many solutions and compounds. MacNest is of general appeal. \$145. Fortnum, 31 W. Sierra Madre Blvd., Sierra Madre, CA 91024. NCP

**MacEdge** and **MacEdge II** each contain 8 reading or math drill programs for basic skills. Programs follow one of three formats, a bit contrived. Contrivances are design flaws — they require learning format as well as skill. Exception is *Alphabet Train*, a clever game with great graphics and sound, poor font definition. \$49.95 each. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP

**MacStronomy** is a good package for novice sky watchers. Has expandable database of sky objects that can be customized by the user. New version is very fast. \$75. Etlon Software, PO Box 649, Lafayette, Co 80026. CP (Apr 86)

**MacType** offers structured typing instruction. Can teach both standard and Dvorak keyboards. Features include certificates for reaching certain levels. Can be used in a multistudent environment. \$49.95. Palantir Software, 12777 Jones Rd., Houston, TX 77070. CP

**MasterType** is proof that learning to type can be fun. In this arcade-style action game words descend from four corners towards the center ship; the user must type them correctly. Features 18 skill levels, tracks errors, recommends lessons and provides comparison scores. \$49.95. Scarborough Systems, 55 South Broadway, Tarrytown, NY 10591. CP

**NotePro** is an educational package that teaches users to organize and make best use of their notes. Consists of five well designed parts, which can be used individually or as a whole. \$59.95. Learning Skills, PO Box 8038, Reno, NV 89507. NCP (Jul 86)

**Nutri-Calc** uses a large database of nutritional information. Users can plan healthy diets and print shopping and menu lists. \$79.95. CAMDE, 46 Prince St., Rochester, NY 14607. CP

**PowerMath** is an equation solver. Handles problems ranging from the simplest to the extremely complicated. Step-by-step solutions make this a powerful teaching tool. Results can be displayed numerically or graphically. Slow, but potent program. \$99.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP

**Score Improvement System for the SAT** is a no-nonsense drill and practice session covering practice tests, vocabulary, reading comprehension, math and quantitative comparisons. On-line tutoring for wrong answers. \$99.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (May 86)

**Speed Reader II** builds skills sequentially to develop faster, more efficient reading and improve retention. Scores kept, and can be graphed. High school level selections included, other levels available on data disks. \$69.95. Davidson & Associates, 3135 Kashiwa St., Torrance, CA 90505. CP? (Apr 86)

**Tellstar I & II** are the best Mac astronomy programs. Has extensive database, quick sky plotting and can locate specific celestial objects. Level II has southern hemisphere star table, Messier objects. \$49.95 (level I), \$79.95 (level II). Spectrum HoloByte, 1050 Walnut, Boulder, CO 80302. NCP (Apr 86)

**Turbo Turtle** is a turtle graphics program primarily designed as a learning tool for children. Uses Logo commands for graphics, but is not a full Logo implementation. Simple to use, good introduction to Logo for young children. \$59.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

## ENTERTAINMENT

**A Mind Forever Voyaging** is a departure in text adventure games. It has a more extensive vocabulary and a more involved story than most of the genre. The story here is gripping, but there are only puzzles to solve. Still this is a trip in the imagination well worth taking. Requires 512K+. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP (Apr 86)

**Airborne** is classic arcade-style game with "real" sound effects. The player defends against an assault from flying enemies. Game noises digitized from actual recordings add to the game. \$34.95. Silicon Beach, 11212 Dalby Pl., San Diego, CA 92126. CP

**Alter Ego** simulates the entire lifetime of a fictional character. The player's reaction to each multiple-choice event shapes the character's future relationships, job, health, etc. Spectacularly impressive the first time you play; after that there are too many similarities to previous characters. Female edition should be available soon. \$59.95. Activision, PO Box 7287, Mountain View, CA 94039. CP

**Amazon** is an illustrated adventure authored by Michael Crichton. Unravel the fate of a doomed expedition with the help of Paco the talking parrot. Three difficulty levels, good sentence parser. \$49.95. Telarium, 1 Kendall Sq., Cambridge, MA 02139. CP (Feb 86)

**The Ancient Art of War** gives users a chance to refight some famous campaigns on both strategic and tactical levels. Campaigns can also be designed from scratch. Very playable, addicting game. Requires 512K+ Mac. \$49.95. Broderbund, 17 Paul Dr., San Diego, CA 94903. CP (Apr 86)

**Balance of Power** is the world's first computer peacemaking. This simulation allows players to become either the President of the United States or General Secretary of the Soviet Union. Extraordinary artificial intelligence routines and general play make this a classic. \$54.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60022. CP (Prem)

**Baron** is the world of real estate, in a financial simulation. Buy and option properties in five key areas; invest in industrial, residential, or land property; or put cash aside in high-interest accounts. \$59.95. Blue Chip, 6740 Eton Ave., Canoga Park, CA 91303. CP

**Borrowed Time** casts players as detectives who have to solve their own murder — before it happens. This game requires players to think and act like a detective to solve the game. Good





sentence parser, sketchy Mac interface. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (May 86)

\*\*\* **Brataccas** is the Mac's first true action adventure in which players use the mouse or keyboard to control Kyne, the heroic fugitive scientist, as he moves around a planet outpost in search of clues and information. Terrible, confusing instruction manual mars game. Excellent graphics, unusual sentence parser. \$44.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP

\*\*\*\* **Brimstone** is a full-text adventure that follows the exploits of Sir Gawain as he journeys down to the pits of Hell and back again. A good example of an interactive novel, although the third-person narrative can be disconcerting. \$39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Jul 86)

\*\*\*\* **Championship Boxing** allows statistical replay involving famous boxers. Players can modify existing boxers and can create their own fighters. Good sound and graphics. Sierra, PO Box 485, Coarsegold, CA 93614. CP (Mar 86)

\*\* **Cutthroats** casts players in this full-text adventure as a deep-sea diver, hired by a band of toughs to locate shipwreck treasure. The game is very closed-ended, requiring almost Pavlovian obedience. Multiple endings. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

\*\*\* **Cyborg** is a text adventure game with an interesting twist. Robot brain is implanted in concert with yours. It scans, evaluates, and reports, then carries out actions. Word and sentence understanding is very good. Absorbing game for adventurers. \$39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

\*\*\* **Deadline** is a text adventure in which the player is a detective called in to investigate what seems like a simple drug overdose. The family lawyer thinks it was really a murder. You have 12 game hours to find the killer! \$49.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

\*\*\*\* **DejaVu** is an unusually good version of the old card game "Concentration." Great graphics and sound, one- or two-player modes. Improves concentration painlessly. \$39.95. Rubicon, 6300 La Calma Dr., Austin, TX 78752. CP (Mar 86)

\*\*\*\* **Deja Vu A: Nightmare Comes True** is a graphic adventure that breaks new ground. Innovative use of the Mac interface in truly playable and exciting game. A great introduction to graphic adventure games. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Jan 86)

\*\*\*\* **Dinner at Eight** is a useful recipe filing system that includes a collection of recipes from a nationwide sampling of restaurants. Users enter number of diners and program scales recipes accordingly. \$59.95. Rubicon, 6300 La Calma Dr., Austin, TX 78752. CP (Jan 86)

\*\*\* **Dragonworld** is an illustrated adventure in which the player attempts to save The Last Dragon from the Duke of Darkness. Several on-screen illustrations at once. Outstanding documentation lists all words recognized by the program's sentence parser. \$49.95. Telarium, 1 Kendall Sq., Cambridge, MA 02139. CP

\*\*\*\* **Enchanted Scepters** is a surround sound graphic adventure game. It has a limited vocabulary and virtually no story. Offers extensive and varied scenes and utilizes the Mac interface to the fullest. A worthwhile adventure experience. \$39.95. Silicon Beach Software, PO Box 261430, San Diego, CA 92126. CP (May 86)

\*\*\*\* **Flight Simulator** puts you at the controls of a small plane (prop or jet) and lets you roam North America. As difficult as real flying. Mac version has features not found on earlier versions, including spotter aircraft. Not all features available on 128K. \$49.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98052. CP

\*\*\*\* **Fokker Triplane** is about as near to flying as you can get seated in front of a computer. Very realistic simulation and excellent graphics. Well designed and implemented. \$59.95. PBI Software, 1155B-H Chess Dr., Foster City, CA 94404. CP (Feb 86)

\*\*\* **Gateway** comes with 3 full-color prints. You inherit a boring old building from a supposedly rich uncle, eventually learning

that the building is a "gateway" to a lost civilization. \$49.95. Priority, 635 Sanborn Rd., Salinas, CA 93901. CP (Prem)

\*\*\*\* **Gato** puts players in command of an American submarine in World War II. This superb simulation game uses all of the Mac's graphic capabilities to really make you feel that "you are there." \$39.95. Spectrum Holobyte, 1050 Walnut St., Boulder, CO 80302. CP (Nov 85)

\*\*\* **Grid Wars** is a three-dimensional arcade-style game. Good playability, for those that enjoy shoot-em-ups. Bizarre graphics. \$39.95. Ann Arbor Softworks, Inc., 308½ S. State Street, Ann Arbor, MI 48104. CP (Apr 86)

\*\*\*\* **Gypsy** is a computerized, customizable Ouija board. More than just a software package, users get a pasteboard playing surface and a Mouse Mover with 99 ball bearings. \$39.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Prem)

\*\*\* **Harrier Strike Mission** pits you against a well defended island. You fly an advanced Harrier jumpjet from a carrier offshore. Fair graphics and reasonable flight simulation prove that color isn't necessary in a flight simulator. \$49.95. Miles Computing, 21018 Osborne St., Bldg. 5, Canoga Park, CA 91304. CP (Feb 86)

\*\*\* **Hippo Computer Almanac** is a collection of interesting facts that users access using a question and answer format. This is a game or toy, not a real almanac. \$34.95. Hippopotamus, 985 University Ave., Los Gatos, CA 95030. CP (Jan 86)

\*\*\*\* **Legacy** is a two-part text/graphic adventure. A magical orb in Drab Castle must be found through the use of spells and careful adventuring. Well-constructed game. \$45. Challenger Software, 18350 Kedzie Ave., Homewood, IL 60430. CP

\*\*\*\* **Lode Runner** is a 150-screen action-strategy challenge that requires a joystick for truly effective play. Move around a grid of ladders and platforms collecting treasure; dig a hole to trap pursuers. Build your own challenges. \$39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

\*\*\* **The Lüscher Profile** is a psychological profile generator that bases its conclusions on users' responses to seven different color tests (color charts are enclosed in the package). Select your favorite colors, shades and shapes and the program displays or prints a two- or three-page personality profile. \$39.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP

\*\*\* **MacAttack** puts the player in command of a super tank defending the wastes of Alaska against invaders. This 3D simulation pits you against attacking tanks and warplanes that fire heat-seeking missiles. Defeating the horde brings a graphic fireworks display. \$49. Miles Computing, 21018 Osborne Street, Canoga Park, CA 91304. CP

\*\*\* **MacChallenger** lets players land a space shuttle. The graphics of this flight simulator are crude and it's a hard machine to fly, but it's also a lot of fun. Version 2.0 lets you record your landing attempt (that's what most of them are!) and then review it from any of ten camera angles, a truly unique touch! \$49.95. Aegis Development, 2210 Wilshire Blvd., Santa Monica, CA 90403. CP (Feb 86)

\*\*\*\* **Macnooga ChooChoo** is a set of electronic toy trains. Run on the layouts provided, or create your own, as complex as you wish. Create scenery using built-in tools or import fancier MacPaint scenery. \$39. Fortnum, 31 W. Sierra Madre Blvd., Sierra Madre, CA 91024. NCP (Apr 86)

\*\*\*\* **MacJack II** is a blackjack game pitting users against the house. Includes good graphics, insurance, splitting and doubling, and table limit that rises with your stake. Plays very well, and can be quite addictive. \$39.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP

\*\*\* **MacVegas** contains seven complete casino-style games: baccarat, blackjack, craps, keno, poker, roulette and slots. All are fairly standard, but generally well designed. House rules can be selected from a menu. The games are all fun to play, but not particularly absorbing. \$59. Videx, 1105 Northeast Circle Blvd., Corvallis, OR 97330. CP

\*\*\* **MacWars** is a Mac version of the popular "Star Wars" arcade game. Three-dimensional graphics are sluggish at times,





digitized sound is somewhat less than terrific, and playability is limited. Doesn't work on Mac Plus. Spend your quarters on the arcade version. \$49.95. Miles Computing, 21018 Osborne St., Canoga Park, CA 91304. CP

**Make Millions** is a fascinating business simulation in which the player competes against the computer to take control of five companies, then run them profitably. Different strategic options and human-seeming associates make simulation more complete. Appeals to the closet capitalist in all of us. \$49.95. Scarborough Systems, 55 South Broadway, Tarrytown, NY 10591. CP

**Millionaire** is a financial simulation based on the stock market. "News" affects stock prices, so read it religiously. Turn a pittance into a fortune to win the game. \$49.95. Blue Chip, 6740 Eton Ave., Canoga Park, CA 91303. CP

**Mind Over Mac** features five games. Entertainment for the whole family. Good graphics paired with synthesized sound and on-screen help. \$49.95. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP (Feb 86)

**Mind Prober** is a demonstration of a very simple expert-style system. How well do you know your friends? Answer certain statements as either true or false, and the computer prints a 3- to 5-page psychological profile of subject in business, stress, sex and other situations. \$50. Human Edge Software, 2445 Faber Pl., Palo Alto, CA 94303. CP

**The Mist** is an all-text "interactive novel" based on a short story by Stephen King. Vivid graphic and sometimes gory descriptions compensate for the game's muddled sentence parser. The story is involving, while the game is overly lock-step. \$39.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (May 86)

**NewGammon** is animated backgammon that will challenge even good players. Features include variable skill levels and strategies and options to play the Mac or watch the Mac play itself. Many positions are included so that you can learn how to play them without having to set up a whole game. An arcade-like high speed play mode is also included. \$39.95. Newsoft, PO Box 4035, Newport Beach, CA 92661. CP

**Orbiter** puts a real space shuttle on the Mac screen. A multitude of controls, intelligent on-board computer with speech capabilities, real-time graphics and 16 distinct missions help this program succeed as both a game and a simulation. Recommended. \$49.95. Spectrum HoloByte, Inc., 1050 Walnut Street, Suite 325, Boulder, CO 80302. NCP (Jul 86)

**Perplex** is a board word game based on *Scrabble*. Players can vary the rules and board to suit their tastes and skills. Up to four can play and the game can either be an active player or a scorer and arbiter. Has a 90,000+ word dictionary. \$39.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

**Pinball Construction Set** lets users create their own pinball games, as elaborate or as easy as desired. Uses *MacPaint* for backgrounds and has lifelike sounds (on 512K+ Macs). No documentation to speak of. \$40. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Jan 86)

**Planetfall** leaves users shipwrecked on a seemingly deserted planet, with only Floyd the Droid to help figure out how to get home. Two possible endings. This full-text game is written in a tongue-in-cheek style. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

**Psion Chess** is as good a micro chess player as you'll find. This 1984 World Micro Champion makes superb use of graphics and the Mac interface. Switch between 6 languages for a touch of spice. \$59.95. Psion, 40 Lindeman Dr., Trumbull, CT 06611. CP (Mar 86)

**Real Poker** is five-card draw against five other players with Old West names, distinct personalities and playing styles, in a saloon setting. Dealing and play are very fast. Game evaluates your hand, suggests cards to keep/discard. Dynamic, exciting, addictive game. \$39.95. Henderson Associates, 980 Henderson Ave., Sunnyvale, CA 94086. CP

**Rogue** is a strategy dungeon adventure in which each quest is completely different. Randomly generated rooms, monsters

and treasures keep even veterans on their toes. \$39. Epyx, 1043 Kiel Ct., Sunnyvale, CA 94089. CP (Feb 86)

**Sargon III** is a capable chess program with 9 levels of play, problem-solving modes, take back, change color, hint, manual play, etc. Easy Play option blocks *Sargon* from stealing search time during player's move, effectively doubling number of levels. Pieces are moved graphically. Disk stores 107 classic games for review and replay. \$49.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (Mar 86)

**Strategic Conquest** is large scale, strategic conflict on the Mac. This very involved war game will be enjoyed by those who like this genre. \$49.95. PBI Software, 1155B-H Chess Dr., Foster City, CA 94404. CP (Dec 85)

**Suspended** is Infocom's most unique text game. Using a small plastic board and six markers, the player keeps track of six uniquely designed robots which check on damage to a complex's machinery and report back what they perceive as the problem. \$49.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

**Tycoon** is a financial simulation based on the ups and downs of commodities market. Build a fortune in pork bellies and Swiss francs, checking the "Financial Journal" for news affecting the market. \$59.95. Blue Chip, 6740 Eton Ave., Canoga Park, CA 91303. CP

**Ultima II** players take the part of a character who travels through land, sea, air, space and even time itself in a quest to find and defeat the evil sorceress Minax. Good Mac interface; excellent game; confusing graphics. \$59.95. Sierra, PO Box 485, Coarsegold, CA 93614. CP

**Ultima III** allows up to four characters to cooperate to explore the vast wilderness of Sosaria; dungeons, oceans, and the Moon Gates to help solve the adventure. \$59.95. Origin Systems, 340 Harvey Rd., Manchester, NH 03103. CP

**Webster's Revenge** is a *Boggle*-like word search game. Super graphics make it a pleasure to play. The dictionary is adequate and the user can always override it if necessary. Multiple skill levels make this a game for all. \$34.95. Shapechanger Software, 113 E. Tyler, Athens, TX 75751. CP

**Winter Games** lets up to eight players compete against each other in Olympic events including figure skating, bobsledding, biathlon and ski-jumping. Excellent animation, good graphics, good theme music. \$39. Epyx, 1034 Kiel Ct., Sunnyvale, CA 94089. CP (Mar 86)

**The Witness** is a full-text adventure that casts the player as a detective assigned to get to the bottom of a death threat. When the victim is killed, you have only one night to find the real guilty party. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02142. CP

**Wizardry** is an outstanding dungeon exploration adventure pitting a party of up to six characters against the guardian monsters of the evil wizard Werdna. Capture his amulet to earn your reward. Even after solving the game, you'll want to go back into the dungeon. \$59.95. Sir-Tech, 6 Main St., Ogdensburg, NY 13669. CP

**Word Challenge** is a *Boggle* lookalike. Features multiple (26) skill levels and an extensive dictionary. Even "pro" *Boggle* players should find a level that will challenge them. \$39.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP

**WordPlay** is a word game with over 50 crossword puzzles for different levels of expertise. User friendly, it offers on-screen Help menus. A Work mode allows development of new puzzles for the creative. \$49.95. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Mar 86)

**Xyphus** is a role-playing game pitting four characters (fighters or wizards) against multiple scenarios that grow increasingly harder. Excellent Mac interface and icon control. \$39.95. Penguin, PO Box 311, Geneva, IL 60134. CP

**Zork I** is a full-text adventure game that lets players explore a strange underground empire. Parser understands full sentences; players can take many different routes to final success. Beware of the thief. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP





**Zork II** is where the adventure continues in the underground empire. A wandering wizard keeps things interesting, though there's a way to beat him if you persevere. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

**Zork III** is the final chapter in the trilogy. Players come up against the ultimate enemy — the Dungeonmaster himself. More closed-ended than previous *Zorks*. \$44.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP

## MUSIC

**ConcertWare+** is an enhanced version of *ConcertWare*. Has different instruments and the ability to use any four of a set of eight at any point in a musical piece. Can read and use *ConcertWare* and *MusicWorks* files. \$69.95. Great Wave Software, PO Box 5847, Stanford, CA 94305. NCP (Nov 85)

**Deluxe Music Construction Set** is a good general purpose music program. An active piano keyboard and instant audio feedback make this program perfect for educational applications, and the advanced notational capabilities will satisfy most advanced musicians. \$50. Electronic Arts, 2755 Campus Dr., San Mateo, CA 94403. CP (Mar 86)

**MusicWorks** allows the user to create and play simple musical compositions. Music entry is by either a grid or a staff and is very easy. Users can select various instruments and modify each to produce new effects. Compositions are limited to 64 measures. \$79.95. Hayden, 600 Suffolk St., Lowell, MA 01854. CP (Prem)

**Professional Composer** is aimed at music professionals. Produces performance-quality sheet music; has only limited playback facilities. \$495. Mark of the Unicorn, 222 Third St., Cambridge, MA 02142. CP (Prem)

## HARDWARE & ACCESSORIES

**A+ Mouse** is a replacement mouse. It works by optical tracking on a special mousepad. Good choice if the original mouse fails. \$99. Mouse Systems, 2336H Walsh Ave., Santa Clara, CA 95051.

**DiskBook** holds up to 32 disks securely, opening from the side instead of the top to prevent disks falling out when the case is opened. Sides are snugly fitted to keep contents secure; velcro closing. \$34.95. MicroStore, PO Box 37, St. Peter, MN 56082.

**The Easel** is a compact and portable carrier for up to 20 disks. Can be converted into a standup rack for desktop use. Solidly made, attractive and useful. \$19.95. Innovative Technologies, 5731 La Jolla Blvd., La Jolla, CA 92037.

**Ergotron** is a Mac (and external drive) holder that allows a full range of swiveling and tilting. Very strong, this well made unit is also very easy to use. \$99.95. Ergotron, PO Box 17013, Minneapolis, MN 55417.

**Hard Disk 20** is Apple's entry in the exploding hard disk sweepstakes. This quiet, small unit uses Apple's new Hierarchical File System (HFS). The lack of utility software (spooler, backup, security) is its only drawback. \$1499. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. (Feb 86)

**HyperDrive HD20** is an internal 20-megabyte hard disk. It only adds about 5 pounds to the Mac's weight. Good, full featured unit with all common utilities: spooler, security program and backup utility. It could use memory a bit more efficiently, and it remains to see how well it will work with Apple's new HFS. \$2195 installed in a 512K Mac. General Computer Company, 215 First St., Cambridge, MA 02142.

**Macbottom 20** is a small, external unit that sits under the Mac and connects to the external drive port (not SCSI). Good, reliable, but noisy unit. Requires 512K+. \$1595. PCPC, 6204 Benjamin Rd., Tampa, FL 33614.

**MacCharlie** is one of the most unusual Mac products imaginable. Its components slip around the Mac and the keyboard and convert the Mac into an IBM PC clone. Amazingly it works well. The enlarged keyboard has a few bugs but is a joy to use. \$1,195 with 256K RAM and one floppy drive. \$1.895

with 640K RAM and two floppy drives. Dayna Communications, 50 S. Main St., Salt Lake City, UT 84144. (Dec 85)

**MacIntizer** is a graphics tablet and absolute positioning device that replaces the mouse. Various scales are possible. \$599. GTCO Corp., 1055 First St., Rockville, MD 20850. (Jan 86)

**MacNifty Sound Digitizer** turns ordinary analog sound input into digital waveforms which can then be manipulated using the *Sound Cap* software it comes with. Capable of truly stunning effects. Requires 512K+. \$129.95. Kette Group, 6860 Shingle Creek Pkwy., Minneapolis, MN 55445.

**MacNifty Stereo Music System** converts Mac sounds to simulated stereo by splitting highs and lows between two powerful speakers. User controls bass, treble, balance, low and high impedance output, and most importantly, volume. Hear your music compositions the way they were meant to be played. \$79.95. Kette Group, 13895 Industrial Park Blvd., Minneapolis, MN 55441.

**MacNifty Switch** allows any port on your Mac to connect to two peripherals. Turn the knob to switch between the two devices. \$34.95. Kette Group, 13895 Industrial Park Blvd., Minneapolis, MN 55441.

**MacTablet** is a stylus-driven graphics tablet. Users can easily sketch or trace art using this absolute-positioning device. Has a working area the size of the Mac screen. Allows concurrent use of the mouse. \$495. Summagraphics Corp., 777 State St. Extension, Fairfield, CT 06430. (Jan 86)

**Mac Turbo Touch** is a mouse replacement device. Features include 2.5-inch diameter track ball with control buttons to either side. Users either love it (and refuse to use anything else) or hate it; very few so-so's on this product. Takes a few days to get used to. \$129. Assimilation, 485 Alberto Way, Los Gatos, CA 95030.

**MacVision** is a digitizer that uses an ordinary video camera for input. Capable of extremely fine results and special effects. Easy to use and well documented. \$399.95. Koala, 3100 Patrick Henry Dr., Santa Clara, CA 95052.

**Maglic** is both the most intimidating and easiest to use digitizer available. Use a regular video camera for input. Once the crowded screen is mastered, any effect is possible. \$399. \$549 with camera. New Image Technology, 10300 Greenbelt Rd., Seabrook, MD 20706.

**MouseTop** is unquestionably the cutest mouse cover on the market. Gray, plush fur, round felt ears and button nose and eyes make your mouse look authentic. \$5.49; \$5.95 for MouseTop wearing wire-frame glasses. H&H Enterprises, PO Box 2672, Corona, CA 91718.

**Moustrak** is a fabric covered foam mousing pad. It will increase the efficiency of your mouse while helping to keep it clean. Pad comes in a variety of colors. Particularly useful in the typical office desk top environment. \$10. Moustrak, 1 Weatherly, Mill Valley, CA 94941.

**NoLabelSystem** is a plastic permanent labeling system in which users slide new tabs into a transparent plastic case on the disk. The tabs stick out of the case slightly, making them easier to read while in the drive. NLS-3.5 set contains 100 plastic pockets, 100 white tabbed insert cards, 100 color tabbed cards and instructions. \$19.45 plus \$3 shipping. Weber & Sons, NLS Dept., 3468 Hwy 9, Freehold, NJ 07728.

**Numeric Turbo** combines a track ball with an enhanced numeric keypad. The keypad includes working cursor keys and other direct function keys that bypass the Mac's Command and Shift keys. The track ball takes some getting used to and some never learn to like it. Those who do rarely ever use a mouse again. \$149. Assimilation, 485 Alberto Way, Los Gatos, CA 95030.

**ThunderScan** replaces the ribbon cartridge in an ImageWriter, which is required to use it. Laser scans art that can be run through the ImageWriter, producing high-quality digitized images. The images can be manipulated as they are created or afterward. Mac Plus compatible using optional adapter. Output has been optimized for LaserWriter. \$229. Thunderware, 21 Orinda Way, Orinda, CA 94563. NCP





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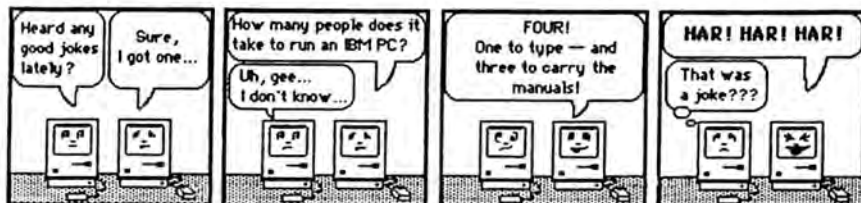
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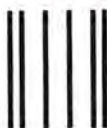
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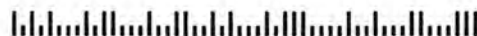
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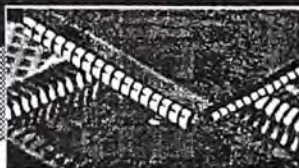
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# THREE-RING CIRCUITS

(continued from page 72)

ate *Smartcom II*'s new implementation of the MacBinary file format standard in version 2.2A. When downloading using the MacBinary format, users can specify a name for the file, to be used if there is no received file name or to override the received file name. If no name is specified, the received file name will be used. If the received file name is already present the program adds the current time-of-day to the file name to make it unique, and at the end of the download it asks if the user wants to replace the existing file instead of using the alternate name (except when the download is under autopilot control, in which case it does not ask,—it assumes no one is there to answer). *Smartcom II* also shows the name of the volume being received to in the download progress dialog box, not just the received file name, something many other terminal programs do not.

Power users will also appreciate *Smartcom II*'s text scroll. It has the fastest screen updating of all the terminal programs, easily keeping pace at 2400 baud, and has a "smooth scroll" option that, while slowing the screen update down, makes reading incoming text much easier. A technique to get the best of both worlds is to use normal (fast) scrolling, and when something appears on the screen that needs more study, mouse-down in the down scroll arrow. This suspends screen updates (although data is still coming in). Releasing the mouse button then allows *Smartcom* to start screen updating again, and at this point the speed of the screen updating will be very apparent as it catches up. An alternative to this technique is to scroll up very slightly, which will halt the screen updating. However, in this case the peruse buffer is still being updated off-screen, so that subsequently scrolling down will not cause the feverish "catch-up" scroll.

*Smartcom II* was a very good terminal program when it was first introduced. Its ability to let users scroll back in its large peruse (or capture) buffer, and select and append items to a single file, is currently unequalled and invaluable, particu-

larly when archiving parts of long telecommunication sessions. The features that version 2.2A add make it excellent, both for novices and for the power user.

It still is not perfect. It has no support for CRC Xmodem, its use of windows makes having an open desk accessory on the screen while using *Smartcom* impossible, it doesn't support on-screen clickable buttons, and doesn't support an autoreceive trigger (users must still "do a receive" manually). But the Hayes staff has done an excellent job of enhancing it, and there is no reason to believe they are going to stop now.

## SO? WHICH ONE IS BEST?

When faced with three outstanding telecommunications packages, each with different strong points and weak points, selecting one as the "best" becomes impossible. It depends on what features are needed and/or desired.

All three programs are fully compatible with the Mac Plus and the Mac XL. All run on a 128K Mac, although they are big programs and their performance suffers very noticeably on that machine. None are copy protected. All three have excellent user support and high-quality documentation. Each performs all the basic functions that any telecommunication program should (see p. 74, *MacUser*, October 1985).

For beauty and brawn, *Smartcom II* is the choice. A very powerful, yet elegant program, visually pleasing without sacrificing function, *Smartcom II* is a strong contender and will remain so as Hayes continues to enhance it. For 2400 baud users, and users of Hayes modems, the screen updating and support of the Hayes command set make *Smartcom II* an excellent choice.

For sophisticated scripting, *Microphone* gets the nod. Powerful, yet easy to use, thanks to its WATCH ME feature, *Microphone* is an excellent addition to the terminal program arena. For users who need the ability to perform complicated scripts with many possible prompts along the way, *Microphone* is the way to go.

For sheer flexibility, *Red Ryder* is the winner. The ability to interface

to many systems using such a variety of protocols makes *Red Ryder* the choice for those who frequent many different services. Users who need Kermit, or CompuServe B protocol, or RLE graphics, or fabulous VT100 emulation need *Red Ryder*.

Robert W. Wiggins is a New York-based computer consultant and writer.

## MICROPHONE

Overall Rating	■ ■ ■ ■ ■
Follows Mac Interface	■ ■ ■ ■ ■
Printed Documentation	■ ■ ■ ■ ■
On-Screen Help	None
Performance	■ ■ ■ ■ □
Support	■ ■ ■ ■ ■
Consumer Value	■ ■ ■ ■ ■

**Comments:** High-powered program with "Watch Me" automatic script writer. **Best Feature:** User-creatable on-screen macro buttons. **Worst Feature:** Speed of screen updates. Version reviewed: 1.0. **List Price:** \$74.95. Published by Software Ventures, 2907 Claremont Ave., Suite 220, Berkeley, CA 94705. (415) 644-3232.

## RED RYDER

Overall Rating	■ ■ ■ ■ ■
Follows Mac Interface	■ ■ ■ ■ □
Printed Documentation	■ ■ ■ ■ □
On-Screen Help	None
Performance	■ ■ ■ ■ ■
Support	■ ■ ■ ■ ■
Consumer Value	■ ■ ■ ■ ■

**Comments:** Flexible and powerful shareware. Loaded with features. Includes BBS when registered. **Best Feature:** Outstanding VT100 emulation. **Worst Feature:** Multitude of choices required make it hardest to use in this group. Version reviewed: 8.0. **List Price:** \$40 Shareware. Published by The Freesoft Company, 10828 Lacklink St. Louis, MO 63114. (314) 428-8057.

## SMARTCOM II

Overall Rating	■ ■ ■ ■ ■
Follows Mac Interface	■ ■ ■ ■ ■
Printed Documentation	■ ■ ■ ■ □
On-Screen Help	■ ■ ■ ■ ■
Performance	■ ■ ■ ■ ■
Support	■ ■ ■ ■ □
Consumer Value	■ ■ ■ ■ ■

**Comments:** Combines best ease of use with enormous power. **Best Feature:** Totally icon-based interface, extending to command language. **Worst Feature:** Lack of on-screen macros buttons. Version reviewed: 2.2A. **List Price:** \$149. Published by Hayes Microcomputer Products, Inc., 5923 Peachtree Industrial Blvd., Norcross, GA 30092. (404) 449-8791.



## GOOD THINGS COME IN SLIM PACKAGES



Ensemble's greatest strength is in its search and list capabilities. They are not powerful, but they're easy to use.



Ensemble appears on-screen as a data entry form. The icons at the bottom do not always clearly indicate what they do. For example, the little Mac (second from the left) brings up the Search dialog box!

(continued from page 52)

Ensemble also provides enough word processing power to let you create mailing labels, merge form letters, spice up charts and create complete printed reports. While Ensemble requires some commitment to learn, it packs a lot of power into a program that will run on only 128K.

Both programs are compatible with Switcher, if you have at least

512K of RAM. Both programs will also run on a 128K Mac with only the internal drive, although an external drive is really a requirement for serious work. And both programs provide support via toll-free telephone numbers at no additional cost.

Donna Barron is a Florida-based computer writer.

### ENSEMBLE

**Overall Rating:** ■ ■ ■ ■ □  
**Follows Mac Interface:** ■ ■ ■ □ □  
**Printed Documentation:** ■ ■ ■ ■ □  
**On-Screen Help:** ■ ■ ■ ■ None  
**Performance:** ■ ■ ■ □ □  
**Support:** ■ ■ ■ □ □  
**Consumer Value:** ■ ■ ■ □ □

**Comments:** Integrated program that revolves around a database; has spreadsheet, word processing and charting abilities. **Best Feature:** The database's sorting and listing capabilities. **Worst Feature:** Over-reliance on too many obscure icons. **List Price:** \$299.95. Published by Hayden Software, 650 Suffolk St., Lowell, MA 01854. (617) 937-0200, (800) 631-0856. Copy protected.

### QUARTET

**Overall Rating:** ■ ■ ■ ■ □  
**Follows Mac Interface:** ■ ■ ■ ■ □  
**Printed Documentation:** ■ ■ ■ ■ ■  
**On-Screen Help:** ■ ■ ■ ■ ■  
**Performance:** ■ ■ ■ ■ □  
**Support:** ■ ■ ■ ■ □  
**Consumer Value:** ■ ■ ■ ■ □

**Comments:** Integrated program that revolves around a spreadsheet; has light database, word processing and charting abilities. **Best Features:** Ease of use and good integration. **Worst Feature:** Copy protection that hinders use on a hard disk. **List Price:** \$199.95. Published by Haba Systems, 6711 Valjean Ave., Van Nuys, CA 91406-5889. (818) 901-8828, (800) 468-4222. Copy protected.

## PICTURE PERFECT

(continued from page 63)

paper. You must use film especially made for use in copy machines, not standard overhead transparencies, since the heat from the printer will melt the material and probably damage the LaserWriter. If you wish, you can print your charts on paper with the LaserWriter, and then use a copy machine to copy the charts onto the film. Overlays, inks and/or markers can be used to add color. This technique can be used to stunning effect.

For charts that use a lot of text, no other personal computer, color or black and white, could do the job as quickly and efficiently as the Macintosh. Combined with the power of that other wonderful computer, the LaserWriter, and a generous helping of creative energy, the Mac can prove to be a powerful visual presentation tool, even without a rainbow-blessed screen.

### Product Info

**Jazz**, \$395, Lotus Development Corp., 55 Cambridge Parkway, Cambridge, MA 02142.

**Excel**, \$395, **Chart**, \$125, Microsoft Corp., 16011 NE 36th Way, Redmond, WA 98052.

**ThinkTank 512**, \$245, Living Videotext, 2432 Charleston Rd., Mountain View, CA 94043.

**Click Art Publications**, \$49.95, TMaker Graphics, 2115 Landings Dr., Mountain View, CA 94043.

**Mac Art Dept.**, \$39.95, Simon & Schuster, 1230 Avenue of the Americas, New York, NY 10020.

**Mac The Knife/Vol 1: Treasury**, Miles Computing, 7136 Haskell Avenue, Suite 212, Van Nuys, CA 91406.

**MacMemories/1-13**, \$39.95 each disk; \$5 for a ring-bound catalog showing all images. ImageWorld, Inc., PO Box 10415, Eugene, OR 97440.

**Computer Graphics Color Packet**, \$11.50, direct-mail only, Channel Productions, 3742 Portofino, Suite A, Santa Barbara, CA 93105.

**MacDraw**, \$195, Apple Computer, Inc., 20525 Mariani Avenue, Cupertino, CA 95014.

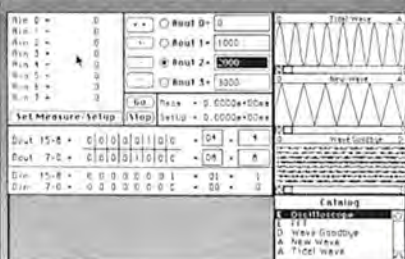
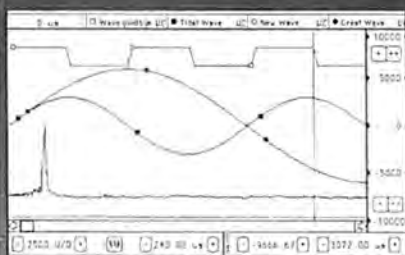
**Presentation Graphics on the Macintosh**, \$18.95, Steve Lambert, Microsoft Press, 16011 NE 36th Way, Redmond, WA 98052.

Roberta Schwartz and Michael Callery are widely read computer-graphics experts and writers.



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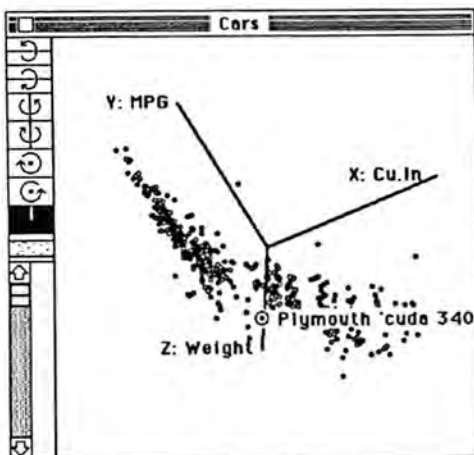
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# UNDER CONSTRUCTION

(continued from page 90)

clicking on something else or repeatedly pressing the Shift key.

The other difficulty comes up when you try to select a solution square prior to clue entry. When I experimented with the program, one of the leftmost squares wouldn't accept the mouse click command. Repeated attempts failed, so after some thought I merely clicked on the second letter in that solution. It worked like a charm.

The actual process is time-consuming, not because of the software, but because of the mental gyrations needed to develop a matrix of intertwined words. The commitment needed to create a puzzle is outweighed by only one thing — the pleasure of seeing someone play it.

## THE MACINTOSH MYSTIC

*Gypsy*, by Magnum Software, is essentially a computerized rendition of a Ouija board. This program includes a pressboard "gameboard" and a ball-bearing supported, free-wheeling Mouse Mover in place of the standard plastic heart with a pin through it. The Mouse Mover slips around the mouse, giving it the "precise" movement necessary for control by the mystic spirits, and it works well under more mundane conditions, too.

Moving the mouse on the board moves the on-screen pointer simultaneously. Questions are answered in this manner, though some may need interpretation. A basic text editor is provided for just this eventuality.

A couple of different boards and pointers are included on the program disk. These may be modified, or you can start with a clean slate by transferring *MacPaint* files. The process is uncomplicated and easy to master, all the more incredible once you realize the power and flexibility inherent in *Gypsy*.

Pages 9 through 27 of the manual cover all facets of board creation, the latter part being a concise tutorial. Though you can proceed along a number of different avenues, it is best to go with the prescribed order.

Work on the background first, followed by a pointer, creation and placement of text, and customization

of sound effects. Then the twinkling, very mystic-looking stars can be manipulated.

Since *MacPaint* files may be used for backgrounds or pointers, the possibilities are limitless. Text can be visible or invisible, and visible text may be displayed in a number of fonts.

The sound selection screen makes it easy to set tone duration and volume as well as change notes. Click on a board character (letter or word), then click a key on the piano. The note chosen appears in the character box. A Cut and Paste feature allows fast duplication of the features in selected boxes.

Stars, one of the program's most interesting graphic flourishes, come in a number of varieties, all selectable from a "star bucket." Besides choosing different patterns, and deciding on blinking or non-blinking objects, you can work with foreground or background stars. Background brilliants are more malleable, meaning that anything about them can be changed. Foreground stars can only have their animation sequences sped up or slowed down.

With *Gypsy* it is possible to make a board for every imaginable use — serious, humorous or somewhere in between. Unbeatable at parties, it's also indispensable for seances and midnight meetings at the morgue.

## MACINOOGA CHOOCHOO

Pardon me, is that the *MacInooga ChooChoo*? To say that Fortnum Software's electronic train set has a sense of humor is an understatement. This build-it-yourself bonanza comes complete with document libraries that can be used to create railroad layouts. The trash can is a steel crusher, the desktop is a complete railroad yard. The excellent icons effectively portray intent as well as content.

Though there are prebuilt trains and layouts, *MacInooga ChooChoo* is really meant to be a construction set. More effort goes into building roads than running them. That doesn't mean operating the roads is anticlimactic — actually, nothing could be further from the truth.

By selecting and dragging icons of

track sections, buildings, scenery and related items (signals, switches, couplers, platforms, and so on), home railroaders develop a layout up to two screens high. Tracks may wrap around the screen, and night runs are possible. Both provide additional realism.

Since the files are *MacPaint*-compatible, extra scenery and objects (tunnels, towers, etc.), may be added at any time.

A grid pattern makes placement nearly foolproof. Multiple squares can be selected at once, making large block moves and copies a reality. Objects within squares are handled individually; great for fine tuning.

*MacInooga ChooChoo* is by far the most complex Mac construction set program. It accurately simulates a sophisticated real life situation. In the real world, lots of control and coordination is needed to make trains run safely and on-time, and the same is true here. Proper placement of signals and switches is essential to a smooth operation.

Make sure to read the "Must Read . . ." file with *MacWrite*. It has invaluable information about updates made since the manual was published.

On-the-job experience dictates that you sprinkle the track liberally with signal lights to control the flow of traffic. This is particularly important with multiple crossovers and trains. In these cases it is also smart to create (switchable) alternate right-of-ways. Decouplers can be tricky, on a conceptual level. They are best left for shunting yards.

Things worked best when I first designed the work (shunting) yard, sidings and repair areas. Connecting these points came next, followed by placement of platforms, buildings and scenery. After analyzing the anticipated traffic patterns and making adjustments, I placed switches, signals, bumpers and decouplers. The final step was a thorough test in both directions by a single engine.

As the potential for frustration is high, take your time and test everything. The results will astound. ☐

*Ted Salamone is a freelance writer specializing in computer games and entertainment.*



# A TASTE OF PASCAL

(continued from page 107)

clear of any windows. Now it's time to set things up for our program.

This procedure calls three other procedures, which set up the applications window, menu bar and window limits. The order of these calls is somewhat critical. The reason for this is that information about windows must occupy memory blocks that cannot be moved around. To avoid fragmenting the Macintosh's memory heap, the window set-ups are done first so that they are lowest in memory.

The window set-up is straightforward. The space that the window will occupy on the Mac screen is defined by the `WRect` variable. Note that the procedure `SetRect` has the parameters:

`SetRect(Rect,Left,Top,Right,Bottom)`

This is backwards from the usual top, left, bottom, and right method used by most all of the rest of the Macintosh routines. `NewWindow` actually creates the window with the parameters we pass it. The `Nil` parameter tells the Window Manager to place this window behind all of the other windows on the screen. This is fine since it is the only window there to begin with.

`Type_ofW` is an Integer that tells the Window Manager what window type is wanted. The possible values are: standard document, 0; alert box, 1; plain box, 2; plain box with shadow, 3; document without size box, 4; and rounded corner document, 16.

`SetUpMenu` does exactly that. The procedure `NewMenu` takes just two parameters. The first is a constant, which was declared at the beginning of the program. This constant will be our method of finding out which menu has been selected later. The second parameter is a string that contains the name of the menu. Note the trick for getting the Apple (ASCII code 20) on the menu bar. `NewMenu` passes back a handle to the menu it created.

`AddResMenu` calls the Resource Manager to add all resources of type "DRVr" to the Apple menu. These resource types are the special drivers that define desk accessories. Their names will be in the Apple menu.

Next we add our own menu which we'll name "File" and which will have only one item under it: "Quit." The slash followed by a letter means that this item will have a command key equivalent that appear in the

menu with the familiar cloverleaf symbol. Finally, `DrawMenuBar` puts up our new menus on the menu bar.

The last set-up is called `SetUpLimits`. This routine defines three rectangles which will control the area of the screen that our window can be moved and sized to. `ScreenBits` is an externally defined `QuickDraw` variable of type `BitMap`. The field defined by `ScreenBits.bounds` is a `Rectangle` defining the entire Macintosh screen. `DragArea` is our own variable, which will define the area where the window can be dragged to. Note that the top coordinate is offset by 24, which keeps the window from being dragged past the Menu bar. Likewise, the other coordinates are defined so that the window cannot be accidentally moved off of the screen entirely.

The last thing that `SetUpLimits` does is `InitCursor`. This procedure brings back the standard arrow cursor in case the last application left the watch cursor, or something else.

Once the SetUps are finished our application is ready to start on its specific business. Next month we'll look at the special process by which a Macintosh program is set up to handle the standard interface. □

## ... AND ENDS HERE.

```
inDrag:      DragWindow(WindowPointedTo, MouseLoc, DragArea);
inGoAway:    If TrackGoAway(WindowPointedTo, MouseLoc) then
              DisposeWindow(WindowPointedTo);
end; { Case }
End; { DealWithMouseDown }
{-----}
Procedure DealWithKeyDowns (Event: EventRecord);
Var
  CharCode:   Char;
Begin
  CharCode := Chr(Event.message MOD 256);
  If BitAnd(Event.modifiers, CmdKey) <> 0 then { Command key pressed }
    ProcessMenu_In(MenuKey(CharCode))
  else
    begin
      TEKey(CharCode, TextHandle); { If we had a Text Edit record }
      ScrollText;
    end; { If }
  end; { DealWithKeyDowns }
{-----}
Procedure DealWithActivates (Event: EventRecord);
Var
  TargetWindow: WindowPtr;
Begin
  TargetWindow := WindowPtr(Event.message);
  DrawGrowIcon(TargetWindow);

  If Odd(Event.modifiers) then {The window is becoming active.}
    begin
      SetPort(TargetWindow);
      { and whatever else is necessary... }
    end
  else
    begin
      {Deactivate the stuff...}
    end;
  end; { DealWithActivates }
{-----}
Procedure DealWithUpdates (Event: EventRecord);
Var
  UpdateWindow,
  TempPort: WindowPtr;
Begin
  UpdateWindow := WindowPtr(Event.message);
  GetPort(TempPort); {Save the current port.}
  SetPort(UpdateWindow); {Use the one in Event.Message.}
  BeginUpdate(UpdateWindow);
  EraseRect(UpdateWindow^.portRect);
  DrawGrowIcon(UpdateWindow);
  EndUpdate(UpdateWindow);
  SetPort(TempPort);
End; { DealWithUpdates }
{-----}
Procedure MainEventLoop;
Var
  Event:      EventRecord;
  ProcessIt:  Boolean;
Begin
  Repeat
    SystemTask; {For the Desk Accessories.}
    ProcessIt := GetNextEvent(Event, Event);
    If ProcessIt then
      Case Event.what of
        mouseDown: { DealWithMouseDown (Event); }
        keyDown:   { DealWithKeyDowns (Event); }
        activateEvt: { DealWithActivates (Event); }
        updateEvt:  { DealWithUpdates (Event); }
      end; { Case }
    Until Finished; {That's all folks...}
  Until MainEventLoop; {Finish it up}
{-----}
Procedure CloseThings;
Begin
  { Close everything up since we are Quitting. }
End; { CloseThings }
{-----}
{-----} The Main Program {-----}
BEGIN { Main program }
  InitThings;
  SetUpThings;
  MainEventLoop;
  CloseThings;
END;
```



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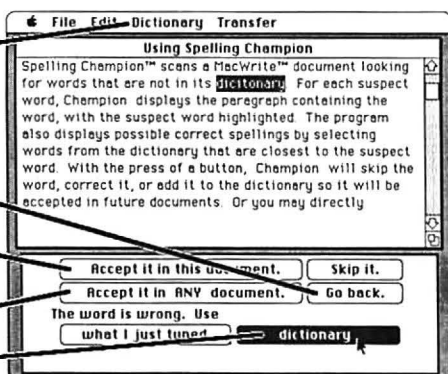
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by John C. Dvorak

## THEY SOLD THEIR SOULS TO THE FORTUNE 1000

A decade of micros has passed. Somewhere it took a left turn as most of the world went right. The microcomputer industry had high hopes for itself in 1976. Those days are over. Last year, most of the original Byte Shops had folded, including the place where I bought my first computer (a SOL-20). It was the Berkeley Byte Shop. By the time it folded it wasn't even a Byte Shop anymore. For some unknown reason the owner changed its name to the Computer Center and then, finally, to Trak Computers. (The latter was the suggestion of a highly paid consultant.)

The coup de grace was delivered to the West Coast scene when the once powerful West Coast Computer Dealers Association pulled up its stakes and said goodbye. Most of its members were out of business or had gone to work for Businessland.

Critics like to think that IBM had something to do with all this. Unfortunately, it's not true. IBM created opportunities with an open architecture computer that encouraged third parties and entrepreneurs. Apple's closed-up Mac and scanty documentation (at the beginning) contributed more to the decline than did IBM. But that's academic, because I don't think either company is at fault.

It's the people in the business who are at fault, with their acceptance of the notion that you have to crawl like a worm to make money. Let's look around at the scene and see what's happened.

First of all, the nifty computer store isn't dead as a moneymaker. Scattered like the lost tribe of Israel, they're here and there. There are new stores that specialize in aggressive sales of clones and zippy little alternative machines. These newcomers are doing quite nicely, thank you. They're selling what the old Byte Shops used to sell — fun computing. The Byte Shops and a lot of the older stores didn't keep up with the changing scene, and many of them fold-

ed with an inventory of dusty old CP/M machines. Until the bitter end they were saying, "A Z-80 machine has more performance than an IBM PC." Yeah, and all of 64K of memory. The hottest Z-80 is like owning a supercharged, fuel-injected Chevy with a one-gallon tank.

These guys were stuck in a limbo of their own creation. They didn't keep up because they booted out the hobbyists (the people who got them started). The stores wanted to make the big bucks by selling to the business user. Now they're broke. Good move! The net result is that an entire layer of industry leadership has disappeared. This is a tragedy. Where are the wizened sages?

One group partially responsible is magazine publishers. For one thing, you're reading one of the few genuine enthusiast journals when you pick up a copy of *MacUser*. While the owners of this magazine think it's great to be the only game in town, I think it stinks that there aren't others like it. After all, a primary reason for all this stagnation is the stagnant magazines. They used to be boosters for the technology — not boosters in the sense that they were flacks, mind you, but in the sense that they genuinely liked the business. Then they began to take themselves too seriously. Soon thereafter, they began to hire "journalists" to write for them. These are guys and gals who could care less about the scene, let's face it. Few, if any of them, have any notion about the innards of a machine and most of them want to write cop stories for the hometown daily.

Ten years ago the magazines were your friends, your next door neighbor.



They taught you about the innards of the machines: how they worked; why you should program in BASIC; why you should program in APL. The early issues of any magazine are filled with enthusiastic introductory material — the kind of information a newcomer needs to know to be inspired by it all. A generation of enthusiasts and hobbyists and original thinkers was born, and they spread out among the masses to convert more hedonists to learn the way of the machine. Then they disappeared. Where'd they go? Did they all get rich and move to Newport?

They gave up, it seems to me. They finally got tired of explaining the difference between a bit and a byte. Talk was cheap in 1976, when the difference between a bit and a byte was interesting to the apostolic micro user. Now it's a bore. "Read about it in a book," they'll tell you. "Computers aren't really good for anything," they'll tell you. "We sell solutions, not computers," they'll tell you.

They've all sold out. Down the river. They've betrayed their own dreams and ideals for a few gold coins. Screw 'em.

If people (who should know better) can't derive usefulness and fun and enrichment from a small computer, then they should retire to Scottsdale and pull weeds for the rest of their miserable lives. The newcomers will eventually pick up the slack. A hundred years from now you can claim to be a founder of the personal computer revolution if you got started in 1995.

But you still have to wonder how today's newcomer will fare with no wizened sages, no Byte Shops, no enthusiast magazines and nothing but surly chain store dealers who don't know spit from Perrier. Meanwhile, the hapless novice is surrounded by negative press that claims these machines are as useless as fender skirts on a ten-speed bike.

The newcomer has no way of finding out that there are hundreds of useful new products released daily. The stores don't tell them and the one or two decent magazines can't do it all. The promising new product instead finds its way to a reviewer's shelf only to be discovered long after the programmer had to go back to work for Bechtel to pay the rent. The stores, the magazines and the old-timers (who have long since sold their souls) spend all their time crawling on their hands and knees so they can lick the boots of the Fortune 1000 computer user. It's pathetic.

Let's return personal computing towards the direction it needs to head. Towards a person, not a skyscraper.



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