THE COMPLETE MACINTOSH SOURCEBOOK
THE COMPLETE MACINTOSH SOURCEBOOK

DOUG CLAPP
PAT RYALL

INFO BOOKS
FOR HUBERT
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Acknowledgments

Have you heard the story of “Stone Soup”? It goes like this. Two tired, hungry, broke soldiers amble into a small village. The soldiers are desperate for food, but have no money.

They have an idea: stone soup.

It seems that the villagers have never heard of stone soup. No problem; the soldiers are happy to share the recipe. The recipe goes like this: First a pot is needed, then some water, then a few choice stones.

The soldiers are happy to find the proper stones—a vital ingredient. The villagers need only to supply the other ingredients: meat, vegetables, and seasonings. Details. Small stuff.

Making this book, for us, has been a lot like making stone soup. This project started with an idea, a contract, two 128K Macintoshes, and a few folders of addresses of Macintosh vendors. And two copies of MacWrite.

It wasn’t enough.

These days, we’ve got three Macs (one’s a HyperDrive), hard disks, modems, a LaserWriter, assorted other hardware devices and peripherals, a mind-boggling collection of software, and many, many people to thank.

We didn’t write this book unaided. David Durkee, former Softalk magazine writer-of-all-trades, master of Macintosh BASIC, software whiz, and good friend, wrote many of the product descriptions and contributed a number of sidebars that added sparkle throughout the book. David also gave the entire manuscript a once-over to check facts and spot errors.

Thank you, David.

Denny James and Russ Sprouse of Rainbow Computing in Northridge, California, also contributed a number of descriptions. Everyone at Rainbow, at one time or another, answered questions, fixed machines, or otherwise helped us out. Denny and Russ, in particular, tackled a number of complex software packages that we felt unequipped to review.

Thank you, Denny. Thank you, Russ.

Kevin Goldstein, columnist and friend, contributed his knowledge of hardware matters and supplied us with needed hardware peripherals when manufacturers were less than forthcoming.

Thank you, Kevin.

Then there’s Bill McGee, Microsoft’s product manager for Microsoft Word. We called Bill when we discovered, early on, that MacWrite just wasn’t enough for a book of this length and complexity. Bill signed us on as beta testers for Word and kept us faithfully supplied with Words that got better and better, often sending a necessary update overnight.
After months of pushing *Word* to its limits, we can say this: *Microsoft Word* is wonderful. We could not have written this book without *Microsoft Word* and the help of Bill McGee.

Thank you, Microsoft. Thank you, Bill McGee.

Janek Kaliczak, leader of MicroGraphic Images Corporation, wrote a piece for us on software development. MicroGraphic makes the MegaMac and a number of other sophisticated products to enhance the Macintosh. Janek, besides being a brilliant hardware engineer, also has the largest collection of software we’ve ever witnessed. That collection came in handy when we needed to review software that we didn’t have and couldn’t get. Janek, invariably, had the product and made it temporarily available for review.

Thanks, Janek. But next time, get your copy in sooner, okay?

We’d also like to acknowledge the scores of manufacturers that showered us with products and press releases. Many companies contributed not only products, but also hours on the phone, answering product questions, helping with problems, or merely keeping us up-to-date on the latest phone number and address changes.

Finally, we’d like to thank our good friend and publisher, Gerald Rafferty. Gerald footed the bills and patiently extended our deadline, time and time again, while we saw this book through to completion.

Thank you, Gerald. Here it is. At last.
This book began as a “good idea” many months ago. The good idea was this: to write a book about products available for Macintosh.

A good, simple, easy idea. The book would be slim and modest, quick to write, informative, inexpensive, and quick to produce. Product names, company addresses, short descriptions, prices, that kind of thing. Easy. A short and delightful task.

After all, there weren’t many Macintosh products to write about. Then. That’s the setup. The weight of this book is the punchline. Macintosh products are now blossoming in every conceivable category and even some hard-to-conceive-of categories.

The companies that make the products also appear and disappear at a furious rate—and change addresses and company names and product names and prices and phone numbers just about the time you think you’ve got them nailed down.

What can we say? Facts are tough. Accuracy is difficult. We did the best we could. After compiling this sourcebook, we feel well-equipped to count sand at the seashore—during a gale. And the next time we do this, we want a staff. A big staff! Cataloging hundreds of products is tough enough. Soon, Macintosh products will number in the thousands! Maybe a sourcebook for owners of Himalayan llamas is a better idea for a follow-up book.

While this book is crowded with products, not all Macintosh products are in this book. Some products are vaporware that will never exist, despite advertisements to the contrary. When the vapor was overpowering, we didn’t include the product. Still, we probably got snookered a few times by companies that seemed legitimate, right down to “prerelease demo software” and professional press releases.

You weren’t planning to buy anything sight unseen anyway, right?

A handful of other products weren’t included because their release dates far exceeded this book’s publication date (and even this book’s estimated shelf life, in some cases!).

Having made those rules, we broke them joyfully when anything looked particularly interesting, even if the product wasn’t due out until 1996. We tried to note in the product description when a product was unfinished or unavailable for review.

Keep in mind that this is a sourcebook. It’s not full of weighty reviews or reasoned, defensible comparisons between products. Other publications fill that need (and we’ve described those publications, in the true source-
book tradition). The product descriptions within this book are only that: descriptions. Sometimes light, often opinionated, seldom thorough, and usually the result of spending less time with a product than we wanted to.

That being said, we'll say this: There is much in this sourcebook. Information about hardware, software, peripherals, accessories, books and newsletters and magazines. Services for Macintosh owners, products and information for Macintosh developers, and public domain software listings for hobbyists. A wealth of information for anyone who owns a Macintosh or wishes they did.

The first section of the book covers Macintosh software. Next comes communications hardware, software, and networking. We've broken it down a bit more precisely than that, but not much more precisely. Rummage around; it's interesting stuff. Complicated, but interesting.

Then comes a section on hardware and peripherals. Then books, newsletters, and periodicals. Then software development and languages. Then public domain software. Finally a few appendices we thought you'd like.

If you're looking for a specific product, do this: First look in the table of contents. Find the proper section of the book and the chapter that looks appropriate. Check the chapter subheads, then flip to the chapter and scan down to the item. Or check the index for the product or company name.

Or read the entire book cover to cover. Authors like that.

To make it easier to locate specific items, we've duplicated a handful of product listings that straddle categories or chapters.

But enough introduction. This is a good spot for a comment by Andy Hertzfeld, made back in the days when Macintosh was a secret—a small tan machine filled with incomplete and buggy software that was even then, in definable and indefinable ways, marvelous. Here's the comment: "The great thing about Macintosh isn't Macintosh. The great thing is what people will do with Macintosh."

It can't be said better.

We hope this book helps.
THE COMPLETE MACINTOSH SOURCEBOOK
Let's talk about bugs.


Bugs of omission also exist. Things programmers should have done, but didn’t. Unforeseen situations. Unplanned conditions that result in nastiness.

The always-welcome "Serious System Error" message is a good clue that, yes, a bug exists in the program. But some bugs are subtle; you can't catch them—or, sometimes, even know they're there!

So why be concerned? Well, imagine you’re running Exxon. Your accountant’s software doesn’t round off cents properly. Everything looks fine, but at year-end the books are off by thousands of dollars!

Here's the point: You can live with some strange, minor, quirky bugs—if you have to—in some programs. But when you've purchased software to help run your business, it had better work. This is your livelihood, after all, not some shoot-'em-up arcade game!

Businesspeople need proven, tested software, particularly when it comes to full-scale, expensive programs for payroll, general ledger, or accounts receivable. Who can blame them? Unfortunately, few Macintosh programs have withstood the test of time. Multiplan is one of the few programs that's been on the market over a year.
A year isn’t very long. There aren’t many Macintosh track records, yet. Some programs, though, were proven on other machines and now come in Macintosh versions. Software from Great Plains Software and Peachtree Software are two examples. Both programs received extensive “user testing” on other computers. This isn’t a recommendation, just a fact.

Other programs require careful study before purchase. Don’t be misled by hefty price tags and ads touting impressive specifications. Now’s a good time to flip ahead to the database chapter and read our advice: Read, plan, shop around, find a good computer store, get a demo, and so on.

Dull, but true. We don’t want you spending hundreds of dollars for something that either doesn’t work properly or isn’t the proper program for your business.

But there’s more in this chapter besides general ledger programs. Specialized accounting software is here. So are financial programs. And spreadsheets (only one full-blown spreadsheet, though—look in the Integrated Software chapter for a few more). And small, handy, business-related programs. And the line from Human Edge Software. And (as they say) much, much more.

Financial Management

Applied Logic Systems, Inc.
2614 North 29th Avenue, Phoenix, AZ 85009
(602) 272-9355

Quest Client Write-Up
A sophisticated accounting program. Offers automatic production of journal entries, payroll register, up to thirteen accounting periods, and a self-formating financial statement with standard formats for income statements and balance sheets. Produces a payroll register and can record 941, W-2, and 1099 information. $375

Quest Small Business System
A complete series of accounting packages. The series consists of five modules: Accounts Payable, Accounts Receivable, General Ledger, Inventory, and Payroll Write-Up. Entries in each module update other modules automatically. The General Ledger module also produces pie and bar charts.
For those who gasp at the prices of the individual modules (and the price for the entire package), a demo disk is available for $25. The demo is a fully functional General Ledger disk with file size restrictions and without some necessary utilities. The first module, General Ledger, is available now; the other modules are expected to become available throughout 1985. General Ledger, $395; Accounts Payable, $595; Accounts Receivable, $595; Inventory, $395; Payroll Write-Up, $150; entire system, $1,800.

Button Down Software
P.O. Box 19493, San Diego, CA 92119
(619) 234-0263

Profit Stalker
Software for technical stock market analysis. Generates charts from a relational database of stock and commodity prices. Includes daily prices, trend lines, moving averages, oscillators, volume line and bar, on-balance volume, open interest retrace levels, daily most active, M1, Federal funds, discount rate, weekly DJIA, and...well, that's enough, right?
Comes with sample stock and commodity files and other market information. Requires Microsoft BASIC 2.00 (a version that works with the earlier 1.00 BASIC is available on request). $150

Cogntive Software
P.O. Box 26948, Austin, TX 78755
(512) 346-7864

Financial Utilities Pack
Analyzes company financial statements, provides insight into financial condition and prospects for future growth, and rates companies according to a performance expectations scale. Also performs other financial calculations, including compound interest and annuities. Everything is done in dialog windows. Optionally, you can display the formula in question—good for educating your client or yourself. A convenient pack of programs that would find frequent use by real estate agents or banks, especially if tucked away but close by on a hard disk. $69

Financial Utilities Pack

Creighton Development, Inc.
16 Hughes Street, Suite C-100, Irvine, CA 92714
(714) 472-0488

MacOffice
Ten programs for the office. Loan Amortization Schedule calculates periodic payments, interest rate, and principal or term of loan when only three factors are known. You can print out the results with a summary at the end of the year.
ACRS Depreciation Schedule calculates ACRS depreciation by year for real and personal property (updated for tax act of 1984). Lease vs. Purchase provides a model for evaluating lease versus purchase decisions.
Financial Calculator replaces the Macintosh calculator with a full-function financial calculator to perform present value, future value, and loan payment calculations. Results may then be pasted directly into the working document. Scientific Calculator replaces Mac's calculator with a full-function scientific calculator to perform square root, exponential calculations, and more.
Statistics calculates the mean, median, and standard deviation of a list of values. Internal Rate of Return calculates the internal rate of return of periodic payments received over a period of years. Bond Yield to Maturity calculates, not surprisingly, bond yield to maturity. Calendar Functions calculates the number of days between dates, day of week of future dates, date of number of days hence, etc.
Finally, Desk Accessories Editor allows you to edit desk accessories and install the financial and scientific calculators. $49
Digital Etc.
1749 14th Street, Santa Monica, CA 90404
(213) 452-5636

Maccountant
A small business accounting package that does income statements, accounts receivable and payable, balance sheets, and general ledger. Offers flexible reporting periods; information can be fitted into fiscal years, or you may choose to report only seasonal highlights. A single disk holds a full year's data, according to the manufacturer. $195

Future Design Software
13681 Willamette Drive, Westminster, CA 92683
(714) 891-9796

General Ledger
Does balance sheet, profit and loss, trial balance, and—here's the startling fact—incorporates SmoothTalker speech synthesis routines to report errors and articulate commands. The package also offers comparative analysis, projections for income and expense accounts, detailed journals, individual and consolidated balance sheets, and profit and loss variance reports.

General Ledger is the first of five modules in Future Design's Strictly Business Accounting System. Forthcoming are Accounts Payable, Accounts Receivable, Inventory Control, and Order Entry. $395

Great Plains Software
1701 38th Southwest, Fargo, ND 58102
(701) 281-0560

Hardisk Accounting Series
Like they say, requires a hard disk. The series is also available for Apple IIs and IIIs (equipped, of course, with hard disks) and has been a bestseller for those other Apples.

The series consists of five modules: Accounts Payable, Accounts Receivable, General Ledger with Financial Reporting and Budgeting, Payroll, and Inventory Management with Point of Sale Invoicing. Available sometime in 1985, according to Great Plains, will be Job Cost with Estimating, Costing and Pre-Billing.

The modules can be used separately or together. Available programs contain clear help screens, and all manuals include a tutorial section. Each module, $695

Micromax Systems, Inc.
6668 Nancy Ridge Drive, San Diego, CA 92121
(619) 457-3131

Finance
Finance is the core module in Gallery, an accounting and business management system. The Finance module includes Accounts Payable, Accounts Receivable, Cash Disbursement/Optional Limited Payroll, and General Ledger.

All program modules are interconnected; each data entry affects all pertinent modules. Data is posted in a familiar "one-write" screen format. Debits and credits are checked for balance at each transaction entry. The program offers period-to-date, year-to-date, and historical information. Report generation and screen queries are sortable by alphabet, customer ID, or account number sequence. According to Micromax, "The [Gallery] screen formats emphasize ease of use and intuitive learning so well that without reading the instruction manual you might well be on your way."

The program requires, at a minimum, a 128K system with two drives. A hard disk system, as you'd guess, allows more data.

Here are the suggested limits for a minimal system (with hard disk limits in parentheses): 12 (12) accounting periods, 200 (500) charts of account, 1,000 (2,500) customers or vendors, 50 (100) employees, 1,000 (2,500) inventory items, 500 (5,000) transactions per module/per month, and 10 (10) digits for dollar amounts.

Available later in 1985, according to the manufacturer, will be the following additional modules in the Gallery series: Automated Check Printing, Business Graphics, Corporate Taxes, Financial Analysis/Planning & Budgeting, Fixed Assets, Inventory Control, Job Costing/Project Control, Order Entry/Invoicing, Payroll/Personnel, Purchasing/Receiving, and Material Resource Planning. Finance module, $795

P-Cubed, Inc.
949 Parkland Center, Wichita, KS 67218
(800) 682-2900, (316) 686-2000 in Kansas

The Investor
A program for portfolio management. Allows automatic updates of security quotes, via the Dow Jones News/Retrieval Service, and graphs portfolio performance. Handles stocks, options, short sales, and margin accounts. Produces reports, including Portfolio Status, Capital Gains/Losses, Interest Income, and Dividend Income. $150

Peachtree Software
3445 Peachtree Road NE, Atlanta, GA 30326
(800) 554-8900, (404) 325-7900 in Georgia

Back to Basics Accounting System:

General Ledger
Back to Basics Accounting System is a reasonably priced, easy to use, double-entry accounting system for small businesses or serious home users. The system includes three modules: General Ledger, Accounts Receivable, and Accounts Payable. General Ledger was the only module we reviewed.

Peachtree has put much thought into the design of this system (written in Forth). You can use modules separately or together as an integrated system. General Ledger can hold about 254 accounts in the Chart of Accounts and can hold over 1,500 checks on data disks. To run General Ledger you'll need two drives (unless you're using a 512K Mac) and an Imagewriter (or compatible eighty-column printer). The program can also be run on a hard disk.

The General Ledger manual includes an overview of accounting principles, a reference section, and a tutorial that illustrates how a sample company might use different aspects of Back to Basics. Each module, $175
Superex International Marketing Ltd.
151 Ludlow Street, Yonkers, NY 10705
(800) 862-8800, (914) 964-5200 in New York

Superex has a number of products available for Macintosh, with more under development. At this time, however, we can't recommend purchase of any of the following Superex products. The review copies we received appear to have been rushed to market; the programs make poor use of the Macintosh user interface and have a hasty, slapped-together feel. In many cases, we weren't able to operate the programs successfully. Two of the programs even had misspellings on the pull-down menus—possibly a trivial complaint, but one that gives pause when found in a $300 inventory program.

We hope the firm improves its product line. For now, we suggest passing on these programs.

EstiMac
A price estimation program. Keeps track of customers, links to MacPaint files. $99.95

Inventory Manager
Handles purchase orders and reorders, and tracks product movement on a daily, weekly, or monthly basis. Inventory information can be linked to MacPaint files. $300

MacChoice
A program that helps you make decisions. Anything that can be compared is fair game. Accommodates two to four items simultaneously and lets the items be rated in as many as twenty categories. The ratings are then tabulated and displayed in a bar chart. $49.95

MacFinance
Purports to perform a number of financial functions: liquidity ratios, leverage ratios, activity ratios, profitability ratios, market ratios, cost analysis, return on investment, depreciation, break-even analysis, operating leverage, annuities, mortgage calculations, bond yield analysis, and more. $99.95

Back to Basics Accounting System:
General Ledger

Rune Software
80 Eureka Square, Suite 214, Pacifica, CA 94044
(415) 355-4848

Complete Accounts
An accounting package for small to medium-sized businesses. Transactions are recorded in one of five journals and posted to a general ledger. The Sales Journal (accounts receivable) is designed to handle sales on credit and incorporates complete invoicing and monthly statement generation. The General Journal handles infrequent transactions outside the limits of other journals. The Purchases Journal (accounts payable) is a vendor file that keeps track of current and aged accounts payable, generates purchase orders, and provides information about discount terms and account status. The journal also handles check writing. The Cash Receipts Journal manages receipts, and the Cash Disbursements Journal handles cash payments.

Three financial statements are produced: Income Statement, Balance Sheet, and Statement of Owner's Equity. $349

Smith Micro Software, Inc.
P.O. Box 7137, Huntington Beach, CA 92615
(714) 964-0412

Stock Portfolio System
Software for use with the Dow Jones News/Retrieval Service. Allows retrieval of stock quotes from Dow Jones and portfolio management and update. Handles stocks, bonds, mutual funds, money markets, certificates of deposit, and other investments. Generates nine reports, including profit and loss statement, dividend income statement, interest income/expense statement, and current portfolio status of unrealized gains and losses.

Incorporates 1984 tax changes. Also features timing notices, margin accounting, options writing, and return on investment calculations. Requires a $64 a year entitled buyers to upgrades and enhancements. $225

Superex International Marketing Ltd.
151 Ludlow Street, Yonkers, NY 10705
(800) 862-8800, (914) 964-5200 in New York

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MacFinance
Purports to perform a number of financial functions: liquidity ratios, leverage ratios, activity ratios, profitability ratios, market ratios, cost analysis, return on investment, depreciation, break-even analysis, operating leverage, annuities, mortgage calculations, bond yield analysis, and more. $99.95
Books! The Electric Ledger
We didn't see this one. Reportedly, it's an accounting system designed to "work the way accountants and bookkeepers work." Competition is fierce among Macintosh accounting programs; we suggest reading reviews and comparing products carefully before purchase. $395

Business Graphics

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or (408) 996-1010 in California

MacDraw
MacPaint for the office. MacDraw, unlike MacPaint, considers drawings as objects, not free-form images. The graphic objects can be aligned to grids, scaled, rotated, and grouped (and ungrouped) with other objects. They can also be stacked over other objects, then "sent to the back" or pulled to the front again. A number of rulers are available, and custom rulers can be created to your specifications. The approach simplifies complex architectural drawings and demanding drafting-board productions.

MacDraw has been under development, it seems, since before most of us were born. Well, maybe not that long, but a long, long time. A popular pastime among software pirates used to be comparing—and swapping—the latest version. A "993" for a "997," for example.

It's understandable. Like other programs with long development times—Microsoft Word, Macintosh BASIC, and others—MacDraw is a world unto itself, a complex world that remains to be explored by professionals and hobbyists. MacPaint has already created a subindustry of "hanger-on" programs. MacDraw, if popular, may create similar classes of programs, more sophisticated and flexible than the current crop of images for MacPaint.

MacDraw shines on the 512K Macintosh, where it can work with an almost unlimited number of graphic objects. It also shines with Apple's LaserWriter, where the printed results are spectacular. Highly recommended. And the price is bargain-basement. $125

Microsoft Corporation
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8080

Microsoft Chart
The premier program for graphing anything on Macintosh. Accepts data from Multiplan, Microsoft BASIC, other programs, or from the keyboard. Lets you quickly create charts and graphs in column, bar, line, pie, or scatter formats. Each format has additional variations. Each variation can be tweaked, and each tweak can be diddled. If you know your graphs, you'll be impressed. Also does statistical analysis on chart data.

Data entry is convenient, adjustment is painless, and prettification is fun. Once created, graphs can be moved into MacWrite, Word, or other programs. Like all Microsoft products, Chart comes with extensive help files on disk and an excellent manual. With 512K, more points can be plotted. If you need charts or graphs, buy it. $125
The Communication Edge
Proposes to help you communicate more effectively in meetings and conversations: to emphasize your communication strengths and "avoid pitfalls built into any potential conversation." The resulting report offers ways to get along better with your communicative counterpart. $195

The Management Edge
This one evaluates your management skills, helps improve your supervisory techniques, and offers to aid you in influencing superiors. Also helps to "boost productivity, increase motivation, solve manager/staff conflicts, and determine compatibility between yourself and your organization." $250

The Negotiation Edge
How to negotiate better. Helps to “analyze negotiators’ personalities, identify problem areas, and anticipate likely opponent maneuvers.” The final report gives step-by-step aid in the bargaining process. $295

The Sales Edge
How to get that sale. The report details what strategies will be most likely to succeed in a sales presentation and gives actual closing technique suggestions. One of this book’s authors tried this program on the other. The report suggested (among other things) the “Ben Franklin Close,” where the seller and buyer make a two-column list of reasons for, and reasons against, the sale. The report suggested making the “reasons to buy” column longer. The “seller” hasn’t yet tried out the advice. We’ll let you know. $250
Harris Technical Systems
624 Peach Street, Box 80387, Lincoln, NE 68501
(800) 228-4091, (402) 476-2811 in Nebraska

Profit Projector/Breakeven Analysis
An excellent program. We hope we can describe it. Let's see:
The program does profit projections and performs break-even analysis. If you've worked with spreadsheet programs, the approach will be familiar. Information is entered onto a worksheet and results are calculated and displayed, according to formulas.

Harris Profit Projector/Breakeven Analysis

But unlike in a spreadsheet, the formulas are predefined, and so are the forms. It's a prewritten spreadsheet, if you will, created for a fewer specific tasks. Within that definition, the program is very flexible. You begin with one of three forms: an example form, a standard form, or a "scratch" form. Each form offers more flexibility, and less built-in help, than the previous form. Beginners will start by changing entries in the example form, then advancing to standard and, finally, custom forms. After the information is entered, "what-if" analysis can be done easily—just like a spreadsheet program.
The program also generates these six reports and graphs: profit projections report, breakeven graph, expense % graph, profit comparison graph, split projections report, and split projections/breakeven graph. The graphs are good: fast, clear, well-done. You can't frit with them forever, à la Microsoft Chart, but they're clear and helpful.
The manual is slim, well-written and organized, and includes an appendix of formulas used for all calculations. In all, a very good program—one that hasn't gotten the degree of press attention that products from Microsoft or Lotus have, but deserving of your attention nonetheless. One of our favorites. $70

Microsoft Corporation
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8080

Multiplan
The first Macintosh spreadsheet and a tough act to beat. Multiplan takes superb advantage of the mouse and the Macintosh user interface. Or, if you prefer, you may use keyboard combinations to duplicate almost everything you can do with the mouse, including navigation within the spreadsheet. The program is simple and elegant, yet contains more functions and options than spreadsheets laced with hard-to-remember commands. Those acquainted with spreadsheets will be impressed; we've heard the comment, "I never understood electronic spreadsheets until I used Multiplan."
Numbers may be stored in a variety of formats, with almost unlimited precision, if requested. The program allows formulas such as "Revenue = Sales - Cost" to be created. Many functions are built-in: mathematic, trigonometric, logical, text, and others, including LOOKUP, INDEX, and functions to set iteration count and maximum change between iterations.

Multiplan
Cutting, copying, and pasting within the worksheet is easy. Multiplan also accepts data from other programs and transfers information in text-only or SYLK files (if desired) to other programs. (SYLK gives a complete representation of Multiplan data to other programs—notably other Microsoft programs: Word, Chart, and File.)

Drawbacks are few. On a 128K Mac, the program doesn't encourage massive spreadsheets; the maximum size of a worksheet is 255 rows by 63 columns—still a hefty size. For more elaborate productions, worksheets may be linked to other worksheets, an option that should satisfy anyone's desire for complexity. $125

Owl Software
79 Milk Street, Suite 1108, Boston, MA 02109
(800) 343-0664, Ext. 5500; (800) 322-1233, Ext. 5500, in Massachusetts

Soft Start Business Analysis
Eleven Multiplan worksheets in two groups. The Payroll group has six worksheets for setting up a weekly payroll, or tables may be modified to handle other payroll periods, if desired. All federal withholding calculations are included, with state and local examples. Also maintains deposit records. The Operations group contains these worksheets: Break Even Analysis, Financial Statement Analysis, Cash Flow Budget, Receivables, and Payables. Overall, a good value. $49.95

Soft Start Personal Finance

Time & Project Management

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or (408) 996-1010 in California

MacProject

Maybe the most underrated program available for Macintosh. MacProject is LisaProject rewritten. As LisaProject, it garnered rave reviews but got little use. But then Apple didn't sell many Lisas, so that may have been the problem.

Here it is for Macintosh—a superb program to help you in designing and managing projects. With MacProject, you draw a project schedule on-screen, enter dates for tasks, enter fixed and variable cost data for each task, and enter resources available for each task. The program then calculates begin-
ning and ending dates for all tasks and shows the "critical path" necessary to complete the project successfully.

Features (some of them) are representation of project schedules and status through schedule, task, resource, and tabular charts; the ability to calculate and adjust fixed costs, variable costs, and income with tabular display of total costs and net cash flow; "what-if" ability for instant recalculation of dates, resources, and costs in the event that variables are introduced into the project; and easy modification of project tasks and dependencies. Sections of projects may be cut and pasted into other project schedules or into MacWrite files. Costing data may be transferred to Multiplan for further analysis.

Sounds confusing, doesn't it? Don't worry; fool with the menus, enter a few tasks, draw a few lines, and things will become clear. MacProject is simply an incredible tool for managing projects. There are many projects out there among the Knowledge Workers of America, but nothing like MacProject. If you handle any type of project from beginning to completion, this program could save your neck or help you get that raise.

On the 128K Macintosh, MacProject can accommodate up to 200 tasks. On the 512K Mac or Mac XL, MacProject can handle 2,000 tasks and employ up to six resources per task with a maximum of fifty resources per project. That should be enough. For serious project work, a steal at $125.

DataPak Software, Inc.
14011 Ventura Boulevard, Suite 401,
Sherman Oaks, CA 91403
(818) 905-6419

My Office
Integrated software for managing lists, designing forms, and printing form letters and mailing labels.

The package provides a number of other functions, including a MacPaint-like screen for designing business forms and many options for calculations, form letters, printing, and paper sizes—including custom stationery.

Despite the many options, the program seems tailored to handle short notes or address lists, not full-scale databases containing lengthy records. My Office also takes the Macintosh user interface to new heights (or depths, possibly) of "real world modeling." Here, the database records are located in graphic file folders and the folders are kept in a file cabinet that does, indeed, look just like a file cabinet.

The intention of all this imagery, it seems, is to make life easier for the busy knowledge worker. In practice, we agree with the second sentence in the manual: "If you fail to grasp My Office's simplicity, it will become needlessly complex."

We didn't grasp it. $79.95

EnterSet
410 Townsend, Suite 408-B, San Francisco, CA 94107
(415) 543-7644

Quickset
A collection of business-oriented programs for organizing and planning. Includes financial and statistical calculators, a Cardex (address and phone book), a Notefiller, an Encryptor for protecting files, and an appointment book and calendar. The calculators have a number of sophisticated, built-in functions, including internal rate of return, discounted cash flow analysis, depreciation calculations, mortgage yields, amortization calculations, interest rate conversion, standard deviation, and more.

A 512K machine is recommended for this collection. $99.95 (plus $3 shipping and handling)

Haba Systems, Inc.
15154 Stagg Street, Van Nuys, CA 91405
(818) 901-8828

Habadex
A time and information management program. Includes a telephone directory, appointment calendar, and limited database. Prints lists and labels. Produces form letters in conjunction with MacWrite.

Habadex was one of the first programs available for Macintosh. At its release, it was widely held to be a sterling example of Mac's user interface and the "Macintosh way" of writing software.

Time has not been kind to Habadex. The first units flew off the shelves. Then joy turned to dismay; the program had a number of serious bugs and minor flaws. The reviews began to appear and were unanimously unkind. Other, similar programs began to appear. Haba's "first out" advantage disappeared. Sales declined. Haba's corporate reputation suffered.
And here we are, a year later. Habadex is now Habadex Version 1.1. The bugs have been fixed and new features have been added. Most notably, there's an optional communications program, HabaCom, that works with Habadex. Now, there's not only a telephone directory but also a means to communicate by modem from within Habadex. The program has even made it into the movies; the production crew of the movie 2010 used Habadex extensively for purchasing and other tasks. They were pleased with the program.

Still, it may be too late for Habadex. The program is meant to be an "all you need" software, but many users will find that the features of Habadex would be better employed as separate, more powerful programs or separate, more convenient desk accessories. $100; with HabaCom, $150

Intermatrix
5543 Satsuma Avenue, North Hollywood, CA 91601
(818) 509-0474

MacDesk
An array of programs configured as desk accessories. The accessories are divided into four areas: desktop management, telecommunications, personal information files, and office productivity. Here's the list for desktop organization: calendar and appointment books, multiple appointment alarms, a things-to-do list, a scientific calculator with printout capability, bank account and credit card listings, and an analog clock.

The personal information files are maintained as Rolodex cards. The QuikTerm telecommunications module is compatible with Apple and Hayes modems and permits auto-dialing of standard telephones. A PhoneLink connector, available separately, allows auto dialing of standard telephones without requiring a modem. MacDesk's ReadPrinter allows printing of MacDesk data or any other Macintosh text file while simultaneously running another program. Still another accessory, MemoWriter, is a mini-word processor. MacDesk was under development as this description was written. Contact the company for current prices and options. $89.95 (without PhoneLink); $99.95 (with PhoneLink); PhoneLink alone, $29.95

Layered, Inc.
65 Merrimac Street, Boston, MA 02114
(617) 423-9041

Front Desk
Front Desk is a business tool designed to help you organize as many as fifteen resources (people, places, or things) and fifteen different types of services for up to twelve months at a time. The program also allows you to define hourly business rates for your resources and flat billing rates or hourly fees for your services.

Using Front Desk, you can view your schedules by the month, week, day, or by all days for a specific day of the week (for example, all the Tuesdays in the month of March). Also, after you have defined rates and fees, Front Desk can be used to report or project revenue for your organization.

Front Desk
To run Front Desk, you can get by with a 128K Macintosh, but a second disk drive and a printer are welcome options. Front Desk is a unique program for anyone who needs to manage a staff, track events, or maintain special financial information. $149.95

SoftDesign
14145 S.W. 142 Avenue, Miami, FL 33186
(305) 253-5521

TimeBase
A scheduling program that offers links to other programs and a limited database facility. Information from word processors, databases, spreadsheets, or accounting programs can be tied into appointments in your schedule. Several schedules can be maintained at once. Includes a simple project manager, automatic entry of standing appointments, priority scheduling, and appointment reminders. A Tracking, Maintaining, and Planning feature tracks deadlines, callbacks, and accounts payable and receivable. Also includes a folder of standard business forms and letters, for transfer to MacPaint for editing and customizing. $149

Warner Software, Inc.
666 Fifth Avenue, New York, NY 10103
(212) 484-3070

The Desk Organizer
The Desk Organizer is an instant file cabinet, an appointment calendar, an expanded notepad, a telephone dialer, a printer, a visual calculator with paper tape, a clock watcher, and more.

The program is a multitude of desk accessories rolled into one application program. Its usefulness comes from the ability to run other applications directly from The Desk Organizer. In a sense, the other applications on disk (MacWrite, for example) become desk accessories; they show up on the Apple menu, ready to be chosen and quickly run from the Desk Organizer. The idea is similar to Apple's Switcher.
The Desk Organizer

To use all the program’s features, you’ll need 512K. In 128K, Desk Organizer is a more traditional stand-alone application, though it still allows other applications to be opened without a trip through the Finder.

We found that the program didn’t live up to the expectations fostered by the company’s advertisements (few programs could!) and suggest getting a hands-on demo before you buy. $99

**TK!Solver**

TK!Solver is an “equation processor.” Like a spreadsheet, it allows information to be input, then manipulated, but it takes a more straightforward approach to equations. You’ve seen the Hewlett-Packard handheld financial and scientific calculators? The ones with all the strange keys, beloved by engineers and scientists? Well, TK!Solver is to typical financial programs what those calculators are to typical handheld calculators. But easier to use.

The program displays a Rule Sheet and a Variable Sheet. Rules and variables can be of almost unlimited precision or complexity—even problems involving sets of simultaneous nonlinear equations are child’s play. Unknowns can appear anywhere in the equation; TK!Solver will solve just about anything, anywhere, provided that sufficient mathematical information has been supplied. Previously, these sorts of manipulations required sturdy programming skills.

The program also does back-solving, successive approximation, and unit conversions; plots output; and offers online help and error diagnosis. In all, the next best thing (and closer than you might think) to a mainframe math program, at a fraction of the price. $249

**TK!SolverPacks**

Application models for use with TK!Solver. Mechanical engineering, financial management, and introductory science are now available; others are planned. Each, $59
Databases manage information. Information, on the Macintosh, can be words, numbers, pictures, formulas, or anything else that can be entered, manipulated, stored, and retrieved.

Things were simpler in the old days on other computers. Then there were simple “file-management” programs, complex “database” programs, and ultra-sophisticated “relational database” programs. Each, in turn, did more, cost more, and was harder to learn.

The terms still apply on Macintosh, but the lines are blurred. We’ll use the word “database” here, throughout.

Before buying a database, consider your needs. If you just need to make a few lists, use MacWrite; there’s no need for anything else. But if you need to sort the lists, find specific entries, or make reports, you’re in the right section.

When choosing a database, it’s helpful if you understand a few basic notions. Most databases are composed of fields, records, and files. A field is usually a single line of information, similar to one entry on a multi-line form. A record is a collection of fields that comprise the entire form, and a file is a group of forms. Eventually, the records (or selected records) are sorted and printed. Then they’re reports.

In a mailing address, for example, a single line (“John Doe”) is a field, and Mr. Doe’s name and complete address is a record. The collection of all addresses is a file. You might have one file of friends’ addresses and another file of business addresses.

Maybe your file of business addresses contains 987 records. That’s 987 addresses—each a record of, say, five fields. The first field might be the name, the second the street address, the third the city, the fourth the state, and the fifth the zip code. That’s not the only way to do it, of course. You might choose to make city, state, and zip code a single field.

When you’ve entered the addresses into the database, one by one, you’ve done most of the work. Then it gets fun (or productive, if you will). Maybe you’d like to sort the addresses alphabetically by name. Or print mailing labels, sorted by zip code to cut postage costs. Or search the database to find every “Smith,” or just “Jane Smith,” or maybe every Smith that lives in Florida. Maybe you can’t remember the person’s exact last name. Was it Smithford or Smithfern? A good database lets you search on partial words and list every name with “Smith” in it.
Maybe each record has a few more fields: “Date of last contact,” “Regular customer (y/n),” “Line of credit,” and “Balance owed.” If so, then it’s possible to find:

All regular customers who live in Minnesota contacted in June of 1983 that owe us $15,000 or less with lines of credit of $50,000 or more.

Try that with a filing cabinet.

With a good database, you begin to think about information in new ways, to see connections that weren’t visible before, to feel in control (for once) of a mountain of data.

Let’s take a real-life example: Your business wants to keep a personnel record for each employee. You might want each record to have fifty fields, with each field containing many words. A database that limits records to ten fields maximum—though fine for people who need to keep track of mailing addresses—would be out for you. And a database that allowed only twenty-five characters per field couldn’t handle your star salesman Michael Reginald Pokryzinski.

An astronomer cataloging stars would need a database that could handle a huge number of records—more records than a single Macintosh disk could hold. Some databases can handle files that spill over onto a second disk (DB Master is one); some can’t.

The trick to databases, as you can see, is buying what you need and no more. Extra features often add expense, size, and complexity. Hassle.

The databases in this section are general purpose. Each can be used in many ways for many tasks. If your needs are more specific, you might consider a special-purpose program such as an inventory program or a billing program; these programs can be found in the Business Software chapter. Many of the programs in the business chapter are, in fact, databases under the skin.

The less expensive file-management programs are usually easy to use, but they’re sometimes limited in capabilities. Typically, you design a form on-screen, then fill in the information. The forms (or records) are usually one page or less in length. If you’ve never used a computer to store information, though, the power of these programs will surprise you. (But not all forms-oriented programs are low-powered; Microsoft File is a killer database.)

More complex (and usually more expensive) databases offer a slew of features, options, and gizmos. Fields may be “computed” based on information in other fields. Sorting may be done on many fields at once. Files may be huge and records may be lengthy and complex. The program may compute totals and subtotals of selected fields. Files may be merged with other files or appended to them. Information may be transferred to other programs for charting; reports may be finely crafted.

“Relational” databases allow you to keep more than one file open and to transfer, or update, information between files. Odesta’s Helix, a complex and powerful program, even includes a specialized, icon-based language that can be used to create databases for specific applications.
Macintosh owners also have choices denied those with other computers. *Filevision* is a graphic database; it catalogs information associated with maps, drawings, and diagrams—like *MacDraw*, with a database built in. *Factfinder* is a free-form database for working with text; it replaces records and fields with data sheets and keywords—like *MacWrite* with a database built in. *Microsoft File* allows picture fields, along with the usual text and number fields (it also does automatic dates).

The descriptions that follow only scratch the surface of these programs. And let's be honest: We haven't thrown several hundred records into each database and then used the programs rigorously for many months. Nor, need we add, has anyone else who writes this kind of thing. We've taken a look, tried them out, and read the manuals, but only one database—*1stBase*—got a grueling road test. *1stBase* handled the recordkeeping for this book, and we liked it.

How should you choose a database? Know your needs, read, study, and ask around. When you're shopping for the right database, a knowledgeable salesperson at a reputable computer store is almost a necessity. Bring a sample of the information you need to store, estimate the number of records you'll need, and determine what reports—if any—you'll need to generate.

Ask a lot of questions. Can the database information be used by other programs? Can reports be moved into *MacWrite* (for touch-ups) or *Microsoft Chart* (for graphs) or *Multiplan* (for conversion into spreadsheets) or *MacTerminal* (for transmitting the report by modem to Kansas City)?

Don't buy anything without getting a demo, but get more than a demo. Use the program yourself. Enter information, create a new file, print a few reports. Scan the menus. Is the program clear and understandable? Is data entry easy? Is it convenient to move between fields in a record, or between records in a file? Do keyboard shortcuts help you navigate within the program?

Look for on-screen help files and take a long, hard look at the manual. Ask about limitations. All programs have limitations. Most databases are limited to a certain number of fields, some are slow, and some create files that are unreadable by other programs. Some programs excel at printing mailing labels, others balk. Some programs (PFS:File, for example) require separate programs (PFS:Report, for example) for generating extensive reports.

Check out the program's searching and sorting abilities. Is it easy to find particular records? Can you search on partial fields (only the last name, or part of it, for example)? Can the program sort many records quickly? Does it slow to a crawl when files become large?

Ask this: Who was this program written for? What needs does it address? Is it for merely keeping a few records, or is it for writing advanced, custom databases? Is it short on features, or is it massively "overengineered" (read: it has more features than you'll ever need or use)?

And ask about support. What if you're stuck? Can the computer store help? Does the manufacturer have a toll-free help number (or any number at all)?
Remember that data requires memory. RAM memory is fast; disk memory is slow. If your database will be large, think seriously about 512K. Almost all the programs that follow run in 128K, but all work best with more room to breathe. If your database job is a big one, you’ll want 512K and a hard disk to sling lots of records, fast.

Finally, does the program look and behave like other well-crafted Macintosh programs? It takes time and effort for developers to understand Macintosh. That knowledge, hopefully, is used to create programs that you, the consumer, can understand.

Choose carefully and well. You may be living with your database for a long time.
Brock Software Products, Inc.
8603 Pyott Road, Box 799, Crystal Lake, IL 60014
(815) 459-4210

**Keysiroke Data Base and Report Generator**
A general-purpose database with extensive report capabilities. Records per file are limited only by disk capacity, and each record may contain up to seventy-five fields. Records may be sorted on four index files simultaneously. Two files may be open at once.

Also offers form-letter merge with MacWrite, automatic look-up on multiple files, crossvalidation, and password protection of files. $395

**Computer Software Design, Inc.**
1904 Wright Circle, Anaheim, CA 92806
(714) 634-8012

**MacLion**
A powerful, flexible relational database program, one of the few relational databases for the 128K Macintosh. (Odesta's Helix is also relational, but requires 512K.) Although tailored to Macintosh, MacLion is not a program for novices. But for those who will spend time learning the program, MacLion does the job.

A relational database is a collection of different files with common ties. Certain tasks—the recording of invoices, for example—are simplified with a relational database. Customer information can be taken from a master file, product descriptions and prices can be extracted from a separate inventory file, and the information can be used by a third file: the invoice file. A number of files can be open at once, and the program can access and update the files, without the need for duplicate information in different files. Simpler "flat" database programs, or file-management programs, fall short when asked to handle more than one file at a time.

The program seems reliable—we couldn't crash it by entering crazy data or issuing nonsensical commands. Our major criticism is the amount of time MacLion requires for some operations. Preparing a new report, in particular, is slow. Fortunately, you won't need to prepare a new report several times a day. And you can take a coffee break without baby-sitting the computer during report generation. Once the report specification is ready, it can be re-run using different data without enduring another lengthy compilation process. On a 512K Mac, most of these operations should speed up significantly.

Unfortunately, all reports are printed in draft mode. You can copy the report to a MacWrite text-only file for further formatting, but this requires an extra time-consuming step. To be fair, though, most programs in this section only offer draft mode for reports. Maybe next year.

**MacLion** comes with a nice, sturdy, three-ring reference manual and a spiral-bound tutorial. Both manuals are very thorough. The tutorial manual, in particular, covers the program's features in a simple, step-by-step fashion.

**MacLion** is an excellent system for those who need a complete relational database and are willing to learn how to get the most from it. In fact, we've only begun to explore the LEO programming language included with MacLion. LEO

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**DesktOp Software Corporation**
244 Wall Street, Princeton, NJ 08540
(609) 924-7111

**1stBase**
A fast, disk-based database with many advanced features. 1stBase 1.00 was used to create the database of products that became this book. As a result, we have more experience with 1stBase than with any other database. Version 2.00 adds more features to a complete, clean, nonthreatening database.

1stBase takes good advantage of Macintosh. Record forms are easily created in a Blueprint window. The forms can be changed after they've been created—even after you've begun entering data (there's always one too few, or one too many, data fields, or one field that's a few characters too short).

Fields may be text fields or numeric—no esoteric choices, just text or numbers. Number fields can contain up to seventeen digits, with the decimal point anywhere. Negative numbers may be displayed within brackets or preceded with minus signs. Text fields may hold up to fifty characters. As elsewhere, help is available in setting up fields, either from an on-screen button or at the bottom of each menu. The help files cover just about everything.

Data entry is quick. Hitting Return takes you to the next field. Hitting Tab automatically duplicates the information from the previous record. Shift-Return brings up the next record. Full Cut, Copy, Paste, and Clear are on the Edit menu, along with Undo.

Creation of reports is also fast and easy. Fields are clicked into position on the screen with options to skip lines, compute column totals or subtotals, select records in a variety of ways, add headings, or sort in ascending or descending order. After the report is designed, selecting "Do
1stBase

It" whirs the report to life. It can then be scrolled through on-screen, saved to disk, or printed. The program does mailing labels, up to five across. Mail-merge is also offered.

Databases may be joined together, appended (tacked on) to other databases, or used to create new databases with fewer, or additional, fields.

Advanced 1stBase users can compute fields using sophisticated conditionals: IF... THEN... ELSE statements and full AND, OR, and NOT rules. This, coupled with the mail-merge option, makes automated selective mailings and other tricky, time-saving feats possible. Beginners can ignore the fancy stuff and enjoy what appears to be a convenient, medium-powered filing. Recommended. $195

1stMerge

A flexible, stand-alone package for data entry and mail merging. If you're familiar with 1stBase, you'll be immediately at home with 1stMerge. The file structure, data entry, and editing conventions of the two programs are identical. 1stMerge allows anything created in MacWrite to be merged with 1stMerge data. MacWrite documents can contain text, graphics, or charts produced by other programs. The "merge document" can use all MacWrite fonts, sizes, and styles.

The program is ideal for customized letters or mailing labels. Labels can be printed up to five across or directly onto envelopes.

The program's best application may be as a sophisticated "merger" for use with 1stBase. $95

Forethought, Inc.

1973 Landings Drive, Mountain View, CA 94043
(800) 622-9273, (415) 961-4720 in California

Factfinder

A nifty product, if you need it. Factfinder is a free-form filing and retrieval system for text. Any kind of text. Snippets of text or gobs of text; there's no need to worry about fields or records with this product.

The metaphor here is sheets of paper—stacks of sheets. Text is first stored in a Factsheet window, from the key-

board, the Clipboard, or directly from MacWrite or MacTerminal files. The factsheets can be grouped into a stack.

The stack can be indexed in multiple ways. The factsheets can be referenced and cross-referenced by designated keywords. They can also be accessed by individual names or by dates of creation or modification. The dates are assigned by the program automatically.

Factfinder is great for organizing thoughts, notes, or index cards, or for assembling a mass of scattered text into something that makes sense. Students and researchers, in particular, should find it invaluable. $150

FileMaker

A press release announcement of FileMaker arrived as this book was underway, with the product expected to follow. According to the release, "With FileMaker, Macintosh users now have a database system that exploits the machine's tremendous ease of use and graphic capabilities."

Here's a sampling of what to expect: "FileMaker removes the arbitrary restrictions associated with conventional databases. The number of fields, records, reports, and files can be as great as the available disk space. Every field is variable length and every entry in every field is indexed for rapid retrieval. Records can contain any combination of text, number, date, calculation, or summary fields. FileMaker is compatible with all Macintosh products that use text, SYLK, or columnar file storage. The program allows an unlimited number of report layouts for each file. FileMaker's free-form design lets users create wide forms, repeat forms on a single page, and even combine columnar and label formats."

Impressive specs and a reasonable price. $195

Hayden Software Company

600 Suffolk Street, Lowell, MA 01854
(800) 343-1218, (617) 937-0200 in Massachusetts

"I Know It's Here Somewhere!"

This looks to be an inexpensive, and very minimal, file-management program that makes no claim to do everything
for everyone. The program comes with a number of pre-done forms for filing stamps, books, slides, coins, correspondence, recipes, membership lists, names and addresses, credit card numbers, warranty information, investments, insurance policies, financial data, capital assets, even (it says here) the wine in your cellar. This one might be less than you need, unless you truly don’t need much. $59.95

Main Street Software
1 Harbor Drive, Suite 304, Sausalito, CA 94956
(415) 332-1274

Main Street Filer
A limited database. One of the first for Macintosh, but not holding its own these days.

Maximum field length is fifty characters—enough for simple mailing lists, but limiting for other applications. Four field types are supported: text, date, and two types of numeric fields—real numbers (numbers with decimals) and integers (no decimals). Records may contain up to thirty-six fields. Data is entered into a fixed format—you can’t create custom on-screen forms. Cut and paste between fields or records isn’t supported (the familiar Edit menu isn’t here; nor is the Clipboard).

The program can sort on a maximum of two fields. Computed fields aren’t allowed.

The program prints mailing labels (one to four labels across), envelopes, and reports (in a number of formats). Report designs may be saved. Reports may contain headers but not footers. $199

You design records by creating forms. A form can contain as many fields as you can fit in, although things get a bit tight after twenty-five fields. Fields can be alphanumeric, numeric, or date. Records can be sorted on any field. The number of records in MegaFiler files is limited only by free disk space. One of MegaFiler’s interesting features is the ability to keep three files in memory at once.

The newest version adds a number of features, including support of both the wide-carriage Imagewriter and LaserWriter. It also allows files to be split or merged, and imported or exported to other programs via the Clipboard. Additional commands for designing customized pages and mailing labels have also been provided.

When used with Megahaus’s MegaForm, the MegaFiler program turns MegaForm into a fully relational, forms-based database. If that’s a mouthful, read about MegaForm in the Integrated Software chapter. MegaFiler’s best use, in fact, may be as an adjunct to MegaForm. As a stand-alone product, it costs too much and offers too little. $195

Main Street Filer

Megahaus Corporation
5703 Oberlin Drive, San Diego, CA 92121
(619) 450-1230

MegaFiler
MegaFiler is a file-management system that enables you to search and sort database information, as well as to generate reports and labels, including mailing lists to be used with Megahaus’s MegaMerge or other mail-mergers.
Microsoft File

Like all Microsoft offerings for Macintosh, File is a well-designed program, loaded with options. Learning File is a process of, "Gee, I didn't know it could do that! Gee, I didn't know it could do that!" The program does everything but enter information from the keyboard for you; that's probably coming in the next version.

File gives you a wealth of choices—probably more than you'd like to hear about or we'd like to type. For starters, you create a record form, any way you like, in a window with rulers. If you want a field exactly 2 inches down the page, it will be. Forms can include text, number, or graphic fields; if a graphic image can be contained on the Clipboard you create a record form, any way you like, in a window you'd like to hear about or we'd like to type. For starters, with rulers. If you want a field exactly 2 inches down the form can be changed easily.

File allows you to view forms (and enter information) one by one or display them (using List Helper) as columns of data. One click switches between views. With List Helper, you can change display, alignment, and style options, or have File automatically format the information on-screen. There's also a Vertical Form option for blasting out quick databases.

Field types are text, number, date, or picture. Fields may be displayed as entered or in dollar, percent, decimal, or scientific format. Aligned right, left, or center. With borders. Or underlined, italicized, or boldfaced. Or with commas. And in any font you like, in sizes from 9 to 127 points. Fields may be indexed (for faster searches) or computed.

Want a field to contain a "date stamp" to remind you when you last updated the record? Hit Command-hyphen in the field; File slams in the date from Mac's clock. You'd rather have the exact time instead? Hit Command-semicolon, and the time of day will be automatically entered. It goes on and on. If you can't get exactly what you want from File, don't blame Microsoft; just dig around the manual some more.

Numerous built-in reporting options—totals, minimums, averages, maximums, even standard deviation—may be selected for any field or combination of fields. Reports may be previewed on-screen as they'll be printed. Headers, footers, margins, and more can be easily set.

How about some program limits? Each file can contain 65,535 records. Each record can contain 1,023 fields. Each field can be—ready?—32,767 characters in length. That's about 5,400 words in a single field. In theory, it means that a single record could contain 5,400 words times 1,023 fields, or 5,524,200 words!

It gets silly. Let's just say you won't feel constrained by File.

Extensive help files are found under the Apple menu. As always with Microsoft, the manual is excellent.

This kind of thing makes life difficult for the little guys. Without question, File is a superb database program. Maybe a bit "overengineered," but superb nonetheless. A few caveats: The program works hard to be this good. It does work on a 128K machine, but it yearns for 512K. You'll yearn also if your files become large. Add a hard disk and you've got a dependable, fast, loaded database system. Those who need the power and flexibility will love File; those who need only a few quick lists may feel overwhelmed. $195

Odesta Corporation
3186 Doolittle Drive, Northbrook, IL 60062
(312) 498-5615

Helix

Then there's Helix, a program that causes problems for reviewers. The problem centers on Helix's features. Helix has many, many, many features. To cite just one example, the Custom Paper menu option presents a dialog with choices for thirty different paper sizes, including Federal Express airbill. Lots of features are a plus, right?

Then there's the Helix interface. Is it Mac-like? Oh, boy, is it Mac-like! The program is awash in icons. Odesta calls the icons "tiles." Tiles can be combined with other tiles to perform complex database functions. In a sense, the tiles are a visual database language, designed for manipulating fields, records, and files.

Booting Helix is like entering the Space Shuttle. Helix is impressive, intimidating, and something that won't be learned during a coffee break.

Obviously, Helix is a sophisticated and powerful program. To find out more, we talked with computer store salespeople. Their impressions were these: Helix is powerful but not easily learned. It's not for everyone and possibly the right choice for only a select few—those with tricky database needs and much time to learn the program's intricacies. The program, in its present form, is also painfully slow and massively "overengineered." In other words, Helix provides many options and great flexibility at the expense of simplicity and ease of learning. "Using Helix is a lot like tiling the bathroom," was one memorable comment.

If you need the options and have the time to learn the program, take a long look at Helix. The program requires 512K. We also recommend using a hard disk for any but the simplest files—and anyone considering Helix should need more than a quick phone list. $395
Omnis 2
A complex, powerful database. This one is loaded with features. About all it lacks is a language for writing your own "custom" database applications. If you need that feature, look at the next listing—Omnis 3 has everything offered by Omnis 2 and more.

If you're familiar with database programs on large mainframe computers, Omnis 2 will be a snap—and you'll appreciate the many ways to juggle data and design reports. If you're new to computers in general, and databases in particular, you'll probably be swamped and confused immediately. It takes a while to get up to speed with Omnis 2, and you'll need to plan your database carefully.

Records may contain a maximum of twelve "pages," and each page may contain a maximum of 120 fields. Each field may contain a maximum of sixty characters.

Field attributes are many: character, numeric, Boolean, date, sequence, indexed, uniquely indexed, calculated, uppercase only, negatives allowed, zero shown empty, or delete protected. Uniquely indexed means this: You can't enter a value that already exists in the same field of another record. Good for making sure the same check number doesn't show up twice. Fields may also be flush right, flush left, or centered.

Selected fields may be indexed, which speeds searches but requires more space, shrinking the number of allowable fields. Unlike other database programs, Omnis 2 allows you to update or delete multiple records in one swipe. If you've got the nerve.

Report design possibilities are extensive but take some time to implement. Reports may contain headings, and portions of the report may be calculated from other information within the database. Totals, subtotals, and averages are supported.

On a brighter note, the program seems fairly priced. For $275, you get a package that, on other computers, could easily be in the $400 to $600 range. If you're a "power" database user, you may have Omnis 2 jumping through hoops and appreciate—and use—the many features. If so, it's recommended that you also have a hard disk; you wouldn't want to insult this program with a mere handful of records. If you upgrade from Omnis 2 to Omnis 3, you can transfer your files to the newer system. $275

Omnis 3
This database program, along with Helix from Odesta Corporation, represents the ultimate (for now, anyway) in "power databases." Omnis 3 is both relational and hierarchical. It can be used as a stand-alone database program, or used to create custom "turn-key" databases for vertical market applications. Custom database applications are created using a "database programming language" that gives full control over the program's actions, including user-defined pull-down menus and dialog boxes.

Omnis 3 users can define up to 1,400 fields per record, have up to twelve fields open at once, and incorporate up to nine levels of password protection.

The program can transfer files in several file formats, including DIF, SYLK, ASCII, and DBF, enabling data to be used by Jazz, Microsoft programs, and other applications.

If you're a for-hire database whiz, or have complex database needs, check this one out. $495

ProVue Development Corporation
222 22nd Street, Huntington Beach, CA 92648
(714) 969-2431

OverVue
OverVue takes a different approach than other databases: It keeps all the records in RAM memory. This has good and bad consequences. The good part is that it's fast—extremely fast. No going to disk for the next record or spinning the drive for minutes during sorting. The bad part is that the number of records is limited by available memory. On a 128K machine, that's about 500 to 700 records—fewer if the records have many or long fields. With 512K, the number of records zooms to several thousand.

The display is column-oriented, much like a spreadsheet of rows and columns. The format makes data entry fast and
keeps a maximum amount of information on-screen. Also, like spreadsheets, OverVue lets you enter equations into fields or create fields computed from some (or all) of the information in other fields. With practice, you can become both fast and clever at manipulating data.

Field types include text, numeric, money, data, and Boolean (yes or no). Numeric fields can be displayed as a running total or difference. Calculated fields are entered with spreadsheet-like equations from data in each record. Equation operators include sophisticated string operators for concatenation, and formation of substrings by characters or words.

Another type of record, a "summary record," can be created from information in existing records. Summary records can be established arbitrarily or by categories. Fields in summary records can be column totals, averages, counts of items since last summary, or minimum or maximum values in a column. Data can be sorted or selected by any field.

Report generation is easy and flexible. Reports are designed with an Edit Report Template from the Print menu. Report fields are dragged to the desired position. Up to eight report formats may be saved for each file.

The program has some inconsistencies. Selecting one field of a record, then hitting backspace, deletes an entire record. That particular mistake can't be "Undone." Cautious users will save frequently and take advantage of the Revert option to retrieve lost data. Although lists may be pasted on the Clipboard for transfer to other applications, outside data can't be pasted into OverVue.

Look for these improvements in future releases: mail-merge capability, pie and bar charts for displaying data, a zoom feature for taking a closer look at records, a keystroke macro facility, and the ability to append OverVue files and bring in data from other documents.

This is a good product, especially suited to records with short data fields and information that lends itself to a row and column format: addresses, checkbook ledgers, bowling scores, or batting averages. $295
Software Publishing Corporation
1901 Landings Drive, Mountain View, CA 94043
(415) 982-8910

PFS:File and PFS:Report
Both programs are big sellers on other computers. PFS:File is a forms-oriented file-management program. You design the form, then enter the information. Forms can be designed to resemble their paper counterparts, but this procedure is awkward and un-Macish. Field name length is variable, but remember to end each field name with a colon. PFS:File allows searching for records in a variety of ways, including wildcard characters.

File generates simple reports. For calculated fields, or more extensive formatting of reports, PFS:Report is required. Together, the programs are flexible, with many features, but they appear to have been rushed to market without careful attention to Macintosh conventions. The strength of the PFS line is simplicity of use; on Macintosh, File and Report are not that simple. $195

DB Master
A fast, advanced database package and a proven success on other Apple computers and IBMs. The Macintosh version retains the program's strongest feature—the ability to work with databases that span multiple disks. DB Master databases can span up to forty-four disks or fill twenty megabytes on a hard disk.

Other program parameters are also large. Records can hold up to 100 fields or 3,000 characters of text (each record can be a single large text field, if you wish). Screen record forms can hold a maximum of 100 lines. In practice, you'll run out of memory if you try for all the maximums in one database.

More features: Each record may contain up to twenty computed fields, based on formulas up to 240 characters in length. Computed fields can hold constants, math or logical values, or other field values.

Fields may be either text, number, or date. Number fields may have seventeen numbers preceding the decimal point and either two or no digits following the decimal. Automatic "date stamping" of records is optional. Text can be displayed in one of nine fonts, six styles, and five sizes—a welcome change from other databases.

DB Master is broken into two programs, a "Use" application and a "Create" application. To design databases, you use "Create." You can then ditch "Create" to gain disk space and use "Use" to enter and manipulate information.

Designing reports, unfortunately, is an awkward process. If you change your mind during design, you're essentially forced to start designing all over again. Once created, reports can be sent to the screen, printer, or disk. The program also makes use of the wide-carriage Imagewriter. $195

Telos Software Products
3420 Ocean Park Boulevard, Santa Monica, CA 90405
(800) 554-2469; (800) 368-3813 or (213) 450-2424 in California

Filevision
A unique graphic database. It's hard to imagine Filevision on any other computer. Here, the data is pictorial; graphic objects represent records in a file. Each graphic object has an associated form that stores information. Each picture can contain many different types of objects; each type's information can have a different form layout. To see more information about an object in a picture, point and click. The object's form, with additional information, will be retrieved and displayed. Filevision drawings may be printed with certain items highlighted.

Filevision makes you realize that many types of information should be presented as pictures and words, not merely words. A classic demo, included with the program, shows the human eye. To get more information about the inferior rectus muscle, for example, you click the inferior rectus muscle; up comes a conventional on-screen record
Filevision

(not filled-in, unfortunately; this is, after all, only an example).

Drawings are created in a window flanked by a scaled-down set of familiar MacPaint/MacDraw tools, with a few additions. Objects may be drawn “free-mouse” or made up of straight lines, rectangles, squares, ovals, or circles. The full range of stretch, shrink, cut, paste, move, and copy is supported. Objects may be overlapped, hidden, or highlighted.

Beyond—and connected to—the pictures are words. There’s a full-scale database program lurking here, with all the typical database features, all well implemented. On a 128K machine, Filevision can support 300 to 500 records, depending on the size of each record. With 512K, the program supports up to 999 records for each drawing file.

Filevision is ideally suited to many applications. Click a chicken leg to see chicken leg recipes. Okay, that’s a trivial example. How about this: Click parts of a structure to see a record of structural stress ratings. Better? Or click Utah for records of salespeople and quotas in Utah. Or see—not merely list—your inventory. Or plan booth allocation at a trade show. The educational uses alone are profound.

This is one of the better-produced products available for Macintosh. The manual is a class act, and many example files are on disk. The manufacturer, Telos Software Products, is a $54 million corporation that builds software to control satellite orbits, operates spaceborne television cameras, and do other high-tech stuff for NASA. They’re also big in mini-computer and mainframe software. They also, obviously, have some hot programmers.

The success of Filevision may hinge on the support of Filevision users and outside companies. Despite the ease of manipulating graphic data, most people still can’t draw well, even given good graphic tools. Predrawn graphic templates are needed. To date, a number of Filevision templates have appeared on various bulletin board systems (most are found on CompuServe), and Telos seems committed to serving as a clearinghouse for templates; but few commercial templates have been introduced.

Another reason for templates: Filevision won’t (yet, anyway) accept drawings from MacPaint or MacDraw, a puzzling drawback in an excellent program. We suspect this is a problem the company is working to correct. $195

If enough (or any) products existed in these categories, they'd have their own chapters, just like "Games," "Graphics," and "Souped-up Macs." But they don't, so they don't. Instead, we grouped the few products for statistics, science, and vertical applications, then stuck them into this chapter: Special Interest Software. Catchy title, huh?

The reasons for their absence are many. Vertical market software—written for use in specific industries—has never really gotten off the ground for small computers. Spend $125,000 for a minicomputer and you can probably find software to help run your gas station; spend $3,000 for a Macintosh and you'll have to tailor a more general accounting package to your special needs. To be fair, the minicomputer software might set you back $1,000 or more; those prices aren't uncommon for large-computer software.

Developers look at the potential market and charge accordingly. More people play games than run gas stations.

A deluge of vertical market software is always promised. The deluge isn't here yet for Macintosh, though a few good programs do exist. The Tess Data Systems medical package is one. A banking package from Simple Software also shows promise. Legal Billing and other products from Satori Software are proven on other machines and will soon have Macintosh versions. But the choices are few.

Also lacking is a range of software for scientists, science students, and science hobbyists. This one hurts. The Macintosh offers big computer speed (needed in many scientific applications) in a small, inexpensive box. The 68000 microprocessor is a mighty microprocessor, brimming with registers. Hard disks are available for massive amounts of data storage. Even the language FORTRAN, beloved by the scientific community for crunching numbers, is available for Macintosh. All that's missing are the programs.

Maybe they will come. Maybe they're being written now, in schools of the Apple University Consortium, where Macintoshes are being purchased (and used) by the truckload.
For now, scientists have a good statistics package from Northwest Analytical and more general programs like TK!Solver—a program so general in scope that we listed it in the Business chapter.

Expert systems, some think, are a chimera. Articles about expert systems were the rage last year. Venture capitalists funded anybody who wanted to create expert software. Even the giant Lotus Development Corporation (developer of 1-2-3 for the IBM PC and Jazz for Macintosh) looked into expert systems.

The idea of expert systems is simple. Experts in a particular field are exhaustively interviewed. Their knowledge is then condensed into a set of logical "rules." The rules are coded into a computer program. When the program is run, it asks questions, applies the applicable rules, then displays, "It seems you’ve got a bent crankshaft there, Jack, based upon rules 2, 11, 34, and 54." Or something similar.

A great idea. The execution must be harder than the conception, though; there are no expert systems for Macintosh. A few exist for other microcomputers, but they’re still primitive programs—fascinating to play with, but not ready to give advice on nuclear reactor maintenance.

Home control is easier, but home control software is something that’s never become popular. Run your sprinklers (or your furnace) with a computer? It’s not difficult. Write a program, buy a box to interface with your household circuitry, and run your icemaker (or your home security system) with planning and intelligence. A good idea, but you can’t do it on Macintosh. The software and interfaces aren’t available.

An aside: Steve Wozniak, Apple’s co-founder, thought that home control would be a big thing for the Apple II. It wasn’t. Disappointing.

Again, it comes down to The Market. Many people collect stamps. Do enough people collect stamps to persuade Microsoft to write Microsoft Stamp? Nah.

Generality rules. Maybe we need general programs that allow us to write specific programs. (And we don’t mean programming languages, either. Real people don’t program in Pascal.)

About now, you may be thinking, "Enough! There are already hundreds of programs for Macintosh." And you’re right. There are. Soon there will be thousands of programs available.

Let’s hope they’re not all trivia games.
**Vertical Market Applications**

**Erez Anzel**
5800 Arlington Avenue, Suite 5T, Riverdale, NY 10471
(212) 884-5798

**BEAMAC**
Software to analyze statically determinate beams. Users can add, change, or remove any load from the beam or change any beam parameter at any time, with the results instantly shown. A fully descriptive, high-resolution diagram of loading, shear, moment, and deflection is standard. Loads may consist of any number of concentrated forces, applied moments, and trapezoidal or uniformly distributed loads of any length, anywhere along the length of the beam. There's more, but you get the idea. In all, a well designed and speedy program that makes good use of the Macintosh interface. Highly recommended, if you have a use for this kind of thing. $95 (plus $3 shipping); demo disk, $10

**Aurora Systems, Inc.**
2423 American Lane, Madison, WI 53704
(608) 249-5875

**CRTplus**
A "decision support tool" designed to help the financial service industry cope with deregulation. CRTplus performs a variety of fixed financial calculations including CD and early withdrawal analysis, IRA account analysis, installment loan alternatives, loan amortization, and taxable versus nontaxable investment strategies. Also, users can define up to forty additional calculations. CRTplus provides personalized printed output, if desired. This product is expected to be released for the Macintosh in late 1985. Call or write for more information.

**Computer Identities Corporation**
5 Shawmut Road, Canton, MA 02021
(800) 622-2633, (617) 821-0830 in Massachusetts

**Mac-Barcode System**
The Mac-Barcode System generates and reads bar code labels like the ones on canned foods, magazines, software packaging, and thousands of other products. The system includes Mac-Barcode software, which generates bar code labels, and Scanstar-Mac, a decoding unit that reads and automatically distinguishes the most commonly used bar codes. Labels are printed using the Imagewriter. Bar code information is read with a heavy-duty, stainless steel light pen supplied with the Scanstar-Mac. A digital light pen, handheld laser scanner, and slot reader are also available.

The system is targeted at businesses that want to monitor inventory control, filing, work in progress, point-of-sale operations, security, and training. Labels meet the requirements of the automotive, health care, food processing, and packaging industries, as well as the Department of Defense's LOGMARS program. Mac-Barcode, $395; Scanstar-Mac, $600

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**Mac-Barcode**
Da Poma, Inc.
Software Programming Center
P.O. Drawer H, Hondo, TX 78861
(512) 428-5932

Da Poma GB gradebook emulation
Software to record and calculate class grades. Da Poma GB allows student scores to be weighted individually or by type, and grade breakpoints to be adjusted to fit grading needs. Optionally, three standard breakpoints can be used: Texas standard (70 percent lowest passing), proposed Texas standard (no D's), and traditional standard.

Da Poma GB is available in two versions. The 512K Macintosh "university" version handles more students than the 128K "elementary" version. Both versions allow comments to be attached to each student's score record.

Both versions also display a class's "raw scores" in a form similar to spiral-bound grade books. Reports of individual student grades and class grades can also be generated. The Clipboard can be used to transfer reports to a communications program, if desired. 128K version, $75; 512K version, $150

For Macintosh, Harris markets a series of Microsoft Multiplan templates for farm and ranch management. The titles currently offered for Macintosh are Business Management, Cow-Calf Herd Management, Crop/Livestock Profit Projector, Crop Management, Farm Machinery Management, Feedlot Cattle Management, Swine Farrowing Management, and Swine Finishing Management.

The templates began life, it seems, as VisiCalc templates for use on other computers. Each template has been modified for use with Multiplan, and each is a carefully crafted piece of work, unlike some of the "quickie" template programs available. The templates are uniformly well-designed and highly recommended.

Let's take a typical template package: Swine Farrowing Management. The templates included on disk are: feeder production, farrow-to-finish, sow productivity, gestation calendar, ration analysis, feed comparison, and ration formulation. The feeder production template presents you with seventeen "results," after you've entered the necessary data. The results include total cost per litter, feeder pig sales per litter, cull sow sales per litter, feeder pig production per litter, the necessary selling price of feeder pigs to cover the total cost per litter, profit and return to management per litter, and other calculations.

Manuals provided with each package are clear and readable. Each template is illustrated and explained in the manual. Formulas are listed for all calculations. Each package, $95

Harris Technical Systems
624 Peach Street, Box 80837, Lincoln, NE 68501
(800) 228-4091, (402) 476-2811 in Nebraska

AgDisk agricultural templates
Harris Technical Systems was founded by Harris Laboratories, Inc., the world's largest agricultural testing laboratory. Harris Technical Systems markets agricultural software for many brands of microcomputers.

HealthCare Communications, Inc.
249 Cherry Hill Boulevard, Lincoln, NE 68510
(402) 489-0391

DentalMac
A complete, sophisticated package for dental offices. Consists of seven integrated programs: ADA Codes, Billing, City/States, Insurance, Patients, Repair, and Reports. The system handles accounting functions and allows office managers to analyze dental practice by daily production and by producer. The program generates a number of detailed reports and makes good use of the Macintosh interface. The software is sold as part of a package that includes a
Macintosh, two Imagewriter printers, a print spooler, hard disk, backup power supply, keypad, custom forms and statements, one year of support, and a warranty for all software and hardware. Current Macintosh owners can inquire about other options. The system may also be leased; call for information. Complete system, $12,900

Princeton Research Software
P.O. Box 2398, Princeton, NJ 08540

**MacChip**
Two hundred and fifty MacPaint images of electronic chips, for use in circuit design. The images are based on 7400 chip layout standards. $39.95

RealData, Inc.
P.O. Box 691, Southport, CT 06490
(203) 255-2732

**Real estate templates**
Real estate templates for use with Multiplan. Income Producing Real Estate includes cash flow/sensitivity analysis templates, annual property operating schedule templates, and others. General Financial Analysis includes six models: personal financial statement, critical ratio analysis, lease versus buy, and others. Commercial Real Estate Development includes extensive project cost analysis, a multi-unit income and expense schedule, and a lease-tracking model. Residential Real Estate includes a market analysis by linear regression template, a mortgage qualifier template, and a rent versus buy analysis template.

With the purchase of all four packages, financial calculator models are included at no extra charge. Each package, $100; all four packages of templates, $325

Rune Software
80 Eureka Square, Suite 214, Pacifica, CA 94044
(415) 355-4851

**The Electronic PAD**
A computer-aided circuit design and simulation system. Available in versions for both the 128K and 512K Macintosh. PAD provides nine primitive logic functions, selected from a palette similar to the tools palette in MacPaint. The primitives are AND, OR, INVERTER, NAND, NOR, XOR, XNOR, D FLIP-FLOP, and JK FLIP-FLOP. The primitives are placed on the screen and connected to form circuits. Operation of the circuits can then be simulated on-screen.

The 512K version of the program incorporates a "macro library" to simplify the task of designing. Using the library, designers can define custom or standard packages to be used as new primitive functions. The logic and fault simulator will then automatically seek the modules and use the circuit requested by the macro. 128K version without macro capability, $395; 512K version with macro capability, $595; Macintosh XL version with macro capability, $595; upgrade to 512K with macro capability for owners of 128K version, $225

The Electronic PAD

Satori Software
5507 Woodlawn Avenue North, Seattle, WA 98103
(206) 693-1469

A group of special interest programs, successful on other computers, now being rewritten for Macintosh.

**Accountant Billing**
A program for professional time billing with features similar to Legal Billing (see below). $595

**Bulk Mailer**
Software for making labels for mass mailings. The software is designed for businesses and organizations that maintain a "moderate size mailing list." The program prints 1, 2, 3, and 4 across mailing labels, sorts by zip code, and accepts nine-digit zip codes. We found the Macintosh version limited in conception and flexibility. Only a few fields are allowed, and many Macintosh features are not used. Why not, instead, use one of the many databases that also do mailing labels? For the price, not recommended. $125
Inventory Manager
Keeps records of your current level of inventory, average cost and average sale price, vendor, stock on order, reorder point, margins, and more. Prints a list of stock sold, sorted by gross profit. Also provides analysis by major product categories. Prints a suggested order list and specific purchase order for each vendor. Many options and features: lists names of vendors and addresses, prints a data worksheet, allows multiple vendors and multiple prices, totals all orders over a selected period.

The Macintosh version is planned for release in late 1985. $350

Legal Billing
A billing package for small to medium-sized law firms. Accepts up to 200 clients and has room for 3,500 transactions. Allows up to eighteen lawyers with billing rates and time/credit slip search. Billing statements are detailed and include date, kind of service, forty-character remark field, time, and amount. Prior balances and credits are also printed. $595

Simple Software
220 Redwood Highway, Mill Valley, CA 94941
(415) 381-2650

Tele-Banker
A specialized telecommunications package, sold to banks, to allow home-banking services via modem. (Banks in some larger cities are offering bank-by-modem options to their patrons.)

The software is currently available only to financial institutions, but Simple Software is also working on a package for home users that will include personal finance capabilities. Financial institutions should write for more information. Home users should wait a few months, then write for information.

Softron
P.O. Box 23202, Santa Barbara, CA 93121
(805) 962-0587

R.E. Pro-1
Real estate templates for use with Multiplan. Includes templates for cash flow projections, interest problems, profit and loss statements, property operating schedules, depreciation analysis, income analysis, syndication options, and buy versus lease computations. Also includes a "forty-disk storage container" and 200-page "Monthly Payment Reference Guide." $150

Systems/Services Engineering
3648 Eastern Drive, Dayton, OH 45432
(513) 429-2709

Water and wastewater treatment templates
Five templates for use in water and wastewater treatment operations.

Data Handling System provides for the storage of data, calculation of parameters, and generation of reports, including NPDES, annual, and user-defined. Data is easily graphed for trend analysis and report presentations. Data Handling System requires Multiplan.

Also offered, for use with PFS:File/Report, are Equipment Record System (for maintaining records on plant and office equipment), Tool Record System (for maintaining records on all tools), Scheduled Work System (for controlling and documenting preventive maintenance activities), and Unscheduled Work System (for controlling and documenting work orders).

Data Handling System, $599; Equipment Record System, $495; Scheduled Work System, $895; Tool Record System, $495; Unscheduled Work System, $695

Data Handling System

Data Handling System
Tess Data Systems, Inc.  
17070 Red Oak Drive, Suite 403-B, Houston, TX 77090  
(713) 440-6943

**DietMac**

A Macintosh with 64K of RAM.  

Just kidding.

*DietMac* is a program designed to help you eat wisely, learn about food, and plan menus. This is the kind of program that you joke about while waiting for it to arrive.

When *DietMac* arrived, we cut the jokes. This is a well-designed programming effort that allows you to analyze meals and recipes and plan menus based on specific requirements. Essentially, it's a specialized database. The program displays food composition in terms of twenty-three nutrients, including ten vitamins and five minerals. It prints out a detailed menu, giving totals for each meal and for the entire day.

The program has twenty-five types of food in the database and can store details on approximately 700 separate food items. The database can be searched for low, medium, or high values in the following areas: calories, carbohydrates, protein, fat, cholesterol, and sodium.

This is one of our favorites—one of the few programs we'll go back to for use and exploration. Tess was one of the first companies to develop software for the Lisa, and their work with the now-famous "icon-based user interface" is used to good advantage in *DietMac*. This isn't a quickie program; it's a professional job that fits Macintosh precisely, marred only by numerous misspellings in the program and manuals. It should be invaluable to professional dietitians, a delight to anyone interested in nutrition, and a good example of "the Macintosh way" for other developers.

It's also a large program, occupying over 127K on disk. Because of its size, creation of only one day's menu at a time is possible on a 128K Macintosh. Using the program to its best advantage requires a 512K Macintosh. The program can also be installed on a hard disk for improved performance. $79

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**TessaSystem One**

A medical accounts receivable and billing package for the 512K Macintosh and Macintosh XL. The 512K Mac version requires a ten-megabyte hard disk.

The program is designed to service small to medium-sized medical offices. Up to 32,000 patients can be managed by the system. The number of active accounts is user-definable. Patient files can be "archived" out of active files at will, then brought back into the system when necessary. Up to two insurance companies per patient can be handled. Insurance forms can be printed individually or in batches. The system uses standard AMA-approved forms and handles CPT and ICDA codes.

Return appointments can be made directly from the transaction entry template. A month-at-a-glance window includes buttons that allow the appointment book to be accessed with a single click.

Transaction entries may include procedures (which, in turn, may include CPT or BC/BS codes), diagnoses, place of service, source of payment, form of payment, and type of adjustment, if any. Posting to all appropriate accounts is done automatically. The program prints a daily log of all transactions similar to the "day sheet" used in manual systems.

Billing statements include account aging to over 120 days. Delinquency messages can be included on the statements. Aging of accounts is automatic.

A list processing module allows data to be examined in various ways that can be customized. Daily and monthly activity reports and accounts aging reports are generated. Month-to-date and year-to-date summaries of payments, adjustments, and writeoff are also available.

Many other features are part of this package. Like other software from Tess Data Systems, the program is well-fitted to the Macintosh, clear, and extremely easy to use, despite its wealth of features and functions. $1,995
Statistics

Heyden & Son, Inc.
247 South 41st Street, Philadelphia, PA 19104
(215) 382-6673

StatWorks
The award for "Best Stand-Alone Press Release Description" goes to Heyden & Son for the following explanation of StatWorks.

A package for statisticians, social scientists, students, managers, and others who need to analyze data sets. StatWorks includes statistical routines for simple regression, multiple regression, polynomial regression, a full range of descriptive statistics, t-test, cross-tabulations, normality tests, Kolomogorov-Smirnov test, and one-way and two-way ANOVA. Nonparametric routines include Mann-Whitney U-test, Wilcoxon signed rank test, Spearman's correlation coefficient, Kendall's correlation coefficient, and Kruskal-Wallis and Friedman tests. All tests include significance levels. Regressions have full output, including coefficient window, ANOVA window, and residual analysis window.

StatWorks can accept data from many sources, including the keyboard, mainframe and minicomputers (via Mac-Terminal), and other application programs such as MacPaint, MacWrite, Multiplan, Chart, and Jazz. Data can be cut and pasted between datafiles to create new datafiles. The maximum file size, according to the developer, is 50,000 data points on a 512K Mac and 1,500 data points on a 128K Mac. Statistical calculations are carried out to nineteen digits.

Results of analysis can be printed using line plots, scatter plots, histograms, 3-D scatter plots and histograms, and (it says here) Box and Whisker plots. $99.95

NCSS
865 East 400 North, Kaysville, UT 94037
(801) 546-0445

Number Cruncher Statistical System
A loaded stat package, written in Microsoft BASIC. The program is menu-driven, uses the mouse extensively, comes with comprehensive documentation, and performs input error-checking. It handles statistical procedures, descriptive statistics, regression analysis, analysis of variance, nonparametric tests, contingency tables, plots, transformations, and more.

Number Cruncher also has extensive database features: ASCII file input, sorting, file subsets, missing values, data recording, interactive input, edit, append, and still more—up to thirty-two variables and up to 32,000 observations.

Dr. James Carpenter, writing in Byte magazine (April 1984), said, "This unpretentious program performs many tasks simply and well...the regression results using the Longley data were among the most accurate of any program tested. For the most part, Number Cruncher was a pleasure to use and devoid of unpleasant surprises." Requires Microsoft BASIC. $152

Northwest Analytical, Inc.
520 N.W. Davis, Portland, OR 97209
(503) 224-7727

NWA Statpak
A high-powered statistical package, written in (and requiring) Microsoft BASIC.

Don't be fooled by the above sentence. This is a full-featured collection of programs for statistical analysis. The package wasn't written yesterday; it's been long available for other computers. The individual programs, we assume, are thoroughly debugged and as fast as BASIC will allow them to be. In most cases, for samples of reasonable size, speed won't be a problem.

Even the fussiest statistician will find little to complain about in the selection of programs that make up the package. The broad categories are data management, data
NWA Statpak

manipulation, reporting, probability calculations, single-variable statistics, regression and correlation, nonparametric statistics, distribution functions, means testing, chi-square analysis, and analysis of variance.

A number of programs are included for each category. Under regression and correlation, for example, are found single-variable regression with multiple curve fits, polynomial regression, residual analysis, multi-way correlation, auto-correlation, cross-correlation, Fourier analysis, and multiple linear regression with forward stepping, backward elimination, and interactive mode. Take a breath.

The programs all run off a single menu. The screens are clear and easy to understand—even if you don't exactly understand what the program is for. Limited but effective use is made of the mouse. A newer version of the software that makes full use of the Macintosh interface and the features of Microsoft BASIC 2.00 is expected.

The program creates text-only files, ideal for moving into Word, MacWrite, Multiplan, Microsoft Chart, or other applications. A very thorough manual, contained in a loose-leaf binder, is clear and helpful. Recommended. $395

Scientific

CSS
1110 South Alma School Road, Suite 5-282,
Mesa, AZ 85202
(602) 831-5004

Weights & Measures

Weights & Measures is a utility that performs unit conversions: meters to miles, Fahrenheit to Celsius, liters to gallons, knots to miles per hour, and more. Requires Microsoft BASIC. $19.95

ExperTech

KnowledgeDisks

A series of templates, based on the periodic chart of elements, for use with Filevision from Telos Software. Very well done (Telos uses them to show off Filevision) and very instructional. Every element in the universe; think of it. The program takes up a good chunk of disk space, over 70K, so a second drive is recommended. $29.95

KnowledgeDisks
**Heizer Software**  
5120 Coral Court, Concord, CA 94521  
(415) 827-9013

**LogarithMac**  
Seventy-six precise logarithmic templates on three disks, presented as MacPaint documents. Also includes a Log Tool-  
box—a MacPaint document filled with rulers, grids, and  
tools for creating custom templates. Well done and a lot  
easier than making the templates yourself. $39.95

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**PCA Software**  
P.O. Box 1231, Arlington, TX 76010  
(817) 860-5498

**Scientific Analysis Programs**  
Scientific and numerical analysis modules written in Micro-  
soft BASIC that solve linear, nonlinear, real, and complex  
equations. They also compute the sample mean, standard  
development, and variance for a given set of grouped or un-  
grouped sample data; solve matrix equations and inverses;  
solve polynomial equations for roots, whether real or com-  
plex; calculate the coefficients of multi-binomial expres-  
sions—and more. Requires Microsoft BASIC. Two program  
disks, $35; manual, $15 (plus $5 shipping and handling)

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**Textco**  
27 Gilson Road, West Lebanon, NH 03784  
(603) 643-1471

**The DNA Inspector**  
Wanna create life in a test tube, but you're fearful of  
unleashing your creation into the world untested? This  
program may be for you! The DNA Inspector is a set of  
Microsoft BASIC programs for analyzing genes, developed  
by a molecular biologist. The programs can perform com-  
plete restriction enzyme and base composition analyses and  
can search DNA for specific sequences, for palindromes, or  
for possible protein coding regions. Different genes or  
fragments of DNA can be joined to produce new "recom-  
binant DNAs" for further analysis. Several other functions  
can be performed. The current version of DNA Inspector  
requires Microsoft BASIC 1.00. The company is readying a  
more Macish version for use with Microsoft BASIC 2.00. A  
must buy for anyone interested in DNA. $109
Welcome to the smallest section in this book.

But expect more: Integrated programs are big business and big sellers. For the IBM Personal Computer, a program from Lotus Development Corporation called 1-2-3 outsells everything else—by about 50 to 1. It's a combination spreadsheet, database, and graphics program, with limited word processing abilities. The spreadsheet is potentially huge, the program is extremely fast, and the number of commands is extremely vast. It'll do a lot, once you've got it figured out.

For Macintosh, Lotus markets Jazz, a program that combines a spreadsheet, database, graphics program, and more. There's also a word processor and a telecommunications package built in.

But wait a minute, isn't everything on the Macintosh integrated anyway?

Well, sort of, if program developers follow the rules. According to Apple, each application program should be able to read (copy) and write (create) two type of files—text and graphics. The text files are equivalent to MacWrite text-only files: straight words, with no formatting attributes such as rulers, headers, boldface, or italic. The graphics files are free-form "pictures," readable by MacPaint or any other program that follows the rules.

If programs are obedient, full cut and paste between the application, the Scrapbook, the Clipboard, and any other application should be possible.

The programs in this section offer an even tighter degree of integration. Instead of creating words with a word processor, then moving the words to a spreadsheet application, an integrated program may put the word processor within the spreadsheet. Or add a communications package to a word processor.

The advantage of this, on other computers, is convenience. Users only need to learn a single program, with a single set of commands. If the program contains a spreadsheet and a database, buyers can be sure that one module works with the other. They are, after all, one program!

Are there drawbacks to this approach? You bet. Programs take memory, and the data entered into the program takes memory. You want a big spreadsheet, a database, a word processor, all rolled into one? You want it fast, you want it clean, you want help menus around all the time?
No problem. But you’d better have reams of RAM memory stuffed into your computer.

Is this the Macintosh way—bloated programs floating in a sea of RAM? Isn’t the Macintosh design based on programs that share a similar interface, that pass data back and forth without a twitch?

Sure, but people like integrated programs! What’s boffo on IBM should be boffo on Macintosh, right? Nobody really uses the Clipboard anyway, do they?

Maybe so, maybe not. Take Microsoft. The Microsoft Business Pack includes Microsoft Word, Microsoft File, Microsoft Chart, and Microsoft Multiplan. Each program can be purchased separately, but Microsoft bundled them into a single box with a single, attractive price: $595. The pack offers savings of $115 over the individual programs purchased separately. (Microsoft is billing this as a “limited promotion.” We doubt it.)

The Business Pack may be the ultimate in “integrated programs.” All it lacks is communications software. You don’t get the convenience of having everything on-screen at once, but you do get a powerful set of programs guaranteed to whisk data between their siblings without a complaint. And you don’t need 512K to use them. This set of programs may include everything that most users need, period. We recommend it.

Or take Apple’s Switcher. This one turns your Macintosh into a number of “virtual computers,” each running a separate application. To use the switcher, you first run an installation program that allows you to select which programs are switched between, and how much memory each is allowed. After that, Switcher isn’t seen, but a small icon appears on the menu bar of the programs you’ve installed. Click the icon and SWAAP!—the program you’re running slides off the screen and another installed application takes its place.

The effect is amazing. Type a paragraph in MacWrite, click the switcher icon, and you’ll be drawing in MacPaint in less than a second.

Switcher works by “freezing” the application you’re currently working on (and a related block of memory) and instantly transferring you to another application that’s been installed in another block. In a sense, the computer has been transformed into a number of computers, each running a single application.

This approach, for all its dramatics, results in convenience, not integration. Convenience, though, may be just what you want.

The alternative is the “tighter integration” mentioned earlier. And it does indeed get tighter. How tight? This tight: Change a database entry in Jazz and your chart (assuming you’ve made a chart) changes automatically. One entry or one click can affect the contents of a text document, a chart, a database, or a spreadsheet. One thing changes, and everything changes. Instantly.

That may be the ultimate in tight integration. And the ultimate in one-upmanship.

Jazz aside, look carefully at these programs (and look carefully at Jazz also; you might not need it, despite the deluge of hype over its entry into the software lists). Often, combining many programs into one application achieves integration at the expense of features. Would you rather have a set
of powerful programs or one program that does many things—but does none of them particularly well?

Still, integration is the trend. The Macintosh user interface—and the popularity of Macintosh—is a testament to the advantages of integration.

But Macintosh offers another path—not integration into a single program but "segregation" into many small, useful programs that all work together. Programs that, if you wish, might all run at the same time, concurrently.

Apple calls them "desk accessories."
MacOffix
Combines filing, word processing, forms design and "forms finding," form letter capability, and report generation into one package.

The database is designed to emulate traditional file cabinets. Two "cabinets" are allowed, with a maximum of 100 folders per cabinet and unlimited documents within each folder.

Here are the limits for "form" design: fifty entries (fields) per form, eighty columns per form, 250 characters per entry—except for the first entry on a form, which is limited to twenty-four characters.

Report design is flexible, with optional totals and variable column layout. Reports can be output to screen, disk, or printer.

The program includes extensive help files and tutorials. $149

Quartet
Four programs in one, for spreadsheet work, business graphics, text editing, and file management. This is not Jazz, mind you, but it's also not $600.

Quartet is primarily a spreadsheet. The text-editing (no, we didn't call them "word processing") functions aren't sophisticated, but they are easy to use. The words you type are entered into the spreadsheet. You pick the location for text, choose how large the area to contain the text will be, then type away. Your text is formatted within the area you selected. Quick and easy.

Quartet allows pie, bar, and line graphs. Bar and line graphs can contain a maximum of four sets of values. All graphs can include titles, labels, and legends and can be displayed near the cells containing the plotted values. The graphs are dynamic; change a cell value and the graph also changes.

The database functions are typical. Each line in the spreadsheet represents a record, and each column entry is a separate field of information. Once entered, the file information can either be sorted on a primary key or subsorted with a secondary key, in ascending or descending order.

The program deviates in a number of minor respects from the Macintosh user interface. The reason, according to Haba, was to conserve memory. Whatever the reason, the program fits comfortably in 128K, although the 512K Macintosh allows larger Quartet file sizes. If you've only got 128K and need an integrated program, compare this one to Hayden's Ensemble. $199.95
Hayden Software Company
600 Suffolk Street, Lowell, MA 01854
(800) 343-1218, (617) 937-0200 in Massachusetts

Ensemble
Hayden's entry into the integrated sweepstakes. Ensemble was developed in France, purchased by Hayden, translated into English (easy to do because of the Macintosh design), and released to do battle with Lotus's Jazz. The program combines word processing, information management, decision analysis, two or three-dimensional graphing, and "mail management" into one package.

The key selling point of the product, it seems, is the memory requirement: 128K. There's no need to upgrade to 512K to use Ensemble and become a full-fledged member of the Macintosh Office. Expect a big marketing push from Hayden, one of the most active vendors in the now-crowded Macintosh software market. $299.95

Jazz

Still, Jazz is a good program. If it's what you need. Primarily, it's a spreadsheet. The program also includes a word processor, a database, business graphics, and communications.

The program also achieves a degree of integration not found in other Macintosh programs. The optional "HotView" feature allows changes made in one module to instantly change information in another module. Change the database and the word processing document changes automatically.

The program is high-powered, and the price is also high-powered. Get a sit-down demo before purchase. Remember that Jazz requires 512K and an external disk drive. $595

Megahaus Corporation
5703 Oberlin Drive, San Diego, CA 92121
(619) 450-1250

MegaForm
After two unremarkable programs from Megahaus—MegaFiler and MegaMerge—comes this program, and MegaForm looks like a winner.

MegaForm, to quote the manual, has characteristics of a spreadsheet, a graphics package, a database, a forms generator, and a report generator. We agree. At first glance, the program appears to be an extremely complete and flexible program for designing business forms. Using MacDraw-like tools, you design a form or customize one of the forms included with the package. Graphics created with MacPaint and MacDraw can be pasted from the Clipboard or Scrapbook into forms you design.

Once a form is designed, you fill it out. After that, you only fill out copies of the form. This, of course, is how many databases function. But there's more: Individual entries on the form are similar to cells on a spreadsheet. If you wish, MegaForm will do calculations based on the values of entries and put the results into other locations on the form. As you can imagine, this can result in complex—and powerful—forms.

When used with MegaFiler, the program becomes a forms-based relational database, capable of linking information from several different databases.
This program may spawn a number of "template" applications. We're told that other companies are now preparing tax and real estate templates for use with MegaForm. Apple is also a MegaForm supporter, with good reason: The forms produced are beautiful when cranked through a LaserWriter. Apple believes that MegaForm may play a big role in the Macintosh Office.

As with many excellent programs, the temptation is to play with MegaForm endlessly. Will it do this? Can it do that? The answer, in most cases, is yes. The program requires 512K, with no exceptions. MegaHaus also provides toll-free customer support, a service we wish all companies offered. Recommended. $295
Desk accessories aren’t gimmicks. They’re software application programs, as real as any other. They’re just smaller and less obtrusive than other applications. Demure. Apple calls them “mini-applications.”

Desk accessories give the illusion of concurrency—two programs running simultaneously. Usually, it’s only an illusion. In some cases, though, the desk accessories truly are concurrent. Slide down a MacWrite window, pull out the Alarm Clock, and watch the seconds tick while you type. That’s concurrency.

To be a desk accessory, it’s only necessary to be located under the Apple menu. Some desk accessories, like the Control Panel, are utilities; others, like the Puzzle, are games. The Note Pad is a word processor.

The Macintosh ROMs allow desk accessories to have their own menus on the menu bar. Open an accessory and you may see a new menu title appear (or current titles replaced). Another unexplored option built into Macintosh.

Desk accessories are all small. For now, they have to be. Guy Kawasaki, Apple’s software evangelist, says that “desk accessories are a guest in someone else’s house.”

The house is available RAM space. The someone is the current application program. Good guests are 10K or smaller. The perfect guest is 5K or less. The size limitation ensures that everything will fit—and work—in 128K worth of standard Macintosh memory.

What can be done in those few bytes of memory? Much. Haba’s QuickFinder lets you zip between applications without time-consuming stops at the Finder. The public domain programs MockWrite and MockTerminal, covered in the public domain software chapter, mock their namesakes in few bytes of memory.

Custom desk accessories tailored for use with parent applications are beginning to appear. MacPublisher comes with Camera and Ruler desk accessories. Both are small, handy, and helpful.

For now, most desk accessories are just that—desk accessories. Calendars, phone books, Rolodexes. (Then there’s the “paperweight” desk accessory. When you place it on your windows, nothing can be moved. A joke.) Many accessories are found in the public domain; writing small, smart programs has always been the province of the hobbyist. Without the shareware Desk Accessory Mover, in fact, we’d have trouble moving desk accessories at all—a fact that Apple recently acknowledged with the release of their own Font and Desk Accessory Mover.
Some of the best accessories may always be found in the public domain. You can’t charge $695 for a desk accessory, something that software firms have probably realized.

Other, meatier programs should be, but aren’t, desk accessories. A zip code directory would be handy. So would an atlas. Or a phone book. Or a Sears catalog. Or a good encyclopedia.

It’s easy to see where things are going. Someday, everything will be a desk accessory—close at hand and handy. You won’t see the Encyclopaedia Britannica desk accessory this year, but if most of it were on a hard disk, and if only a few bytes needed to be in memory at one time, and....
Desk Accessory Mover
A utility program for installing, deleting, moving, and removing desk accessories. Includes four desk accessories new to most users. The first is a Reverse Polish Notation calculator that’s similar to the standard calculator, but which accepts RPN input. (This is the original calculator, seen at Apple in Macintosh’s prerelease days. Apple rightly decided that most people don’t like RPN.) Also, a small non-alarm clock (also a prerelease holdover). Then there’s an Executive Decision Maker—a gag accessory that’s fun to watch, with messages that are fun to read. Finally an FRP (fantasy role-playing) dice roller should be useful to “Dungeons and Dragons” game players.

Desk Accessory Mover is distributed, free, under the “MacHonor” system. Those who enjoy the program are asked to send $15 to CE Software to become registered users.

CE Software also distributes MockTerminal (a desk accessory communications program) and other public domain desk accessories. See the public domain chapter for more details. Desk Accessory Mover and accessories, $15

EnterSet
410 Townsend, Suite 408-B, San Francisco, CA 94107
(415) 543-7644

Quickset
Includes financial and statistical calculators, a Cardex (address and phone book), a Notefiller, an Encryptor for protecting files, and an appointment book and calendar. The calculators have a number of sophisticated, built-in functions, including internal rate of return, discounted cash flow
analysis, depreciation calculations, mortgage yields, amortization calculations, interest rate conversion, standard deviation, and more.

A 512K machine is recommended for this collection. $99.95 (plus $3 shipping and handling)

Haba Systems, Inc.
15154 Stagg Street, Van Nuys, CA 91405
(818) 901-8828

Haba QuickFinder
A much-hoped-for desk accessory. QuickFinder lets you move from one application to another without cooling your heels in the Finder—a great timesaver for busy knowledge workers and everyone else. Moving to another application is as easy as clicking a program in Mac’s “mini-Finder” directory (the one you see when you open a file).

At present, QuickFinder is offered only with Haba’s HabaDisk external disk drive. The program should soon, we’re told, be offered as a stand-alone product. Call for more information.

Haba Window Dialer
A desk accessory that dials the phone. Stores up to 250 numbers, including Sprint or MCI numbers, then dials using either Haba’s HabaDialer or any Macintosh-compatible modem. Note that this product only dials the phone; for computer communications, look elsewhere. $49.95

Harvard Associates, Inc.
260 Beacon Street, Somerville, MA 02143
(800) 622-4070, (800) 942-7317 in Illinois,
(617) 492-0660 in Massachusetts

DeskToppers
A set of four desk accessories: Calendar, Music Maker, Doodle Pad, and Little Black Book. The calendar spans 1904 to 2003; the Music Maker lets you click on a keyboard, select an instrument, and play back your creations; Doodle Pad is a MacPaint-like note pad with a MacPaint-like pencil; Little Black Book is an alphabetized pad for storing names and addresses. $49.95
Art Grabber with Body Shop
A desk accessory that speeds selecting and transferring MacPaint images from one document to another. Art Grabber lets you preview MacPaint documents directly from the Finder, without opening MacPaint. You can also "grab" art from one MacPaint document and place the art in another document. With 128K, the selection rectangle used to "grab" the art is limited to 2 x 4 inches. There's no limitation to selection rectangle size with the 512K Macintosh.

Body Shop contains completed human figures and other artwork necessary to assemble a variety of faces and poses.

Both programs were created by MacroMind (the firm that developed MusicWorks) and licensed to Hayden for distribution. $59.95

Intermatrix
5543 Satsuma Avenue, North Hollywood, CA 91601
(818) 509-0474

MacDesk
An array of programs configured as desk accessories. The accessories are divided into four areas: desktop management, telecommunications, personal information files, and office productivity. Here's the list for desktop organization: calendar and appointment books, multiple appointment alarms, a things-to-do list, a scientific calculator with printout capability, bank account and credit card listings, and an analog clock.

The personal information files are maintained as Rolodex cards. The QuikTerm telecommunications module is compatible with Apple and Hayes modems and permits auto-dialing of standard telephones. A PhoneLink connector, available separately, allows auto-dialing of standard telephones without requiring a modem. MacDesk's ReadPrinter allows printing of MacDesk data or any other Macintosh text file while simultaneously running another program. Still another accessory, MemoWriter, is a mini-word processor. MacDesk was under development as this description was written. Contact the company for current prices and options. $89.95 (without PhoneLink); $99.95 (with PhoneLink); PhoneLink alone, $29.95

Macadam Publishing, Inc.
4700 S.W. Macadam Avenue, Portland, OR 97201
(800) 547-4000; (503) 684-3000 in Oregon

WindoWare Calendar
Calendar displays a calendar of the current month; other months and years are accessed through buttons and a menu. You open up a day by double-clicking. You can read existing appointment entries or add new entries. Dates that already have appointments entered are displayed in outline style on the master calendar. $49; with Phone Book, $79

WindoWare Phone Book
Phone Book allows you to keep names, addresses, and phone numbers as nearby as the Apple menu. The quantity of phone numbers is limited only by free disk space. You look up numbers alphabetically by the first word entered for each listing. With a modem or a HabaDialer attached to your Macintosh, you can also use Phone Book to dial numbers. Long-distance service numbers can be added by enclosing the service's name in brackets and using that name in long-distance numbers, such as {MCI} 818-555-1212. Phone Book will dial the carrier's phone number, pause for a second dial tone, then enter your access code before dialing the number.

The problem with performing these tasks with desk accessories is that, for a desk accessory to be useful, it must be available. You need to install the accessory in the System file on all your program disks. For a calendar, phone book, and similar accessories to be useful, they must have access to the same pool of data. Either you can get to the program from all of your disks or you can keep all your data in one place. You can't have it both ways. If you have a hard disk, the solution is easy; keep the desk accessories on...
the hard disk and use the hard disk as your default disk. Unfortunately, there may be no reasonable way to work around the problem on a Macintosh without a hard disk. 

$49; with Calendar, $79

T/Maker Graphics
2115 Landings Drive, Mountain View, CA 94043
(415) 962-0195

ClickArt Effects
A terrific desk accessory—something beyond desk accessory calendars. Effects works with and within MacPaint and adds features that MacPainters are sure to love. The program provides new tools that work like existing MacPaint tools. Rotation allows selections to be rotated by degrees, a much-wished-for feature. Slant does just that to selections—either backward or forward, up or down. Perspective enlarges or compresses a selection, giving an impression of images that stretch toward the horizon. Distort gives new ways to stretch selections. In all, well done and recommended. 

$49.95

ClickOn Worksheet
Let's see...what to do for a desk accessory? What hasn't been done yet? Hmm...how about—nah, that's been done. How about...

A spreadsheet.

This unique accessory is a 50 row by 20 column spreadsheet that features variable column width, financial and logical functions, and absolute and relative addressing. The accessory also does graphs; pie, line, and bar graphs can be created from spreadsheet data. Spreadsheets and graphs can be pasted into other applications. $79.95

Videx, Inc.
1105 N.E. Circle Boulevard, Corvallis, OR 97330
(503) 758-0521

MacCalendar
A clever integration of a calendar and calendar-based notepad. If you need just a desk accessory calendar, install the calendar on your applications disks. A handy Videx installer loads the accessory, spits out the disk, and asks for another. Keep shoving in disks until you've calendarized your disks.

If you stop there, you've got a calendar that's fast and convenient. To make a note, click "Make Note for Now" in the corner of the calendar. This accessory also allows you to set multiple alarms by time or date.

This is the only calendar we've seen that keeps all its data on a master disk, even though the program may be installed on as many system disks as you like. Keep that master handy, though.

With a hard disk, it all works like it should, notes and all. $89

Warner Software
666 Fifth Avenue, New York, NY 10103
(212) 484-3070

The Desk Organizer
The Desk Organizer is an instant file cabinet, an appointment calendar, an expanded notepad, a telephone dialer, a printer, a visual calculator with paper tape, a clock watcher, and more.

The program isn't a true desk accessory; instead, it's a multitude of desk accessories rolled into one application program. The program's usefulness comes from the ability to run other applications directly from The Desk Organizer. In a sense, the other applications on disk (MacWrite, for example) become desk accessories; they show up on the Apple menu, ready to be chosen and quickly run from The Desk Organizer. The idea is similar to Apple's Switcher.

To use all the program's features, you'll need 512K. In 128K, The Desk Organizer is a more traditional stand-alone application, though it still allows other applications to be opened without a trip through the Finder. We found the program cumbersome to use; check it out before you buy. $99
Word processing, on Macintosh, means more than *MacWrite*, more than *Microsoft Word*. It's another galaxy of programs: some here, some coming, some only wished for.

In this chapter you'll find spelling checkers and mail-mergers, pre-written letters and "page composition" software. Extra fonts, for body text and headlines. And, of course, word processors.

That *Word* and *MacWrite* reign supreme is both surprising and expected. *MacWrite* is free or low-cost, depending on where and how you bought your Macintosh. Free or low-cost is stiff competition for other word processor developers. *Word* is simply a killer word processor from a quality company; Microsoft has good products, a good reputation, and massive marketing muscle. More stiff competition.

Between the two programs, most of the obvious market niches are filled. Occasional writers are satisfied with *MacWrite*; power wordsmiths are seduced by *Word*'s shopping list of features, options, and extras.

More than one software company considered converting its existing word processing software to run on Macintosh. Plans were squelched by Microsoft's prerelease publicity for *Word*. Microsoft began advertising *Word* for Macintosh about four years before Apple was founded, as we remember.

Okay, *Word*’s a good program. These things take time, we understand. And scaring off competition is always a smart idea; IBM does it all the time.

Still, it's surprising that more traditional word processing software isn't available. With Macintosh, many word processing functions are built into ROM—tricky text-editing routines, free for the taking by program-mers. Double-clicking to select a word is built-in. Routines for opening and closing windows, and saving files, are built-in. Dragging to select is built-in. Fast display of on-screen characters, in multiple fonts and sizes, is built-in.

These routines form a chunk of ROM called TextEdit. Much of *MacWrite* is TextEdit. The routines are a broad, general-purpose set of text-editing functions, much in the way that QuickDraw is a broad, general set of graphics functions.

Developers are probably scratching their heads over this one. Let's see... *Word* allows four on-screen windows. Let's offer six!
What's more likely is that add-on, supplemental programs will flourish in the shade of Word and MacWrite: spelling checkers, thesauruses, programs for sophisticated text formatting, advanced software for outlining or indexing. (We could use a good program—any program—for indexing! We looked hard for this one. Not yet. Sigh.)

Expect supplemental programs to become sneakier. Wouldn't a spelling checker/corrector make a swell desk accessory, or a nice title on a menu bar? We thought so, and then found that it's already been done! Wouldn't it be great if pressing Option while clicking on a word activated a spelling check?

Maybe it's not a good idea. We'd all use words like "perspicacious" far too often.

Other programs will set off in new directions. The combination of speed, multiple windows, multiple fonts, and—most of all—laser printers will spur a wealth of software. Already available are three programs for electronic page composition. The programs allow text and graphics to be laid out on a larger "virtual" page for composing newsletters, newspapers, brochures, manuals, résumés, menus, catalogs, and on and on. Slap in the articles, throw on a nameplate, add some "running heads," draw a few ruled lines to separate pictures and articles, blast off a few 36-point headlines, and voilà: self-publishing!

Try that on a Commodore 64.
Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 682-9238 or (408) 996-1010 in California

MacWrite
A mandatory program for anyone with a Macintosh. MacWrite does more than most people want or need from a word processor. Also does superscripting and subscripting, multiline headers and footers, “hard” page breaks, decimal tabbing, hanging indents, and, of course, lets you insert almost anything from almost anywhere else into your document.

Early versions of MacWrite worked flawlessly and quickly—unless you used multiple fonts, sizes, and aesthetic aberrations. The only drawback with MacWrite 2.2 was a maximum document length of about ten pages—still enough for most people (and you could always break your work into sections). MacWrite 2.2 came into its own on the 512K Macintosh, where document size could be approximately eighty pages.

A new, disk-based MacWrite 4X should silence the critics. MacWrite 4X stores documents on disk rather than in RAM memory, allowing compositions to be much larger. Other improvements include a numbered scroll box that indicates the page you’re working on, a Find Next command on the Search menu, and a box on the ruler that lets you set text to six lines per inch. You can also select and align text without using extra rulers through either menu or keyboard commands.

Early versions of the disk-based MacWrite had trouble handling documents with “too many paragraphs” and paragraphs with “too many characters.” Look for Apple to tackle these limitations and others in future releases of MacWrite. $195 (includes MacPaint)

Microsoft Corporation
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8080

Microsoft Word
Possibly the ultimate “power” word processor for Macintosh. Has more features than most people will use (or even explore) in a lifetime of word processing.

Get ready. Here’s an admittedly partial list of features: allows up to four document windows on screen, with full cutting and pasting between windows; directly supports a number of popular letter quality printers; merges files with advanced “conditionals” (useful for individually addressed form letters, for example); does footnotes and running heads; does multi-column formats; and allows creation of glossaries for quick input of frequently used words or phrases.

More? Okay, Word gives exact on-screen representation of text as it will appear when printed, measured in a number of ways: inches, centimeters, points, or character pitch. Spaces and carriage returns may be displayed, searched for, or replaced. “Undo” undoes almost any text or formatting change. You may split the screen or scroll horizontally. A help file is available anytime, with twenty-two topics to choose from. Or you might prefer “context-sensitive” help; just hit command-?. The cursor becomes a question mark and you’re helped with whatever you click.

The program also makes automatic backups of your documents, if you wish, and converts MacWrite files with the greatest of ease.

Keyboard combinations—a lengthy list of them—let you forego the mouse once you’ve memorized the key sequences. The keyboard combinations include full control of the cursor, something wished for since the release of Macintosh. Word’s drawbacks are few. A second disk drive is man-
Typesetting for Top Results

Macintosh is changing the field of typesetting. Apple's LaserWriter will bring still more changes. We'd use the word "revolutionizing," but everyone else is, so we won't.

The world of computers, and the world of typesetting, is composed of dots. Dots on the screen, dots output from dot-matrix (and laser) printers. Typesetting, put simply, offers more dots per inch, resulting in beautiful, fully formed, legible characters and sharp, clear, high-resolution graphics.

The LaserWriter is a bridge between professional typesetting and traditional low-resolution printer output. For those who want still more dots, and still higher resolution, at least two companies now offer typesetting services for Macintosh users.

Two kinds of services are available: typesetting of text and reproduction of Macintosh graphics. Text typesetting is common; many typesetters will "typeset from disk." The process, for now, is a matter of manually inserting codes that represent print attributes: boldface, underline, and italic, for example. The entire contents of the text file don't need to be retyped, but the codes for special text attributes, sizes, and other formatting information need to be inserted. By hand.

Next will come programs that automatically insert the proper codes. Programs smart enough to know how boldface is represented in a file, and to make the necessary changes for output to a phototypesetting machine. The decrease in "operator time" to key in codes may result in lower-cost typesetting. We hope so.

Typeset graphics are a different matter. At present, two companies are acknowledged leaders in the typeset-Macintosh-graphics arena.

George Graphics is an old hand at typesetting from disk, thanks in part to its Silicon Valley location. You probably have an owner's manual or computer magazine that contains screen dumps done by George Graphics. The company provides high-quality reproduction of MacPaint files produced by hand or with an optical digitizer. Prints from MacPaint files are available in ten sizes ranging from 8 x 10 inches to a mere 3/4-inch x 1 inch (each size is a 10 percent reduction). Each file is $12, with a 5 percent discount for orders of fifty or more.

The other company of note is ImageSet Corporation. ImageSet was begun by consultant John Golini and former George Graphics employees who wanted to do more with Macintosh than just reproduce MacPaint files. ImageSet will reproduce any Macintosh document—MacPaint, MacWrite, MacDraw, MacProject, Multiplan, Chart, Filevision—you name it—as a high-quality, high-resolution digitally typeset graphic. Send them a disk with a list of the files you want typeset; they'll return your disk and the typeset galleys, usually within twenty-four hours. Apple Computer, Microsoft, and many other companies do regular business with ImageSet. The company's prices are very competitive: $16 per page; $12 per page for fifty or more documents.

George Graphics
650 Second Street, San Francisco, CA 94107
(415) 397-2400

ImageSet Corporation
1307 South Mary Avenue, Suite 209, Sunnyvale, CA 94087
(408) 720-9994
MacGas
As this book was being written, so was MacGas, a glossary/spelling checker with high ambitions. According to its developer, MacGas, when released, should be a killer, possibly demanding a 512K Mac and carrying a hefty price tag. And leaving other spell checkers (like the ones in stores now) in its dust. Among other innovations, the developer plans to include synonym/antonym capability and a glossary feature. Contact your dealer or the company directly for price and availability.

Assimilation, Inc.
485 Alberto Way, Los Gatos, CA 95030
(800) 622-5464; (800) 421-0243 or (408) 356-6241 in California

Mac Spell Right
Spelling checkers aren't just for bad spellers and bad typists. Most of us can use a little help in catching typos and misspellings. Mac Spell Right combines a spelling checker and a thesaurus and works with current versions of MacWrite.
Simply install Mac Spell Right on your MacWrite disk. When you open MacWrite, you'll see a new menu item called Spell. Choose Check from the Spell menu and Mac Spell Right will whiz forward in your text from wherever the cursor is positioned, highlighting any words that it can't find in its 40,000-word dictionary. You can then correct the word (if it's misspelled) or add it to the dictionary (if it's spelled correctly). Mac Spell Right also suggests a number of words similar to your misspelled word, in the hope that one of them is what you meant to type.
The 16,000-word thesaurus is a well-intentioned feature that many of us will never use—just like real thesauruses. Assimilation, anticipating our reluctance, includes two disks with the package: a combination spelling checker/thesaurus and the spelling checker alone.
Mac Spell Right hogs a good chunk of disk space, so a second drive is recommended. In fact, a second drive is required if you plan to use the spellers/thesaurus disk. $89

The Right Word
Similar to Mac Spell Write, but exclusively for use with Microsoft Word. $89

Hayden Software Company
600 Suffolk Street, Lowell, MA 01854
(800) 343-1218, (617) 937-0200 in Massachusetts

Hayden:Speller
A fast and simple spelling checker that works with both MacWrite and Microsoft Word. Checks your document against its own dictionary and lists questionable words. You decide what to do with them: let them go unchanged, add
them to the dictionary, or correct them. Makes good use of the Macintosh interface—most actions are a mere mouse click. Alternately, while scanning the document for questionable words, you can work almost entirely through the keyboard if you like. We liked Hayden: Speller. $79.95

Living Videotext
2432 Charleston Road, Mountain View, CA 94043
(800) 556-1234, Ext. 213; (800) 441-2345, Ext. 213, or
(415) 964-6300 in California

ThinkTank
A valuable and somewhat addicting tool for organizing thoughts or projects. What word processors are to sentences and paragraphs, ThinkTank is to outlines. Outlines can be easily created, rearranged, edited, or sorted; the program also does search and replace and sorts subheads alphabetically, if desired. ThinkTank is an extremely successful program on other computers and a good seller on Macintosh.

Two versions are available. The 128K version is a whiz at creating outlines but won't allow text under heads or subheads. It's also un-Macish in execution; gray borders are substituted for Mac's scroll bars and boxes. You can, however, move around quickly using keyboard commands. Our biggest gripe: When an outline is printed, the entire expanded outline under the selected heading is produced, with no alternate choices.

In the 512K version, users can insert and edit paragraphs (or even pages) of text beneath outline headings and can insert MacPaint or other graphics anywhere in the outline. Text can be controlled with the mouse or from the keyboard. Documentation is thorough and attractively produced. ThinkTank 128, $145; ThinkTank 512, $245

Professional Bibliographic System
A specialized word processing and data management system that takes the drudgery out of compiling and formatting bibliographies.

Twenty different document types may be cited, ranging from books and journal articles to music scores and maps. Depending on which document type you select, a form appears on screen in which you fill in fields with bibliographic data. Features include a full-screen editor for easy insertion and deletion of text, rapid retrieval of information through Boolean searching, and variable-length fields and records. Notes or abstracts of any length may be added to citations. PBS uses the ANSI standard as the default standard for the system. $295

The company also offers a companion program, Bibliolink, that enables users of PBS to download records from on-line bibliographic utilities and merge them with their manually input records. $195

MacNotes
Prewritten business and personal notes, ready to be customized, printed, and delivered. One hundred notes in all: acknowledgments, announcements, apologies, appointments, appreciation, and on through personnel, recommendations, reservations, sales and promotions, and transmittal. These aren't letters, they're notes, each just a few lines in length. Wordsmiths may find them unnecessary; others may find them invaluable. $89.95
Mail-Mergers

DeskTop Software Corporation
244 Wall Street, Princeton, NJ 08540
(609) 924-7111

**1stMerge**
A flexible, stand-alone package for data entry and mailing. If you're familiar with *1stBase*, the company's database, you'll be immediately at home with *1stMerge*. File structure, data entry, and editing conventions in the two programs are identical.

*1stMerge* allows you to merge *MacWrite* data with *1stMerge* data. *MacWrite* documents can contain text, graphics, or charts produced by other programs. The "merge document" can use all *MacWrite* fonts, sizes, and styles.

The program is ideal for customized letters or mailing labels. Names and addresses can be printed on labels, up to five across, or directly onto envelopes. The program's best use may be as a sophisticated "merger" for use with *1stBase*. $95

**Megahaus Corporation**
5703 Oberlin Drive, San Diego, CA 92121
(619) 450-1230

**MegaMerge**
*MegaMerge* is a utility that allows you to merge *MacWrite* documents and lists to create customized letters and reports. In its first release, *MegaMerge* was clumsy to use and printed slower than a slug crosses the sidewalk. The current version merges pictures and paragraphs of text, brings up a file from disk faster, and simplifies the merge process. (It's still cumbersome, however, and there's no easy way to sort the list or print selected entries. For this, you may want to invest in the company's *MegaFile* file management system, sold separately for $195.)

**Page-Composition Software**

**Aldus Corporation**
616 1st Avenue, Suite 400, Seattle, WA 98104
(206) 467-8165

**PageMaker**
A recommended program for producing newsletters, brochures, or other small publications. *PageMaker* allows text from *MacWrite* and *Microsoft Word* to be combined with graphics produced in *MacPaint* or *MacDraw*. The finished publication can be printed on letter or legal-size paper in "signatures" up to sixteen pages in length.

*PageMaker* has many similarities to *MacDraw*. The current page can be reduced or enlarged, and elements on the page can be "brought forward" or "sent to the back." When clicked, the elements (text or graphics) become objects complete with "handles" for moving or stretching. A number of tools are also available for making small changes to text or other elements directly on the current page.

This is one of the few programs that redefines Macintosh. This time Macintosh is transformed into a page-composition system equal to systems costing tens of thousands of dollars more. *PageMaker* requires a 512K...
Macintosh or Macintosh XL; for best results it should be coupled with Apple's LaserWriter.

We were beta testers for PageMaker prior to release and highly recommend it for anyone with serious page-composition tasks. $495

Boston Software Publishers, Inc.
19 Ledge Hill Road, Boston, MA 02132
(617) 327-5775

MacPublisher
An innovative, though limited, system for producing newsletters, flyers, catalogs, brochures, user manuals, ads, and other self-publishing ventures.

Using MacPublisher, you can lay out groups of articles, pictures, headlines, and standing elements to create a multi-column publication. MacPublisher allows you to format text into one-third-page, one-half-page, two-thirds-page, or full-page wide columns. Or, using the Free Form option, you can set your own desired column width.

Text may be edited as in MacWrite and stored in article files. Graphics are stored in picture files. Many article or picture files may be open at once, each in its own window.

MacPublisher would be a killer on a big-screen Mac—big enough, say, for pages to be displayed full size. For now, the program has MiniPage and Dummy Page features that let you preview a full page at reduced size before printing.

You can add fonts to the MacPublisher System file—or delete them—using Font Mover. MacPublisher offers condensed and wide-pitch options to squeeze horizontal characters on a line or spread them out. (We especially liked the appearance of Chicago-12 condensed.)

Our biggest criticism: You can't have two sizes or styles of type (regular and italic, for example) in the same line of text. Also, even commonly used graphic elements like rules and borders must be created with other applications and transferred into MacPublisher. Tediuous.

MacPublisher is "fragile" on a 128K Mac but cruises along in 512K. $99.95; foreign and bilingual editions (French, German, Italian, Spanish), $129.95

Manhattan Graphics
163 Varick Street, New York, NY 10013
(212) 924-2778

ReadySetGo
A page design system for 512K Macintoshs. ReadySetGo pages are built dynamically from component blocks that may contain text or graphics. The blocks can be dragged around the page or resized using the mouse. Graphics blocks can contain rules, borders, solids, or pictures. Pictures can be brought in from other programs, such as MacPaint or MacDraw.

You can produce only one page at a time with ReadySetGo—a disappointing drawback in a program that requires...
Two disks stuffed with fonts, in forty-nine different styles. Some of our favorite Fluent Fonts are in this package. Recommended. $49.95 (plus $3 shipping; California residents add sales tax).
MacKanji
Radical-based. Hundreds of additional kanji in 12 and 24-point. Available late 1985. $119.95

MacKorean
A 10, 12, 20, and 24-point font that includes all Korean letter combinations. $99.95

MacPhonetics
A 12 and 24-point font with high-quality printing of the International Phonetic Alphabet, many standard symbols beyond the IPA for phonetics, standard punctuation symbols, accent and stress signs, and transliteration symbols for Greek, Hebrew, and Coptic. $99.95

SuperFrench German Spanish
Forty-one accents and diacritical marks, with non-deleting backspacing for fast typing. Includes the complete character sets of over 77 languages. $99.95

SuperGreek, Hebrew & Phonetics
Everything found in SuperGreek, SuperHebrew, and MacPhonetics. $179.95

TECH
A 9, 10, 12, 18, 20, and 24-point font with high-quality printing of over 1,000 scientific symbols for equations in mathematics, engineering, physics, chemistry, economics, and astronomy. Includes the complete scientific Greek alphabet. Features 22 overstrike keys with automatic backspacing and multiple-line-length integrals, brackets, braces, parentheses, and absolute value bars. $99.95

Megatherium Enterprises
P.O. Box 7000-417, Redondo Beach, CA 90277
(213) 545-5913

Mac the Linguist:
Phonetic Fonts for Macintosh
Two new fonts, LGeneva and LNew York, modeled after the Macintosh’s Geneva and New York fonts. The new fonts include 120 printing symbols not found in any standard Macintosh fonts and are available in 9, 10, 12, 18, 20, and 24-point sizes. Included are the most frequently used symbols in the International Phonetic Alphabet, as well as symbols from other transcription systems and orthographic symbols not contained in the original fonts. Fonts can be co-resident with Geneva and New York, so symbols from standard and Mac the Linguist fonts can be mixed in documents. The documentation includes installation instructions, Key Caps charts, tips for learning and using fonts, and an index. $50 (California residents add sales tax)

Miles Computing, Inc.
21018 Osborne Street, Suite 5, Canoga Park, CA 91304
(818) 341-1411

Mac the Knife, Volume 2
One of our favorite font disks. More than two dozen new fonts, many suitable (really!) for body text. Lots of “hidden” icons (the manual tells where to find ‘em). Just for fun, the company also includes a file of twenty-one new MacPaint patterns. The manual is well produced and chock-full of tips, font samples, and complete instructions. Recommended. $49

Powertools Software
5059 San Aquario Drive, San Diego, CA 92109
(619) 483-3436

FontPak
More than thirty new typestyles that, when double-clicked, install themselves automatically in the System file of your applications disk. You do, however, need Font Mover to remove them. $34.95
Sea-ess Graphics Company  
P.O. Box 451, Olathe, KS 66061

DecoWriter Fonts

DecoWriter Fonts contains thirteen decorative character sets, represented both in individual font files and in a System folder to facilitate convenient access to the entire font collection. Emphasis is on visually striking, highly ornamental alphabets suitable for headings, titles, labels, and other graphic applications. $24; with DecoWriter Letters, $40 ($35 if ordered directly from the manufacturer)

DecoWriter Letters

DecoWriter Letters lets you embellish documents with decorative initial letters, similar to the centuries-old technique of "illumination" practiced by book illustrators and hand letterers. The initial letters and detailed rectangular backgrounds are contained in MacPaint files and can be used separately or together. DecoWriter Letters includes two complete sets of outlined and shadowed Roman and Gothic alphabetic characters approximately 1 1/2 to 1 3/4 inches tall and fifty-two background rectangles. $24; with DecoWriter Fonts, $40 ($35 if ordered directly from the manufacturer)

Software Apple-cations  
11510 Alejandro, Boise, ID 83709  
(208) 322-8910

Superfonts

Sixteen new fonts, each in at least two sizes, many in five sizes or more. Most are display or decorative fonts; sizes range from 9-point to 36-point. $29.95

T/Maker Graphics  
2115 Landings Drive, Mountain View, CA 94043  
(415) 962-0195

ClickArt Letters

Lots of letters—big letters—designed especially for flyers, newsletters, posters, overhead transparencies, and other large-size applications. Unlike Mac's own fonts, these letters look great in 24, 36, 48, and 72-point—no jagged edges here. There are more than twenty alphabets. The smaller alphabets are presented as "fonts"; the alphabets too large for font form are presented as "typefaces." Font alphabets are installed as usual with Font Mover. Typeface alphabets are contained in MacPaint files and can be used like any other MacPaint images. They're also outlined, so you can fill them in with patterns. The package includes a pocket-sized MacPaint tips manual that's handy and well written. $49.95

21st Century Software  
2306 Cotner Avenue, Los Angeles, CA 90064  
(213) 829-4436

UltraFonts Edition Two

Twenty-one fonts, in sizes ranging from 6 to 36-point. There's a font of symbols and Mac icons, a tiny font for tiny lettering, a borders and boxes font, and a correspondence-quality font. Special accents allow you to type in more than thirty languages, including Albanian, Czech, Esperanto, Hawaiian, Hungarian, Lithuanian, Polish, Samoan, Turkish, and Welsh. The accents and diacritical marks can be positioned over any letter in the alphabet. The manual includes type samples and good-humored tips. Here's one of them: "Use a fresh ribbon...there's no sense spending a couple of thousand bucks on a computer and then printing with a ribbon that makes your work look like it came out of an IBM PC." $29.95; with UltraFonts Technical & Business Set, $49.95

UltraFonts Technical & Business Set

Includes a technical graphics font with more than 100 commonly used symbols for astronomers, mathematicians, engineers, lawyers, and other professionals. The symbols come in 9 to 24-point sizes and can be easily typed from the keyboard. A math font enables users to print multi-level fractions, square roots, and integrals. There are also three Greek fonts, two serif and one sans-serif, which include the accents and diacritical marks needed to write in Greek. $29.95; with UltraFonts Edition Two, $49.95
<table>
<thead>
<tr>
<th>Font Name</th>
<th>Size</th>
<th>Letters</th>
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<tbody>
<tr>
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<td>48</td>
<td>abcdefghij</td>
</tr>
<tr>
<td>Boston</td>
<td>48</td>
<td>abcdefgh</td>
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<tr>
<td>BOSTON (Upper Case)</td>
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<tr>
<td>Calgary</td>
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<td>abcdefghij</td>
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DecoWriter Fonts

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abcdefghijklmnopqrstuvwxyz...

CactusDeco 36
abcdefghijklmnopqrstuvwxyz...

CACTUS DELUXE 48
abcdefghijklmnopqrstuvwxyz

DanishDeco 24
abcdefghijklmnopqrstuvwxyz...

GRANITE DECO

TabloidDeco 48
abcdefghijklmnopqrstuvwxyz...

TECH DELUXE
Fluent Fonts

2 Disk Set

FLUENT Fonts
For the Macintosh™

Letter Quality

Technical Symbols

Calligraphy

Cleaning & Distinctive

VARIETY

NATIONAL & VERY SMALL & Fluent & Clean & Distinctive & Plain & Fancy &

ST RÔUVERN

Professional Use in any program that uses fonts. MAZEL TOY

ext. Personalize your Correspondence. Minimize the Jagglies

GE UNUSUAL BOLD

Use bases some style. Label your detailed drawings WORD PROCESSING

Is this really a Computer?

Styly a Computer? G porównania

Everything for everyone. Productivity enhancement. Think Thin

Fun Big Big Tales

Horizons • Newsletters • Greeting cards & Invitations • Menus

Russian • Norwegian • Slovak • Greek • Swedish • Deutsch • Cyrillic • Français • English • Hebrew • Español

- Trés Chic • PERCHÈ NO? • Beautiful

- "Связь" • ЯПИЄЦЄВ • Высокое Качество • Легко уп

glücklich • FORMIDABLE • H AUWAHL

рїїовежїї • ЕГΦΔΣΨΩΛКЄΗΓΨ • Η επικοινωνία το μέλιον
Fontagenics

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Baton Rouge 12
Special characters: 0.2 ½ o.3 ⅓ (pound) o.5 ⅓ o.6 ⅔ (oz. wt.) 0.7 " (dash) 0.8 (drop) 0.9 (slice) 0.0 (cut) o._ ⅓ o.w (whip) o.r (roast) o.y (minute) o.o (o.p) (quart) o.s (pinch) o.d (stir) o.f (bake) o.g (grill) o.l (roll out) o.ï ¼ o.2 (sift) o.x (baste) o.y (cool) o.b (boil) o.m (oz. fl.) o.°F o.°C s.o. s.o.1 (empty cup) s.o.2 (1/4 cup) s.o.3 (1/3 cup) s.o.4 (1/2 cup) s.o.5 ⅓ s.o.6 (1 cup) s.o.7 (tsp.) s.o.8 (1/4 oz.) (chop) s.o.9 (1/2 oz.) (dice) s.o. = ⅓ s.o.w (tbsp.) s.o.y (hour) s.o.o (s.o.p) (gallon) s.o.d (blend) s.o. ' s.o.b (sauté) s.o.m (pint)

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Lyon Font 12

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Milwaukee Font 12
Specials: s.o.' s.o.1 s.o.2 s.o.3 s.o.4 s.o.5 s.o.6 s.o.7 s.o.9 s.o.0 s.o.w s.o.e

"atasets"
Novosibirsk Font 12

Cyrillic Alphabet:

А Б В Г Д Е Ё Ж З И Й К Л М Н О П Р С Т У Ф Х Ц Ч Ш Щ Э Ю Я
а б в г д е ё ж з и й к л м н о п р с т у ф х ц ч ш щ э ю я

Special Characters: s.o.1, s.o.2, s.o.3, s.o.4, s.o.5, s.o.6, s.o.7, s.o.8
東大の文学の山口先生。
前の計画と同じように二月七日にアメリカから東京に上って先生に会うことが出来ると思います。これをお知らせしたらもうかかったと思いますが…
わたしの大好きな使いやすい小さな（八 réussiだけ）マック（Macintosh）のコンピュータのための「マックカナ」というプログラムを（二万三職四百円だけで）

MacGreek:
ΚΑΤΑ ΜΑΘΗΜΑΙΟΝ 4:14-15 ἵνα πληρωθῇ τὸ ῥηθέν δι' Ἡσαίου τοῦ προφήτου λέγοντος, Ἡ Ζαβουλών καὶ γῆ Νεφθαλίμ, ὥδον θαλάσσης, πέραν τοῦ Ἰορδάνου, Γαλιλαία τῶν ἔθνων…
5:43 Ἄγαπήσεις τὸν πλησίον σου καὶ μισήσεις τὸν ἐχθρόν σου.
15:4 ὁ γὰρ θεὸς εἶπεν, Τίμα τὸν πατέρα καὶ τὴν μητέρα, καὶ ὁ κακολογῶν πατέρα ἤ μητέρα θανάτῳ τελευτᾷ.
21:13 Γέγραπται,
Mac the Knife, Volume 2

**Boise 18**
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**Carmelot 18**
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**Copenhagen 18**
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**Cupertino 24**
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**Greenbay 18**
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**Kawasaki 14**
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Las Vegas 24
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Manhattan 12
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Mos Eisley 24
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Sunnyvale 24
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Sydney 24
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Washington DC 18
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Hoodbeach 12
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Mac the Linguist: Phonetic Fonts for Macintosh

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L Genevařš
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L New York 10
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Professional Type Fonts for Headlines

nu black 24

Professional Type Fonts for Text

BETA ITALIC 18
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EPSILON 18
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ETA MEDIUM 18
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KAPPA BOLD 18
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OMEGA 24
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PHI DISPLAY 18
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RHO SEMIBOLD
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SIGMA 12
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SIGMA BOLD 18
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THETA 12
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UPSILON 24
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UTILITY 12
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ZETA BOLD 18
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Superfonts

BABY TEETH 18
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BROADWAY 24
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City 18
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CROSSFIRE 18
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Firenze 18
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Futura 24
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GALLIA 18
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SACRAMENTO 18
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Seine 18
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Thames 18
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Volga 18
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Volga Inline 18
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Yukon 18
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Willamette 18
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Borders font:

Symbols fonts:
Let's get one thing straight: Just because a program is fun doesn't mean it's a game. Lots of programs are fun. *Microsoft Word* is fun. *MacPaint* is fun. *Desk Accessory Mover* is fun. Strange-looking fonts are fun.

With Macintosh, fun is easy. But games are a different matter entirely. With games, you can lose.

Oh, you can crash and ruin a 200K database (a delightful experience), or accidentally copy an old file over a newer file (always fun), or wipe out a hard disk (don't tell the boss), but losing wasn't envisioned—certainly not planned for—by the manufacturer. But with Macintosh games, losing is planned from the outset. Built in.

Computer games have always offered opportunities to be outplayed, outmaneuvered, snookered, bested, whipped, or trounced. But often, on other computers, the games weren't very good, or very smart.

It wasn't the fault of the game designers. They did their best, within the limits of the machines.

Speed is the cruelest limit. Think of it from the designer's view: You've got to create a jazzy screen (the faster the better), handle inputs from the player (the faster the better), decide what to do with the inputs, update a score or position (quickly), and change the screen accordingly. Sound effects also help, but sound requires still more speed—and nobody likes to wait, no matter how engaging the tune.

Luckily, Macintosh is fast. It can process two million low-level instructions a second. A second. Think about it. Two million. A second.

Think about it when *Sargon* humiliates you at chess. Or when *Mouse Stampede* buries you in shopping carts. You'll feel better.

Even games that take little advantage of Macintosh's design benefit from its speed. Infocom's games play exactly the same on Macintosh as on other computers, but faster. And it makes a difference.

The Mac design helps in other ways. Multiple windows in *Wizardry* and *Cyborg* add fun to both games. Blue Chip Software's business simulations also take maximum advantage of windows; profit and loss statements, business graphics, even the *Financial Times*, can be viewed in windows, all only two clicks away.

Macintosh game graphics—aready superior to the graphics produced on other computers—will only get better. Animation hasn't quite made it to games, but it will. Digitized pictures, shot with cameras and incorporated into games, are also coming. So are adventure maps that "draw" as you
play. So are programs that not only fight back, but talk back. So are programs with true three-dimensional graphics. On the way.

Many of these advances will require a 512K Macintosh. A single detailed MacPaint picture can hog over 60K of memory. Sound, speech, animation, and—oh, yes—the actual game program also need to be crowded into memory.

It’ll happen. Nobody uses Jazz all the time.

For now, we have games in every category: card games, board games, strategy games, arcade games, text and graphic adventures, casino games, simulations, even trivia games.

All that’s missing in this chapter are educational games—programs that use arcade tactics to teach typing, for example. Macintosh has educational games too, but we put them in the Educational Software chapter. You’re meant to win at those games.

It’s obvious that game designers like Macintosh. And Macintosh designers love games. Steve Capps, who wrote much of the software within Macintosh, was hired onto the Mac team as a result of a game. Alice has been spruced up and renamed Through the Looking Glass. It’s included in this chapter.

And, of course, there’s the puzzle desk accessory. There was much wrangling prior to Mac’s release over whether the puzzle should be included as a desk accessory. After all, Macintosh was a “business computer,” right?

The puzzle stayed. And, oddly enough, a year or so later comes this chapter—one of the longest chapters in this book. All games.

Is Macintosh a business computer? Sure.
Pyramid of Peril
A graphic action-adventure in three dimensions. The play takes place within a multi-leveled pyramid, full of treasures and monsters. Using the mouse, you progress forward, backward, left, right, up, or down. Along the way, you slide treasure into your bag and click monsters to oblivion. Tough monsters take many clicks.

Half the screen shows the pyramid maze from your viewpoint in three dimensions. The remainder of the screen shows your location on a simplified map. Turn, grab, click, explore, and so on.

Hardcore adventurers may find it tame but should enjoy the graphics. Children, though, will love it: There’s no typing involved, the game isn’t frustratingly difficult, and it’s exciting for kids to click monsters and fiends back into the depths of hell (or disk, or wherever they come from). The third release of Pyramid of Peril is out. Each release gets better: better graphics, better monsters, more challenging, more fun. Buy it. $49.95

Lunar Explorer
An adventure game with built-in arcade action. Your planet’s on the verge of anarchy; you must journey to distant cities for help. Before you begin, you must stock your spaceship with fuel and supplies, choosing armor, radar, food, weapons, and other standard adventure fare. Traveling through the canyons that connect your planet’s cities, you encounter renegade groups of outlaws (are there any other kind?). The shoot-'em-up action happens here; bombs and missiles are fired with the mouse and spacebar. We haven’t seen the game, but the concept sounds like fun. $49.95

Cyborg
Cyborg is a classic text adventure game written by science fiction author Michael Berlyn. An operation has left you as a cyborg, part human and part machine, a monster in human form shunned by friends and family. In desperation, you accept a mission that takes you on a remarkable journey.

Most of the necessary cyborg communication and control occurs through an instrument panel on the screen’s left side. Clicking the “Body Scan” button presents you with a list of the objects you are wearing or carrying. “Area Scan” describes your location in detail. “Bio Scan” details your physical and mechanical condition, and “Metabolism” lets you set your energy expenditure. “Compass Points” controls movement and “?” accesses cyborg opinion on either a location or an object. You may save up to forty games and resume playing at any place where you previously saved. Cyborg also includes a handful of cleverly executed graphics. $39.95
Challenger Software
18350 Kedzie Avenue, Homewood, IL 60430
(312) 957-3475

Legacy
A two-disc graphic adventure game that casts you in the role of an apprentice magician in search of a mystical orb located in the legendary Drab Castle. Many obstacles lie in your path as you begin your quest. Legacy features detailed graphics and accepts full-sentence commands. $39.95

Infocom
55 Wheeler Street, Cambridge, MA 02138
(600) 262-6868, (617) 492-1031 in Massachusetts

Each of the Infocom games is a text-only adventure; there are no graphics, no extra windows, and no fancy dialog boxes to be found here. The only concessions to Macintosh are the ability to cut and paste text and a menu bar with options to save or resume a game, or to switch the display font. Still, these games are by turns delightful, amazingly intelligent, and often maddeningly difficult. All games accept complete sentences as input. ("Push the red button with the umbrella then get the shoe.") The packaging is among the best in the industry. All Infocom games are rated for difficulty: Junior, Standard, Advanced, or Expert. Novice adventurers should forego the more difficult games.

Cutthroat
Sunken treasure is the goal here. You have to work with some scurvvy characters to recover the treasure from Hardscrabble Island, but can you trust them? Tough, in more ways than one. Standard level. $39.95

Deadline
An instant hit when it was released, Deadline is a re-creation of the "hard-boiled" detective genre story, where you're the shamus. Inspect the house and grounds, grill the suspects, and paw through the material packed with the game. Watch out for red herrings. The sense of realism is, at times, uncanny. Expert level. $49.95

Enchanter
You're a novice magician in a land of magic, out to defeat the evil Krill and earn a seat on the Circle of Enchanters. Unlike in the Zork trilogy, the emphasis here (and in the companion game, Sorcerer) is on learning and using magical powers rather than on solving knotty puzzles—though puzzles also play their part. Light touches, including talking animals, are found throughout. Easier than Zork, Enchanter is a good first game for adventuring. Standard level. $39.95

The Hitchhiker's Guide to the Galaxy
From the book of the same name. You are Arthur Dent, sole survivor of Earth (which was demolished to create an interstellar bypass), off to puzzle and blunder through the galaxy. Challenging and hilarious. Hitchhiker was an instant cult hit upon release. Can Restaurant at the End of the Universe be far behind? Standard level. $39.95

Infidel
Being an soldier of fortune of less-than-sterling character, you've been marooned by your followers in the desert. The setting is Egypt, the goal is treasure, and the difficulty is advanced. Not a good game for first-time adventurers. $44.95

Planefall
You are an ensign in the Stellar Patrol. Your specialty: swabbing decks. Cast on your own resources when the Feinsten explodes, you must learn to survive on a distant planet. Your robot companion, Floyd, may or may not be helpful. Humorous, offbeat, and moderately difficult. Infoworld magazine rated this one "Best Adventure of 1983." Standard level. $39.95

Seastalker
The first in a new series of games for kids from ten to presenility. In Seastalker, the Aquadome, the world's first undersea research station, is in trouble. You, naturally, are the one to save it. Unfortunately, your specially equipped submarine, the Seimitar, hasn't yet been tested in deep water, and the crew of the Aquadome may harbor a traitor. Some days it's one thing after another. Junior level. $39.95

Sorcerer
The second game in the series that began with Enchanter. By now, we hope, you've defeated Krill and are a full member of the Circle of Enchanters. Good thing, because you'll need to learn more magic spells and understand magical potions if you're ever to rescue your friend the Necromancer and save the kingdom. Includes a roller coaster ride and an invisible 3-D maze. Standard level. $44.95

Starcross
A difficult science fiction adventure, Starcross is reminiscent of Arthur C. Clark's Rendezvous with Rama. You're on a spaceship that's seen better days, accompanied by a smart-mouthed computer. But what's that strange object out there? The mass-readings are interesting. Now, if you can just fig-
ure out how to navigate this thing, and find your spacesuit, and... Expert level. $49.95

**Suspended**

You've been awakened from cryogenic suspension to save your planet from destruction. You can't be on the scene of the problem yourself, so you manipulate a crew of robots, each of which specializes in a different kind of task. It'll take a while to get to know what works and what doesn't—as in all Infocom games. This one is tough but engrossing. Expert level. $49.95

**The Witness**

Successor to Deadline, this murder mystery has, somewhere, everything you need to know to nail the culprit. A pity you've got only twelve hours to solve the crime. Easier than its predecessor, Deadline, but still plenty challenging and fun. Standard level. $39.95

**Zork I, II, and III**

The original trio of Infocom games, set in the now-famous Great Underground Empire. Zork I is the least complicated at "standard level"; II and III are more difficult continuations (advanced level) of the story. Here lie enchanted swords, magical vistas, treasure, whimsy, utter frustration, and grues that enjoy snacking on adventurers. Zork I, $39.95; Zork II and III, $44.95

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**Origin Systems**

340 Harvey Road, Manchester, NH 03103
(603) 644-3360

**Exodus: Ultima III**

In this fantasy role-playing game, you move four characters of your own creation through the world of Sosaria. Quest through castles, towns, and dungeons, over the high seas and the monster-filled countryside, building your strengths, getting treasure, and gathering clues, weapons, and abilities that will help you vanquish the evil Exodus. The first two Ultima games are Apple II classics. Ultima III, already a bestseller in the Apple II and other game markets, is the first of the series to allow multiple characters and give the player a realistically limited point of view; although you see the world from above, those places that are blocked from view by walls or trees are not visible. A breakthrough game in its genre. $64.95

**Penguin Software**

830 Fourth Avenue, P.O. Box 311, Geneva, IL 60134 (312) 232-1984

**The Coveted Mirror**

Penguin games are as popular for their imaginative scenarios as for their playability. The setting in The Coveted Mirror is typical: The once placid Medieval village of Starbury groans under the iron-fisted rule of blackhearted King Voar. The dazzling mirror that the Wizard Munjistan once used to protect the village is now broken into five pieces, of which Voar has four. The power of the whole mirror is absolute, and Voar will stop at nothing to find the missing piece. But should a champion find it first, Voar's power can be broken.

As the designated hero, you're charged with finding the Coveted Mirror. Beware, though: With the mirror, Voar can spy on his enemies at all times. The Coveted Mirror is...
Penguin’s first all-mouse-driven adventure—the first to truly make use of Macintosh as Macintosh. You supply the ingenuity; everything else is on pull-down menus. $39.95

The Quest
In this graphic adventure, you’re cast as the King’s newest advisor, charged with finding and destroying a vengeful dragon that’s terrorizing the kingdom’s south forty. Accompanied by the King’s champion, Gorn, you venture off to explore the kingdom and slay the reptilian menace. The Quest accepts multiple-sentence commands and lets you save games in progress.

If the game proves too tough, you might take refuge in the manual. Here’s a typical entry: “Thou mayst move by positioning the mystical mouse pointer on any lit compass point and pressing the mouse button. It is not known why the sorcerer chose to use a rodent for this enchantment, but it doth ease the fingers most remarkably.” $39.95

Transylvania
One of the first graphic adventure games for Macintosh, Transylvania pits you against vampires and werewolves as you race against time to save the lovely Sabrina. The full cast is included: garlic cloves, silver bullets, coffins, bats, rats, dark woods, and creepy graveyards. Seasoned adventurers should find this an interesting diversion. Newcomers will need to learn about mapping, and about not making the same mistake twice. $39.95

Xyphus
A fantasy role-playing game of many scenarios in which you enter the Lost Continent of Arroya in search of Xyphus, Lord of Demons. In your travels you encounter spells, weapons, and monsters and create four characters, which can move independently. Characters can be recruited from three Arroya races—Elf, Human, and Dwarf, each with its own strengths and weaknesses—and two professions: Fighters and Spellcasters. Characters continue from one scenario to the next; scenarios are played through in order, each more difficult than the last. You can rest in forts along the way and get healing services, weapons, and armor from trading posts scattered throughout the Lost Continent. You can also save your game—good thing. $39.95

Pryority Software, Inc.
635 South Sanborn Road, Suite 22, Salinas, CA 93901
(408) 757-0125

Forbidden Quest
A science-fiction text adventure spanning more than a hundred locations on two starships and three planets. Five hundred years after the end of the galactic civil war, your planet’s in a state of social and technological decline. You’ve heard that an alien race far in space has knowledge that can restore your planet’s technology; your quest is for this information. Points are awarded for collecting objects and solving problems. The harder the problem, the more points you win. Some “special” objects—you must discover which ones—are worth extra points. Pay careful attention to the printed illustrations (one full-color, four black-and-white) that depict game locations; you can’t win without the clues they contain. As with all such adventures, map your progress, save often (you can restore the game at any point without being penalized), and be frugal in asking for hints. $44.95

Gateway
A “science fantasy” text adventure with graphics, plotted by science-fiction writer Michael Banks. You’re an adventurer faced with solving the mystery of a “Gateway” to another world that’s hidden in a decrepit building; on the other side lies a parallel universe and a malevolence that will eventually threaten Earth. Your mission is to find and destroy this evil, aided by other characters who appear in the game. Like Forbidden Quest, Gateway has multi-level on-line hints, a save-game feature, and printed illustrations of game locations that contain clues to solving the adventure. $49.95
**Sierra On-Line, Inc.**
P.O. Box 485, Sierra On-Line Building, Coarsegold, CA 93614
(209) 683-6858

**Ultima II**
A bestselling fantasy role-playing game on the Apple II, *Ultima II* retains all the character of the original version while making good use of the Mac's user interface. The graphics are intricate and plentiful, and pull-down menus provide easy access to essential information. $44.95

**Sir-tech Software, Inc.**
6 Main Street, Ogdensburg, NY 13669
(315) 393-6633

**Wizardry**
A classic Apple II fantasy adventure rewritten to take advantage of the Macintosh's speed and graphics. The authors say that the Mac version is "faster, easier, and more fun to play. And, unfortunately, even more addictive than the original game." In *Wizardry*, the player creates and controls a cast of characters, each with his or her own strengths, weaknesses, and personalities. As this book was written, *Wizardry* was unfinished, but previews showed lots of menus, icons, and information windows—and, of course, mazes galore. $59.95

**Arcade Games**

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**Ann Arbor Softworks**
308 1/2 South State Street, Ann Arbor, MI 48104
(313) 996-3838

**Grid Wars**
You're on a grid, armed only with a mouse-controlled neutron cannon. Five species of attackers are coming at you over the grid; each strikes in its own way. Splitters reach a certain point in the grid and then—you guessed it—divide and conquer. Swoopers attack from the sky and drop other...
species onto the grid. Gridwalkers travel only on gridlines. You get the idea. Grid Wars was still under development as this book was written, but it sounds worth a look. $39.95

**Broderbund Software**
17 Paul Drive, San Rafael, CA 94903
(415) 479-1170

**Lode Runner**
The Macintosh version of a classic arcade game originally written for the Apple II. The Bungeling Empire's repressive leaders have stolen a fortune in gold from the citizens by means of excessive fast food taxes; your job is to recover the gold. Grab the chests of booty and flee the bad guys through 150 levels, each representing a different room in the treasury. Or dig holes to escape through, or to encase your pursuers. When the money's collected, skinny up the ladder to the next—more difficult—level. Includes an editor to create custom levels. Saves a list of high scores. Challenging and fun, with good sound and animation. $39.95

**General Computer Company**
215 First Street, Cambridge, MA 02142
(617) 492-5500, (800) 422-0101 in Massachusetts

**Ground Zero**
*Missile Command,* revamped. The nuclear missiles are coming, and it's your job to save the world from global annihilation. Armed with your trusty mouse, you ward off bombs dropped from enemy planes on helpless U.S. cities. Which city to save first? Decisions, decisions... Good sound and graphics. $39.95

**Mark of the Unicorn, Inc.**
222 Third Street, Cambridge, MA 02142
(617) 576-2760

**Mouse Stampede**
Rabid mice aren't your only threat in this shoot-'em-up arcade game. You also have to dodge and destroy turtles, bats, sneakers (yes, tennies), knives, flies, and shopping carts (really...), all detailed in the colorful and colorfully written game packaging. Mice scramble around on the kitchen floor until they bump into a moldy piece of cheese, then they head for you. Hungry cats will help you by munching up mice, but the cats are sleeping most of the time. High scores are saved for posterity after you die. And you will, over and over again. $39.95

**Miles Computing**
21018 Osborne Street, Suite 5, Canoga Park, CA 91304
(818) 341-1411

**MacAttack**
A snazzy arcade shoot-'em-up that puts you at the controls of a radar-equipped Sherman tank, the last defender of
Alaska's battle zone on the brink of World War III. Your survival depends on outmaneuvering the conventional and heat-seeking missiles fired at you from opposing tanks and fighter planes. This is the first 3-D Macintosh game, and it's good. In ways, the scrolling landscape is reminiscent of Microsoft's Flight Simulator. Your controls are on the bottom of the screen; the remainder of the screen shows oncoming tanks and planes.

The opposition tanks are equipped with powerful howitzers. Worse yet, the enemy planes have computer-guided missiles. The manual cautions that "...it is very difficult to escape them. It is possible to outmaneuver these missiles or even destroy them in midair, but it will take all your skill and experience to do so." It does. Using both the mouse and keyboard, you position your gunsight, fire, change speed and direction, check the radar, and monitor fuel. And watch (and hear) your tank get blasted to oblivion every few seconds. Aim well, shoot fast, and move quick to survive.

MacAttack has four levels of sound, three levels of play (from hard to unbelievably difficult, it seems), a list of high scores, and a store-demo mode. It's a superior arcade game for those with catlike reflexes. Think of all the quarters you're saving. $49

PBI Software
1155B-H Chess Drive, Foster City, CA 94404
(600) 843-5722; (800) 572-2746 or (415) 349-8765 in California

Feathers & Space
An arcade game modeled—very loosely—on Defender. You defend your space outpost against flocks of menacing birds. The birds swoop onto the screen in waves; you shoot them from your spaceship before they land. Once zapped, the birds become (naturally) cooked turkeys. Having your spaceship hit by a falling cooked turkey is bad news; avoid it.

If you're not quick with your shots, the birds land, walk to your outpost door, peck at the door, and fly off with "your men," who obligingly answer. Your guys never have the sense not to answer the door.

There's still hope: shoot the birds, catch the men, return them to ground, watch them scurry indoors, and hope that—this time—they'll stay inside. They won't. Fortunately, you've also got two types of bombs at your disposal, including a few deadly Smart Bombs that'll clear the screen of those pesky birds.

An excellent arcade game. The concept is good, the graphics are excellent (and amusing), and the play (four levels) is fast and challenging at higher levels yet easily grasped by beginners. Has a high score list, good sound (four levels, including no sound), and a sneaky "boss coming" feature that blacks out the screen (until you next move the mouse).

You'll like this one. By the way, we're told that the "PBI" in PBI Software stands for "Pretty Big Initials." Obviously, these people were born to game. $34.95

Sierra On-Line, Inc.
P.O. Box 485, Sierra On-Line Building, Coarsegold, CA 93614
(209) 683-6858

Frogger
An arcade classic. For those with no arcade experience, it goes like this: You're a frog. You're trying to get home. Home, unfortunately, is far across the screen. Between you and your home are swift-moving logs, things that want to eat you, and, worst of all, cars. The trick is to look before you hop. Sierra has produced a good graphic version of Frogger, one of the better games for the very young. $34.95

Silicon Beach Software
P.O. Box 261430, 11212 Dalby Place, Suite 201, San Diego, CA 92126
(619) 695-6956

Airborne!
This imaginative, carefully plotted arcade game should have been titled Die and Die Again. You're on the ground, armed with an anti-aircraft gun and mortar to stave off enemy attackers. The attackers are many: paratroopers dropped from helicopters, more paratroopers (and, occasionally, tanks) dropped from transport planes, and jets that launch air-to-
Airborne!

ground missiles. If enough paratroopers land, they'll run to the gun emplacement and the lead man will lob a hand grenade in. End of game. Tanks need only two shots to blow up the emplacement. The game's authors recorded and digitized the sounds of actual explosions, helicopters, jets, and tanks and incorporated them into the game. Good arcade action; great sound. $34.95

Computing Capabilities Corporation
465-A Fairfield Drive, Suite 122, Mountain View, CA 94043
(800) 772-2666, Ext. 956; (800) 227-2634, Ext. 956, or (415) 968-7511 in California

Klondike
A graphic solitaire game, played using the mouse. Shows number of games played, scores, dates, and names of players with high scores. (Up to four people may play.) A Help menu describes play, scoring, and rules. Like other Macintosh solitaire games, Klondike always provides a complete deck but penalizes cheaters. In Klondike, you win some and you lose a lot—the odds against you are 30 to 1. $39.95

Mac-Jack II
An animated blackjack game for one player that includes the option of choosing one, two, four, or six decks and a choice of a normal or "speed" deal. Cards are dealt immediately after you place your bet by a smart-alecky Mac dealer; the mouse is used to move chips onto the table, to call for a hit or to stand pat, and to split pairs, double down, and buy insurance. "Casino Cashier" is where loans are made and repaid; the betting limit increases as play progresses. "How You Stand" provides financial standings. High scores are saved and displayed. $39.95

Card & Casino Games

Artsci
5547 Satsuma Avenue, North Hollywood, CA 91601
(818) 965-2922

Hearts
In this variation of the popular card game, it's you against three computer opponents. The player with the fewest points wins, and hearts are worth the most points. (Wouldn't you know.) For its part, Macintosh shuffles, deals, and keeps track of points. Your job is to set up the game the way you want it using the many menu options: four skill levels, several passing variations, first trick discards, and more. The graphics are smooth and realistic, and play is done entirely with the mouse. Good, diverting fun. $29.95

Klondike
DataPak Software, Inc.
14011 Ventura Boulevard, Suite 401,
Sherman Oaks, CA 91423
(818) 905-6419

Mac-Jack II

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MAC-JACK II

MAC-Poker
A game of five-card draw against the Macintosh. You ante up by dragging chips from your Bankroll area into "the Pot." Then you and Mac are each dealt five cards face down; the dealer, unfortunately, is not as speedy as you’d like. You can discard unwanted cards by dragging them into the Pot. (Mac also draws and discards to improve its hand.) Your cards always appear face down, though you can see them at any time by clicking a box labeled Peek. (We’d rather not have to memorize card positions, though.) Clicking other boxes lets you pass, call, call and raise, draw, or fold. Menus display general rules and remind you “what beats what.” "Cashier" is where you go to get more chips, repay borrowed markers, or cash in and quit. Our biggest gripe: You don’t get to see what Mac folds with! $39.95

HENDERSON ASSOCIATES

Real Poker
Like its name suggests, Real Poker is a realistic simulation of five-card draw. It's pot-limit poker, you against five computer opponents with names like Wild Bill and Shady Sadie. There are three playing modes, Teach, Normal, and High Speed. “Teach” mode shows you your opponents’ hands so you can study the behavior of each character in detail. (All the players are not alike.) In “Normal” mode you see the cards as they’re dealt and as they’re exchanged with the dealer. This action occurs in “High Speed” mode, too, but if you blink you’ll miss it.

We had only a few criticisms: Sometimes the action’s a bit too fast for beginners, and multiple “Go On” buttons (six of them, all with the same function) are confusing. The computer evaluates your hand, marks your cards with plus and minus signs, and suggests which cards you should keep: a nice feature that we wish was optional. Otherwise, a lively and fun game. It includes a user guide that’s clear, entertaining, and nicely produced. $39.95

SCREENPLAY

Caesars Guide to Gaming—Blackjack
Blackjack is the first in a series of casino simulations that will eventually include blackjack, craps, baccarat/roulette, and poker/slots. Screenplay plans to release the series first on other computers and then on Macintosh. Blackjack simulates blackjack as it’s played at Caesars Palace. Players can use the house rules or modify them to their own taste. They can also play any seat at the casino table, set the table limits, and play either one-on-one against the house or let the casino set up a table with a cast of characters, all with their own styles and strategies. The game tests players in a number of typical situations and records their moves for drilling in weak areas later. $69.95
Soft-Life Corporation
15411 South Butler, Compton, CA 90221
(800) 235-6646, Ext. 561; (800) 235-6647, Ext. 561, or (213) 774-3054 in California

Mac-Slots
Two casino games on one disk, Slot Machine and Keno. Slot Machine is a faithful replica of the real thing; playing is as simple as grabbing coins with the mouse, moving them to the coin slot, and, again using the mouse, pulling the machine’s lever. All three reels spin and slowly come to a halt. Your payoff is determined by the various combinations of symbols that appear. Menu choices let you review the payoff combinations and the house rules. “Cashier” is where you buy, borrow, and cash in chips.

The object of Keno is to match up to ten numbers of your choice with the twenty numbers randomly picked by the Mac. Payoffs are based on the amount bet and the number of correct choices. $49.95

Videx
1105 N.E. Circle Boulevard, Corvallis, OR 97330
(503) 758-0521

MacVegas
Las Vegas on a disk. This program contains the largest assortment of Macintosh casino games available in a single package. Most of the favorites are here: Slots, Roulette, Poker, Keno, Craps, Blackjack, and Baccarat. You can play at any of four casinos, each with its own house rules. The presentation is good. There’s just enough animation to be entertaining without needlessly slowing down game play. Cards shuffle, roulette wheels spin, and dice roll. Provisions are made for one or two players. You can only bet against the house; the poker game is video poker, not the kind you play with your buddies on Friday nights with lots of beer and potato chips at hand. Nevertheless, a good set of games for the money. An instruction manual and book on casino gambling are included. $59

Strategy & Board Games

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9996; (800) 662-9238 or (408) 996-1010 in California

Through the Looking Glass
Alice from Wonderland on a three-dimensional chessboard. You’re Alice, pursued by enemy chess pieces. Achieving a high score is mostly an exercise in how fast you can move—and click—the mouse. Design your own playing pieces and define their movements, or poke around for undocumented play modes. Written by Apple’s Steve Capps, the man responsible for much of the software in the Macintosh ROMs. One of the underground classics finally surfaces. $39.95

Through the Looking Glass

The player bitmaps can be changed. The black area MUST be preserved, as the pieces can get no wider or taller. After you edit the players, copy the file over the Flakas file. Then, erase each piece and fill with black pattern.

Through the Looking Glass
Axlon, Inc.
1287 Lawrence Station Road, Sunnyvale, CA 94089
(408) 747-1900

*MacMatch*
A memory game for one to four players. *MacMatch* challenges you to match pairs of objects and solve the hidden puzzle underneath. An added bonus: You can create your own puzzles. Choose from three levels of difficulty, including an expert level that does some sneaky reshuffling. Hints are available but will cost you points; you'll also want to avoid matching "bombs." $49.95

Brainpower, Inc.
24009 Ventura Boulevard, Suite 250, Calabasas, CA 91302
(818) 884-6911

*Telechess*
A chess program coupled with communications software that allows playing chess by phone, provided you can find a willing wood-pusher. The program also features a "chat" mode that lets players "talk" during the game. $69.95

CBS Software
One Fawcett Place, Greenwich, CT 06836
(203) 622-2500

*Murder by the Dozen*
Twelve murder mysteries for one to four players. Here's the scenario: Folks in the city of Micropolis have been kicking off at an astounding rate; you're the top homicide detective on the force, assigned to discover the perpetrator of these crimes. Case histories reveal that many of the victims died unceremoniously, knifed during church confession or beaten with their hospital bedpan. As time runs out, you must grill suspects, surmise motives, examine evidence, solve problems, and organize your information logically and sensibly. Each mystery counts as a single game. A game clock keeps track of time and determines the winner's sleuth rating. A trusty Crime Computer directs you to numbered clues—many of them false—printed in the Clues book. A special piece of red plastic lets you read the information revealed in the Solutions book. $44.95

Expert Software Systems, Inc.
P.O. Box 2352, Melbourne, FL 32901
(305) 725-5614

*MacGammon!*
*MacGammon!* is the classic strategy board game backgammon, re-created to take special advantage of the Macintosh's sound and graphics. Unlike a human opponent, *MacGammon!* is always in the mood for a game. It's a knowledgeable opponent and understands essentials such as key points, blocking, timing, running, and doubling. *MacGammon!* will not let you make illegal moves but will let you cheat a bit and pick your own dice roll—shame on you if you use this option too often.

*MacGammon!* uses tournament scoring and keeps track of game statistics, such as the number of points needed for each side to win; it also saves scores for up to ten people. You can save a game in progress and resume play later, or use this option to play out an interesting game using different strategies. Occasional passages of classical music brighten even a losing game. $50
MasterPieces
A jigsaw puzzle-making program originally released by Industrial Computations as MacPuzzle. MasterPieces comes with several puzzles but encourages you to create your own from MacPaint pictures. There’s a lot of potential here: How about sending a friend a cut-up “puzzle letter”? MasterPieces lets you select the number of pieces (from 9 to 196) and number them, if desired—helpful for very young players. The program keeps track of how many correct and incorrect attempts at matching pieces you have made. You can also choose how close the pieces must be before they will lock together. Unfinished puzzles may be saved. $39.95

Sargon III
A devastating chess opponent. Sargon was originally written, years back, for the 8080 processor, then honed and refined for other computers and finally outfitted for Macintosh. Sargon is blindingly fast and plays better than you might wish, even at the lowest levels. There are nine levels of play, from five seconds to infinite, with an “easy play” option. Allowing Sargon only five seconds results in a tough game. Options abound: Change Sides, Self Play, Hint, Undo Move, Draw Offer, Cancel Opening Library, Show Search Tree, Show Move List, and many more. Games may be saved or printed. Board positions may be created, played, or saved. Sargon includes over 100 classic games, as well as forty-five problems in strategy, tactics, and endgame situations. $49.95

McFlip
McFlip is an offbeat rendition of the classic game of Othello/Reversi, hosted by an irreverent Scotsman who seems to live in your Macintosh. The attraction isn’t play quality, but rather the graphics and seemingly spontaneous comments of your host. Help menus offer instructions, hints, and high scores. $34

Word Challenge II
Word Challenge II is based on the popular game Boggle, but this time your opponent is Lex, the word master whose 90,000-word dictionary has been known to choke even seasoned wordsmiths. The object of the game is to discover as many words as possible using contiguous letters randomly arranged on a grid. There’s a choice of three board sizes and twenty-six levels of difficulty; you can also rotate the board for a different view. You can enter words using the mouse or the keyboard and choose the time limit for each round. Friends can play the same grid against Lex, or you may want to create your own board. $39.95

NewGammon
An animated backgammon game that lets you play against the computer or another player. Many features: tournament scoring, multiple skill levels, and a doubling cube, as well as the ability to save games, change sides at any time, set up any position on the board, undo moves, and ask for hints. NewGammon also includes an arcade-style game based on backgammon, a nice touch. $39.95

Pensate
An excellent strategy game with similarities to chess, played on a grid of sixty-four squares. In Pensate, the goal is to advance your piece from the bottom of the board to the top, without colliding with opposing pieces. Each of the opposing pieces moves in a specified manner; your job is to outmaneuver them. It’s easy the first round, but each round
Pensate adds one more opposing piece. *Pensate* is easily learned and progressively more difficult; musical accompaniment is delightful. A good, challenging, thinking-person's game. $39.95

### Shapechanger Software

**Products Division**

**Icon Concepts Corporation**

113 East Tyler, Athens, TX 78751

(214) 577-2793

**Webster's Revenge**

A captivating word-search game. As sand trickles through an hourglass, you must locate as many words as possible in a 4 x 4 array of letters. Words are recorded by scrolling through them with the mouse; when time expires, *Webster's Revenge* compares your word list with the list Webster's found. If your word isn't in Webster's dictionary, he'll kick it out; you can retaliate by clicking the word and giving yourself credit. You can verify any of Webster's words by clicking on them to see how they're formed on the grid. Level and Time menus let you vary the difficulty and length of each round; even very young readers will enjoy playing on the low levels. $34.95

### Videx

1105 N.E. Circle Boulevard, Corvallis, OR 97330

(503) 758-0521

**MacCheckers and Reversi**

Two favorite strategy games. Both games have solitaire and two-player modes, move timers, and the option to see the computer's thoughts. Mac will show or print a game record for either *MacCheckers* or *Reversi* at your request. Both games allow you to adjust the board. *MacCheckers* has three strategies and seven skill levels, including Postal, which gives the computer maximum time to consider moves. *Reversi*, also known as Othello, has three strategies, four skill levels, and a choice of two opening positions. Nicely executed. $49
MacGammon offers a choice of color, computer or human opponent, use of a doubling cube, board orientation (some players become completely disoriented with the board facing the wrong way), and strategies for the computer player. Play with your own dice if you prefer. Cribbage options include two or four hands, manual or automatic pegging, first dealer, times around the board, and Muggins. On-screen instructions are available. $49

Blue Chip Software, Inc.
6744 Eton Avenue, Canoga Park, CA 91303
(800) 835-2246, Ext. 234; (818) 346-0730 in California

Baron
Blue Chip calls their products “financial education software.” Baron is a realistic simulation centering on real estate speculation. Beginning with $35,000, you have fifty-two weeks to parlay your money into $1 million by buying, selling, and developing property in five states—homes, apartments, shopping malls, factories, farms, even forests. Fluctuating interest rates, today’s news, and natural disasters all play their part. $59.95

Millionaire
A realistic stock market simulation game. Investors begin with $10,000, then invest it among fifteen corporations and five industries. Investment decisions are based on corporate histories, performance graphs, news headlines, price tables, and other factors. Good investing results in advancement from novice to investor, to speculator, to professional, to broker, and, finally, to millionaire. A carefully done game, tailored to the Macintosh. $59.95

Squire
A financial planning simulation. Your goal: to retire as a millionaire. Lots of investment options—stocks, bonds, real estate, commodities. Factor in your income and expenses and create your own personal game plan. Then, if you win at Squire, try it in real life. Available summer 1985. $69.95

Tycoon
This time the arena is international commodities—everything from gold and foreign currencies to soybeans and oil. The market is volatile and careful study is a must. The game spans fifty-two weeks, compressed into one hour of computer time. $59.95

Gamestar, Inc.
1302 State Street, Santa Barbara, CA 93101
(805) 963-3487

Star League Baseball
The Apple II, Atari, and Commodore 64 versions of Star League Baseball won rave reviews for their realistic animation, sound, and graphics. Here’s the scenario: You’re in the middle of a tight pennant race against a hard-hitting computer team. The action’s viewed from way up in the right field bleachers. You use the mouse to control the moves and
Star League Baseball

throws of the players, choosing different pitchers and batting lineups and planning your game around the single hitters or the big boomers. In two-player mode, the player at bat uses the keyboard as a game controller, and the other player uses the mouse. The Mac version was being targeted for a mid-1985 release. Ask your dealer for a demo; it should be hot. $34.95

Harvard Associates, Inc.
260 Beacon Street, Somerville, MA 02143
(800) 622-4070; (800) 942-7317 in Illinois;
or (617) 492-0660 in Massachusetts

MacManager
An intricate, well-designed game that puts you at the helm of a large corporation. To win (and survive) you’ll need to watch expenses, budget carefully, and weather corporate setbacks and calamities. MacManager charts your progress, lets you take out loans, and gives you the latest news affecting your industry. It makes good use of the Macintosh user interface, with excellent graphics and a complete manual. Play alone or against others. Beyond its virtues as a game, MacManager is a detailed business simulation—worthy practice for budding MBAs. $49.95

Microsoft Corporation
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8080

Entrepreneur
This time you’re in the software business, competing against one to eight fellow entrepreneurs of the human or Macintosh persuasion. You have three (simulated) years to make your company’s profits the largest. To be successful, you’ll need to develop a business plan; make pricing, production, marketing, purchasing, and R&D decisions; and track your competitors’ progress in Bitt magazine, the software industry journal. It sounds worth a look; Entrepreneur was developed by Harvard Associates, creators of MacManager, and licensed to Microsoft as a MacLibrary product. $49.95

Scarborough Systems, Inc.
25 North Broadway, Tarrytown, NY 10591
(800) 882-8222, (914) 332-4545 in New York

Make Millions
A business simulation that gives aspiring entrepreneurs all the right tools to become business tycoons—market research, newspapers, spreadsheets, databases, consulting services, and stock quotes. You’ll have to make decisions regarding manufacturing, inventory, pricing, and selling—all while managing your own staff. Your goal is to make your company’s stock the highest priced in the market, but watch out for the competition. $49.95

Run for the Money
An economic simulation with the flash, action, and sound of an arcade game. You and your opponent have crash-landed on a strange planet. Short on cash, you must develop a business that provides the profits needed to repair your spaceship. The economics are detailed, the graphics are detailed, the instructions are detailed. The manual explains real-life strategies that help in the game: The Burger Strategy, The Copycat Strategy, The Save and Splurge Strategy, and others. Kids may learn economic theory with
no pain; adults may find the scenarios—aliens, monkeys, bananas—a bit, well, good for kids. $49.95

Trivia Games

Kastel Technology Corporation
621 Minna Street, San Francisco, CA 94103
(415) 863-5636

Trivia Savant
A game for up to six players, Trivia Savant presents 6,000 trivia questions in the categories of geography, history, politics, sports, math and science, arts and leisure, and potpourri. There are three levels of difficulty with optional hints, and you can save games-in-progress. Planned for future release are question disks covering the categories of music, sports, the 1970s, and music. The music questions will take advantage of Mac’s sound capabilities—a novel and welcome feature. $54.95

McCarron-Dial Systems
P.O. Box 45628, Dallas, TX 75245
(214) 247-5945

McTrivia
A trivia game with a sense of humor. Two players or teams compete to answer more than 2,000 multiple-choice questions about “interesting...but perhaps marginally useful facts.” Players have fifteen seconds to answer questions by clicking one of five possible responses. A game consists of two nine-minute halves. Three correct answers in a row wins you a bonus question; repeated wrong answers, or failure to answer promptly, elicit a humbling retort from a wise-cracking Scotsman. A single player can play against the clock for high score records. $40
Professional Software
51 Fremont Street, Needham, MA 02194
(617) 444-5224

Trivia Fever Volume 2
A game for one to eight players or teams, Trivia Fever offers thousands of questions in the categories of films and entertainment, famous people, geography, history, nature and animals, science and technology, and sports. Three levels of difficulty. A Super Sports edition offers questions in the categories of amateur sports; baseball; basketball; football; golf; tennis; and racing; nicknames, numbers, and places; and all sports. $24.95; Super Sports edition, $29.95

Screenplay
1095 Airport Road, Minden, NV 89423
(800) 334-5470, (702) 782-8731 in Nevada, (600) 268-5535 in Canada

The Trivia Arcade
An arcade-style trivia game for one to four players. Each of five categories—sports, music, television, science, and general knowledge—is represented by a cavorting symbol in the main arena. Players enter the arena, capture a symbol (tricky—they move fast), and attempt to answer a question from the corresponding category. There are more than 3,000 questions. Choosing the correct multiple-choice answer moves the player one or two steps closer to the winner's circle. (Answers may also be typed from the keyboard, provided that you choose this option at the game's beginning.) An entertaining game, stimulating enough for adults but not so difficult that older children lose interest. $39.95

The Trivia Arcade Question Pack I
Thousands of questions in the categories of literature, movies, history, comics, and general knowledge. Designed to be used with The Trivia Arcade. $34.95

Collections

Brownbag Software Division
Microcomputer Service Corporation
8208 North University, Peoria, IL 61615
(309) 692-7786

31 All-Time Favorite Programs
A collection of programs written in Microsoft BASIC. Some are games: Craps, Towers of Hanoi, Mastermind, Hangman, Othello, and more. Others are home programs or math and science programs. None are overly complex, and few take much advantage of the Macintosh interface. The programs were written by a university student attending a school belonging to the Apple University Consortium (where Macintoshes are found in large numbers). While not up to the latest offerings from Lotus or Microsoft, the programs are good demonstrations for anyone learning BASIC. Sometimes it's easier to fiddle with someone else's program than to write your own—and the author encourages fiddling. Includes a clear, MacWrite-produced manual. Requires Microsoft BASIC to run. $29.95

Stel Enterprises
Triple Play Division
P.O. Box 6354, Lafayette, IN 47903
(317) 742-5369

Triple Play Game Disk Number One
Three games on one disk, all nicely done. Backgammon is the classic strategy board game with some neat touches—you can save and resume games, undo your last move, choose new dice, choose from three skill levels, review game moves, or ask Mac to suggest a good move. Mancala is a two-player strategy game that's intrigued players for thousands of years. In this version, it's you against Mac. Each of you has a row of six playing pits before you and one scoring cup to your right. The goal is to
move all the pieces from your playing pits into your scoring cup, accumulating as many pieces as possible before either your pit or Mac's is empty. The program lets you choose the number of pieces in each pit (from two to fifty), save and resume games, and undo your last move (and Mac’s!).

Deduce is a game of logical deduction in which you attempt to duplicate a hidden sequence of tokens. Each time you make a guess, Mac tells you how many tokens you guessed correctly in the right position and how many you guessed correctly, but in the wrong position. Those who’ve played other versions of this game will appreciate the author’s attention to detail.

Game histories are available at any time from pull-down menus—another thoughtful touch. $39.50

Think Educational Software, Inc.
16 Market Street, Potsdam, NY 13676
(315) 265-5636

Mind Over Mac
Five games on one disk: MasterCode, Destroyer, Third Dimension, On-the-Contrary, and Trivial Intrigue. Master-
reduce your winnings (though pairing the cop with the robber protects your loot). By the twelfth and final round, you'll be seeing these guys a lot.

Your goal in Trivia Intrigue is to circle the trivia board, answering as many bonus questions as possible in the categories of science, sports, and entertainment. Mac moves your pieces for you. $49

Videx
1105 N.E. Circle Boulevard, Corvallis, OR 97330
(503) 758-0521

FunPak
An addictive set of diversions, FunPak is a collection of four games. King Albert and Klondike are versions of solitaire, Sevens is a card game against one or two computer opponents, and Four in a Row is a sophisticated, upright variation on tic-tac-toe.

King Albert is so hard to win that many players may give up in frustration. Also, unlike in a real card game, you can't peek at cards already played. As compensation, there's an undo option that moves play back to any previous layout. Klondike is difficult enough to be challenging but easy enough to be addictive. You can't undo moves, but you can return to the beginning of the hand and start over.

Sevens is a diabolical game, similar to Crazy Eights, in which you try to play out your hand before your computer opponents do. Mac deals each player seven cards and turns up the top card on the remaining deck to form a discard pile; if you can't play onto the discard pile, you have to draw from the deck. Playing queens lets a player change the suit; playing aces causes the next player to lose his turn. Sevens are devastating to those opponents who can't play on them.

Four in a Row, played on a grid of forty-two squares, adds the force of gravity to the basic tic-tac-toe theme. Pieces are dropped into the grid on the bottommost unoccupied square in the column of your choice; the object is to position four of your pieces in a row horizontally, vertically, or diagonally. There are four levels of difficulty, and you can ask for "Mac Thoughts," in which Mac evaluates each potential move (his, not yours). $39

The Card Shoppe
The Card Shoppe takes up where clip art programs leave off. Now that you've got the screen done, what's next? With The Card Shoppe, what's next is greeting cards.

The program comes with five plastic templates. The templates, when placed over the MacPaint screen, show you what will be where on the finished card and where the fold lines go. Cards can be three or four sections, vertical or horizontal, regular or "studio" (wide) size. Colored paper and cards are included.

Miscellanea

Axlon, Inc.
1287 Lawrence Station Road, Sunnyvale, CA 94089
(408) 747-1900

The Card Shoppe
The Card Shoppe drawings are the typical range of flowers, airplanes, borders, and animals. And seasonal images, and food and drink drawings, and so on. In all, another answer to “What can you do with a computer?” $59.95

Electronic Arts
2755 Campus Drive, San Mateo, CA 94403
(415) 571-7171

Pinball Construction Set
The classic make-a-game-then-play-it game, rewritten for the Macintosh by Bill Budge, who threatens to make this one even better than other versions. For Mac, the pinball parts are vividly sculpted in appearance, the “wiring kit” is more powerful, and the sounds are great. $39.95

Human Edge Software Corporation
2445 Faber Place, Palo Alto, CA 94303
(800) 624-5227; (800) 824-7325 or (415) 493-1593 in California

Mind Prober
Psychological software that describes a person of your choosing—no small feat for such a small program. The program lists words that describe personality traits—loyal, impulsive, trusting, unconventional, and other qualities. You click “yes” or “no,” depending on whether you agree or disagree that these qualities apply to your subject. When you’re done, the program evaluates your choices and creates, according to Human Edge, an accurate and insightful report. The report covers how the subject reacts to stress, his (or her) romantic inclinations, his attitudes toward work, and what makes him tick.

Early Mind Prober ads implied that the product will help you get the object of your desire into the sack. For this you need software? At the least, a good party game. At the most, a great “divorce game.” $49.95

JMZ Enterprises
2008 Las Palmas Circle, Orlando, FL 32822
(305) 281-1557

Scripture Bits
Bible quotes for the Macintosh, stored as MacWrite documents. More than 350 different quotes with an index to more than 200 Scripture subjects from the Old and New Testaments. Quotes are arranged alphabetically, from the Book of Acts to Zephaniah, including chapter number, verse number, title, and recommended month and day of the year. You can search for any word or phrase.

Quotes can be copied and pasted into MacWrite or MacPaint documents. The company recommends using quotes to create announcements, greeting cards, and invitations, as well as to add a religious touch to reports, memos, and flyers. $20 (plus $2 shipping and handling)

Scripture Bits

Shaherazam
P.O. Box 26731, Milwaukee, WI 53226
(414) 442-7503

MusicType
Musical clip art, with a different approach. This time a 187-character “music font” is included. Instead of alphabetic letters, the font contains musical characters. The result is a music typewriter, which can be used to enter most notes, symbols, and staffs via a single keystroke. The program comes with a keyboard overlay that shows how to produce each character. High quality sheet music can be created and printed.

Includes four MacPaint screens (which contain only staff “borders”), a Scrapbook file containing ten musical images (notes, rests, crescendo bars...) to be cut or copied, and a manual. A new version will include an extra font containing detailed illustrations of musical instruments and a complete set of custom musical “brush shapes” for use in MacPaint. $49.95
Music Character Set

Musical MacPaint images—notes, staves, clefs, and chords—all ready to be copied and pasted somewhere else. Includes twelve files of keys, twenty-one files filled with predrawn chords (some you might not know exist), a blank staff, a guitar fretboard (with the notes indicated), and a keyboard. This disk is full.

Although well-produced, the program should receive stiff competition from music composition programs that not only display, but also play and print, musical characters.

$24.95
When educational software is bad, it's bad. When it's great—as it sometimes is on other computers—it's fun, involving, challenging, and rewarding. Great.

With few exceptions, Macintosh has no great educational software. None.

Why? Maybe it's Apple's fault. They pushed Macintosh, after all, as a "business computer." Or maybe it's because the hot programmers are in the heavyweight categories: business, databases, and languages. Maybe it's because software companies know the big money isn't in preschool programs. Maybe it's because the Macintosh is, admittedly, an expensive computer—cheap as a business investment, expensive as an "educational aid."

Or maybe it's only early in the game, and the great educational software will come, soon. We hope so.

Traditionally, there are two types of educational software. One type teaches you new skills or new subject matter. A second type drills you on what you've learned. Some programs combine both approaches.

On Macintosh, "educational software" is mostly drill, practice, and not much learning. And mostly for grown-ups. And mostly dull and poorly implemented.

There are a few exceptions, most in the high school to adult range. The typing programs—four in all—are good. For younger people, Think Educational Software's MacEdge makes counting, arithmetic, and vocabulary fun. But overall, most educational software for Macintosh takes little advantage of graphics, sound, or any of the other magic in this small, tan box. There's little animation, minimal sound effects, and few offerings for very young children.

Still to come are the programs that have delighted Apple II kids for years—animated programs that teach letters and numbers, counting, spelling and vocabulary, shapes and patterns, all in an entertaining way. With style, pizzazz, imagination. You know, fun.

For older kids, expect software that teaches music theory, problem-solving, science, and logic. Rigorous software that stretches minds without patronizing or condescending.

ChipWits, a program offered by Brainpower, is the first true entry here—a "game" that teaches logic and strict sequential thought. Any teen with an unconquerable ChipWit won't have trouble learning to program in Pascal. That, of course, is the whole idea. We won't tell if you won't.
Sherwin Steffin, president of Brainpower, pooh-poohs popular assumptions about educational software. He stresses “discovery learning.” Discovery learning, Steffin says, “aims to develop fundamental skills such as logic, memory, and problem-solving.” The goal is “to help people learn how to learn.”

Sounds like the right attitude.

And maybe, someday, there will be true educational software for adults. Programs that teach “learning how to learn.” Programs that teach math, relativity, and what’s in the ocean; how smog molecules interact in the absence of light (they do), and how stars are born and why they die. What happens when you cook an egg? What’s the best way to lobby Congress? How can people, and nations, get along? What is the truth, and how can it be found? What is kindness, and how can it be learned?

This year it’s *ChipWits* and typing programs. Next year, maybe we’ll learn what happens when the egg is cooked.
Reading & Writing

EduWare
185 Berry Street, San Francisco, CA 94107
(415) 546-1937

Writing Skills
Writing Skills is a five-volume series that helps identify and correct common writing mistakes. First, the program tests you to determine your weak areas. Then it drills you in areas that need improvement. The series has a built-in text editor and keeps track of scores for up to forty students.


In contrast, Intellectual Software’s programs have won high marks on the Apple II and IBM PC. Subjects covered span a range of curriculum areas and grade levels, from kindergarten through high school and beyond.

Both tutorial programs and educational games are included in the company’s product line. Most of the tutorial programs for Macintosh will be coming later. The company plans to include a tutorial management system on each software disk that will store up to forty students’ names and scores.

All the programs we previewed were games. Unlike the tutorial programs, the games assume you’ve already studied your subject and test you on how well you’ve learned it. Some reference material is available from pull-down menus (maps in the geography games, for example) but you’ll still need a book, atlas, or dictionary handy to answer the harder questions.

The games are text-only, usually in multiple-choice format. Unfortunately, if you choose the wrong answer, the program advances to the next question without telling you the correct choice. Mac users will yearn for an Undo option.

Overall, the programs we saw were packed with information. Unquestionably, a good value. The rub is this: The programs are rewritten versions of software designed for other computers, and experienced Mac users will often find the implementation clunky and unfamiliar. Multiple-choice answers, for example, are labeled A, B, C, and so on, but to select an answer you must click buttons at the bottom of the screen. Alternately, you may prefer to type your selection from the keyboard and press Return instead of clicking OK—speedier than using buttons.

A single manual is supplied for the “Macintosh” and “Apple” (Apple II series) versions; Macintosh folks are advised to ignore imprecise instructions and do what comes naturally: Point and click as you would to use any application.

The following is a rundown of the company’s first Macintosh programs. Some subjects that haven’t made it to the Mac yet include literature, music appreciation, art history, physical education, health, science, accounting, and religious studies. Interested persons should write or call for a current catalog.

Agreement of Pronoun with Antecedent
An interactive Practical Grammar Series program that teaches and drills students in the following areas: agreement of pronoun and antecedent in gender, gender and number of indefinite pronouns, agreement of pronoun with a compound antecedent, agreement of pronoun with collective nouns, agreement of pronoun and antecedent in person, vague antecedents, adjective-pronoun agreement. Look, this is important stuff. It just doesn’t describe well. High-school to adult level. $34.95
**Complements of Verbs**
A Practical Grammar Series program that covers direct objects, transitive and intransitive verbs, indirect objects, linking verbs, and complements of linking verbs. $34.95

**Comprehensive Grammar Review I**
More than 200 exercises that quiz you on parts of speech; the correct use of verbs, pronouns, adjectives, adverbs, and capital letters; subjects and predicates; sentence fragments; subject-verb agreement; possessives; verb complements; plurals; and lots, lots more. $54.95

**Comprehensive Grammar Review II**
More still. $54.95

**Lessons in Reading and Reasoning**
A program to help you identify common fallacies: shifty words, either-or's, circular or fallacious reasoning, false analogies, improper or inadequate data, self-contradictions, loaded words, red herrings, stereotypes, opinion versus fact, sexism, rationalization, and more. Things everyone should know, but most folks don't. $149.95

**Punctuation Review**
Covers punctuation marks commonly misused in this book and elsewhere, including the period, the comma, the semicolon, the colon, the question mark, the exclamation mark, the dash, the apostrophe, parentheses, brackets, and single and double quotations. Learning punctuation is hard; paying attention to it—constantly—is harder still. High school to adult level. $34.95

**Reading Adventure I**
An interactive program in which students read stories and win points as they choose the direction the stories will take. Two stories are presented, "Three Ponies" and "Nancy, Amy, Jim, and Tom." Each has many possible versions, depending on children's choices. Choices consistent with the theme are worth the most points, but even silly choices advance the story. Second-grade to third-grade reading level. $39.95

**Reading Adventure II**
A mystery story in which the reader is a detective investigating the disappearance of a valuable music box. At each stage, three possible decisions are presented, each advancing the story in a different direction. Logical decisions win the most points. Fourth-grade to fifth-grade reading level. $59.95

**Vocabulary Adventure I**
A game in which players improve vocabulary skills as they explore a fifty-room castle. In each room there are multiple-choice vocabulary questions describing treasures. If you answer the questions correctly, you get the treasure. Words get harder as you advance. Players may ask for hints, but this cuts point value. New words are introduced throughout the game in the directions, room descriptions, and hints. Fifth-grade to seventh-grade level. $59.95

**Vocabulary Adventure II**
This time you're in a maze, moving from room to room. Along the way you'll answer multiple-choice vocabulary questions that describe the area and the creature that lives there. Questions get harder as you play. Asking for hints...
You are in a maze, a veritable labyrinth. Your goal is not to escape, but to explore. Each area of this elaborate labyrinth has a special name. If you do not choose the correct name you will miss the area, and perhaps several other areas. The first area of the labyrinth is an area where poverty is unknown, an area of wealth, of:

A. abstinence
B. adolescence
C. alteration
D. affluence
E. agility

Vocabulary Adventure II
cuts the point value of questions in half. Seventh-grade to adult level. $59.95

Ways to Read Words
A remedial reading program that helps students develop strategies for reading unknown words: shape cues, word families, rules, context, and so on. Third-grade reading level. $89.95

Think Educational Software, Inc.
16 Market Street, Potsdam, NY 13676
(315) 265-5636

MacEdge II
A collection containing eight programs that help children develop reading and math skills. Six math exercises take students from basic object counting to multiplication and long division; two reading programs introduce such concepts as synonyms and antonyms and teach children how words relate to form a vocabulary. MacEdge delivers a lot of value (and fun) for a small price. Here's a rundown of what you get:

Count on Mac displays a group of objects and asks children to count them and click the appropriate button (numbered from 1 to 9) on-screen. If the choice is incorrect, it's marked out with an X (no nasty beeps or rude remarks) and the child is encouraged to try again. When the score reaches twenty points, the screen clears and a dot-to-dot exercise appears. Additional Subtraction takes children from counting objects to adding and subtracting objects. In both programs, correct answers are noted by a flashing button and enthusiastic sound effects.

A Li'l Give 'n Take introduces cardinal numbers, which are added and subtracted in a horizontal format. Up to four "players" can type in their names from the keyboard and do the exercises. Give 'n Take is similar but introduces children to addition and subtraction in the vertical form. Numbers can be typed in from the keyboard or selected with the mouse.

from on-screen buttons. A Problem Size menu lets players choose problems from one to nine digits.

Good Times teaches multiplication and adds an on-screen "control panel" to move the cursor around. As digits are selected, the cursor moves automatically to the next appropriate position. Menu choices let children select the difficulty of the problem. Dividing Line introduces long division and lets children vary the size of the divisor and the dividend.

Word Wonder is a lettered grid in which words are hidden that complete sentences on-screen. Children use the mouse to drag through words on the grid, which then appear in their sentences. Wrong answers elicit an encouraging message; correct answers win praise. Memory Match is a Concentration-style game that has players match pairs of hidden words: antonyms, synonyms, homophones, contractions, compound words, and more. $49
**Foreign Language**

**Intellectual Software**
798 North Avenue, Bridgeport, CT 06606
(800) 232-2224, (203) 335-0906 in Connecticut

**Spanish Grammar I**
Includes gender of nouns, definite and indefinite articles, plural of nouns, the contractions *al* and *del*, regular verbs, first conjugation-present indicative, subject pronouns, uses of the present tense, the negative sentence, calling a statement into question, regular verbs, second and third conjugations-present indicative, how to say "you," *Ser* and *Estar*-present indicative, uses of *de*, *irregular* verbs, pronouns that follow a preposition, possessive adjectives, the meanings of *Su* and *Sus*, and more. Whew! $34.95

**Spanish Grammar II**
A deeper exploration of the intricacies of Spanish, for those who made it through *Spanish Grammar I*... $34.95

**Reasoning & Problem-Solving**

**Brainpower, Inc.**
24009 Ventura Boulevard, Suite 250, Calabasas, CA 91302
(818) 884-6911

**Think Fast**
Brainpower describes *Think Fast* as a memory-training program designed to improve both left-brain and right-brain skills. What's that mean? Well, it's like this: Each hemisphere of the brain is believed to be responsible for its own kind of activity. In general, the left side processes verbal and numeric information, and the right side processes visual data. *Think Fast* exercises help you work on improving your overall "brain power."

The program presents a variety of memory tasks. Right-brain tasks involve comparing, copying, and recalling sets of graphics. Left-brain tasks involve comparing and recalling sets of letters and digits.

You choose the speed and length of each session, the level of difficulty, and the degree of risk-taking. Points are awarded based on the difficulty of the exercises. Wrong answers cost you points. Does *Think Fast* "work"? You'll have to judge for yourself. $39.95

**Business Education**

**Intellectual Software**
798 North Avenue, Bridgeport, CT 06606
(800) 232-2224, (203) 335-0906 in Connecticut

**Starting a New Business**
A business simulation in which you're an entrepreneur faced with the problems of creating and managing a new company. Each correct decision creates greater opportunities; each mistake contains the seed of future problems. You'll win points by answering multiple-choice questions; different responses branch the program to different scenarios. The manual includes a glossary of financial terms and a useful bibliography of business reference sources. High school to adult level. $59.95

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**Starting a New Business**

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Market research confirms your hunch that a computer store would do well in your suburban area. A large number of potential customers in the middle to upper income brackets lives within a 15-mile radius of your ideal site. Only one other competitor is present - a small, new, independently owned store in a lower-rental district.
You decide to:

A. Buy the other store.
B. Find out what franchises are available.
C. Start another independent store.

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Starting a New Business
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SAT Score Improvement System

There are worse things in life than taking the Scholastic Aptitude Test. Not many, but a few. Hayden's SAT Score Improvement System is designed to help you prepare for the real thing.

The program's Practice Test module includes a series of questions in each of sixteen math and verbal subject areas found on recent SAT exams. After you've answered the questions, the program analyzes your performance and indicates those areas that need improvement.

Next, you'll take a simulated SAT exam, timed and administered by the Macintosh, that helps you become familiar with the exam format and develop test-taking strategies. The program scores your test on the 800 scale. Then, after you've boned up in your weak areas, you'll take a second practice test; the program measures your improvement.

A Verbal module covers vocabulary and reading comprehension. A Math module quizzes you on algebra, geometry, quantitative comparisons, and word problems.

Schools that purchase this program can accumulate points toward free computers, peripherals, and software as part of Hayden's HeadStart Program. $99.95

A Bill Becomes a Law

A game in which you're a member of Congress, trying to pass a bill favored by an important local interest group without jeopardizing your political career. You'll deal with lobbyists, filibusters, subcommittees, vetoes, and other legislative challenges. Help is available from pull-down menus, but count on getting washed up many times before your bill becomes a law. Junior high school through adult level. $59.95
U.S. Geography Adventure

World Geography Adventure I
A game in which players travel to countries in North and South America, identifying each country, its capital, its largest cities, its rivers, and other noteworthy geographical features. Each correct answer raises your score; asking for hints cuts the question's point value in half. A wrong answer takes you to a new location—you’d better have an atlas handy to find your way back. Fifth-grade to adult level. $59.95

World Geography Adventure II
As above, this time in Europe. $59.95

World History Adventure
A game in which players locate, in time and place, events in world history and identify important personalities connected with those events. $59.95

Math & Science

Intellectual Software
798 North Avenue, Bridgeport, CT 06606
(800) 232-2224, (203) 335-0506 in Connecticut

Algebra Word Problems
Ten math programs of varying difficulty, each requiring an algebraic solution. Wrong answers are followed by step-by-step explanations. $49.95

Millett Software
146 West 255 South, Orem, UT 84058
(801) 224-6841

The Solar System and Halley's Comet
The first in Millett’s Learn About series: math and science programs written in Microsoft BASIC. Halley's Comet prepares budding astronomers to view the real thing, which orbits Earth every seventy-six years. The program graphically displays the comet's orbit through the solar system, as well as the individual planets' orbits around the sun.

The excellent graphics are accompanied by facts. Then, of course, comes a test. The test has a user-chosen skill level: beginner, intermediate, or advanced. Each level contains twenty questions.

After a workout with this program, one of our favorites, you will, indeed, know much about the solar system and Halley's comet. Requires Microsoft BASIC, version 1.00; a new version is being readied for BASIC 2.00. $24.95 (plus $3 shipping and handling)

The Solar System and Halley's Comet
Palantir Software
12777 Jones Road, Suite 100, Houston, TX 77070
(800) 368-3797, (713) 955-8880 in Texas

MathFlash
Computerized flash cards, with several skill levels. Students add, subtract, multiply, and divide their way through timed drills of ten cards each; when a wrong answer is given, MathFlash gives the correct answer and requires the student to enter it before going on. $49.95

Think Educational Software, Inc.
16 Market Street, Potsdam, NY 13676
(315) 265-5636

MacEdge II
A collection of eight programs that help children develop math and reading skills. See the “Reading & Writing” section for details.

Programming

Brainpower, Inc.
24009 Ventura Boulevard, Suite 250, Calabasas, CA 91302
(818) 884-6911

ChipWits
ChipWits are programmable robots that you create and then release on a series of missions, some of which are dangerous to your ChipWit’s survival. ChipWit designers develop problem-solving skills by means of a generic, icon-based language called IBOL. IBOL introduces programming concepts such as operators, arguments, branches, and sub­routines.

You program each ChipWit (up to twelve at a time) by using the mouse to select “chip” icons representing a variety of qualities and behaviors. Your ChipWit is then turned loose in a number of environments (ChipWit Caves, Doom Rooms, Mystery Matrix, and more) and overcomes obstacles according to the way it’s been programmed. You can slow down execution or single-step through your program to find faulty logic. The manual is indispensable.

ChipWits is fast becoming a popular cult game for Mac­intosh. ChipWit bragging, speculation, and challenges are showing up on the communications service CompuServe and on various bulletin boards across the country. It seems that, once in possession of a powerful ChipWit, it’s fun to pit your ChipWit against the best efforts of others. This may be soapbox racing for the eighties. $49.95

Hayden Software Company
600 Suffolk Street, Lowell, MA 01854
(800) 343-1218, (617) 937-0200 in Massachusetts

Turbo Turtle
Turbo Turtle teaches children how to use the Logo language to draw simple geometric shapes using basic programming instructions, then combine these procedures to make complex, artistic patterns. Encourages logical thinking and helps children understand how a computer operates. Ages 6 and up. $59.95

Orion Training Systems
P.O. Box 94, Dallastown, PA 17313
(717) 757-7721

The Master
The Master is a four-disk “how to learn BASIC program­ming” series that takes a didactic approach we all remember from high school: You’re asked to memorize facts, then repeat them—on cue—or fail. The cruelty is compounded when coupled, in The Master, with Microsoft BASIC. Here, even a wrong keystroke sends you, again and again, back to the place where you fouled up. And until you get it right, that’s where you’ll stay.

Those wanting to learn programming in general, or BASIC in particular, have a world of options: classes, books, friends, or—perish the thought—reading (and trying the examples in) the Microsoft BASIC manual. Until on-disk BASIC tutorials have matured, those choices are recommended. Requires Microsoft BASIC 1.00. $99.95
The Professor
959 N.W. 53rd Street, Fort Lauderdale, FL 33309
(800) 223-5838, (305) 771-6498 in Florida

The Mac's Core and The Mac's Core, Part II
Microsoft BASIC instruction in two parts. The first is an introduction to programming: icons, mouse and keyboard control, windows, scroll aids, variables, print statements, line numbers, menu bars, editing, displaying text and variables, pre-set tabs, counters, semicolons, IF-THEN and FOR-NEXT loops, GOSUB statements, and more. Includes more than thirty-four hands-on tutorial programs. Part II gives more detailed explanation and examples of programming statements, with dozens of hands-on tutorial programs.

It sounds good, but we didn't get a chance to try it out. So, it sounds good, but... The Mac's Core, $69.95; The Mac's Core, Part II, $84.95; both programs, $139.95

MacCoach
A "getting acquainted with Macintosh" tutorial that explains resizing windows; moving, renaming, opening, and trashing icons; initializing and ejecting disks; and saving, copying, and printing documents. MacCoach gives plenty of practice with pointing, clicking, dragging, and using close boxes and scroll arrows. It suffers only when compared to Apple's own Guided Tour disk, which, though less interactive, is free with each Macintosh. $75

Tutorials

American Training International (ATI)
12638 Beatrice Street, Los Angeles, CA 90066
(213) 823-1129

How to Use Multiplan
An interactive tutorial that shows you how to set up a Multiplan worksheet, enter numbers and formulas, edit and save the worksheet, link and print worksheets, analyze growth rates, and conduct "what if" analyses. Includes sample templates. $75

Custom Videodisc Courseware

Videodisc players, beaten out in the home market by more versatile videocassette recorders, are finding a place in education and specialized training—controlled by personal computers, no less. Not surprisingly, this highly specialized courseware is custom written and usually expensive. EduDisc Corporation develops and manufactures interactive courseware packages for organizations and corporations. EduDisc's system package merges a Macintosh with a Panasonic optical disc recorder or player, cables and connectors, and software. From here, the details get too technical for this book. Contact the company for further explanation.

EduDisc Corporation
3410 Woodhaven Road, Nashville, TN 37204
(615) 383-0601
Typing Instruction

Forethought, Inc.
1973 Landings Drive, Mountain View, CA 94043
(800) 622-9273, (415) 961-4720 in California

Typing Intrigue
A typing tutorial for up to six users, Typing Intrigue monitors speed, accuracy, and problem keys as you type and offers extra practice in areas that need improvement. It provides basic exercises for beginners and refresher drills for advanced typists. Points are awarded for speed, accuracy, and improvement. The program includes an arcade-style game called "Rain" that lets you rack up more points by zapping "raindrop letters" before they hit the ground—you select the number and speed of the raindrops and the letters you wish to practice. What do you do with all those points? You use them to buy clues that help you solve "The Case of the Missing Bathtub," the program's second game. Sessions can be saved for play—er, practice—later. $49.95

Typing Intrigue

Palantir Software
12777 Jones Road, Suite 100, Houston, TX 77070
(800) 369-3797, (713) 955-8880 in Texas

MacType
MacType is a serious, "no arcade games" typing tutorial that teaches both the standard (QWERTY) and Dvorak keyboards. The approach is gentle but firm: Before beginning to type, you'll be asked to cover the commonly used keys with blank keycap labels. If you really need to look at the keys, there's a handy cardboard "key map" for quick reference. The program is friendly and encouraging, reflecting the authors' belief that "touch-typing is a habit that anyone who expects to type regularly can acquire in a few hours." They recommend limiting individual sessions to fifteen or twenty minutes and aren't hard-nosed about mastering less-used keys like the backslash.

Beginners learn basic keyboard layout and typing skills; intermediates are drilled to improve accuracy; and advanced typists are helped to improve typing speed. The program is self-paced. At each level your performance is reviewed, you're drilled in weak areas, and then you're tested on what you've learned. MacType is a thoughtful implementation of Macintosh's speed, sound, and graphics abilities. The MacType disk can store the records of up to 100 students. Oh, and don't refuse the program's offer to print a certificate of achievement. You'll have earned it. $49.95

MacType

Scarborough Systems, Inc.
25 North Broadway, Tarrytown, NY 10591
(800) 882-8222, (914) 392-4545 in New York

MasterType
"The universe is not always kind to those who type slowly."

So cautious is the user guide for MasterType, a bestselling Apple II program, now on Macintosh, that makes learning to type good, painless fun. MasterType is as much an arcade game as a typing tutor and makes no apologies for it. There's no advice to "sit up straight and curve your fingers slightly over the keys." Just waves of attacking words and letters and you, armed only with your trusty keyboard and typing skills. The letters become missiles, satellites, and atomic meteors when they hit your command ship. If you type them successfully before they hit, they explode in a satisfying display. When your ship is destroyed, a humiliating message appears on the screen: "The words won." Enough said.
MasterType, like other typing programs, monitors your speed and accuracy for each lesson and adjusts the speed of the next wave accordingly. It also suggests, none too tactfully, that you should be typing on a different level (when appropriate).

We enjoyed MasterType. Is it as effective as "serious" typing tutorials? We don't know. We already know how to type. $39.95

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Simon & Schuster, Inc.  
Electronic Publishing Group  
1230 Avenue of the Americas, New York, NY 10020  
(212) 245-6400

Typing Tutor III

An updated version of Typing Tutor, a classic typing instruction program. Typing Tutor III uses the traditional "read it and type it" approach, with one notable improvement: The program monitors your keystrokes and gives you practice where you need it most—less gruesome than it sounds.

After a bit of drill, there are tests to take, progress to be shown and recorded, and more arcane areas of the keyboard to explore. The program includes "Letter Invaders," an arcade game where your typing skills are tested against falling letters. Type and destroy the letters before they reach the "ground" to chip away at your defenses. The action is fast, and two players can compete. A good game on its own merits. Be warned: Hunt-and-peekers will not survive "Letter Invaders." $59.95

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MasterType

Typing Tutor III
It's possible to dream about windows. In those moments before waking, to dream about—to see—windows. Title bars. Scroll bars. The window.
Blank. Pasted on your eyelids.
Imagine a blank sheet of paper. What would you write on it? What could you write that would be read and reread? What would help people in their everyday lives?
What about after work? After five, when you're tired, ready to relax? After you've sat before a "business computer" for hours and moused and watched and typed and thought and typed and dragged again?
Do you need a computer? Can a Macintosh—or any computer—beat out the TV? Or a newspaper and a recliner? Or friends around the barbecue? Can a computer best a hot tub?
No.
Unless you're a hobbyist, that is. Hobbyists would rather compute than hot-tub. Hobbyists will spend $3,000 to pursue their hobby, even if it means driving an older car, or not taking that vacation.
As hobbies go, Macintosh isn't that expensive. Hot air ballooning, photography, antique cars, and collecting Picassos are all far more expensive (and, we'd like to think, less fun).
But what will it take to get Macintosh into the homes of non-hobbyists? Industry observers think it will take one or more of the following:
• A greatly reduced price. Maybe a Macintosh costing $200 to $300. Less would be better—maybe not for Apple, but certainly for consumers.
• The full-scale arrival of home banking and home shopping.
• A product, or group of products, that would drive the market and make the purchase of a Macintosh almost mandatory for home users.
The last is the most interesting. Apple's greatest success with business users, in the Apple II days, came from the arrival of VisiCalc, the first electronic spreadsheet. VisiCalc, at first, was available only for Apple computers. With it, business users had a powerful tool that made pencils, erasers, and paper worksheets suddenly obsolete.
What is we changed this twenty-year interest-rate projection from 12% to 13.5%? Zap! VisiCalc recalculated the entire worksheet. The savings in time were enormous. The guy with the Apple and VisiCalc was a hero. The phrase “what-if analysis” became commonplace. Apple sold thousands of computers. VisiCalc’s makers renamed themselves VisiCorp and became rich and powerful. Other companies introduced other spreadsheet programs.

The IBM PC came along. Shortly afterward, Lotus released 1-2-3, a huge, fast spreadsheet that also incorporated graphs and a limited database. It became a huge success. People bought IBMs to run 1-2-3 as others had bought Apples to run VisiCalc.

There is no equivalent program for the home market. No VisiCalc. No 1-2-3. No single program for the home that makes the purchase of a computer almost mandatory.

To be fair, maybe there isn’t a single program that can fit the bill. Maybe it’s a combination of programs. Maybe all that’s lacking is a wealth of good educational software—a category that’s still anemic in comparison to software in other fields.

Still, heads are being scratched. Software companies are developing new products, trying new tacks. The home market is, after all, the biggest market of them all. Think about how many units you’d sell if you had a 40% penetration of all the households in America!

For now, this chapter is mostly a collection of personal finance and personal tax programs. There are a few programs that resist any category other than “home,” and we’ve included them in this chapter. When this book was conceived, we thought this chapter would be titled “Home & Hobby.” But when the software flooded in, the “home” programs were few and the “personal finance” programs were many. Undaunted, we changed the chapter title and lumped the few home programs with the many checkbook balancers.

So here they are: programs to reconcile your bank statement, programs to handle your checkbook, programs to manage your credit cards, and programs to manage your taxes.

If you like personal finance programs, and have the stamina to enter all those check numbers and amounts, this is your chapter. You’re home at last.
Money Management

AIS Microsystems
1007 Massachusetts Avenue NE, Washington, DC 20002
(800) 343-8112, (800) 662-2444 in Pennsylvania,
(202) 547-9113 in Washington, DC

Mortgage Switch Calculator
A Multiplan mortgage-rate template that helps you compare the cost of your present mortgage against the cost of refinancing. You enter basic information, such as your current mortgage balance, interest rate, and payment, as well as the proposed amount and rate of your new mortgage. The program calculates the cost of holding the mortgage, based on your estimated tax bracket, the inflation rate, how long you expect to own your home, and other factors.

Mortgage Switch Calculator can deal with multiple mortgages, fixed and variable interest rates, terms of thirty (or forty) years, and more. It includes an audio cassette that guides you through the program. The company plans to release a stand-alone version of the Mortgage Switch Calculator. For now, Multiplan is required. $65

Apropos Software, Inc.
64 Hillview Avenue, Los Altos, CA 94022
(415) 948-7227

A series of nicely done templates for Multiplan. All come with slim, informative manuals that show the finished templates and give all information necessary to complete them. The templates aren't massive productions; they're clear and understandable. A working knowledge of Multiplan is assumed.

Financial Planning Series
Five templates for use with Multiplan. Home Budget Planner prepares a personal budget and helps locate and reinvest cash; Personal Tax Planner calculates and prepares all 1040

and Schedule A entries; Auto Buy vs. Lease Planner compares after-tax costs of purchase versus lease, including business tax deductions; Invest for College determines the yearly investment and return required to fund a college education; and Life Insurance Planner determines the amount of insurance a family needs if one income-earning spouse or parent dies. $95

Investment Planning Series
Five more Multiplan templates. Stock Planner keeps records and produces separate risk, tax, and industry analyses. Real Estate Planner prepares a five-year analysis for a real estate tax shelter investment. It also projects income and expenses, taxable income, before- and after-tax cash flow, estimated gain from sale, and net present value for property. Investment Planner records earnings and appreciation and produces a summary report to detect unbalanced or poorly performing portfolios. IRA vs. CD Planner compares an IRA with a taxable CD to evaluate the best investment based on your individual tax situation. Loan Planner prepares a five-year analysis of monthly payments, interest, and principal on any loan for a major expenditure. $95

Continental Software
11223 South Hindry Avenue, Los Angeles, CA 90045
(213) 410-3977

The Home Accountant and Financial Planner
The Macintosh version of the popular home accounting package, previously offered for Apple IIs and IBM PCs. Handles up to fifty automatic monthly transactions, manages checking accounts and money market funds, and prints names and addresses directly onto checks. Transactions may be split between categories. Also sets up tax record-keeping formats.

Reports include personal balance sheet, net worth statement, income and expense summaries, and cost of living. Home Accountant calculates loan amortization or total amount of interest paid on a loan in one year and compares the cost of loans. It also generates pie, bar, line, and trend-analysis graphs.
It's interesting to speculate on Home Accountant's continued popularity on other computers. We'd guess that it's part the program's name, part advertising, part Home Accountant's flexibility in handling different (and differing) accounts, and—in large part—its ability to produce graphs. Graphs are sexy, especially on machines where graphs (or any graphics) are seldom seen. On Macintosh, Home Accountant has serious graphic competition, for the first time. Compare features with Monogram's Dollars and Sense before you buy. $150

Creighton Development, Inc.
16 Hughes Street, Suite C-100, Irvine, CA 92714
(714) 472-0488

MacHome
A grab bag of home programs, including several desk accessories. The names give 'em away: Financial Calculator, IRA Benefit Calculator, Checkbook Reconciliation, Banner Maker, Personal Financial Statement, Home Inventory Record, Stock Record, Improved Alarm Clock, New Puzzle, and Desk Accessories Editor. $49

Electronic Arts
2755 Campus Drive, San Mateo, CA 94403
(415) 571-7171

Financial Cookbook
Thirty-two financial recipes to help you manage your money and make canny financial decisions. Each of the recipes is contained in a separate window and chosen off a master menu. Fill in the numbers and get back an answer.

Ready for recipes? They are: Understanding Your Marginal Tax Rate; Single Savings Deposits; Monthly Savings Deposits; Deposit Needed for Future Purchase; Monthly Deposit for Future Purchase; Living on Your Savings; Making Your Savings Last Forever; Earning Interest with Treasury Bills; Earning with Long-Term Investments; Finding Equivalent Interest Rates; A Single Payment's Present Value; A Monthly Payment's Present Value; Saving Money with IRAs; An IRA's Future Value; Living from an IRA; Early Withdrawal from an IRA; How Much Life Insurance You Need; Mortgage Schedule, Yearly; Mortgage Schedule, Monthly; Variable Rate and Payment Mortgages; Variable Rate, Fixed Payment Mortgages; Interest Only Second Mortgages; Mortgages with Balloons; A Loan's Interest Rate; Refinancing Your Home; Retiring Your Mortgage Early; Buying or Renting a Home; Energy Saving Devices; Owning Your Car; Fixing Your Car; Buying Your Car; and, finally, Leasing Your Car.

The manual is clear and helpful, and contains all the formulas used for the calculations. A glossary of financial terms is also included. In all, a good package. The value here is simplicity, combined with many, many financial calculations. Less messy (and more complete) than many Multiplan template financial programs. $49.95

Haba Systems, Inc.
15154 Stagg Street, Van Nuys, CA 91405
(818) 901-8828

Haba Check Minder
A checkbook program that doesn't suffer from "feature overkill." Check Minder works like (and even looks like) your own checkbook. A check appears on the screen and you type it in the own information. There's no need to spell out the dollar amount; just type "$123.55" (in the correct place) and the program fills in "One hundred twenty-three dollars and fifty-five cents." Check Minder records the transaction, prints the check, and updates the balance. It also does bank statement reconciliation and organizes deductible and non-deductible expense information.

The program has simple, effective home budgeting functions and can display average cash flows for specific days, months, or years, or for particular types of expenses. It won't do credit cards, handle revolving charges, or deal with cash. This is a check program, remember?

Using Check Minder, you can keep over 1,000 checks and transactions (bank drafts and deposits) on a single-drive Macintosh, or over 2,000 if you have a second disk drive. A recommended program. It does what it says, it's easy, it's fun. Take a look. $79.95
Innovative Software
4909 Stockdale Highway, Suite 169,
Bakersfield, CA 93303
(805) 832-6698

MacCheck
MacCheck is a Microsoft BASIC program that allows you to keep up to 1,200 checks and other transactions on one disk, maintain an unlimited number of categories for the transactions, and password-protect your information.

MacCheck also has some other handy features. It allows you to perform budget calculations for your cumulative expenses and display the expenses in chart and bar graphs. You can also search for a certain category, month, or payee to locate and chart that information.

MacCheck worked well, but programs written in BASIC can be touchy. For example, you can't enter numbers with commas (2500.25, not 2,500.25) in MacCheck. While this seems like a simple thing to remember, making certain mistakes could dump you back in Microsoft BASIC—a place where few beginners want to tread.

However, if you're a BASIC programmer and enjoy delving into BASIC programs, you might enjoy buying MacCheck to use, modify, or add to your own programs. It's better than reasonably priced. $39.95 (plus $3 postage and handling)

Intermatrix
5543 Satsuma Avenue, North Hollywood, CA 91601
(818) 593-0474

ChequeBook
A program for managing checkbook transactions. ChequeBook statements resemble typical statements from your local bank. Entries are made into a checkbook or checkbook register, then automatically transferred to various charts and ledgers that you've created. The program produces a forwarding balance, reconciles bank statements, generates a trial balance, lists month-to-date and year-to-date totals for all general ledger accounts, and maintains personal information files. Up to 100 general ledger accounts are supported; any check may be "zoomed into" for disbursement. $49.95

Knowledge Engineering
G.P.O. Box 2139, New York, NY 10116
(212) 473-0095

MacroBucks
This is a work-in-progress. The advance information is impressive. Knowledge Engineering is a company founded and run by William Bates, bestselling author of The Computer Cookbook. The firm specializes in artificial intelligence applications for Macintosh.

MacroBucks, though, isn't an artificial intelligence program. It's reportedly a fast, compact, memory-based program for personal finance. Five years of financial data, and the program itself, can be stored on one disk, we're told. Data from the program can be uploaded into text files for use by Multiplan and other programs that accept data on the Macintosh Clipboard. MacroBucks also does graphs and reports. Suggested price, $49.95

TaxExpert
Another work-in-progress. This program will attempt to go beyond "fill in the blank" tax programs to allow AI techniques that optimize complex tax returns. The program won't be available until 1986. On release, plans include support of the LaserWriter and AppleTalk for use in small accounting offices. It's a ways off, but we thought you might be interested. Price not determined.

Monogram
Tronix Publishing
8295 South La Cienega Boulevard, Inglewood, CA 90301
(213) 215-0529

Dollars and Sense
This personal and small-business accounting program is popular on Apple II and IBM systems but makes its best showing on the Macintosh. An excellent tutorial in the manual and generous on-screen help make it easy to learn; Macintosh makes it easy to use. Dollars and Sense makes double-entry accounting simple, even for those with no accounting experience.

You can enter up to 120 accounts in five categories—income, expense, asset, liability, and checking—or you can choose one of three predefined sets of accounts for household, business, and tax preparation applications. Either way, you can add or delete accounts at any time.

Dollars and Sense tracks fixed or variable monthly budgets on your accounts. A variety of reports and graphs show you how well you're keeping to the budgets and where the money's going. By temporarily adding or changing budgets, you can predict what effect a new expense—or new income—will have on your overall financial picture. The program helps you reconcile checking accounts, make automatic payments, and print checks. The addresses of three companies that produce tractor-feed checks compatible with the program are given in the manual's appendix. Suggested applications include client billing, credit card and expense
account management, investment management, and household inventory management. $149.95

**Orion Training Systems**

P.O. Box 94, Dallastown, PA 17313
(717) 757-7721

**Checkwriter**

Handles up to 200 accounts; stores and presents minimum monthly payment amounts, due dates, and account names; automatically balances your checking account; sorts expenses into categories for taxes; prints checks. The checkbook program market is fierce; take a look before you buy. $69.95

**Owl Software**

79 Milk Street, Suite 1108, Boston, MA 02109
(800) 343-0664, Ext. 5500; (800) 322-1233, Ext. 5500,
in Massachusetts

**Soft Start Business Analysis**

Eleven *Multiplan* worksheets in two groups. The Payroll group has six worksheets for setting up a weekly payroll, or worksheets may be modified to handle other payroll periods, if desired. All federal withholding calculations are included, with state and local examples. Also maintains deposit records. The Operations group contains these worksheets: Break Even Analysis, Financial Statement Analysis, Cash Flow Budget, Receivables, and Payables. Overall, a good value. $49.95

**Soft Start Personal Finance**

A collection of twelve *Multiplan* worksheets in four groups. In the Investments group are worksheets for Net Worth and Bond Portfolio, as well as three linked worksheets titled Stock Portfolio. An AT&T Portfolio shows the value of pre- and post-divestiture holdings and lets you manage purchases made after divestiture. The Budgeting group contains three linked worksheets to help you plan and analyze a comprehensive annual budget. The Property group of worksheets includes Rental Property and Mortgage Analysis. Finally, the Cash Management group has two worksheets: Checkbook and Credit Card. Detailed *Multiplan* templates at a low price. $49.95

**Softsync, Inc.**

162 Madison Avenue, New York, NY 10016
(212) 685-2080

**The Personal Accountant**

Personal accounting using double-entry bookkeeping. Uses income, expense, loan, deposit, and equity accounts. Calculates balances, keeps a history of accounts, shows income over expenses and net worth, and generates expense reports and trial balance sheets. Also handles tax-related information.

The program includes an address book, can print labels, and has a loan amortization and future values program. $89.95

**State of the Art**

3191-C Airport Loop, Costa Mesa, CA 92626
(714) 850-0111

**Electric Checkbook**

Complete checkbook management—if you have the discipline to enter the information required. *Electric Checkbook* lets you establish categories, enter bills, pay bills, pay selected bills, note when payment is due, print checks, reconcile your bank statement, and produce income statements and balance sheets.

Although the program doesn’t actively help you set up a budget, its division of income, expenses, assets, and liabilities into categories like those of a double-entry accounting system makes budgeting easy.

*Electric Checkbook* creates a number of reports. It also tracks tax-deductible expenses. Sample files and standard financial categories are included. Entries are restricted to five bank accounts per disk with a 128K Macintosh. *Electric Checkbook* comes with a sample check designed for use with the program and an order form for additional checks.

Due to an unfortunate combination of a fine font and light-gray ink, the manual is difficult to read, but the help screens provide adequate guidance to the system.

*Electric Checkbook* makes good use of the Macintosh interface. $99.95

**Supercex International Marketing Ltd.**

151 Ludlow Street, Yonkers, NY 10705
(800) 862-8800, (914) 964-5200 in New York

**The Home Executive**

Eight programs for the home: Address Book, Appointment Book/Calendar, Checkbook, Collector’s List, Gift List, Household Inventory, Portfolio, and Expenses. Each program is a limited file manager with predefined fields for information. Reports can be created and printed. Not recommended in its present version; see our comments about Superex in the Business chapter. $89.95

**Tax Programs**

**Apropos Software, Inc.**

64 Hillview Avenue, Los Altos, CA 94022
(415) 948-7227

**Tax Planner ’84-’85**

Tax templates for use with *Multiplan*. The famous 1040 is here, along with nine other IRS schedules: A, B, C, D, E, F, G, W, and SE. The schedules take advantage of *Multiplan*’s “Link” feature; a number entered and saved in a schedule winds up in the proper place on the 1040 form automatically—a real convenience. A final template, Tax Analysis, is also linked to the others but requires no input. The template summarizes the information in the other tax forms and displays the percent of marginal tax rate, total tax as a percent
of wages, and other interesting percentages. A nice addition. $49.95

**EZWare Corporation**
17 Bryn Mawr Avenue, Bala Cynwyd, PA 19004
(215) 667-4064

**Tax-Prep**
A series of personal tax preparation templates for use with Microsoft's Multiplan. Includes twenty-two IRS forms; information entered on one form is automatically applied to all other required forms. Can also be used with other Multiplan templates to keep expense records, maintain a general ledger, and simplify year-end bookkeeping tasks. $99.95 (plus $3 shipping)

**Gamma Productions, Inc.**
817 10th Street, Suite 102, Santa Monica, CA 90403
(213) 451-9507

**Tax Wizard**
A useful but limited tax program. You assemble your records, total the receipts, and enter the necessary numbers into on-screen facsimiles of IRS forms; then Tax Wizard links the forms together, recalculating as required. When you're finished entering the data, you print out the schedules and transfer the numbers to your IRS forms. This is a better approach than doing your taxes manually, but Tax Wizard has a few drawbacks. The documentation's skimpy, there's no tax information, data entry is sometimes quirky, and error-handling needs improvement. Compare with other tax programs before buying. $64.95

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**MicroLab**
2699 Skokie Valley Road, Highland Park, IL 60035
(312) 433-7550

**Tax Manager**
A tax planner and tax preparer. Helps you determine which forms need to be filled out and which deductions need to be claimed. Related information is automatically updated when an entry is added or changed. **$180**

**SoftWeave Company**
400 Mobil Avenue, Building D, Suite C, Camarillo, CA 93010
(805) 388-2626

**MacInTax**
Income tax preparation, done with on-screen forms: the Macintosh way. Forms include 1040, 1040A, 1040EZ, 2129 (sale or exchange of principal residence), and 2441 (credit for child care). Schedules include 1A (itemized deductions), B (interest income), D (capital gains and losses), E (rents, royalties, partnerships, estates, trusts, etc.), G (income averaging), and W (deduction for married couples when both work).

Other forms may be prepared manually, then entered onto the displayed 1040 form. All worksheets and itemizations are saved with the form. Calculations for other affected forms are automatically performed when a form is changed or activated.

Data may be printed directly onto IRS-supplied forms. Yearly updates will be made available for a nominal fee, according to the manufacturer. **$70**
Go on to the next chapter. You don’t need these programs.
They’re fun, they’re handy, they make life with Macintosh easier, but you don’t need them.

Unless, of course, you spill Diet Coke on your only copy of *ThinkTank*. You didn’t use *Copy II Mac* to back it up? Sorry. Who needs utilities?

Here’s a definition of a utility program: a computer program for fooling with other computer programs. Utilities are “tinker” programs: tinker with this, tinker with that. Font Mover is a utility; it lets you tinker with the fonts in your System file. *MacTools* is a utility; it lets you tinker with file attributes and other nerdy fileish things. *MacLabeler* is a utility; it lets you tinker with disk labels.

Macintosh owners need fewer utility programs than owners of other machines. Many utilities are built into Macintosh; the Control Panel is one. (Did you know that holding down the Option and Command keys while “booting” with a damaged disk starts a mini-program to repair the disk? That’s a utility. Built-in.)

The utilities in this chapter are mostly for fun, pleasure, or piracy. *MacLabeler* is a favorite; swift and clean, it produces sharp, useful disk labels, however you like. Other utilities deal with uncovering and changing disk and file attributes; they’re loved by hobbyists who tinker with bits by the hour, but don’t interest most of the rest of us.

True hobbyists should look in the public domain chapter. Utilities flourish in the free software market. Most are written in BASIC, and most do utility-like things to other BASIC programs.

The utilities from Apple are also listed in the public domain chapter. While they’re not exactly free, Apple encourages spreading them around. Apple knows where its revenue comes from. It doesn’t come from selling utilities.

Then there’s piracy. The copy programs do, indeed, copy almost everything. In theory, they allow users to make backup copies, for their own use. In practice, they make widespread illegal copying possible and frequent. Software firms, we’d bet, love Central Point Software, home of *Copy II Mac*.

Piracy would fade without copy programs. Maybe it’s poetic justice that, while we’ve seen many copies of *Copy II Mac*, we’ve never seen a *Copy II Mac* manual.

Has anyone?
Assimilation, Inc.
485 Alberto Way, Los Gatos, CA 95030
(800) 622-5464; (800) 421-0243 or (408) 356-6241
in California

Lock It
An encryption program that limits access to files by allowing you to embed password codes in documents—useful for confidential data on disc or other Macintosh files you want to keep from prying eyes. With Lock It, as with other Assimilation products, the idea is good and the price is right. $29

Mac Memory Disk
RAM disk software for use with the 512K Macintosh. RAM disks employ a scheme also used in software for hard disks: They trick the computer into thinking a disk is somewhere a disk isn’t. In this case, the “virtual” disk is created in RAM memory. The computer reads and writes to the RAM disk just as it does to a physical disk. Because RAM is fast and disks (by comparison) are slow, loading and saving applications and documents is speeded enormously.

The Mac Memory Disk is a thoughtful RAM disk implementation. The RAM disk software allows you to create a temporary RAM disk for “one time” use or to automatically create a RAM disk at startup. You can also specify the amount of RAM to be set aside as a RAM disk. The minimum amount is 35K; the maximum is 316K. Decision made, you copy the files you want to use onto the RAM disk and compute away—fast.

The only real drawback to the Mac Memory Disk is a drawback inherent in the 512K Macintosh—even with lots of RAM, you’ll still find yourself wanting more than 316K for use as a RAM disk. Throw in the System folder, a few applications and—argh!—you’re already out of room. Still, for use with a few small programs, it’s a convenient utility. And the price is great. $29

Mac Mouse Tracks
A clever utility, Mouse Tracks is billed as “a customized shortcut to mouse-driven commands.” The program is similar to macro programs for other computers. Those programs store a number of user-defined keystrokes, then allow the entire sequence to be blasted into the computer with one keystroke (maybe two). A macro program for the IBM PC could take this entire paragraph and store it in the “F1” key. Then, whenever this paragraph was needed, a single keystroke would feed it in.

Mouse Tracks takes the idea further by including mouse-driven commands in macro creation. Another handy utility from Assimilation, another good price. $29

Basic Business Software, Inc.
P.O. Box 26311, Las Vegas, NV 89126
(702) 876-9493

Utilities for the Apple Macintosh
Eight utility programs: a cross-referencer for Microsoft BASIC; a utility to display any ASCII file; a utility to print any ASCII file, complete with page numbers, dates, and a user-specified header; a utility to set a baud rate for the COM1 RS-422 serial port; a program to “dump” any on-screen files in both hex and ASCII values; and a transfer utility to allow data being received by the serial port to be saved as a text file. Other utilities allow for files to be removed from disk or renamed.

Includes source code for all programs. We haven’t seen this product and can only note that many of these utilities are available in the public domain. $45

Central Point Software, Inc.
9700 S.W. Capitol Highway, Suite 100, Portland, OR 97219
(503) 244-5782

Copy II Mac/MacTools
Copy II Mac is a program that copies virtually any disk. Disks not copy protected can be “sector copied,” with full error-checking during the copy process. Copy-protected disks can be “bit copied,” a process that makes an exact duplicate of the disk. The program works simply and flawlessly. Few programs evade Copy II Mac’s bit copier.
Central Point’s *Copy II PC* is a bestseller for the IBM PC. The program is billed as a way to make archival backups, not to supply the neighborhood with your favorite software. It works fine for both purposes. (That’s the ultimate compliment for a copy program: it works.)

*Hippopotamus Software,* 410 Townsend, Suite 408-B, San Francisco, CA 94107
(415) 543-7644

**Quickpaint**
A desk accessory that lets you flip through volumes of *MacPaint* pictures in a flash, locate the picture you want using *Quickpaint’s* “mini-view” feature (similar to *MacPaint’s* “Show Page”), then cut, copy, or edit the picture using *Quickpaint’s* tool set. $59.95

**Quickword**
A handy utility for those who do a lot of repetitive typing. *Quickword* is a desk accessory that allows you to set up keyboard macros, so typing long or tricky phrases can be as easy as typing an A, B, or C. *Quickword* lets you create and edit multiple abbreviation tables for phrases of up to fifty characters. The program translates your abbreviation into its full meaning within your document. You can’t designate Command-key macros with this program, but you can use any of the usual keyboard characters. *Quickword* can be used with both *MacWrite* and *Microsoft Word*. $69.95

**Hippopotamus Software, Inc.**
1250 Oakmead Parkway, Suite 210, Sunnyvale, CA 94086
(408) 738-1200

**Hippo-Lock**
A utility to “encrypt” files, so that no one but yourself can access them. Protects *MacWrite* files and other applications and documents (including those highly confidential *MacPaint* creations) from prying eyes. Allows you to choose from three levels of security. Uses the Data Encryption Standard (DES), which, according to Hippopotamus Software, is used widely by major corporations and the U.S. Government. This program is one alternative to locking the disks in your drawer at the end of the day. Compare with *Lock It* from Assimilation before you buy. $119.95

**Ideaform, Inc.**
P.O. Box 1540, Fairfield, IA 52556
(515) 472-9795

**MacLabeler**
One of our favorite programs. *MacLabeler* makes disk labels. That’s it: disk labels.

What’s so good about it? Most everything. The program is well-designed, works quickly, looks good, and makes terrific disk labels. *MacLabeler* loads itself in and spits itself out. You insert a disk. The program reads the directory and prints a label. Another disk, another label.

The beauty is flexibility. The names can be sorted in a number of ways, and you can select which files (or folders) will be printed on the label. All done, of course, with the mouse. After the tough decisions, you can select your favorite border pattern for the labels and print ‘em out. The name of the disk shows up on the front and back—even on the edge.

Special labels can be used but aren’t required. A hefty starter pack of pressure-sensitive label strips is included. Each strip becomes three labels. Those on a budget can use ordinary paper and “glue sticks.” And the manual is fine. $49.95

**MacNosey**
An interactive disassembler billed as a “disassembler for the rest of us.” This program is hot. It’s probably the single most useful utility for the developer, student, or pirate of software. *MacNosey* creates disassembled source code from any Macintosh application file, from ROM, or from any “code” resources on the System or other files.

Ever wondered what’s “really” in the ROMs? The exact code in ROM, not the Pascal “skeletons” provided in Apple’s *Inside Macintosh* documentation? *MacNosey* will show you; all you need is an understanding of assembly language.

You’ll also need a 512K Macintosh or a one-megabyte Macintosh XL, but we assume that anyone thirsting for this program will have already slaked their thirst for RAM. In many cases, the output of *MacNosey* requires only minimal cleanup before being run through an assembler.

*MacNosey* includes features to automatically subdivide programs into procedures and reference data blocks by “tree-walk” and “global flow analysis.” The program automatically
MacZap

A utility program to back up protected disks and perform a number of other functions. Disk tracks and blocks may be edited, read, and written to; disks may be compared; disk and file information may be displayed and changed. Also offers disk and file recovery utilities.

Comes with a 170-page book detailing software protection on Mac, IBM, and other Apples. $60; protection book alone, $40

__Practical Computer Applications__

1305 Jefferson Highway, Champlin, MN 55316
(612) 427-4789

__MacSmith__

Software to copy disks that are copy protected. The wrinkle here is (to quote the ad) "FREE software updates FOR LIFE!" We're not sure if that's the life of the program, the life of the manufacturer, or your life. The manufacturer claims that MacSmith will copy all programs currently available—quite a claim—and that the program is "not a 'bit' copier."

Remember, archival purposes only. $59.95

__Silicon Beach Software__

P.O. Box 261430, 11212 Dalby Place, Suite 201, San Diego, CA 92126
(619) 695-6956

__Accessory Pak #1__

The first in a series of disks from Silicon Beach Software that will contain utilities, desk accessories, and small programs. This disk contains a font named Silicon Beach Font in 12 and 24-point; a utility called QuickView that allows a look at MacPaint files without running MacPaint; a desk accessory ruler for MacPaint that measures the screen in inches, centimeters, or pixels; a Screen Saver utility that blacks out the screen after a definable period of inactivity; a QuickEject desk accessory that pops out disks and resets the Macintosh without powering off; and, finally, Apple's Font and Desk Accessory Mover, for moving accessories and fonts. Suggested price, $39.95

__Tardis Software__

2817 Sloat Road, Pebble Beach, CA 93953
(408) 372-1722

__FastFinder__

A hacker's program. This one isn't truly a utility; it's an operating system "shell." The Macintosh Finder is also a shell, and FastFinder is a replacement for the Finder. If you're tired of clicking, miss MS-DOS, and love to type, this is for you.

FastFinder adds a number of utilities to the Finder, including the ability to perform a sequence of functions, called a "batch file" in other operating systems. Files may be displayed in multiple ways, files may be searched for a particular string, input files may be combined in a single file, attributes and type/creator information for files may be changed, and file data or resource forks may be dumped to the screen in either hex or ASCII. More, more, more!

Here's what you'll find under the Process menu title: Search, Scan and Count, Combine, Compare, Display Source (TYPE), Display Data (DUMP), Display Resources (DUMPR), Create Source Listing. The other menu titles are Quickies, Show, Transfer, Copy, and Utility.

This is not the Macintosh way, obviously. But those who need the power or flexibility will love it. $49.95
MacCopy

A recently announced "copy program" that the manufacturer claims will copy 95 percent of the currently available Macintosh software. The program analyzes each track of the disk and then attempts to duplicate the track. The software automatically configures for either a 128K or 512K Macintosh. The company intends to offer modifications and upgrades to MacCopy as new protection schemes are introduced.

$69.50 (plus $4 shipping and handling) in the U.S.; $99 (plus $3 shipping and handling) in Canada.

Tesseract Distributing, Inc.
P.O. Box 937, Saint Catharines, Ontario, Canada L2R 6Z4
(416) 685-4854
Here’s a story: When Macintosh was released, there wasn’t much software available. MacWrite, MacPaint, and Multiplan were about it. Macintosh was jeered at for not having software.

At the same time, out in the weeds and bushes of America, people were thinking: “Gad, if we only had a Macintosh product, we could sell tons of copies and make tons of money.”

But what to do? Databases take time, word processors take time. Jazz takes time. Languages are tough, business programs are complicated, games are no fun to develop. What to do?

What’s easy?

Here’s what’s easy: Draw some pictures with MacPaint and sell ’em. No programming necessary. No rigamarole with Lisas, no downloading to Macintosh, no need to become a Certified Developer. No fuss, no muss.

Early Macintosh owners, of course, would buy anything, no matter how execrable. Overpriced, poorly done, it didn’t matter; these people were desperate for anything on a disk.

What came next were some truly terrible “clip art” products. The name “clip art” became synonymous with “junk.” (We don’t mean to single out or disparage anyone who uses the name “clip art,” or any variation of it, for their products. And we’re sorry if it seems that we are, but, well, that’s just how it happened. Really.)

Anyway, they were stinkers. Bad. Embarrassing.

Some are still embarrassing. But that was a long time ago. Today, programs like Mac the Knife and Hayden’s daVinci series are hot stuff—classy image collections by professional artists and designers. And some of the awful collections are getting better. Those that aren’t getting better will be gone soon, we suspect.

And let’s face it, nobody programs in assembler all the time. It’s fun to mess with pictures in MacPaint. And six-year-old kids have a right to compute, too, just like “the rest of us.”

As the originals improved, the category of Macintosh graphics widened. The Reference Corporation offered anatomically correct images of human figures. Business forms appeared—MacPaint replicas of everyday forms, ready for printout or customization. Musical character sets showed up alongside birds and bunnies. Microsoft’s muscular Chart muscled in. Apple’s MacDraw promised image-twiddling for professionals. A few companies readied collections of digitized photographs (shot with a special
camera, then converted to MacPaint documents) to give us still more bits to fatten, drag around, and abuse.

Respectability looms. Yuppies should be pleased.

In a normal introduction, this is where we'd try to offer good advice about "selecting the right product." Not this time. If you want bunnies, that's your business. You're on your own.

Well, here's a little advice. If you need them, MacDraw and Microsoft Chart are indispensable. But, for the most part, the programs in this chapter are completely dispensable. The rise or fall of your business won't be traced back to a bug in Borders 1.

And you probably won't pay over $150 for most of the programs that follow. Probably not over $50.

There is the nagging question of value, though. How much are these programs worth? $80? $50? $35? We know what they're priced at; we're just not sure that the price in every case matches the value. That's for you to decide.

But take heart. Pretty much everything, not just computer software, is overpriced, and most products don't offer much value. That's never stopped consumers before, so why should we worry about it now?

Besides, do you realize how difficult it is to draw a good cat with a mouse?
Graphic Applications

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or (408) 996-1010
in California

MacDraw
MacPaint for the office. MacDraw, unlike MacPaint, considers drawings as objects, not free-form images. MacDraw's graphic objects can be aligned to grids, scaled, rotated, and grouped (and ungrouped) with other objects. They can also be stacked over other objects, then sent to the back or pulled to the front again. A number of rulers are available, and custom rulers can be created to your specifications. The approach simplifies the process of creating complex architectural drawings and demanding drafting-board productions.

Like MacPaint, MacDraw has a host of options. Unlike MacPaint, MacDraw allows more than one drawing window to be open at once, so images can be cut, copied, and pasted between windows. Drawings can be as large as 4 x 8 feet (if you're willing to assemble the printouts). Text can be entered anywhere, in various fonts, styles, and sizes.

If your drawing needs can't be met with MacPaint, give MacDraw a workout.

MacDraw has been under development, it seems, since before most of us were born. Well, maybe not that long, but a long, long time. A popular pastime among software pirates used to be comparing—and swapping—the latest version. A "9.93" for a "9.97," for example.

It's understandable. Like other programs with long development times—Microsoft Word, Macintosh BASIC, and others—MacDraw is a world unto itself, a complex world that remains to be explored by professionals and hobbyists. MacPaint has already created a subindustry of "hanger-on" programs. MacDraw, if popular, may create similar classes of programs, more sophisticated and flexible than the current crop of images for MacPaint.

MacDraw shines on the 512K Macintosh, where it can work with an almost unlimited number of graphic objects. It also shines with Apple's LaserWriter, where the printed results are spectacular. And the price is bargain-basement. $125

MacPaint
This is not a description of MacPaint. Books have been written about MacPaint. The Macintosh Library chapter lists them. Almost everyone reading this book knows about, has seen, or owns MacPaint. Most people get a copy thrown in (or for a reduced price) when they buy a Macintosh.

Everybody likes MacPaint. IBM liked it so much they copied it for the PCJr. But MacPaint is more than a place-holder in this section. Many of the products listed here wouldn't exist without MacPaint, a program that spawned a raft of other programs: clip-art programs, animation programs, business forms programs, and many more. All designed to work with MacPaint. $195 (includes MacWrite)

Magnum Software
21115 Devonshire Street, Suite 337, Chatsworth, CA 91311
(818) 700-0510

The Slide Show Magician
The Slide Show Magician is a nifty program that allows you to link MacPaint documents into a rolling slide show. With Slide Show Magician, you can create what Magnum Software calls "movie-type special effects" such as barn door wipes, fades, checkerboard reveals, timed cuts, messages that appear at once or one word at a time, and more. You can even insert user-defined buttons and subliminal messages at the click of a mouse.

The Slide Show Magician is easy to use. It took us about two hours to set up a demonstration that could run frame by frame, operate with user-defined mouse-clickable buttons (NEXT, JUMP, QUIT, and others), and even loop unattended. The Slide Show Magician can also appear to animate pictures if used properly. The demo has one scene of a spotlight appearing on curtains that is nothing short of amazing, once you realize what you're seeing.

To run The Slide Show Magician you need only a 128K Mac. A second disk drive is advisable if you wish to run...
The premier program for graphing anything on Macintosh. Microsoft Chart is an excellent tool for anyone with presentation needs should find The Slide Show Magician useful. It operates consistently and is reasonably documented in its manual/hint booklet. $59.95

Microsoft Corporation
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8080

Microsoft Chart
The premier program for graphing anything on Macintosh. Accepts data from Multipian, Microsoft BASIC, other programs, or from the keyboard. Lets you quickly create charts and graphs in column, bar, line, pie, or scatter formats. Each format has additional variations. Each variation can be tweaked. Each tweak can be diddled. If you know your graphs, you'll be impressed. Also does statistical analysis on chart data.

With Chart, data entry is convenient, adjustment is painless, and prettification is fun. Once created, graphs can be moved into MacWrite, Word, and other programs. An extraordinary program for creating and manipulating graphs and charts, Chart, like all Microsoft products, comes with extensive help files on disk and an excellent manual. If you need charts or graphs, buy it. $125

Penguin Software
830 Fourth Avenue, Box 311, Geneva, IL 60134
(312) 232-1984

Graphics Magician Picture Painter
This is a graphics program aimed, primarily, at software developers. It allows graphic pictures to be created, stored, then used by other programs. This, it should be noted, is not an easy task. Here's how it's done: The picture is created in either Graphics Magician or MacPaint, then transferred to Graphics Magician. The program then massages the picture (and compacts it) into a picture file that can be "called" by other software programs.

Here's a technical description that probably only developers will understand: The graphic files are converted to resources, a pointer to the files is placed in the resource file, and hooks are supplied for use by the application. The picture can then be inserted easily into the application with calls to the Resource Manager. That's how it was explained to us, anyway.

Although Graphics Magician offers its own set of drawing tools, including pens, brushes, and user-defined "fill" patterns of variable sizes, most graphics will probably originate in MacPaint, which offers a richer set of drawing tools.

The most convenient capability Graphics Magician offers is the capacity to accept pictures from other computers: Apple IIs, Commodores, Ataris, and more. If you can telecommunicate the picture to a Macintosh disk, Graphics Magician can seize it and convert it.

In addition, Penguin will grant a free license to use Graphics Magician routines in commercial programs. All they ask is that you request the license and give them due credit.

Although the price of this product wasn't set as this description was written, expect it to be under $50. A good deal for developers.
MacPaint Business Forms

Artsci
5547 Satsuma Avenue, North Hollywood, CA 91601
(818) 985-2922

SoftForms
A collection of twenty-two predrawn business forms for use with MacPaint. Here they are: employment application, weekly reminder, customer invoice, time & materials invoice, monthly calendar, things-to-do list, follow-up memo, purchase order, routing form, telephone memo, credit application, payment reminder, call report, speed memo, inventory report form, receiving record, three-column accounting paper, graph paper, credit card recordkeeper, bank account recordkeeper, balance checkbook form, and speed gram.

Like similar collections of forms, these may be customized with MacPaint or merely printed, then photocopied or taken to a “quick-print” shop for multiple copies. A good idea, a natural for Macintosh, and cheaper than letting a professional printer make custom forms.

And it’s nice to see products from companies with grasps equal to their reaches. $39.95

Datafood
400 North duPont Highway, Suite G-13, Dover, DE 19901
(302) 736-9098

MacForms
Over 100 business forms on four disks. The forms, created with MacPaint, can be customized for your business or simply printed out and whizzed through a copier for reams of forms. Disk 1 contains forms for accounting and financial management; Disk 2 has purchasing and materials management forms; Disk 3 has personnel and time management forms; Disk 4 has forms for sales and project management. Lots and lots of forms, nicely done. Comes with a disk holder. $79.95
The Card Shoppe

The Card Shoppe takes up where clip art programs leave off. Now that you've got the screen done, what's next? With The Card Shoppe, what's next is greeting cards.

The program comes with five plastic templates. The templates, when placed over the MacPaint screen, show you what will be where on the finished card and where the fold lines go. Cards can be three or four sections, vertical or horizontal, regular or "studio" (wide) size. Colored paper and cards are included.

The Card Shoppe drawings are the typical range of flowers, airplanes, borders, and animals. And seasonal images, and food and drink drawings, and so on. In all, another answer to "What can you do with a computer?" $59.95

As with similar programs, you don't get the entire border, just a portion. Selecting, rotating, then assembling with MacPaint gives you the entire border in whatever size you like. Documentation is included, as a MacWrite file, on disk. $35

Clip Art Volume 1

More MacPaint drawings. The disk contains twelve MacPaint files. The images are grouped into related topics (animals, food) and comprise almost 300 images, gathered in 129 subgroups. Also offers a page of sixty "paintbucket" patterns. Documentation is included, as a MacWrite file, on disk. Borders 1, Clip Art Volume 1, and a third package, Fonts and Architectural Design, are offered together for $90. This one alone, $35

Decision Science Software

Clip 1

Almost 200 images in this package. The manual is contained in a loose-leaf binder and includes hints and a printed copy of all images on disk. Not too expensive, but not too exciting, either. $29.95
500 Paint Patterns
This program was previously released by FingerTip Software as 500 Menu Patterns for MacPaint. It's now one of the first programs in PocketWare, a new line of software from Haba Systems. The programs will include desk accessories, as well as other small and useful programs, and will sell for $19.95 each—a refreshing change from the bloated prices often charged for small and useful programs.

The 500 patterns are menu patterns like those in MacPaint—strange patterns good for filling or painting or revamping to your taste. Five hundred, admittedly, is a lot. Maybe more than most people need. Maybe more than anyone needs.

How many potential patterns are there? Consider this: The grid for creating patterns is eight pixels by eight pixels. The number of possible patterns is two to the sixty-fourth power. Apple's Andy Hertzfeld says that means over sixteen billion patterns. Most patterns, though, are forgettable; these are some of the good ones. $19.95

Hayden Software Company
600 Suffolk Street, Lowell, MA 01854
(800) 343-1218, (617) 937-0200 in Massachusetts

daVinci Building Blocks
daVinci Buildings
daVinci Interiors
daVinci Landscapes
Four packages with a common theme, created by a single artist, David Adamson. Each is a collection of MacPaint files, about twenty files per package, containing hundreds of images in all.

No odds and ends here. No animals. This is real stuff, suitable for use by architects, landscapers, and designers. Each image is drawn to scale: 1/6-inch = 1 foot for land-
Whipping up a house plan with *Interiors*, right down to positioning electrical outlets, is quick and fun. The same goes for designing gardens or detailed exterior ornamentation with *Landscapes*. *DaVinci* won't do blueprints, but any architect, given layouts created with *DaVinci*, could easily translate your thoughts into two-by-fours.

The *Building Blocks* package is unique. The blocks are separate images, over 400 in all, divided into fourteen specific categories of architectural style and treatment. The blocks are put together, by you, to create three-dimensional appearing houses, skyscrapers, even entire city blocks.

The blocks are building segments. Your view of the blocks is "looking down from above at an angle." Using *MacPaint*’s Flip Horizontal, it’s possible to reassemble the blocks into structures with three dimensions—gables that meet at the corners of buildings or porches that wrap around the house. Darken one side with a gray-patterned shadow to complete the illusion.

The block types are house, building, Bau, Gotham, Palazzo, villa, garden, water, city, and country. Followers of architecture should recognize a couple of names in that list. *Building Blocks* seems a labor of love by a very talented man. Students (and professors and practitioners) of architecture and design should be impressed and fascinated. Jaded clip-artists can find new vistas for playful FatBitsing. A friend who sells a lot of these at his Apple dealership adds, "It’s a great program to get stoned and do."

The program’s author is working on other products grounded in three dimensions and plans to enlist Apple’s LaserWriter for high-quality output. Go, David! Each module, $49.95.

*daVinci Commercial Interiors*

Everything you need to design commercial interiors: desks, chairs, conference room furniture, theater seats, luncheon equipment, duplicators, modular walls, exercise facilities, coat closets, lavatory facilities, library equipment, even personal computers. *Commercial Interiors* allows you to type in these images from the keyboard, using a "keyboard replacement set." Changing scales is as simple as changing font sizes. $199.95

*Kyra Corporation*

3864 Bayberry Lane, Seaford, NY 11783
(516) 783-6244

*Artware Folio*

"Not another collection of images, Margie!"

"No, Bob, this one is different. It’s a collection of cartoons."

"Cartoons, Margie?"

"Well, Bob, actually it’s a collection of body parts. Faces, hands, arms, that kind of thing."

"Is there more?"

"Oh, yes. There’re images of desks and computers and storefronts and even cars."

"What’s the point?"

"The point, Bob, is that now people can express their ideas in ‘interactive scenarios.’"

"Interactive scenarios, Margie?"

"Well, let’s call them ‘comic strips.’"

"That explains the images of...those things."

"Bob, those are balloons. It’s where you put the dialogue for your characters."

"I get it. Just like that thing over your head, Margie!"

"You got it, Bob."

$59.95

*Magnum Software*

21115 Devonshire Street, Suite 337, Chatsworth, CA 91311
(818) 700-0510

*McPic! Volume 1*

Unlike other similar programs, this one has the images already pasted into the Scrapbook. Fire up *MacPaint*, bring up the Scrapbook, and there they are: over 130 images. But not all in one Scrapbook; it takes twelve individual Scrapbooks to hold all the images. The chosen file must be renamed "Scrapbook File" prior to use. Switching to a different Scrapbook means a trip to the Finder for renaming. The categories of images include business, holiday, animals, and symbols. We suspect that the images came first and the categories came second. Comes with a twenty-eight-page hints manual. $49.95
McPic! Volume 2
Maybe the Scrapbook idea wasn't a good one. In this volume, the pictures are MacPaint files. The categories include science, exotica, maps, flags, special effects, and People Maker. People Maker offers dozens of heads, eyes, mouths, hats, torsos, and accessories for hours of people-making fun. Kids will probably love the idea. Comes with a thirty-six-page hints manual. $49.95

Matrix Advocates Company
P.O. Box 1238, Bricktown, NJ 08723
(201) 899-4739

Images
Still another collection of predrawn images. This one has sixteen MacPaint files to fool with—over 200 images. The categories include zoo crew, holidays, sun fun, money, nature, recreation, art work, office, zodiac, time, and hodgepodge. Also includes a handy "M.A.C. Ruler" screen, filled with painted rulers, a 360-degree compass, and explanations. Did you know that the MacPaint screen is 416 x 242 pixels? Or that using the lasso "shortens the screen by one pixel per side"? The disk also contains an "image index" and a documentation file.

Like many similar products, Images offers more white space than you might prefer. You could do that yourself, right? $45

Images
Miles Computing
21018 Osborne Street, Suite 5, Canoga Park, CA 91304
(818) 341-1411

Mac the Knife Volume One:
A Clip Art Treasury
A useful and carefully done collection of images. The package consists of eighteen MacPaint files. Each file is loaded with images and also contains a full set of fill-pattern textures (like those along the bottom of the MacPaint screen). Two of the files contain borders—lots of borders. A handy disk label image should get much use; instructions in the manual tell you everything necessary, right down to, "We use Avery #5597 labels." Two other useful images are rulers—vertical and horizontal—that ensure accurate image-printouts. If you want your duck printed out exactly 3 inches from the paper edge, this is for you.

Three fonts, and instructions for moving them into the System file, are also on disk: Manhattan, Mos Eisley, and Hollywood. Manhattan is a variation on the New York font, with the addition of several "hidden" characters. Mos Eisley is a font that looks the way robots talk; Hollywood is large and garish, just like you'd imagine. More: a U.S. map, a world map, international icons, animal silhouettes, and the usual collection of odds and ends, some odder than others. All are professionally drawn. The instruction/tips manual is excellent; even avid MacPainters should pick up some tips. $39

The Reference Corporation
212 Fifth Avenue, Suite 1312, New York, NY 10010
(212) 686-4809

HumanForms Volume 1
You've heard of musical notation? Algebraic notation? Object-oriented programming language notation? Okay: This product is a "schematic system for graphic body notation."

Put another way, this is a collection of male and female figures, and segments of figures. All are anatomically and proportionally correct. Drawings are contained in twenty-seven MacPaint files. In all, over 1,000 individual body segments comprising the full range of human motion (full flexion, full extension) of all extremities, including head and torso, in approximately 15-inch increments. That's straight from the press release.

There are also four full views for both male and female: front, back, left side, and right side.

Figures may be assembled, disassembled, studied, or combined in a variety of ways. Those with prurient interests should look elsewhere for titillation: Macintosh needs more pixels to turn outlines into steamy images.

Upcoming volumes are planned. Volume 2 will include foreshortened views of human figures. Other volumes of architectural notation, veterinary notation, and engineering
HumanForms Volume 1

are under development, and custom series are also possible. Contact The Reference Corporation for details. $79.95

Shaherazam
P.O. Box 26731, Milwaukee, WI 53226
(414) 442-7503

MusicType
A different approach to musical clip art. This time a 187-character "music font" is included. Instead of alphabetic letters, the font contains musical characters. The result is a music typewriter; most notes, symbols, and staves can be entered with a single keystroke. The program comes with a keyboard overlay that shows how to produce each character. High-quality sheet music can be created and printed.

Includes four MacPaint screens (which contain only staff "borders"), a Scrapbook file containing ten musical images (notes, rests, crescendo bars...) to be cut or copied, and a manual. A new version will include an extra font containing detailed illustrations of musical instruments and a complete set of custom musical "brush shapes" for use in MacPaint.

$49.95

Software Apple-cations
11510 Alejandro, Boise, ID 83709
(208) 322-8910

Presentations
The images roll on. Let's see...five MacPaint screens of borders, categories of Americana, seasonal, weather, zodiacs, arrows, and symbols. Lots of white space. Thirty new menu patterns. Overall, not the most impressive image collection. $29.95 (plus $2 shipping and handling)

South Bay Software
Box 969, Millbrae, CA 94030
(415) 579-5455

Music Character Set
This time, the MacPaint images are musical: notes, staves, clefs, and chords, all ready to be copied and pasted somewhere else. Includes twelve files of keys, twenty-one files filled with predrawn chords (some you might not know exist), a blank staff, a guitar fretboard (with the notes indicated), and a keyboard. This disk is full.
Although well-produced, the program should receive stiff competition from music composition programs that not only display, but also play and print, musical characters. $24.95

**T/Maker Graphics**
2115 Landings Drive, Mountain View, CA 94043
(415) 962-0195

**ClickArt Personal Graphics**
The first of three related products from T/Maker Graphics (the third product, *Letters*, is in the Words & Letters chapter). *Personal Graphics* contains images “more for fun than for serious business applications.” Fun, these days, is a potpourri of images, from grapes and wine glasses to cars, borders, cartoon people, arrows, cats, celebrities, paper clips, and...well, you get the idea. In all, over 100 images. Boy George is also here. T/Maker sends a clever, well-produced newsletter to registered users. $49.95

**ClickArt Publications**
A well-conceived collection of “practical images for enhancing business communications.” Included are two- and three-column layout guides for newsletters and announcements, maps of the United States and Europe, large stencil letters, two full screens of decorative borders, and a number of clever column headings. The package then gets unprofessional with pages of cartoons, “dingbats” (a catchall of images), and other whimsy. Not necessarily for professionals, but more professionally done than *Personal Graphics*. $49.95
Graphic Aids

Computer Shoppe
P.O. Box 18344, Greensboro, NC 27409
(919) 299-4843

MacPlots II
A software program that lets MacDraw use graphic plotters for high-quality, color-plotted output. Supports the Hewlett-Packard HP 7470-001 (A size), HP 7475 (A/B size), and the HP DMP 41/42 (C/D size) plotters. Produces continuous one-piece drawings from multi-page documents, ignoring page breaks; no more taping sheets together.

Virtually anything that can be pasted into MacDraw (text, charts, graphs, or other documents) can be plotted. Depending on the plotter used, MacPlots II can produce up to 36-inch by 96-inch drawings on E-size plotters.

Scaling up or down can be done at plot time, without changing the drawing, and can be used to enlarge charts and graphs for presentation purposes, or to reduce larger drawings (engineering, architectural, circuit designs) for a look at the overview.

Some features of MacDraw are not supported; clipping and line-pen patterns are two features absent. Also, not all fill patterns are applicable for all objects. Various line thicknesses are supported, however.

This is a Macintosh conversion of a program previously offered for LisaDraw on the Lisa (read: Macintosh XL). The output is clean, sharp, and sure to impress. The vendor is also refreshingly honest. Early ads for this product noted availability as "two months after MacDraw is released." $195

Diablo Valley Design
4103 Hidden Valley Road, Lafayette, CA 94549
(415) 283-1082

MacGrid
A software/drawing aid combination to increase your MacPaintivity.

The drawing aid is a transparent plastic sheet, letter-size, overlaid with a grid. You place the sheet over a picture, and there's the picture, under the grid, now "divided" into individual squares. The idea is that it's easier to compose MacPaintings one square at a time.

So far not thrilling, right?

But there's more. The MacGrid disk contains a tutorial of ten drawing lessons, each a full MacPaint page. The lessons explain, in detail, how to use the grid and also how to use MacPaint tools to their maximum advantage. The screens are full of information and expertly done. Another MacPaint screen contains two grids for creating a two-fold Macintosh greeting card. Two more screens are on-screen grids, for...
creating original art. Two final MacPaint screens are stunning full-page drawings.

Copy on the MacGrid package reads: "Beginning artists can use MacGrid to copy any subject (sketch, photo, etc.). Advanced artists will be able to turn their finished paper sketches into high-quality works of art." We'll admit this: MacGrid is not a gimmick, and it really does help. $39.95

Esoft Enterprises
P.O. Box 179, Owasso, OK 74055
(918) 272-7616

ColorPrint
Automates printing up to eight color overlays at one time. Works with the Imagewriter and Scribe printers. With the Scribe, ColorPrint prints up to five primary colors. With the Imagewriter, it prints up to eight primary colors. The Scribe, however, generates color transparencies and high-quality glossy prints; the Imagewriter doesn't. Additional colors can be made—on either printer—by overlaying primary colors, yielding an almost unlimited palette.

The software guides you through the printing process, scales images, and allows you to print images in full-page, half-page-tall, half-page-wide, or quarter-page sizes. The width-to-height proportion can be changed, for a total of eight different size options for printed documents.

For color printing, you'll need this program, MacPaint, and one to eight color ribbons. Esoft also sells the ribbons, or they can be purchased from other vendors. See the Accessories chapter for colorful ribbon details. $49.95; three-ribbon pack, $29.95

Artists Rescue Failing FatBitters

So here you are, with the world's most affordable high-quality drawing machine. With the world's most affordable graphic software—MacPaint, MacDraw, graphic templates, hordes of clip-art packages—and a head full of stunning graphic visions.

Except you can't draw.

There's still hope. You can have someone else turn your amateurish efforts into professional graphic art. Here's one company we found that frees you from failing at FatBits.

The Computer Art Company does custom illustrations from photos, drawings, or other material and returns the finished art as a MacPaint file. Three styles of illustration, as well as caricatures, are offered. Class A drawings are recognizable likenesses—not highly stylized representations—of real people and things. Class B drawings are stylized illustrations of stock figures like those seen in ads; send a rough sketch of what you want and an artist will draw it for you. Class C drawings are cartoons and line art like the pictures found in clip-art packages; you could specify, say, "a mother cat with three kittens" and that's what you'd get. Or, "a generic college student." The company also does characterizations (sophisticated caricatures), which require the most work and are the most expensive.

You can combine more than one style in an illustration—say, a Class A drawing of a woman standing in front of a Class B fountain—but this costs extra. Class A drawing, $29.95; Class B drawing, $22.95; Class C drawing, $14.95; characterization, $49.95

The Computer Art Company
P.O. Box 2352, San Francisco, CA 94126
(415) 362-234
Easy Trace
Tools to aid in MacPainting. Like MacGrid, Easy Trace has a clear plastic background grid and a MacPaint background pattern (on disk, naturally) for precise placement of pixels. Easy Trace also adds clear plastic MacPaint "pixel rulers," for easy conversion between inch and pixel measurements, and special sketch paper. Using the ruler and sketch paper, you can lay out and sketch a design on paper, then transfer it to MacPaint, using the background grid as a guide to precise tracing. $39.95
When Macintosh was introduced, it beeped. Oh, there were a few other sounds—a "raspberry" noise accompanied the sad-faced Mac, and some early programs played simple tunes—but that was about it.

Animation, of course, didn’t exist, except as a good idea.

But the potential for both sound and animation was designed into Macintosh, at the lowest levels, as an integral part of the computer’s system architecture.

Animation programs expand on the QuickDraw graphics routines in ROM—the fixed, internal read-only memory inside Macintosh. QuickDraw has what animation needs: speed, flexibility, bit-by-bit precision, and conceptual generality. Which doesn’t mean that writing animation programs is easy. Like all efforts, writing a good animation program is tough. Many questions need to be answered, and solutions carefully implemented.

Expect to see more animation, and more animation programs, as more 512K Macintoshes are sold, used, then used to write more animation programs and more programs that use animation.

We’re on the verge of awesome animation.

We’re also on the verge of dazzling Macintosh-created sounds.

A well-known story tells how Steve Jobs gave the Macintosh design team a final weekend to make Macintosh sing. If it didn’t, sophisticated sound capabilities were out. They did, it did, and today Macintosh does four-part harmony. And talks.

Sound is typically produced with specialized chips. This, for engineers, is an easy way to produce sound. It’s also expensive. Macintosh designers, instead, made sound using only software. The software consists of three sound "synthesizers," all in ROM.

Depending on the sound required, one of three synthesizers is called into play. The three synthesizers, named for what they play, are "square-wave," "free-form," and "four-tone."

The square-wave synthesizer produces beeps and other less memorable sounds. Unsophisticated and undemanding, it takes about 2 percent of the processor’s time. The free-form synthesizer is used for complex music and speech; it takes about 20 percent of the processor’s time. The four-tone synthesizer is the most memory-hungry; it requires 50 percent of the processor’s time—still a modest amount overall.

Music programs often use the four-tone synthesizer to generate a maximum of four simultaneous voices—one tone for each voice.
The free-form synthesizer is used to design new “instruments,” new waveforms, or in the case of MusicWorks, to masquerade as a “synthesizer.”

(One important note about sound: Don’t count on running sound or speech generating programs on the Lisa—now redubbed the Macintosh XL. The XL doesn’t excel at music or speech. It can only beep.)

Back to the free-form synthesizer. Speech synthesis programs also use the free-form synthesizer. But don’t be misled: Even aided by the sound routines in Mac’s ROMs, these programs are remarkable programming feats.

At present, SmoothTalker is the only commercially available speech synthesis program. That will change soon; Apple has its own proprietary speech software called MacinTalk.

MacinTalk consists of two drivers. The first is a speech “reader” that resides on disk, much like the Imagewriter file (also a driver). This speech driver reads specially prepared text, created by programmers and placed within programs. When a program wants speech output, it “calls” the driver to supply the speech routines.

The second driver adds advanced features. It analyzes and reads text from the keyboard or other input devices. With the additional driver, Macintosh can “talk” your typing or read the latest stock quotes as they whistle into your modem. In a sense, the first driver talks and the second listens. Programs that need the extra feature can add the extra driver. Programs that don’t need to analyze text can save on disk space.

As this book was written, Apple was licensing MacinTalk to developers for inclusion in their own programs. Like the Finder and System files, the Apple speech programs are licensed for a fee. But, with Apple, the fee is almost insignificant; developers can include Finder and System files on their disks for under $100 a year in license fees. MacinTalk license fees should also be laughably modest, which should result in lots of programs that talk, in lots of educational, entertaining, and provocative ways.

Don’t expect things to stop with talking Macintoshes. Peripherals will also make their voices heard. We’ll have talking modems (now under development) and (probably) printers and plotters and hard disks—all with a few words to say.

When Apple satisfies developers (never an easy task), its attention will turn to hobbyists—regular Macintosh owners. Us. Apple hopes to create a version of MacinTalk that can be called from BASIC, Pascal, and other popular programming languages. First Byte, Inc., which markets SmoothTalker, has similar plans for developers and has already licensed a number of companies to use their speech technology.

The winners in the talking Mac competition will be Macintosh users. Developers and hobbyists will soon add speech to programs both profound and trivial. Then we’ll not only watch, but listen to, our Macs and make them speak at last.

May the most elegant program, and the best enunciation, win.
**Music & Sound**

**Electronic Arts**
2755 Campus Drive, San Mateo, CA 94403
(415) 571-7171

*The All-New Deluxe Music Construction Set*
Now that the company has reviewed this product in its title, we can move along to something else. Seriously, *Construction Set* wasn't released as this book was completed. Electronic Arts promises the ability to input notes directly on the staff using either the keyboard or mouse; full cut, copy, and paste editing; and "smart" measures. We hope it's good, and it'll need to be—the competition in this area is fierce.

**First Byte, Inc.**
2845 Temple Avenue, Long Beach, CA 90806
(800) 523-8070; (800) 624-2692 or (213) 595-7006
in California

**SmoothTalker**
Speech comes to Macintosh. *SmoothTalker* is a software application that converts text to high-quality speech without requiring additional hardware. The text may be entered from the keyboard or "read" from text-only files created by *SmoothTalker*, *MacWrite*, other programs, or other sources.

The program has a wealth of options. Speech files may be saved and recalled. Users can create custom speech dictionaries. Entire documents, or portions thereof, may be read. Male or female voice may be selected. Speech can be tailored by speed, pitch, volume, bass, and treble—each with nine levels of variation. The settings may affect entire documents or portions of documents, or be inserted as "variable speech codes" directly into text. Speech files may be plain English (*SmoothTalker* could easily read this description) or include precise phonetic spellings. An excellent on-disk tutorial is included. Registered users receive a newsletter.

The program is fun, sophisticated, and extremely easy to use. But what's it good for? Potentially, lots of things. Applications suggested by First Byte, Inc., include text-to-speech conversion for the blind, English language instruction, educational uses, product tutorials and demonstrations, electronic mail distribution, and proofreading for writers.

Many potential uses, however, require "calling" *SmoothTalker* speech routines from other software programs. First Byte, like Apple, is now licensing its speech technology. Developers may contact First Byte for information on licensing speech routines for use in their programs. Companies already under license with First Byte include Habak Systems, Future Design Software, DG Systems, Mesa Graphics, Structural Management, *SoftSpot* magazine, Sterling Couch, Words Plus, MMATS, Palantir, Hayes, and others.

For hobbyists hoping to take advantage of *SmoothTalker* routines, First Byte is creating interfaces for use with popular programming languages. Microsoft BASIC 2.00 is now able to access *SmoothTalker*; and new versions of other languages, including Macintosh Pascal, are also expected to call on speech.

**Great Wave Software**
P.O. Box 5847, Stanford, CA 94305
(415) 325-2202

**ConcertWare**
Uses the Macintosh four-voice synthesizer to simulate a variety of musical instruments and play up to two hours of pre-recorded musical selections. The package consists of three programs. The *ConcertWare* Instrument Maker lets you design your own instruments and sounds to use with the music player. The *ConcertWare* Music Writer allows quick entry of your favorite written music. And the *ConcertWare* Music Player links the other programs together and plays the result. Recommended. $49.95
Hayden Software Company  
600 Suffolk Street, Lowell, MA 01854  
(800) 343-1218, (617) 937-0200 in Massachusetts

**MusicWorks**  
A delightful music composition program. The program offers two ways to compose: with conventional notation on a musical staff or with MacPaint-like bars on a 7 1/2-octave musical grid.

Both methods are painless. When you're using the staff, you select notes, rests, sharps, and flats with a mouse click, then click them onto either the bass or treble clef. A familiar eraser is available for reconsiderations.

The process is even easier on the grid; you simply draw lines that correspond with graphic "piano keys." The entire composition, or portions of it, may be played back instantly. And, once created, your invention can be immediately displayed, or printed, in traditional notation. And you thought you couldn't write music.

During composition, the familiar cut, copy, and paste options are available, along with a stretchable insertion bar, to rearrange or duplicate portions of your score—or to paste portions of one score into another. Scroll bars keep your work in view.

On a 128K Macintosh, compositions are limited in size to sixty-four measures of 4/4 time or 128 measures of 2/4 time. With 512K, it's better: 265 measures of 4/4 or twice that number of 2/4 time.

Another window, the Panel, lets you set volume and tempo and select which voices will be played. Four voices may be played simultaneously—a limit imposed by the Macintosh design. The voices may be massaged, then played back, in a variety of ways. Eight preset voices are found on the Instruments menu: piano, organ, trumpet, kazoo, chimes, flute, and two synthesizer choices. It's even possible to create a new audio "envelope" for sounds never before heard.


That's not all. A Master Score window gives a graphic overview of the entire composition. And a Meter window lets you play Beethoven's Fifth in march time or in any of six other time signatures, if you've got the nerve. A Key Signature window lets you transpose the score into one of twelve keys—maybe four flats or six sharps or C.

**MusicWorks** comes with forty-five prewritten "cas- settes," ranging from classics to contemporary selections, from Mozart to rock, jazz, and "Row, Row, Row Your Boat." The seventy-two-page manual is clear; it covers program use and also touches on basic music theory. The manual includes a glossary and list of reference books. As a bonus, **MusicWorks** also includes a disk accessory called Trails that lets you create and alter kaleidoscopic doodles.

The program isn't perfect, though. It won't do triplets—a frustrating omission. Another drawback is the maximum composition length: 128 measures in 2/4 time or 64 in 4/4 time. One more reason to go 512K. If you're interested in **MusicWorks**, compare the program to ConcertiWare. Both programs are well-done; both are recommended. $79.95
you're not limited to four on-screen staves. As elsewhere, the options on the Basics menu are many and varied; it takes a knowledgeable musician to understand, or even appreciate, the possibilities of this program.

Tempo, key signature, meter, and other parameters may be easily changed or extended. Under "meter," for example, you can click your choice or type in a personal choice. Maybe 9/8ths.

Notes can be clicked onto the staff, as in similar programs, or entered directly from the keyboard. Keys that correspond to notes are located on the left side of the keyboard. The mouse controls note placement.

The Groupings menu offers ways to clean up or add to the notation. From standard beams to triplets, tuplets. slurs, ties, crescendo, decrescendo, brackets, grace notes, and stem changes. Got that? If so, take a look at this program. For now, it's by far the most sophisticated music composition program available.

Mark of the Unicorn is an old-timer among software firms. Until now, they've been best-known for Final Word, a "do everything" word processor for the IBM PC. With Professional Composer, they've cornered the market for "do everything" music composition programs. $495

Rune Software
80 Eureka Square, Suite 214, Pacifica, CA 94044
(415) 355-4851

TalkShow
This is an interesting software concept. Unfortunately, we weren't able to review this product. Maybe in the next edition.

Anyway, here's some information gleaned from an intriguing press release: "Imagine a picture, graph, chart, or diagram on the screen, accompanied by text and a vocal description. Imagine clicking the mouse on any region of the picture to see and hear a more specific description of that region. Imagine an even more specific visual and verbal description by clicking again. Imagine moving through multiple levels, anywhere your interest takes you."

According to Rune, TalkShow begins with MacPaint pictures or digitized images. Text is added with MacWrite or other word processing programs. The picture and text files are then combined with speech. The result is a "TalkShow program."

The programs reportedly can incorporate many levels of difficulty and allow the inclusion of visual and vocal de-
TalkShow

scriptions at all levels. In stories and games, plots may change as users take different paths into the story. If you've ever played computer adventure games, you know the feeling of wandering around on an imaginary landscape. With TalkShow, the landscape promises to include not only text but pictures and speech.

The software has many potential uses, including education, entertainment, and sales. If done well, this one could be a killer. $149

Silicon Beach Software
P.O. Box 261430, 11212 Dalby Place, Suite 201, San Diego, CA 92126
(619) 695-6956

WaveEdit
An exciting sound-editing tool for hobbyists and programmers. WaveEdit shows the waveform of recorded digitized sounds and allows you to play the sounds, select and play segments of the sounds, repeat-play, or copy the sounds to separate files. The selected segments can then be combined into one resource file using a build module.

According to Silicon Beach Software, the package will include sound "play routines" for BASIC, Pascal, assembler, and various versions of C. The company also plans to make available a library of disks containing digitized sounds. Also, they plan to offer a custom digitization service. You send them a cassette tape filled with sounds of your choice, they'll digitize the sound, store it on a Macintosh disk, and send it back—ready for use by WaveEdit or inclusion in programs you write.

Although still under development as this book was written, WaveEdit may be a comer. We saw a prerelease version and were impressed, both with the product and the programmer. Digitized sound is a natural for Macintosh and needs to be heard to be appreciated.

Another offering from Silicon Beach is an arcade game called Airborne! It's a spiffy shoot-'em-up that features—naturally—digitized sound. Hearing the sounds from the jets (real jet sounds!) and the almost sub-sonic thwump-thwump of the helicopter blades is an experience. Still another reason for hooking the stereo to the Macintosh.

WaveEdit is slated for summer 1985 release. $49.95

Utopian Software
P.O. Box 40028, Long Beach, CA 90804
(213) 597-2130

MacMusic
A music composition program. To use it, you click notes onto a staff in a manner similar to MusicWorks, though not as well implemented. MacMusic allows tailoring of sixteen different music waveforms. Volume, key signature, and meter may be changed. A maximum of 123 musical "subroutines" may be created, then called into compositions. MacMusic has a few advantages over MusicWorks. It handles longer compositions, and it does triplets.

On other computers, this program would be well-received. On Macintosh, MacMusic is cumbersome, lacks features, and suffers from comparison to MusicWorks, a program that is more refined, more comprehensive, easier to use, and $10 cheaper. $89.95

MacFATS Storyboarder
A program for use in the film, advertising, and television industries, hence the FAT in the program's title. Storyboarder is used to create a visual sequence of scenes, called a storyboard. The scenes can be created by MacPaint or MacDraw, or assembled from "clip art" collections or American Intelliware's Image Library, which is under development.

The selected images can be aspect-ratio formatted, assembled sequentially, edited, time-coded, and played back...
Animation Toolkit

Animation Toolkit: Advanced Version

Animation Toolkit 1: The Players

Animation Toolkit II: The Stage

Here's how animation works: You create a number of pictures, each a bit different, then show them—quickly—in sequence. The mind, being a slow yet obliging beast, sees the sequence as continual motion.

With Animation Toolkit, the pictures are frames and the total sequence is a filmclip. Frames come in three sizes: 32 x 32, 48 x 48, and 64 x 64. The size of the frame determines the quality of resolution (a 32 x 32 frame contains 1,024 pixels) and the allowable length of the filmclip. On a 128K machine, for example, a 32 x 32 frame results in a maximum filmclip length of 140 frames. With a 512K Macintosh, that figure zooms to over 3,000 frames—enough for serious animation endeavors.

Frames are created in the Frame Editor—a window with a scaled-down set of MacPaint tools. Pictures may also be transferred to the Frame Editor from another window, the Sketchpad. The Sketchpad's main purpose is receiving Scrapbook images, a feature that allows precision drawings to be created in MacPaint, then transferred into Animation Toolkit. A nice touch.

A third window, the Frame Display, shows the filmclip and allows you to scroll through the entire production or to select frames for more manipulation. A fourth window, the Animation Window, displays a constant animation sequence, even as you work on individual frames. The final window is Make-a-Scene, which governs the entire animation sequence and lets you change direction, the first and last frame of the sequence, and speed. Frame speed is adjustable up to a racy thirty-five frames a second.

During and after creation of the filmclip, opportunities for dallying are vast. It's possible to "skew" or "distort" individual frames. The animation window can be resized from tiny to full-screen. Frames can be rearranged, cut, copied, or pasted. Animation files can be appended (tacked on) to other files.

The advanced version of Animation Toolkit I adds sound and new sequencing abilities. Animation Toolkit II: The Stage adds the ability to create static backgrounds for animated sequences.

The program is carefully done and includes a comprehensive manual with a "beginners only" tutorial. Nonbeginners will find program operation obvious and easy. Children acquainted with MacPaint should strongly approve. Serious animators should consider 512K and coupling Animation Toolkit with the ThunderScan or other digitizers.
Registered users of Animation Toolkit I can upgrade to the advanced version for $20. Animation Toolkit I: The Players, $49.95; Animation Toolkit: Advanced Version, $69.95; Animation Toolkit II: The Stage, $69.95

Hayden Software Company, Inc.
600 Suffolk Street, Lowell, MA 01854
(800) 343-1216, (617) 937-0200 in Massachusetts

VideoWorks
The best Macintosh animation program we've seen. Like MusicWorks, VideoWorks was created by MacroMind, Inc., and is distributed by Hayden Software. Like MusicWorks, VideoWorks offers feature after feature and window after window. Like MusicWorks, VideoWorks should be a big, big seller.

VideoWorks allows both traditional "cell animation" and "real-time" animation: Grab an object with the mouse, move it around, then play back the animation you just created. Objects to animate can be created in VideoWorks or any other program that allows graphics to be placed on the Scrapbook or Clipboard, which includes software provided with most digitizers.

MusicWorks and VideoWorks share a similar interface. VideoWorks has a Panel window for fiddling with speed, direction, and other parameters. There's a Cast window that displays individual cast members, a Stage window that gives the animated production a full screen, a Monitor window that allows the animation to run in a chosen position, a CheapPaint window (more full-featured than you'd expect) for creating things to animate, a Score window with full cut, copy, and paste for rearranging the animation sequence, and even a Tweak window. If you've seen MusicWorks, you'll get the idea. Oh, and there's CheapSound, too. Not as flexible as in music programs, but still capable of great explosions and other sounds and effects.

The options for placing animated figures on backgrounds are impressive. The options are No Erase, Copy, Or, Xor, Bic, NotCopy, NotOr, NotXor, NotBic, and Matte. Let's just say that each is different, useful, and delightfully illustrated by an on-screen "movie." Animation options are BurnScene, Step, Add, BackStep, KillFrame, Blank, Rewind, Switch, and AutoAnimate.

The package includes three disks: a disk containing VideoWorks and tutorials, a disk of animation example templates, and a disk of cell-animation sequences, foregrounds, backgrounds, and VideoWorks "movies." Animation "clip art," in a sense.

For the best in animation, a 512K Macintosh is recommended. The 512K Mac can animate over 2,000 frames with up to twenty-four animated objects on screen at once; a 128K machine is limited to about 800 frames and sixty-four "cast members."

VideoWorks is an amazing program that should foster amazing animated productions. Highly recommended. $99.95
Bill Atkinson, author of *MacPaint* and the QuickDraw graphic routines in the Macintosh ROMs, has this to say about most computers: They make people feel stupid. You try to do something with a computer, it doesn’t work, you get beeped at, maybe. You fail.

The message from the computer is clear: You’re stupid.

One goal of the Macintosh design team was to create a computer that wouldn’t make people feel stupid. Products that are bad for your self-esteem are bad products. A wonderful notion. Manufacturers in other fields should take note.

With Macintosh, the “stupid me” days are over, right?

Not yet. This is the communications chapter. The final resting place of “Why am I such an idiot?”

If you know all about baud rates and parity and stop bits and other communications protocols, just skip ahead and read about your favorite modem.

That didn’t clear out the hall, did it?

Communications is confusing. The confusion comes, mainly, from a welter of communications conventions and protocols, all different.

A protocol, simply put, is an agreement: I agree to do this and you agree to do the same thing. In communications, the agreed-upon protocol might be “300 baud with seven data bits, even parity, and one stop bit.”
If my communications program is set up that way, and yours is also, there's a fairly good chance we can communicate. Not a certainty, but a good chance. If we each use a different baud rate, no good will come it it. Explanations follow.

To telecommunicate, you need communications software, a modem, cables, and possibly a few extras like a Macintosh or a phone line. The modem is connected between the computer and the phone line. The modem processes output sent from the Macintosh modem port into digital signals that can be transmitted through phone lines.

Modems are "serial" devices. The information-packed electrons stream from Macintosh in an orderly line, serially, like peas through a straw. The modem does the necessary magical acts, then passes the stream of "bits" into the telephone line.

Baud rate refers to how fast a modem transmits information. Three-hundred baud is fairly slow, but 300 baud modems are fairly cheap. Twelve-hundred baud is four times faster, but 1200 baud modems are more expensive. Not four times as expensive, but substantially more. Twelve-hundred baud is better.

Modems also have differing degrees of "intelligence." Some can answer the phone automatically, or redial until someone (or something) answers, or accept long strings of commands from the keyboard. Some can even filter out undesired characters or make character substitutions. If that sounds like a good idea, you've been reading this introduction far too long.

At heart, though, most modems have the same basic functions. And most any modem will work with most any communications program. We'd like to say "all modems," but we don't dare.

Then there are data bits, parity bits, and stop bits. Tiny blips, all in a line. Without going into detail, the common protocols are either "seven data bits, even parity, one stop bit" or "eight data bits, no parity, one stop bit." In other words, it's either seven or eight data bits, even or no parity, and almost always one stop bit.

In practice, when something isn't working—when you're trying to telecommunicate and your screen fills with garbage (or with nothing)—you hit Return a couple of times. Then a few more times. Sometimes this works; the other system (after listening to you bang Return) figures out your protocol and changes protocols to match yours. This is often the case when you're using bulletin boards or information utilities like The Source or CompuServe.

If things still aren't working right, and you're beginning to feel stupid, you change either data bits or parity. You assume the right choice is "the other one."

That usually fixes the problem. If not, you hang up and be cranky and feel stupid.

Most communications software comes to life "configured" for standard protocols for standard types of communications. Beyond that, the options are many. MacTerminal can provide terminal emulation (read all about it in
the Networking intro); *Dow Jones Straight Talk* has a custom menu bar for use with (surprise) the Dow Jones News/Retrieval Service.

A modem is a necessary expense if you want to telecommunicate. Some of the best communications software, though, is free. Look in the public domain software chapter for *MacTep*, *Red Ryder*, and others. These programs aren't for everyone, though. You might be more comfortable with a good manual, a toll-free help number, and the friendly computer store salesperson on those days when the data bits are wrong, the stop bits won't, and you're not feeling all that smart.
Telecommunications Programs

Apple Computer, Inc.
20525 Marnani Avenue, Cupertino, CA 95014
(800) 558-9696; (800) 662-9238 or (408) 996-1010
in California

MacTerminal
Apple's popular communications software. MacTerminal has gone through a lengthy design process. At first (in prerelease versions) it was a small, clean, fast program. Over time, feature upon feature was added. We suspect that Apple marketing was responsible.

As a result, Apple now happily proclaims that "MacTerminal can be used to emulate IBM 3278 terminals when linked to a mainframe computer through AppleTalk, a coaxial attachment unit, or the Apple Cluster Controller, a protocol converter that emulates IBM 327x-type cluster controllers."

The program also emulates VT100, VT52, and TTY terminals. A pull-down menu displays the function keys available on the VT terminals. You use the mouse to select the right keys. Handy for emulating those particular terminals, but a strange artifice for naive users.

MacTerminal can be used for less esoteric purposes—calling your local BBS, for example. And the program does offer many handy features. A "Save Lines Off Top" option lets you scroll back through whatever scrolled off the top of your display, and the dialog boxes to set parameters are complete and informative.

The typical forms of data transfer and receive are available, including the XMODEM protocol for error-free transfers. Full use of the Macintosh Clipboard and desk accessories is also offered.

Still, MacTerminal is neither as easy as beginners would like (help screens would be welcome) nor as powerful as "power users" would hope. Early release versions of the program crashed and "hung up" (forcing you to switch off the Macintosh and start all over again) far too often. To its credit, Apple has released an improved MacTerminal that corrects many of these problems. If you have an older version, see your dealer for a no-cost upgrade. $99

Applied Ideas, Inc.
300 Goodhope Avenue, San Pedro, CA 90732

DeskNet
Software for general communications or connection to mainframe computers. Supported terminal protocols include TTY and DEC VT52 and VT100. Supported computer systems include DEC 10/20, CP/M, MS-DOS, RT-11, RXS-11, CMS, VMS, PDP-11, VAX, IBM, and Unix. $125

DataViz, Inc.
P.O. Box 1319, Norwalk, CT 06856
(203) 866-4944

MacLink
Performs standard ASCII terminal functions and provides a "data link" between IBM PCs and Macintoshes. Comes with software for both machines. According to the manufacturer, MacLink can translate 1-2-3 files for use with the Macintosh version of Multiplan and can translate WordStar and MultiMate files for use with MacWrite. $95; with 8-foot interface cable, $125

DeskTop Software Corporation
244 Wall Street, Princeton, NJ 08540
(609) 924-7111

1stPort
A communications and data conversion program. Has standard communications program features (file receive and transfer) but also allows data to be converted into different formats for use by a variety of programs. The options for conversion are 1stBase file, DIF file (DIF files are created by

• File Edit Settings

1stPort
VisiCalc and other similar programs), SYLK file (SYLK files can be used by Microsoft Chart and Multiplan, and by Lotus's Jazz), fixed-record-length text file, and Clipboard file.

Handy for the transfer of specific files, and not too expensive. $95

dilithium Press
921 S.W. Washington Street, Suite 870, Portland, OR 97205
(800) 547-1942, (503) 243-3313 in Oregon

PC to Mac and Back
A software/cable combination that enables file transfer between Macintoshes and IBM Personal Computers. Includes software, on disk, for both computers; a cable and null modem to link the Mac and the PC; and a manual.

Does it work? Sure. What the advertisements for this product don't tell you, though, is that transferring information between the two computers is easy, even without this program. Run most any communications software on either computer, cable the computers together, and go at it.

The real value in this package, it seems, is the Macintosh-to-PC cable—an item that's hard to come by, and one that most people can't easily "hack" together. $149.95

Dreams of the Phoenix, Inc.
P.O. Box 10273, Jacksonville, FL 32247
(904) 396-6952

Mouse Exchange BBS
The first software available to convert Macintosh into an electronic bulletin board system. Can also be used for electronic mail or a file distribution system. Supports file transfer for ASCII text and XMODEM transfer of binary files. $39.95

Mouse Exchange Terminal
Inexpensive communications software. The manufacturer says, "It won't do everything that MacTerminal does... but then it doesn't cost as much either." $39.95
Haba Systems, Inc.
15184 Stagg Street, Van Nuys, CA 91405
(818) 901-8828

HabaCom
We tested a prerelease copy of HabaCom, a stand-alone communications program. All the usual functions are here, and a few frills like automatic log-on are also supported. The program was in its infancy during our time with it; see your dealer for a demo. $69.95

Hayes Microcomputer Products
5923 Peachtree Industrial Boulevard, Norcross, GA 30092
(404) 449-3146

Smartcom II
A bestselling program for other computers, now on Macintosh. Smartcom II supports the new Hayes SmartModem 2400—a modem that kicks out at twice the speed of "fast" 1200 baud modems. When two computers are directly connected, the software allows transmission rates of up to 19,200 bits per second.

This program allows unattended operation; log-on and full transfer and receive functions are all performed when you're somewhere else. Good for taking advantage of low phone rates at odd hours.

Smartcom II allows switching between voice and data transmission modes; in addition, data can be transferred, and the transfer confirmed by voice, during the same call.

When communication between Macintoshes is taking place, a graphics "canvas" allows users to create images with MacPaint-like tools and have the graphics instantly transmitted to the other computer. The person on the other end can then collaborate on the drawing. The finished image can be saved by either user. A nifty feature; we haven't seen it. (As this was written, nobody that we know had seen it.)

Smartcom II may become one of the most popular communications programs for Macintosh. Hayes is a big name in the modem business; Smartcom II is a big name in communications programs for other computers. Hayes has lots of marketing muscle and produces dependable products. Expect this program to offer an extremely good value for the money. $149

Mainstay
28611B Canwood Street, Agoura Hills, CA 91301
(818) 991-6540

Telecommunication
Telecommunications software with an extra feature: the ability to transmit, receive, and display graphics, as well as conventional text and binary files. An on-screen directory lists frequently called names and phone numbers. Each entry may have associated terminal, macro, and protocol definition screens. The program supports automatic log-on, password entry, menu selections, and log-off. The program also includes an improved version of the popular BinHex utility, which helps the transfer of Macintosh application programs. $125

Mycroft Labs, Inc.
2615 North Monroe Street, Tallahassee, FL 32303
(904) 385-1141

MITE
One of the best communications programs for Macintosh, and certainly the most flexible. MITE is a popular, respected program available for many computers under the CP/M-80, CP/M-86, and MS-DOS operating systems. Ashton-Tate even included MITE with their vaunted Framework integrated program.

This is the second review of MITE for this sourcebook. The previous description covered an early release of the program. In its first incarnation for Macintosh, MITE looked much like it does on other computers: a keyboard-oriented maze of menus and options, totally un-Macish. The resulting description was kind to the features, but brutalized the package's user interface.

Times have changed. The latest version of MITE fits Macintosh well. The options and power remain, but it all seems simpler now—as it should. Options, parameters, file receives, and file transfers are now a click away. Complete, well-written "context-sensitive" help menus guide beginners.
through tricky communications matters and are educational even for jaded communicators. Multiple "macro definitions" allow automated log-on sequences. A number of different communications and error-checking protocols are available—at least one of which should allow you to trade information with any other computer.

As an example, here are some of the options for uploading text files: intercharacter delay, await character echo, CR/LF handshaking, turnaround character, garbage character count, and strip control characters. All this is done with a mouse click and clearly presented in a dialog box.

The manual, like the program, is thorough. It begins with an overview of the program and ends with all the technical information that anyone would want.

Take a look at this one. Recommended. $145

Prometheus Products, Inc.
45277 Fremont Boulevard, Fremont, CA 94538
(415) 490-2370

ProCom-M
Another communications program. Features a fifty-number phone directory. Macro capability allows automatic log-on through predefined commands. ProCom-M logs calls by time, duration, and name or number called. Works with Prometheus or Hayes-compatible modems. $99; with Prometheus 1200 baud modem, $549

Software Masters
3330 Hillcroft, Suite BB, Houston, TX 77057
(713) 266-5771

inTouch
Communications software for general use, file transfer, and terminal emulation. Allows any type of file to be transferred easily between Macintoshes. Standard protocols, including XMODEM, are supported during transfer between Mac and other computers. The program also supports the CompuServe VIDTEX protocol for transmission of graphics. $149.95

Modems
This listing includes modems being actively marketed for Macintosh. Other modems, not listed here, will also work with Macintosh, but we think modems not marketed for Macintosh probably shouldn't be purchased by Macintosh users. Not for reasons of being merely "stuck-up," but because it's good to know that your modem manufacturer acknowledges your computer, supports it, and might even support it in the future.

Almost any modem will, in fact, work fine with Macintosh, provided you have the right cable. Other computers typically use a large, twenty-five-pin connector, called a DB-25, to hook up modems and other peripherals. Macintosh, instead, uses only nine pins. Regardless of what's needed at the modem end of the cable, the Macintosh needs a DB-9 connector on its end.

Many modems are sold without cables. Cables are expensive. The wrong cable won't work. You've been warned.

Anchor Automation, Inc.
6913 Valjean Avenue, Van Nuys, CA 91406
(818) 997-6493

Volksmodem
The least expensive 300 baud modem available for Macintosh, the Volksmodem requires more effort than other modems listed here. And don't expect much "intelligence" at this price; the modem won't store numbers, automatically redial, or perform other tricks found in more expensive modems. For example, a talk/data switch must be set to "talk" when dialing, then flipped to "data" when the connection is made. The modem also requires a special "G cable" to operate.

With those exceptions, the Volksmodem operates in much the same way as other modems (most of the intelligence, these days, is in the communications software, not the modem). The modem works fine with MacTerminal and other popular communications software for Macintosh. $79.95; "G cable" with phone cord (required), $12.95

Volksmodem 12
A 1200 baud modem. Again, the focus is price: $299 for 1200 baud. Although not as smart as some other modems,
the unit offers auto dial/auto answer, unattended operation, dial tone detect for fast dialing, and full control from any Hayes-compatible communications program (which means nearly all programs). A good combination of features at a good price. $299

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or (408) 998-1010
in California

Modem 300 and Modem 1200
The most popular modems for Macintosh, not surprisingly. The modems are repackaged U.S. Robotics modems (with a few changes made by Apple) and work dependably and well. Speed is the only difference between the two models. The modems are styled to match Macintosh and sized to be placed under standard desk phones.

Besides guaranteed performance with MacTerminal, the modems are capable of "intelligent" functions, if you're willing to learn the necessary keystrokes. An awkward on/off switch and a tiny power pin connection (both at the rear of the modem) are the only obvious flaws. Service, if needed, is available from any Apple dealer—a point to remember. Price shoppers will probably look elsewhere; conservative buyers will find these modems hard to resist. Manuals for both modems are complete, well designed (like all Apple manuals), and readable—often a feat when explaining the intricacies of modems. More technical information would be welcome, though. Modem 300, $225; Modem 1200, $495

Apple Modem 300/1200

Hayes Microcomputer Products
5923 Peachtree Industrial Boulevard, Norcross, GA 30092
(404) 448-3146

SmartModem 300, 1200, and 2400
Here they are: Hayes modems. These modems are the standard against which other modems are measured. Hayes is the big name in modems. Their products are reliable, offer many features, have an array of enticing red LED lights across the front, and work with just about any computer and any communications software. Actually, it's the other way around. Manufacturers (including Apple) make sure their products are Hayes-compatible.

All Hayes modems are auto dial/auto answer; all can receive many "command strings" entered from the keyboard to program a variety of parameters.

Other manufacturers claim their modems are more reliable than Hayes's, or offer more error-free transmission. Maybe so, but Hayes modems are known for both reliability and good transmission.

The newest SmartModem, the 2400, is one of the first high-speed modems available. Until now, most transmissions were conducted across phone lines at 300 or 1200 baud. The new 2400 baud modems offer blistering speed—at a price. Unfortunately, it's still a bit early for these modems; very few communications services support 2400 baud, and only a handful of communications programs accept the higher baud rate. One of the few that does is Hayes's Smartcom II communications software, described in this chapter.

Unlike some other modems, these don't come with cables to Macintosh. You'll need to look elsewhere (in a good computer store or catalog) for the unique Macintosh-to-modem cable.

The modems are a good choice for conservative buyers, those who need the features, and Hayes fans. Price shoppers will look elsewhere. SmartModem 300, $289; SmartModem 1200, $599; SmartModem 2400, $899

Kensington Microware Limited
251 Park Avenue South, New York, NY 10010
(212) 475-5200

Maccessories Portable Modem
A battery-powered 300 baud modem that slips easily into a Macintosh carrying bag. The modem weighs a mere 12 ounces, includes a carrying case, and is styled to match the Mac. It comes with cables for both the Macintosh and Apple Ile and is warranted for five years. A nice little modem at a nice little price. $140

Maccessories Portable Modem
MacModem
A complete telecommunications package: 1200 baud modem, modem cable, telephone cord, communications software, and one free hour on the Dow Jones News/Retrieval Service.

The Microcom modem supports auto dial, auto answer, and tone and pulse dialing. A speaker inside the modem monitors the progress of calls. The front panel includes an array of LED status lights.

The software takes good advantage of the Macintosh interface. An "almost unlimited" number of telephone numbers can be stored, then called with a mouse click. MacModem automatically sends log-ons and passwords, if desired.

Unattended operation is also possible. According to Microcom, "The possibilities are nearly unlimited. You can tell it to wake up in the middle of the night, call another
computer, enter your password, get a file, store it on disk so it will be ready for you in the morning, hang up, and then call another computer and do the same thing all over again."

MacModem also supports the Microcom Networking Protocol (MNP) for error-free communications with other MNP-equipped computers.

A final note: This is the only modem we've found that's designed to be upgradable to 2400 baud operation. Price and availability of the upgrade have not yet been announced.

Price for the MacModem package (1200 baud modem, software, and cables), $699

Novation
20409 Prairie Street, Chatsworth, CA 91311
(800) 423-5419, (818) 996-5060 in California

Cat Communication System
This package is billed as a "communication system" rather than a "modem" because it includes software. The software, named MITE, is described in the software section of this chapter under Mycroft Labs. MITE is a good program.

Now for the modem. Novation's 1200 baud, MacTerminal-compatible modem is better than Apple's modem, for a number of reasons. On the ergonomic side, which may not seem important unless you use a modem frequently, the on-off switch is located at the front, not the back. Is this important? Well, if you forget to turn the Apple modem off when you've finished a transmission, it will often answer the phone before you do and greet your friends with a screeching carrier signal. This is bad manners. The Novation modem, in contrast, won't start up in auto answer mode. Leave it on (if you'd like) and don't worry about incoming "real" phone calls. It will ignore them (like all good modems should).

Another convenience: You can adjust speaker volume with your thumb instead of a screwdriver. It's the little things that count. Also convenient are Novation's two lights—power and ready. The ready light is nice to have when there's no other indication that a transmission is occurring. The Apple modem has only an "on" light.

On to features. The Apple modem allows one special command character in phone numbers—a comma, which means "pause two seconds between numbers." The Novation has the same feature, plus the more useful W, meaning "wait for dial tone." It also has commands to call an originate-only modem and to return you to command mode instead of data mode after dialing. Another contrast is that the Novation modem distinguishes between command and data modes. With the Apple modem, it's possible (though not likely) to inadvertently issue a modem command while casually typing to a friend, "ATS1=6."

Finally, the Novation modem's manual contains technical information that Apple thought we'd find too frightening. We didn't, and this stuff is useful to have. The manual does lack an index.

Overall, a good product. $499, including MITE communications software
MacPac includes the 1200 baud ProModem and ProCom-M communications software. The ProModem is a sophisticated modem that offers unattended operation, Hayes command set-compatibility (and extended instructions), internal and remote diagnostics, and a built-in clock/calendar. It has programmable dialing for accessing PBX, MCI, Sprint, and other systems. This one is loaded. MacPac with ProModem, Macintosh-to-ProModem cable, and communications software, $549

Visionary Electronics, Inc.
141 Parker Avenue, San Francisco, CA 94118
(415) 751-8811

Visionary 1200 system
This is an intelligent buffered modem that can answer the phone, receive and store up to 48K of data, and then turn on a blinking light to alert you. Essentially a computer with a modem built-in, the system comes with advanced communications software to allow unattended operation. Program it with a few command lines and the system will (for example) call MCI Mail, log on, store your mail in a buffer, log off, hang up, and wait for you to get home from work. A very slick system. Visionary 1200 with 2K of memory, $795; additional 16K modules, $100 each (maximum 48K of buffer memory)

Visionary 1200

Phones & Dialers

Haba Systems, Inc.
15154 Stagg Street, Van Nuys, CA 91405
(818) 901-8828

HabaDialer
This cute little box plugs into the phone system, the Macintosh speaker port, and a power socket. With it, Habadex and desk accessories such as the WindoWare Phone Book
can dial the phone by playing tones through the Macintosh speaker. This is an inexpensive way of using the Mac to dial if you don’t have a modem. If you have the HabaDialer hooked up, however, avoid doing anything with the Mac that would beep the speaker while you’re on the phone with someone. Reportedly, the victim’s hearing returns within two to ten minutes. $49.95

**Intermatrix**
5543 Satsuma Avenue, North Hollywood, CA 91601
(818) 509-0474

**MacPhone**
Love it or cringe. MacPhone is a telephone that sticks on the side of your Macintosh. It comes with specialized software or can be used as a regular telephone.

The first temptation is to fire up the software. The MacPhone software lets you store and automatically dial up to 200 names and phone numbers. It allows Touch-Tone compatibility with various phone services, supporting up to twenty prefixes of twenty-two digits each. Phone calls are automatically logged. Who you called, the starting and ending time of the call, the date the call was placed, the cost of the call, and consultation charges comprise the log. A note pad is included for notations about the calls. The notes are automatically added into the MacPhone phone log.

There’s a memo pad to record longer notes about (we assume) the calls you’re making. If you wish, an audible tone signals the passing of each minute and/or hour.

Our favorite feature is a built-in area code directory for looking up the state, region, and time zone of any old area code. The call was from—let’s see—Washington, D.C.? No need to call back.

Is this the greatest thing since hexadecimal arithmetic? No. Here’s the problem: Although the software is peachy, it’s an entire application! When you’re using the MacPhone software, you won’t be using your Macintosh for anything else. It’s rare that anyone would want to use just the phone software. Ideally, the package would be a desk accessory (or a series of accessories). In that configuration, the software would get much use. As a stand-alone application, we’d guess it will often stand alone in your disk case.

If, however, you make a raft of calls, want the capabilities of the software, and won’t miss using other applications while using MacPhone, you may be well satisfied. The software is enticing; you may wish you had an extra Macintosh to dedicate to this system.

The phone itself is a very inexpensive unit that plugs into the speaker port at the rear of the Macintosh. Cheap plastic, poor quality, and poor electronics; you’ll find people asking you to “Speak up, we must have a bad connection.” But that isn’t the problem; it’s the phone you’re using. The phone is covered by a ninety-day warranty.

Last comes the appearance of the MacPhone hanging alongside the Macintosh. Some may feel this is a real “Buck Rogers” combination—snazzy and so high-tech. Others may feel otherwise. At least, even when used as merely a pedestrian telephone, MacPhone isn’t another piece of clutter on your desk. $199.95
Networking is both the Next Big Thing and a relic from the past.
Here's some history:
In the beginning, there was IBM and large, mainframe computers. The computers were expensive. The idea of "one person, one computer" was ridiculous, unless the person was a millionaire. The idea of a "home computer" was also ridiculous. Apple Computer, Inc., didn't exist.
Corporations had mainframes. Individual users had terminals. Wires ran from the terminals to the mainframes.
The terminals varied in their degree of "dumbness." A dumb terminal was essentially a video display device, a keyboard, and whatever skimpy circuitry was needed to communicate with the mainframe—where the actual processing was performed.
IBM dominated the market for mainframes and still does. As a result, other manufacturers were forced to make their equipment compatible with IBM mainframes. If you sold terminals, you made sure your terminals communicated with IBM mainframes. IBM decisions became de facto standards. If IBM computers wanted electronic digits in a certain way, other companies followed, lock-step.
"Live by IBM standards or die" was a way of life for many computer manufacturers. As IBM prospered, IBM standards became more pervasive, and the pressure increased for other firms to be IBM compatible. And, of course, IBM kept changing the rules whenever possible, driving non-compatible competitors from the market, one by one—a grand old tradition at IBM. Some called it capitalism; others called it antitrust.
Then Apple and other small computer makers arrived. They began selling thousands of computers. Some to schools, some to homes, but most to small businesses.
Next, big companies began making smaller computers, and smaller companies began making bigger computers.

Computers grow more powerful. This introduction shifts to the present tense.
Apple suddenly finds itself in a strange new world, dominated by IBM and IBM standards. Marketing departments make projections. The projections all point to the office market. Sell to business and prosper; ignore business and fail.
Apple goes after small business. VisiCalc—the first electronic spreadsheet—helps Apple get a foothold in the business market.
Networks (also called local area networks or LANs) begin to appear. The networks borrow from the terminal/mainframe concept. This time,
though, the terminals are computers in their own right, connected to other computers. The computers are cabled together, and information can be sent and received between them. A number of computers, interconnected, can share fast, expensive printers or sophisticated plotters. Hard disks with built-in networking software, called "fileservers," are introduced. The fileservers allow a number of computers to share large, expensive hard disks.

A number of companies introduce networks. Unfortunately, each company devises its own networking scheme. Some networks are blindingly fast (an important consideration) but expensive. Other networks are slower and cheaper. Different approaches are tried and marketed. The concepts and hardware are technical and confusing—cluster networks, packet-switching, collision avoidance. Xerox's Ethernet (fast and expensive) is a carefully planned, technically superior network. It almost becomes a standard, but Xerox fails to capitalize on the opportunity. Instead, Xerox seems content with merely having originated Ethernet. The network is used extensively and well within Xerox, but few are sold.

(The situation is reminiscent of another Xerox creation—a computer called the Star. It had images on the display screen called icons and used something called a mouse. Everyone agreed it was a swell computer. Xerox didn't sell many. They sold copiers instead.)

IBM also has a network, but it's expensive. Too expensive for small business.

IBM introduces the IBM Personal Computer. It's a smash. IBM also introduces software that allows the IBM PC to be used as an "intelligent terminal" with IBM mainframes. A smart move.

Apple watches. It appears that, in the words of Steve Jobs, "IBM wants it all"—big business sales, medium business sales, small business sales. Big IBMs, little IBMs.

Willful and hungry, Apple plots survival in an IBM world. New products are developed. First is the Apple Cluster Controller. Here's a paragraph from a press release describing the product:

The Apple Cluster Controller serves as the interface between an IBM host and the Apple computer by emulating IBM 3287-2 terminal functions and 3287-1 printer functions. It comes in two versions: Systems Network Architecture/Synchronous Data Link Control (SNA/SDLC), which emulates the IBM 3274 or IBM 3276 Control Unit/Display Station; or Binary Synchronous Communication (BSC), which emulates the IBM 3271 Control Unit.

There's more, but you get the idea.

Behind the scenes, Apple plans strategy. If the IBM PC can emulate (mimic) mainframe terminals, Apple computers will also emulate terminals. Apple introduces the Lisa and targets it at the Fortune 500 companies. Apple creates a new sales force to sell Lisa. Lisa will be Apple's first excursion into IBM territory. LisaTerminal software is written to communicate with IBM mainframes. Apple also announces plans to develop a local area network called AppleNet.

Lisa is a heralded technical success but only a modest sales success. AppleNet is on again, off again. Hinted at, but not introduced. Eventually, it becomes clear that Apple will not introduce AppleNet.
Industry observers see Apple's reticence over AppleNet as a wise, strategic move. IBM will soon introduce a low-cost LAN. Once introduced, the IBM network will surely be a standard. If Apple's network is different and can't be used with IBM's network, it will surely fail.

Apple, it seems, is lying in the weeds. When IBM introduces its network, Apple will—quickly—introduce a compatible network. Apple's superb marketing will offer business a choice, without the risk of incompatibility. Apple's network will succeed.

Apple waits. IBM does not introduce a LAN. Apple waits some more. Still no IBM network.

Apple builds the Macintosh. In it, a chip called a Serial Communications Controller is the guts of a network, on a single chip. Almost a microprocessor in itself, the SCC can send and receive messages on a network and constantly monitor network activity without burdening the 68000 microprocessor. When networking arrives, a cable will be plugged into the Macintosh printer port. The sophistication is built into every Macintosh. Other networks require boxes of special circuits for networking. Apple's network "box" is a single, fast chip; its design is general and doesn't limit Apple to a particular network design.

The Macintosh is a smash. Apple waits for the IBM network. The IBM network remains a rumor.

Apple, never good at lying in the weeds, acts.

And here we should note a significant fact (and revert to the past tense): The first Apple computers didn't have covers. They didn't need them. Steve Jobs was responsible for putting a cover on the Apple II. He wanted a computer that was an appliance, not a mystery. Other small computers were imposing; the Apple II was friendly.

This is the same guy who allowed only a single button on the Macintosh mouse, overruled those who wanted circuit card slots in Macintosh, and made sure the manuals were slim and colorful. The idea was this: Keep it simple, sophisticated, cheap to build, and relatively inexpensive to buy. Make it cheap, sell a bunch, and give maximum value.

AppleNet was next renamed AppleTalk and the philosophy was applied with a vengeance.

Why isn't every business networked already? Because networks are complicated and expensive. Apple's network was simple and cheap. A network for "the rest of us."

To create an inexpensive network, Apple made tradeoffs. Rather than 1 to 10 megabits per second of raw transfer speed, Apple chose a more modest speed of 230K bits per second. Lower speed, lower cost. Apple limited distance between computers to 1,000 feet. More expensive networks allow more distance; Apple settled for 1,000 feet. The combination of lower speed and less distance allowed Apple to use simple "twisted pair" wiring instead of more expensive coaxial cables.

Expensive networks can connect hundreds of users. Apple settled on a maximum of thirty-two computers per network, enough for large work groups within corporations. Most networks would have fewer connections, Apple guessed. As an extra benefit, one of the connections could be
a bridge to another network. The other network could be AppleTalk or, oddly enough, a network from another company.

Apple also announced a circuit card for the IBM PC. The card would allow IBMs full access to AppleTalk nets. Profit before pride.

Hooking up an AppleTalk network is easier than hooking up a stereo. The cables come in two-meter or ten-meter lengths. (Cable can also be purchased in larger rolls.) Each end of the cable has a male connector. Another two-foot cable plugs into the Macintosh (or the Macintosh XL). One end goes in the printer port; the other end terminates in a small plastic box. The box has two female AppleTalk sockets. One connecting cable goes in each socket. Plug in one computer, then another, then another. Plug in a LaserWriter anywhere.

The computer cables are $50; the ten-meter cables for interconnection are $50. The complete cost for a five-person network is about $500—less than the price of a single “network card” for insertion in other computers (only the first expense with other networks).

This is the Macintosh Office. The computers can share information and share Apple’s LaserWriter—a $7,000 high-speed printer that offers near-typeset quality print and graphics.

Still to come is Apple’s fileserver. The fileserver will be a twenty-megabyte hard disk (with an optional second twenty-megabyte drive) that can store files, handle electronic mail between users on the network, and perform other networking feats. The fileserver will contain a microprocessor and have full multiuser file-management capabilities. To users of the network, the fileserver will probably appear as just another icon on the Macintosh screen.

For now, communicating on the network is much like communicating by modem: Power up MacTerminal (or a similar program) and call another computer. Eventually, software will monitor the network invisibly while you work. A desk accessory network window may appear in which you’d use the network; then you’d click the network window to the rear and go back to playing Lode Runner or whatever else was on the screen.

As with Macintosh, Apple is supporting developers who wish to develop hardware and software for AppleTalk.

With those few, brief remarks behind us, welcome to the Networking chapter. Along with AppleTalk products, we’ve also included software for IBM terminal emulation and other network and mainframe-related products.

There’s one product we haven’t included, though. It’s a product that’s still under development at Apple. The product is a plug-in circuit card for IBM Personal Computers. The card will allow IBM PC users to plug into the AppleTalk network.

A nice option, don’t you think?
**AppleTalk**

Apple's network. Despite giving away the goods in the introduction, we'll repeat some information here, so everything is in one place.

The AppleTalk network has a "bus" topology. In other words, computers and other devices on the network are daisy-chained together. The maximum number of connections is thirty-two, though speed will probably slow dramatically with the maximum number of computers all trying to yak at once. The medium used to connect devices is a shielded, twisted-pair cable. The maximum operating distance is 1,000 feet total for all devices. The maximum speed at which information can be transmitted over the network is 230.4 kilobits per second—about as fast as a Macintosh floppy drive.

The "Link Access Protocol" is called carrier-sense multiple access with collision avoidance (CSMA/CA). In other words, when a computer or peripheral wants to transmit information, it checks the bus. If the bus is busy, it waits 400 microseconds or so, then tries again.

The software necessary for using the network consists of only a 6K "driver" for each computer. The driver looks and behaves like the Imagewriter icon; it sits on the system disk and allows access to the network, much like the Imagewriter icon allows access to the Imagewriter. (A communications program is also necessary.)

The AppleTalk network can also serve as a "tributary" to other networks, in a scheme where one connector serves as a "bridge" to another network. It's possible to connect multiple AppleTalk networks in this fashion, or bridge to non-AppleTalk networks.

The AppleTalk network is nonproprietary. Apple is publishing the full specifications of the network and is encouraging outside developers to develop AppleTalk products. This sourcebook is good evidence that it's a smart corporate move to encourage outside developers.

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**The Macintosh Office**

Suggested retail price for AppleTalk is $50. The price includes the small AppleTalk connector box and two meters of cable. Each computer or device means shelling out another $50. Because two meters isn't very long, Apple will also sell longer lengths of cable and 100-meter custom wiring kits. Prices for the longer cables have not yet been announced.

Later in 1985, Apple will release file servers for the AppleTalk network. The file servers will be "intelligent" hard disk drives, in 20 or 40 megabyte sizes, that will allow users on the AppleTalk network to store and retrieve information from a central location. It's hoped that the file servers will also allow documents to be "spooled" to the LaserWriter printer; documents could then be quickly sent to the file server, and the file server would queue the documents and print them in order, allowing the sending computer to return to other tasks.

**Cluster Controller**

This is it—the famous Apple Cluster Controller, used as an introductory example of the complexities of links between micros and mainframes.
Without becoming mired in detail, let’s say this: The future of this product is uncertain. In 1985, Apple will introduce a number of new products that may supplant or enhance the Cluster Controller. If you need hardware to connect your Macintosh to IBM mainframes, talk to a knowledgeable Apple representative. Tell the representative which particular type of IBM terminal you’d like to emulate. The information we have on this unit says it emulates an IBM 3278-2 terminal and 3287-1 printer functions. Is that what you need? You’re not sure? Find out first, then talk to your Apple rep. Apple probably has, or will have, some combination of hardware and software that provides what you need. The Cluster Controller is offered in several configurations, all expensive. See your dealer for details.

Cogitate, Inc.
24000 Telegraph Road, Southfield, MI 48034
(313) 352-2345

Blue Mac!
This product may be of interest if you’ve got an IBM XT and a number of Macintoshes. The Blue Mac allows up to eight Macintoshes to be connected to an XT. The Macs then get to use the XT hard disk. The package includes start-up programs and utilities on an IBM disk, a Macintosh disk with the necessary drivers and utilities (which allow Macs access to the XT hard disk or printer), a board to be installed in the XT, a cable to connect a Macintosh to the XT, and documentation.

To add more than one Macintosh, you’ll need another board for the XT—one board per Macintosh. Although it’s possible to hang eight Macs off the XT, we doubt if your (or anyone’s!) XT has that many free slots. $599

Fortune Systems Corporation
101 Twin Dolphin Drive, Redwood City, CA 94065
(415) 595-8444

ForTalk
Software to convert the Fortune 32:16 computer into a file-server for AppleTalk. Price and availability not announced.

Infosphere, Inc.
4730 S.W. Macadam, Portland, OR 97201
(503) 226-3515

XL/Serve
Software for the Macintosh XL that allows the XL to function as a printerserver and fileserver for other computers on the AppleTalk network. Allows partitioning of the XL’s 10-megabyte hard disk into a number of volumes. The volumes can then be assigned for common access use or exclusive use. The software also features print spooling and backup and restore utilities. $200

Iomega Corporation
1821 West 4000 South, Roy, UT 84067
(800) 556-1234; (800) 441-2345 or (801) 776-7330 in Utah

AppleTalk Bernoulli Box
A 20-megabyte fileserver for AppleTalk. Includes two 10-megabyte Bernoulli drives, two 10-megabyte Bernoulli cartridges, AppleTalk software, and utilities. The software allows password protection of files on the fileserver. Call or write for prices and other information.

Lutzkey-Baird Associates
5601 Slauson Avenue, Suite 222, Culver City, CA 90230
(213) 649-3570

Ultra-Office Unix/Macintosh network
This one, we think, is a system that allows up to thirty Macintoshes to be connected to a “central, Unix-based cluster processor.” The Unix computer, we’re told, handles data management, data storage and backup, electronic mail, and other functions. Better drop these folks a line if this sounds interesting. Each Unix computer, $1,595; each Macintosh link, $200

Mesa Graphics
P.O. Box 506, Los Alamos, NM 87544
(505) 672-1998

Tekalike
This is software that allows Macintosh to emulate Tektronix graphic terminals. It emulates Tektronix 4010, 4012, 4014, and 4016 terminals, and is compatible with software from Iasco Graphics (Tellagraf, Disspla, CueChart, Tellaplan), Precision Visuals (DI-3000, Graphmaker), SAS/Graph, SPSS/Graph, Tektronix (Plot-10, Easygraph), and other software from other manufacturers. Tekalike supports local zooming on graphic data and can generate a MacPaint document for further editing. The program is good, the manual is bad. $250

Sunol Systems
1187 Quarry Lane, Pleasanton, CA 94566
(415) 484-3322

Sun*Mac and other products
Sunol markets a broad line of networking products: file-servers, networking hardware, and networking software. Prior to Apple’s introduction of AppleTalk, the firm ran a number of “Wait and see what we’ve got!” teaser ads.

Here’s what they had: the first file-servers for AppleTalk. And a range of other products for use with Apple’s network.

Starting at (we think) the beginning is Sun*Mac, an interface between AppleTalk and the Sunol Sun*Disk. The Sun*Mac interface allows up to thirty-one devices to share a single Sunol Sun*Disk. The interface also allows connection to multiple Sun*Disks, which ups the number of users the network can accommodate.
The Sun*Disk can queue drive requests from a maximum of eight users simultaneously—a healthy number. The hard disk fileserver is offered in various sizes: 8, 16, 25, 40, 60, and 92 megabytes. Ninety-two megabytes; what a concept.

Also available is Sun*Safe, a back-up tape system for use with the fileservers. Each of the removable cartridges can hold a maximum of 31.5 megabytes of data, and can be read and written to with “standard operating system commands.”

Then there’s Sun*Server, an intelligent print server. It consists of two RS-232 ports, will handle two printers, and utilizes the Sun*Share common storage area to receive, store, and forward data files from users.

As you’ve probably guessed, none of these products is cheap. If you’re interested, write for more information; you’ll receive much information and four pages of prices.

Prices for the hard disk fileservers range from $1,995 (8 megabytes) to $6,695 (92 megabytes). The same file-servers with built-in tape backup range from $3,345 to $8,045.

Sytek, Inc.
1225 Charleston Road, Mountain View, CA 94039
(415) 966-7330

LocalNet/PC
The PC stands for “IBM Personal Computer.” Sytek makes networks for linking up IBMs and intends to add support to allow Apple’s network to tie into Sytek networks. Call or write for more information.

3Com Corporation
P.O. Box 7390, Mountain View, CA 94039
(415) 961-9602

Networking hardware and software
3Com is well-known for networking products. The corporation is now hard at work producing a full line of products for use with AppleTalk. The products will allow AppleTalk-connected computers to gain entry into existing 3Com networks. Products already announced include the 36-megabyte 3Server fileserver, a 36-megabyte add-on hard disk, and a 60-megabyte tape backup system. Call or write for more information. 3Server, $7,495; add-on 36-megabyte drive, $3,995; 60-megabyte tape backup unit, $2,995

Tri-Data
505 East Middlefield Road, Mountain View, CA 94039
(415) 969-3700, Ext. 221

Netway 1500
Hardware to connect AppleTalk networks to other networks or to mainframe computers. The system allows individual workstations to appear as native terminals to each host. Call or write for more information. Announced price for the system, $6,500

TouchStone Software Corporation
909 Electric Avenue, Suite 207, Seal Beach, CA 90740
(213) 598-7746

MacLine
The Macintosh-specific software in a trilogy of programs to allow file transfers, over a network, between IBM PCs, Macs, and Unix-based computers.

When used with PCworks or Unilost software (for PCs or Unix computers respectively), information can be converted from Macintosh format to a format compatible with MS-DOS or Unix systems. $145

MacLine
Winterhalter, Inc.
3853 Research Park Drive, Box 2180, Ann Arbor, MI 48106
(314) 662-2002

DataTalker/Mac 3270 emulation
Software emulation to allow the Macintosh to fool mainframes into believing that Mac is really an IBM 3271/3277, 3274/3278, 3275, or 3276/3278 interactive terminal system. Macintoshes may be connected to the mainframes via modems, or locally with modem eliminators or limited distance modems. The protocol, it says here, is bisynchronous.

Transmission may be either ASCII or EBCDIC. Other controller characteristics include audible alarm, control unit, device addresses, and user-modifiable transmission parameters. The Macintosh screen will display 1,920 characters in twenty-four lines. 3270 status indicators are also displayed on-screen. All 3270 function keys are supported. $1,095
Printers are a lot like modems. Both are peripherals, both connect to serial ports, both operate at baud rates, both translate information from one form to another form, both are expensive, and both are complicated feats of engineering.

Do you enjoy simplicity? Buy an Imagewriter, plug it in, and print. Go on to the next chapter.

We tried.

It is true that most serial printers work with Macintosh, if you have the proper cable. In that respect, again, printers are like modems: Get the proper cable and it'll probably work. But unlike modems, printers for Macintosh have to deal with Mac's graphic view of the world.

This is not an easy task. To the Imagewriter, and to Macintosh, everything is graphics. Pictures are graphics and text is graphics. You may think that the letter you just wrote to Auntie Mae—the one with the boldfaced, underlined, and shadowed words—was text, but it wasn't; it was a graphic picture. The Macintosh took your keystrokes and transformed them into a graphic image. To us, it looks like words; to the Macintosh and Imagewriter, it's just another picture.

There's elegance in this approach. Macintosh treats everything exactly the same. The Mac is finely tuned to create pictures, and the Imagewriter is finely tuned to print pictures. If you're using "standard quality" mode, the
printed image is tailored to closely approximate measurements on the Macintosh screen. “High quality” doubles the resolution of that text, at a cost in printing speed.

Apple engineers spent much time making the Macintosh and ImageWriter a closely paired team.

With other printers, it’s a different story. Some printers are termed “letter quality.” Like typewriters, they have prinheads of fully formed characters that strike the page. The “A” you get is the one on the printhead. Want a different “A”? Get a different printhead. (It’s now time to lay the phrase “letter quality printing” to rest. The ImageWriter does letter quality printing—with imagination, readability, and flexibility. And what about the LaserWriter? Is that letter quality? The issue is absurd. The phrase, like the typewriters that spawned it, is antiquated. The new phrase is “typeset quality.” From now on, we’ll be hearing, “But is it a typeset quality printer?” Time marches on.)

Those typewriter-like printers are still around, though. Maybe you want one. Maybe you need one for work. Maybe the law firm of Schumacker, Smith, and Shendelman likes legal briefs to look typed and never needs MacPaint graphics. That’s fine; we’ve included a few of those printers in this chapter. From most, though, don’t expect anything but text, in only a few typefaces (unless you want to buy more printheads).

Some of the typewriter-like printers try to print graphics, usually by attempting to use the period (.) to represent individual pixels. Some do a better job at this than others, but none can match the graphic output from the ImageWriter or LaserWriter.

Then there are dot-matrix printers. Like the ImageWriter, they make text and graphics by controlling pins on a printhead. The pins are “fired” into the printer ribbon as the printhead travels across the page. The rule here, roughly, is, the more pins, the sharper the text. More pins yield more dots per inch. More dots per inch means more dots available to form characters. The ImageWriter has nine pins. Nine isn’t a huge number, but the ImageWriter makes up for it in high quality mode by taking two passes to create a single line of text.

Non-Apple printers often have more pins. The Toshiba, for example, has twenty-four pins. These printers often shine in “correspondence quality” mode. The term is similar to what Apple calls draft; but with more pins, the output is clean, legible, and deserves better than being called draft.

More dots per character produces sharper-looking characters. A “y” looks more like a “y.”

If the tail of the “y” curls seductively under the baseline, and if the width of the “y” varies within the letter itself (as it does on this page), you can be sure that many dots were gainfully employed. The ImageWriter is capable of 72 dots per inch. The LaserWriter does about 300 dots per inch. Phototypesetting machines—used for books and magazines—deliver 1,000 or more dots per inch. That’s the upper limit. You’ll never see those individual dots.

If you want “plain text” that looks good and don’t mind correspondence quality printing, you might be happy with a non-Apple printer. But if you want shadows or outlines, be wary. Even though other printers
take a stab at duplicating the Imagewriter’s high quality output, none that we’ve seen can duplicate or exceed the Imagewriter’s print quality. None. Not counting the LaserWriter.

Unfortunately, the Imagewriter is a pricey item. Other printers can be had for much less. They won’t print as well, but they will print in draft mode, and print dependably.

If you don’t need fancy printing, try out a few of the inexpensive printers. Be prepared to set lots of DIP switches. Be prepared to study extremely technical manuals full of references to “escape sequences” and hexadecimal equivalents. Want to make that Japanese printer do a “half line feed”? No sweat; it’s “ESC U,” better known as hex 1B 55.

Then again, the Imagewriter is styled to match the Macintosh. An important consideration.
Dot-Matrix Printers & Related Software

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 539-9696; (800) 662-9238 or (408) 996-1010 in California

Imagewriter
The printer of choice for choosy people. The one printer that should work with every Macintosh application. The Imagewriter isn't the fastest printer or the quietest printer, but it's dependable, and service is widely available. We recommend purchase of an Imagewriter printer.

The Imagewriter prints using a 7 x 9 dot matrix at a top speed of 120 characters a second—a speed you'll never see unless you plan on using draft mode. The Imagewriter accepts both single sheet and tractor feed paper.

If your work involves printing spreadsheets, large MacDraw documents, or other large and nonstandard papers, consider the wide-carriage Imagewriter. Like the standard model, the wide-carriage Imagewriter can accept paper a minimum of 3 inches wide, but the wide version also handles paper up to 15 inches wide. Standard Imagewriter, $595; wide-carriage Imagewriter, $749

LaserWriter
A printer that may spawn a revolution. The LaserWriter, essentially, is a Canon copier coupled with a souped-up Macintosh. The entire computer—68000 processor, two megabytes of memory, interfaces, and more—is inside the LaserWriter "box." A sophisticated programming language designed for graphic imaging—PostScript—is also tucked inside the LaserWriter.

The LaserWriter produces near-typeset quality printing at a fraction of the cost of phototypesetters, which can run $50,000 and up. The LaserWriter comes with Times Roman, Helvetica, and Courier fonts installed in ROM memory. Additional fonts are expected to become available from Apple and other vendors.

Any Macintosh font can be easily printed on the LaserWriter, but for the very best look, you'll want the best fonts available. Macintosh fonts are stored as dots on a grid; LaserWriter fonts are stored as outlines. This makes scaling fonts and changing styles faster and better with a LaserWriter.

The LaserWriter is an integral part of the AppleTalk network. It's not possible, in fact, to use the LaserWriter without using AppleTalk, even if "hooking into AppleTalk" merely means running just one AppleTalk cord from your Macintosh to the LaserWriter. That setup is a network. Just a very small network: one computer, one LaserWriter.

The LaserWriter is expensive, but only in comparison to other computer printers. In comparison to the machines it competes against, it's a bargain.

Expect the LaserWriter to make great changes in the self-publishing industry. $6,995

DataPak Software, Inc.
14011 Ventura Boulevard, Suite 401,
Sherman Oaks, CA 91423
(818) 905-6419

Printer Interface for the Macintosh
Software promoted as a "completely 'transparent'—all Macintosh software works" printer interface. Includes interfaces
that, according to the manufacturer, allow Macintosh to use Qume, Epson, Smith Corona, NEC, Okidata, C. Itoh, and Siemens printers, among others. $59.95

Dresselhaus Computer Products
837 East Alosta Avenue, Glendora, CA 91740
(818) 914-5831

All You Need printer interface
All the necessary parts to use an Epson FX-80 printer with Macintosh. The All You Need interface consists of a circuit card that plugs into a socket inside the FX-80 and a 5-foot cable that plugs into the Macintosh printer port. Also includes a set of special Finger Print chips for the FX-80 that allow it to properly interpret Macintosh printer codes. $99.95

Epson America, Inc.
2780 Lomita Boulevard, Torrance, CA 90505
(800) 421-5426, (213) 539-9140 in California

Epson printers and Epstarr software
Epson is a success. Epson printers are popular, reliable, and competitively priced. Their biggest corporate boost came when they were selected by IBM to bear the IBM name and become the official IBM Personal Computer printer. The IBM dot-matrix printer was a virtual duplicate of the Epson MX-80 printer. Epson has since added RX-80 and FX-80 printers that are much the same but faster.

Because of IBM’s blessing, there are now Epson (or IBM) printers everywhere. ComputerLand and most other computer chain stores carry Epson printers. They’re everywhere.

As a consequence, the Macintosh-Epson connection was a natural. Here’s how it works. You buy an Epson printer (make sure it’s a serial version), then buy the Epstar software (developed by SoftStyle and marketed by Epson). Copy the Epstar software onto your application disks, plug in the Epson, line up the tractor feed paper properly (this can take forever—one of the Epson’s most annoying design flaws), and start printing. Epstar allows all Macintosh-compatible programs to print on the FX-80.

Here’s the advantage: Epson printers are less expensive than Imagewriters and are often sold mail-order for less still. And used Epson printers are common. You can save a lot of money by choosing an Epson. Here’s the disadvantage: The Epson’s print quality isn’t as good as the Imagewriter’s. Close, but not as good. The Epson is quieter than the Imagewriter (a plus), but most people will put up with the noise for the increased quality. Try each and decide: more bucks or lesser print quality?

Hanzon Data, Inc.
18732 142nd Avenue NE, Woodinville, WA 98072
(206) 487-1717

Hanzon 12319 Universal Interface Card
A circuit card that fits into an Epson printer and enables the printer to be used with a Macintosh, Mac XL, or Apple IIe. In “Apple mode,” the Hanzon card checks incoming data for the control codes used with the Imagewriter and converts them into the equivalent codes for an Epson MX, FX, or RX printer. $129.50

Hanzon 12319 Universal Interface Card

Okidata
532 Fellowship Road, Mt. Laurel, NJ 08054
(609) 235-2600

Okidata Microline 92 and Microline 93
Two popular printers, newly outfitted to work with Macintosh. The printers include a factory-installed option that enables them to produce “correspondence quality text and high-resolution graphics.” We haven’t seen these printers, but suspect that they do indeed print in correspondence mode, but aren’t capable of printing the full range of boldface, italic, underline, outline, and shadow text.

The Okidata Microline 93 is a wide-carriage version of the Microline 92. Microline 92, $569; Microline 93, $869
Toshiba America, Inc.
2441 Michelle Drive, Tustin, CA 92680
(714) 730-5000

Pl340
A fast, high-resolution dot-matrix printer that's well supported. Microsoft Word works well with it, ProPrint has it on the menu for printer selection, and most Macintosh programs should access it handily. The twenty-four-pin Toshiba delivers a fast, correspondence print quality that looks good: sharp and clean. The printer is capable of boldface and other print attributes, but—and this is a big but—it won't print attributes with Macintosh. The printer is willing, but the software hasn't been written to access the features.

The P1340 comes with printer driver software that works with MacPaint and MacDraw, but it prints graphics extremely slowly. The graphics look great, but the Toshiba takes forever (compared to an Imagewriter) to print them. Toshiba is working on new drivers to get the P1340 up to speed on graphics. $995

Mac Daisywheel Connection
writer series, the Qume LetterPro, and the Qume Sprint 11. An adapter cable is also available for Diablo printers and the CII Daisywriter.

The software contains two programs: Set Printer and Daisywheel Connection. Set Printer modifies the Macintosh Imagewriter driver to support daisy-wheel printers. The program modification also allows Macintosh to use wide-carriage printers. Daisywheel Connection, the second program, enables MacWrite to deliver justification and print attributes to daisy-wheel printers. $99

Creighton Development, Inc.
16 Hughes Street, Suite C-100, Irvine, CA 92714
(714) 472-0488

ProPrint
A software program that enables Macintosh to use some letter quality printers. The printer must be serial; if it's not, ProPrint (and similar software) must be used with a print buffer to make the switch from serial to parallel. ProPrint supports more than thirty-three popular printers: most well-known letter quality printers, the Hewlett-Packard LaserJet, and six dot-matrix printers, including the Imagewriter, C. Itoh 8510, and the Epson/IBM dot-matrix printer.

Installation is easy: Double-click the ProPrint icon and, in most cases, click the button in the Choose Printer window. If your printer isn't among those listed, you can use another menu to set printer baud rate (speed), protocol (hardware or XON/XOFF), character pitch, proportional printing, paper size, lines per inch, and continuous or cut sheet feed. Control characters may be filtered, and up to 999 copies of each document may be printed.

ProPrint supports boldface, underlining, superscripts, subscripts, tabs and decimal tabs, proportional spaces, line justification, headers/footers, and page breaks. One of ProPrint's best features is its ability to "queue" a number of files for printing, one after the other. The files are selected from the directory, then placed in a Files to Print window. After Start Printing is selected from the menu bar, the files are printed in sequence, and each filename is listed in a Files Finished window after printing. The printing of individual files, or the entire queue, may be aborted.
The manual is clear and provides DIP switch settings for seventeen printers in an appendix. Included in the ProPrint package is a printer cable that can be used with all printers that accept a standard DB-25 connection.

An important caution: As this book was being prepared, ProPrint did not work with Microsoft Word files. Changes to enable ProPrint to handle Word documents were planned but hadn’t yet been made. Check first if you use Word. $99

Intrepid Technologies
P.O. Box 31211, Santa Barbara, CA 93130
(805) 685-6770

LetterWare
Software that enables any application program capable of draft printing to output to a letter quality printer. Supports all popular daisy-wheel printers. Includes a cable, which plugs into either the serial port or the modem port. Supports underlining, boldface, superscripts, subscripts, and proportional spacing. Documents must be converted to Monaco 12-point before printing. $99

NEC Information Systems, Inc.
1414 Massachusetts Avenue, Boxborough, MA 01719
(800) 343-4419, (617) 264-8635 in Massachusetts

Spinwriter/Macintosh Connection
An accessory kit to allow NEC Spinwriter printers to be used with Macintosh. Includes a disk (and backup), interface cable, and manual. Allows selection of the 2010, 3510, or 8810 Spinwriter. $100
It seems like a con. Everyone says Macintosh is fast. The microprocessor's fast, the serial ports are fast, the screen-writing routines are fast, the ROMs are fast. Everything is fast.

So why do you spend so much time listening to disk drives grinding? Simple: The drives are slow!

They are, granted, faster than they might be. They spin faster than other drives, but they're still slow in comparison to other Macintosh hardware. It's all the result of Apple's cleverness—always something to reckon with. The Macintosh uses a special chip called an “IWM.” The initials stand for “Integrated Woz Machine.” Woz stands for Steve Wozniak, co-founder of Apple and creator of simple, clever circuits for controlling disk drives.

Disk drives need to be controlled. Good engineers control them with a few, inexpensive chips. This lowers manufacturing price and helps stockholders get dividends.

Apple, more or less, stuck everything needed to handle the drives on one chip—the IWM. A great solution from a manufacturing and reliability standpoint. Not the best solution for maximum disk speed.

The drives slow performance for other reasons. Apple wanted a machine that could run sophisticated programs in a mere 128K. And a machine that required only the internal drive. How to do it? Simple: Keep much of the necessary data on disk, not in main memory. Need a new font in MacWrite? Go get it from the disk! How about a listing of disk files? Get it from the disk! Dialogs? Leave 'em on the disk!

This presents tough choices for designers. Everything eats into RAM. The Finder, an application program in its own right (when you think about it), takes up about 16K of RAM. A buffer to hold the screen display takes another 22K. A “K” here, a couple of “K” there, and pretty soon you're talking real memory. After everything chips away, there's about 80K left for programs. (Still enough, though. The ROMs include a Segment Loader that allows programs to be divided into 32K segments. The segments are swapped in or out, when needed, from—you guessed it—the disk.)

That's why you're always listening to disk melodies. Annoying tunes, with endless variations.

Hard disks are a way out. No more waiting for endless seconds while MacWrite whirs to life. No more coffee breaks after selecting Show Page
HARD DISKS

in *MacPaint*. Hard disks are fast. Very fast. The drive platters in hard disks spin 3,000 times a second or faster. By comparison, Mac floppies revolve 360 to 600 times a second. In real life, a hard disk cuts the time for most disk operations in half or in third. Instead of waiting thirty seconds to load *MacWrite*, you wait ten seconds.

A grand improvement. Life is for computing, not for waiting.

Increased storage is another reason for hard disks. Floppies offer about 400K of room. Throw on System files and things get tight; a scanty 200K or so remains. Hard disks range from 5,000K to 45,000K or more. Millions of bytes, yours for the filling. Enough for monster database files, all the clip art you want, or huge System files stuffed with funny fonts.

Some hard disks also allow print spooling. You compute in the foreground while the printer keeps printing "in the background." A blessing, and worth the noise. Some hard disks even have printer ports to replace the port lost by plugging in the hard disk. Some, instead, use the external drive port. Gain a hard disk, lose an external drive.

Now the bad news. Macintosh isn’t designed for hard disks. You can use them, but it’s an effort for hard disk designers, and for you.

Think of it as a partnership to circumvent Apple. No one said life in the fast lane was easy.

The problem is the Finder. The Finder handles files. It works fine with one drive or two. It handles twenty files gracefully. It manages fifty files with little strain. It wheezes and groans with eighty files.

When asked to handle more than 128 files on a 128K Macintosh, it dies.

With a twenty-megabyte hard disk, you will—believe us—have more than 128 files. Too bad it can’t be done.

But of course it can. It just takes trickery. Computers are easy to trick. Programs do it all the time. The hard disk trickery involves creating "logical volumes."

Logical volumes are the counterpart of "physical volumes." A physical volume is an ordinary floppy disk drive. It exists, you can see it, it’s physical. Real.

A logical volume is a trick. An area on a hard disk that seems—to Mac ROMs—like a physical volume. It acts like a drive, it feels like a drive, it must be a drive! The ROMs, being simple-minded, treat logical volumes just like physical volumes. The volumes get icons; files reside in the icons; and copying, reading, writing, and cleaning up behave in expected ways. Each volume contains only a manageable number of files. Make a logical volume the "default disk" (by holding down the Option and Command keys while double-clicking the Finder) and the computer returns to the System file (if there is a System file) on the logical volume for fonts and desk accessories. Life is peaceful.

Computers are easy to fool.

All this foolery, though, takes effort. All hard disks come with special software. In most cases, the software includes a "volume manager." This allows you to partition the disk into logical volumes. Usually, you get to decide how many volumes to create, how large each will be, and (some-
times) how many "blocks" should be allocated for each file (hard disks run faster when seeing files in predetermined chunks). You must choose wisely—not too many volumes, not too few. Volumes should be large enough to be handy, but not too large; the Finder is lurking, waiting to ruin your day.

Getting fun, isn't it? If you've had enough, look in the Peripherals chapter for lowly add-on floppy drives.

Still here? Okay: After you've set up your logical volumes, you've got to consider "mounting." Mounting is what happens automatically when you shove a disk into Macintosh. The computer thinks, "Ah! A disk!" and proceeds to read the directory and do other binary things. If another disk is mounted (in the external drive, say), Macintosh reads that disk, also. You mount, it reads. The Finder swells with information.

Because logical volumes can't be easily inserted, hard disk software has you mount using various methods—sometimes with a "mount manager" application, sometimes using a special dialog box.

Well, that's easy enough. Now mount a few logical volumes. Five or six, say. Maybe eight.

You guessed it: "Serious System Error."

This can be avoided, but it takes thought and caution. Not having too many volumes on-line at once, for example. And making sure that the proper volume is the default (or "root") volume. It's not as difficult as doing your taxes by hand, but it's harder than you might imagine. Certainly harder than you'd wish it to be.

Is a hard disk worth the trouble? You bet. After you've suffered through strange hard disk software, you'll grow to love hard disk speed. You'll be spoiled. Your programs will fly; your saves will zip. Microsoft Word will breeze through 40K files. You'll download massive documents with the greatest of ease. Thirty seconds will seem like an eternity. You'll love it.

Apple will eventually simplify things. A new Finder is being written to handle more files with fewer complaints. Until then, you'll need more new concepts than "the rest of us" would prefer.

Or a 512K machine. Many hard disk problems disappear (or are somewhat softened) with 512K of RAM. Some people say, "Upgrade first, then get the hard disk." Good advice, but good advice is easy, especially when the advice is, "Spend more and everything will be fine."

Two more decisions: which hard disk to buy, and what size? Well, the Davong is fast, an important plus. We are talking hard disks here, after all. The Quark is also faster than most drives, but gains speed at the expense of usurping the external drive port.

The HyperDrive is simply wonderful. Still, the HyperDrive is a new product, and it hasn't yet been jostled by baggage handlers or spun for months on end within the Macintosh. Once it's inside your machine, you're stuck with it. But it's wonderful.

Size is a simpler matter. Decide how much storage capacity you need (a good computer store can help), then double the figure. Better yet, triple it. Need ten megabytes? Get thirty; you'll use it.
Don’t buy a five-megabyte drive. Only wimps buy five-megabyte drives. Would you buy a car with a five-gallon tank?

As always, pick a reputable dealer. Ask about service. Ask about help. Ask if the company has been in business longer than a week.

Expect a few more drives besides those listed here. Tallgrass and various other well-known manufacturers will soon introduce hard disks for Macintosh.

Someday, your grandchildren will probably say, “Tell us about the old days. What was a ‘volume manager,’ anyway?”
HyperDrive

One of the most talked-about peripherals for Macintosh. Does other hard disks one better. This one is a 10-megabyte hard disk that mounts inside the Macintosh (yes, there really is room). This allows the hard drive to tap directly into the Macintosh “bus” instead of using the slower serial ports for access to the machine. The increase in speed is dramatic. While most hard disks are two to three times faster than conventional Macintosh floppies, the HyperDrive is about seven times faster than other hard disks! And you don’t lose any serial ports. Awesome thoughts.

To handle the extra heat produced by the hard drive, a heat-controlled fan is part of the package. When the Macintosh gets warm, the fan comes on.

The drive uses a partitioning scheme similar to those employed by other hard disk manufacturers—dividing the drive into small, virtual volumes. General Computer calls them “drawers.”

Switch on the Macintosh without disks in any drive and the HyperDrive automatically boots from the hard disk. Boot with a disk and you’ve got a fully functional 512K machine; the hard disk sleeps until you wake it.

The HyperDrive we received was dead on arrival. That is, the hard disk was inoperative; other than that, the Macintosh functioned fine. For about four hours. Then the screen went “pop” and the machine went dead. We packed the HyperDrive up and sent it back to General Computer.

When it returned, it worked fine. And fast.

Cost, including expansion to 512K (required), installation, shipping, and warranty, $2,795; without the RAM upgrade, $2,195.

The drive, a double-cartridge drive, and a combination of a 5-megabyte cartridge and a 10-megabyte fixed drive.

A range of hard disks and fileservers, from 5-megabyte removable cartridges to 30-megabyte fixed drives. The Pro series includes three fixed drives: 10, 20, and 30 megabytes, which may be partitioned into volumes. Volumes may be password-protected. The SQ series is based on 5-megabyte removable cartridges. The series includes a single-cartridge drive, a double-cartridge drive, and a combination of a 5-megabyte cartridge and a 10-megabyte fixed drive.

The Keeper connects to the Macintosh printer port; the Imagewriter connects to the back of the Keeper. The Keeper has a built-in print buffer, so you can continue working while documents are printing. The company was finishing up software for the units as this book was being written. Also in the works are fileserver capabilities, built into the drive, for use with the AppleTalk network. Call for more information. 10M fixed, $2,195; 20M fixed, $2,695; 30M fixed, $3,295; 5M removable, $2,295; two 5M removable, $3,595; 5M removable plus 10M fixed, $3,595.

**Corvus Systems, Inc.**
2100 Corvus Drive, San Jose, CA 95124
(408) 559-7000

**OmniDrive**

Hard disks in four sizes: 5.5, 11.1, 16.6, and 45.1 megabytes. Because of current Macintosh Finder limitations, the drives are configured into volumes, each of which can hold a maximum of 128 files (though that number is pushing it). The smallest drive can hold four volumes and a total of 512 files (if all volumes are filled). The 45.1-megabyte drive can be partitioned into seventeen volumes and can hold 2,176 files when everything’s filled up—an unlikely occurrence. Transfer rate for data is 730 kilobits/second.

The drives come with a “mount manager” utility for switching between volumes and utilities for backing up onto floppies.

We used the drive for a number of weeks and found it reliable and fast. Switching between volumes was tedious, as with all Macintosh hard disks, but the drive never lost data or caused the smallest problem, despite being used heavily and treated less than gingerly. 5.5M, $1,795; 11.1MB, $2,495; 16.6MB, $3,195; 45.1MB, $4,995.

**Davong Systems, Inc.**
217 Humboldt Court, Sunnyvale, CA 94089
(408) 734-4900

**Mac Disk**

Davong makes its Mac Disk in a range of sizes: 5, 10, 15, 21, 32, and 43 megabytes. Like other manufacturers, Davong uses a disk-partitioning scheme that makes the drive appear (to Macintosh) as individual “virtual” drives. Davong includes a “volume management” utility to partition the disk into various sizes. Each drive comes with utilities to back up files onto floppy disks. Backup is flexible, allowing wildcard file selections or backup of files changed since last backup. Another utility optionally “parks” the drive head over an unused track, preventing damage to the disk if power fails during use. 10M, $2,395; 15M, $2,795; 21MB, $3,295; 32MB, $3,995; 43MB, $4,495

**General Computer Company**
215 First Street, Cambridge, MA 02142
(800) 422-0101, (617) 492-5500 in Massachusetts

**HyperDrive**

The Bernoulli Box offers advantages of both floppies and hard disks, but is neither. The box accepts 5-megabyte removable cartridges and offers speed comparable to hard disks.

This isn’t a glamorous product. The advantage of Bernoulli Boxes is dependability. Many users swear by them. They work reliably and well. $1,995; additional 5-megabyte cartridges, $59.

**Iomega Corporation**
1821 West 4000 South, Roy, UT 84067
(800) 556-1234, Ext. 215; (800) 441-2345, Ext. 215, in California; (801) 776-7330 in Utah

**Micro-Design**
6301 Manchaca Road, Austin, TX 78745
(800) 531-5002, (512) 441-7890 in Texas

**The Keeper**

A range of hard disks and fileservers, from 5-megabyte removable cartridges to 30-megabyte fixed drives. The Pro series includes three fixed drives: 10, 20, and 30 megabytes, which may be partitioned into volumes. Volumes may be password-protected. The SQ series is based on 5-megabyte removable cartridges. The series includes a single-cartridge drive, a double-cartridge drive, and a combination of a 5-megabyte cartridge and a 10-megabyte fixed drive.

The Keeper connects to the Macintosh printer port; the Imagewriter connects to the back of the Keeper. The Keeper has a built-in print buffer, so you can continue working while documents are printing. The company was finishing up software for the units as this book was being written. Also in the works are fileserver capabilities, built into the drive, for use with the AppleTalk network. Call for more information. 10M fixed, $2,195; 20M fixed, $2,695; 30M fixed, $3,295; 5M removable, $2,295; two 5M removable, $3,595; 5M removable plus 10M fixed, $3,595.
Paradise Systems, Inc.
217 E. Grand Avenue, San Francisco, CA 94080
(415) 588-6000

Paradise Mac 10
Another stylish hard disk drive. Maybe the traditional hard disk makers should pay attention. Maybe this is a trend. The Paradise unit includes an extra serial port—lose one, get one.

Although we got only a glance at this drive, it seemed to handle large numbers of files better than other hard drives. Worth a look, if you can find a dealer that carries the product.

The Paradise Mac 10 will be available (we're told) in the summer of 1985. $1,495

Quark Peripherals
2525 West Evans Avenue, Suite 220, Denver, CO 80219
(800) 543-7711, (303) 934-2211 in Colorado

QC10 and QC20
Ten or 20 megabytes for use by the Macintosh, Apple II, IIC, or III—any combination of Apple computers. In theory, a QC hard disk can be set up as a single 10 (or 20) megabyte volume. (Or, as with other hard disks in this section, you can configure the total 10 or 20 megabytes into smaller volumes.) When the hard disk is divided into volumes, each volume can contain a different operating system and be dedicated to a different computer. In the QC10, for example, 5 megabytes could be dedicated to ProDOS and an Apple II computer, and 5 megabytes could be reserved for the Macintosh.

The QC connects to Macintosh's external drive port, so you can't use an external floppy when the QC is connected (you can, however, use a modem). Each volume, optionally, can be password-protected to limit access.

We found the drive to be fast and dependable. Recommended. QC10, $1,995; QC20, $2,595

Personal Computer Peripherals Corporation
6204 Benjamin Road, Tampa, FL 33614
(800) 622-2988, (813) 884-3092 in Florida

MacBottom
A hard disk that incorporates a number of good ideas. MacBottom is the size of the Macintosh footprint and fits under the Macintosh. The hard disk weighs 5 pounds, holds 10 megabytes, includes a print spooler, and has a transfer rate, we're told, of “more than 700 kilobaud.” MacBottom plugs into either the printer port or the modem port, and you can have up to six volumes on-line at once. An automatic turn-on feature requires no extra switches and prevents the unit from being inadvertently left on. In all, a smart-looking hard disk drive that may give the big guys a run for the 10-megabyte market. Or, it may end up on, ahem... $1,595

Tecmar, Inc.
6225 Cochran Road, Solon, OH 44139
(216) 349-0600

Tecmar was the first vendor to market hard disk drives for Macintosh. They were also the first to receive extremely negative reviews. The reviews were justified; the software released with the drives was bad: Finder and 128K memory limitations weren't taken into account. The drives were unpredictable, and crashes and unpleasant dialogs were a frequent occurrence.

Tecmar has since released a 2.00 version of their hard disk software. Things are better now. The new software allows up to twenty partitions (volumes) within drives. Files are no longer artificially "bloated" into minimums of 10K, as before. Now, if the letter you put on the hard disk is 1.3K, it'll be 1.3K on the hard disk. The new software also allows optional print spooling, a feature that lets you continue to compute while the printer grinds away.

The Tecmar disks plug into the Macintosh printer port. A printer port at the rear of the hard disk replaces the port you lost. A welcome feature.
MacDrive 5-megabyte removable hard disk
In theory, maybe the way to go. The unit uses removable cartridges, each with a capacity of 5 megabytes. The cartridges are about $100 each. Slip in a cartridge, enjoy the benefits of hard disk speed and size, then slip it out and slip in another cartridge. You'll never run out of hard disk space, if you have enough cartridges.

In practice, though, the system is not ideal. Hard disk cartridges have received bad press; they're reported to be unreliable sometimes. Sometimes is too often. $1,995; hard disk cartridges, $120

MacDrive 10-megabyte fixed hard disk
A traditional, fixed hard disk. $1,995

MacDrive 10-megabyte fixed hard disk and 5-megabyte removable hard disk
This one's a combination of the two drives described above, in a single unit. $3,290

MacDrive 5-megabyte removable hard disks (two)
This one is a double-stack of two removable cartridge drives. $3,290

MacDrive 5-megabyte removable hard disk upgrade kit
Adds a 5-megabyte removable cartridge to a fixed 10-megabyte Teomar drive. $1,295
“Where does this go?”
“What is it?”
“An external drive.”
“A hard disk? Goes in the Hard Disks chapter.”
“No. Not a hard disk. An external drive. Like the internal drive, but outside.”
“Peripherals chapter. It’s a peripheral.”
“What about printers?”
“They go in the Printing chapter.”
“But printers are peripherals!”
“I know, but we’ve got a printing chapter. Printers deserve a separate chapter. We’ve got dot-matrix printers, letter quality printers, printer cables, and software. Gotta have a chapter for printers.”
“External drives don’t get a chapter?”
“How many are there?”
“One. Well...two if you count the Apple external drive. And maybe one from a company in Texas. Maybe.”
“Goes in Peripherals.”
“Okay. But what’s a peripheral?”
“Anything that’s not an accessory.”
“What’s an accessory?”
“Anything that’s not a peripheral.”
“Thank you.”

Put another way, everything in this chapter is a peripheral, but not all peripherals are in this chapter.

A traditional definition of a peripheral reads something like this: “A peripheral is something that’s electronic, plugs into a computer, and costs more than anyone would guess.”

Maybe that’s not a traditional definition of peripherals. Maybe it’s “accessories with cables”?

Whatever peripherals are, it’s (once again) Apple’s fault. Apple made a wise decision by eliminating slots in the Macintosh. No slots, no opportunities for confusion. Everything would be standard; all software would run on all machines. No funny circuit cards to contend with.

Apple’s mistake—a big one—was putting output ports at the back of the Macintosh. A foolish decision (probably a marketing decision; all the mistakes come from marketing).
Put ports on a computer and you’re asking for trouble. Take the disk drive port, for example. It’s for the external disk drive, right? Wrong: Some companies plug a hard disk into that port! Or the modem port: It’s for a modem, isn’t it? Not necessarily; Microsoft wrote *Word* to handle two printers—one plugged into the printer port, the other plugged into the modem port. It’s possible to have both a dot-matrix and a letter quality printer connected at once. You can switch between one printer and the other from within *Word*. Some people, we suppose, call that convenient.

Printer and modem ports can be abused in many ways. A few companies offer “digitizers” for Macintosh that plug into—you guessed it—the serial ports. A digitizer is a camera that takes a picture, converts it into a “digital image,” and feeds it into Macintosh. The image can be used by *MacPaint* or other programs, thrown into a report, or slammed into a letter to the judge.

Those ports were a mistake.
Another mistake was the “audio out” jack (or whatever it’s called). That’s asking for trouble. Macintosh already has a speaker. With that plug, it was only natural that some company would introduce an external speaker! Worse yet, Intermatrix uses the jack to plug in a telephone!

An entire telephone! Can you believe it?

Even the lowly power cord connector is unsafe. A group of capitalists came along with a “control center.” It sits between the Macintosh and the wall plug. It has surge suppression, power filtering, and buttons on the front that let you control a number of—ahem—peripherals: printers, modems, even a table lamp, if that’s your thing. The Kensington Control Center has a power cord that plugs into Macintosh. The Apple cord isn’t even needed anymore. You can put it in mothballs.

Ports were a bad idea.
Parents with beautiful, sexy teenagers must know the feeling. Nothing is safe. A good-looking peripheral comes along and—well, this is a family sourcebook. Anyway, it’s a mine field out there.

Still safe—about all that is safe—is the jack where the keyboard plugs into the Macintosh. It’s still safe. For now, anyway.

“Where’s this go?”
“What is it?”
“A musical keyboard. The Sound & Animation chapter?”
“Ah...Peripherals, I guess.”
“Okay. What about this: an electronic disk case.”
“Accessories.”
“But it’s electronic! It plugs into the keyboard port!”
“Then it’s a peripheral. Throw it in with the digitizers.”
“But——”
“Peripherals.”
Input Devices

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or (408) 996-1010 in California

Numeric keypad
For serious number-crunching, you'll appreciate a numeric keypad. In addition to the standard keys, Apple's keypad includes a set of field motion keys that let you navigate within cell-based applications such as Multiplan. The keypad connects between the Macintosh and the keyboard; it's convenient for both left-handed and right-handed users. It weighs 2 pounds and measures 6 x 4 inches. $99

Assimilation, Inc.
485 Alberto Way, Los Gatos, CA 95030
(800) 622-5464; (800) 421-0243 or (408) 356-6241 in California

Mac Turbo Touch
A trackball-like device that plugs into the mouse port and replaces the Macintosh mouse. According to its maker, the Turbo Touch covers the same ground as the Macintosh mouse in one-third the time and one-fourth the desk space, reducing the time it takes to edit a document by 40 percent. That is, once you're up to speed on it.

Maneuvering the Turbo Touch is tricky at first. The ball has a smoother, more sensitive feel than the Macintosh mouse and the mouse button is in a new place. But in the hands of experienced users, the Turbo Touch flies.

The Turbo Touch attaches to either side of the keyboard; there's a button on either side to accommodate both lefties and righties. The company is also developing a product that combines a Turbo Touch with a numeric keypad.

If you're adventurous, try both the Turbo Touch and the A+ Optical Mouse from Mouse Systems. Either device will make your faithful mouse feel like a clunker. $129

Computer Identities Corporation
5 Shawmut Road, Canton, MA 02021
(600) 622-2633, (617) 821-0930 in Massachusetts

Mac-Barcode System
The Mac-Barcode System generates and reads bar code labels of the sort found on canned food, magazines, software packaging, and thousands of other products. The system includes Mac-Barcode software, which generates bar code labels, and Scanstar-Mac, a decoding unit that reads and distinguishes six of the most commonly used bar codes without requiring users to set external DIP switches. Bar code labels are printed using the ImageWriter. Bar code information is read with a heavy-duty, stainless steel light pen supplied with Scanstar-Mac. A digital light pen, handheld laser scanner, and slot reader are also available.

The system is targeted at businesses that want to monitor inventory control, filing, work in progress, point-of-sale operations, security, and training. Labels meet the requirements of the automotive, health care, food processing, and packaging industries, as well as those of the Department of Defense's LOGMARS program. See the Special Interest Software chapter for a closer look at Mac-Barcode, Mac-Barcode, $395; Scanstar-Mac, $600
Mac-Barcode System

Mouse Systems Corporation
2336-H Walsh Avenue, Santa Clara, CA 95051
(408) 988-0211

A+ Mouse
Another mouse for Macintosh. Unlike the mechanical Mac mouse, the A+ version is optical. It requires a special pad that's covered with a grid pattern. The mouse senses movement by bouncing light from a diode off the grid and back into a photosensitive cell in the mouse. Plug it in, flip it over, and there's the diode: a small, red light ready to turn lines into pointer movements.

Why do you need an optical mouse when Macintosh comes with its own mouse? Well...you don't. But the A+ Mouse is flatter, lighter, smoother, quieter, and more sensitive (some may say too sensitive) to movement than the Macintosh mouse. And, because there's no ball to clean, the A+ Mouse is maintenance free. After using an A+ Mouse we found it hard to go back to Macintosh's own. Test-drive both mice and see which you prefer. $99

Oberon International
5525 McArthur Boulevard, Suite 630, LB48, Irving, TX 75038
(800) 262-3766, (214) 257-0097 in Texas

Omni-Reader
The Omni-Reader is an optical character reader—a potentially impressive product. Place a sheet of paper on the device, slide the scanner over a line of text, and the text is transmitted into the application program running on your Macintosh. If it works.

The Omni-Reader looks, to Macintosh, like a modem. Baud rates of 300 to 9600 baud are switch-selectable on the unit's rear panel. Although specialized software isn't yet available, the Omni-Reader can already produce straight ASCII "text-only" text for input into programs, the manufacturer claims.

We were uncertain about this product. At first, it seemed to be a godsend. Then, other reports came in. Reading text optically is a tricky feat; the Omni-Reader, it seems, can't read as well, and as accurately, as its makers claim. We recommend caution with this product, and a thorough test of its claimed capabilities before purchase. It might be what you want. Make sure it is, and that it performs as advertised, before making your purchase.

The Omni-Reader can also be used with other computers, provided they're equipped with RS-232 ports. $499
Summagraphics Corporation
777 State Street Extension, P.O. Box 781,
Fairfield, CT 06430
(203) 384-1344

MacTablet
MacTablet is a professional-quality drawing aid that makes tracing and entering photos, maps, pictures, and detailed drawings as easy as pulling pen to paper. MacTablet consists of a 6 x 9-inch graphics tablet, a drawing stylus, and installation software (you'll need to install MacTablet as a desk accessory on your application disks). Materials traced can be as thin as a single sheet or as thick as 1/2-inch. MacTablet plugs into either the modem port (recommended) or the printer port, so you can use MacTablet without unplugging the Macintosh mouse. The manuals are clear, simple, and good humored. $495

TPS Electronics
4047 Transport, Palo Alto, CA 94303
(415) 856-6933

PC-380 Bar Code Reader
The PC-380 Bar Code Reader has been designed specially to interface with Macintosh. The unit incorporates a microprocessor, which eliminates the need for any external software. It connects to the Macintosh keyboard; when a bar code is scanned, the unit sends the input to the Macintosh as keyboard code, simulating manual entry. This design eliminates the need for an RS-232 port and allows users to read bar codes into any software without requiring input-port patches or program changes. $795; Mac Bar Code Printing Program (prints 3 of 9 labels), $50 (with the purchase of a Bar Code Reader)

PC-580 Magnetic Stripe Reader
Reads most standard credit card formats and inputs the data to the Macintosh by way of the keyboard cable. The unit has a microprocessor, eliminating the need for external software. The PC-580 is easily connected between the keyboard and the Macintosh and doesn't affect keyboard operation. $695
**PC-680 interface**  
Converts the output of an RS-232 device into keyboard code. $595

**PC-3800 Bar Code/Magnetic Stripe Reader**  
Combines a bar code reader and a magnetic stripe reader in a compact, cost-effective unit. $995

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**Sensorbus sensory interface modules**  
These interface modules allow Macintosh to be used in a variety of data-acquisition and control applications and environments: laboratories, robotics, factory automation, and more. They provide a “network” between Mac’s RS-232 port and devices that measure pressure, temperature, acceleration, and potential (standard sensors, actuators, and output devices, for example).

There are three types of Sensorbus modules, which can be combined on a single network. The first is a general-purpose, single-channel, analog-input module. The second is a two-channel thermocouple input module (for either J, K, T, or E type thermocouples). The third module is a two-channel unit for output control of devices.

The units can be cabled together to form a network of up to thirty-two modules. Either serial port can be used to connect the modules.

Transensory Devices has just completed software for use with their hardware products. The software (which requires Microsoft BASIC 2.00) provides data acquisition and display functions. It plots, prints, and integrates data; allows “zooming” into a closer view of the data; and transfers screen plots to MacPaint files for further refinement or inclusion in other programs.

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**Output Devices**

**Applied Creative Technology, Inc.**  
2156 W. Northwest Highway, Suite 303, Dallas, TX 75220  
(800) 433-5373, (214) 556-2916 in Texas

**Printer Optimizer**  
The Printer Optimizer is a single solution to a number of printing problems. It allows using a daisy-wheel printer with Macintosh. It allows switching between two printers and two computers without changing cables. It allows use of both serial and parallel printers. Finally, it buffers output to free up the Macintosh for other tasks during printing.

The Printer Optimizer has two parallel connectors, one from the computer to the Printer Optimizer and one from the Optimizer to a printer. Since the Macintosh and Imagewriter are serial devices, a special board must be added to the Printer Optimizer to configure it for serial operation. The Opticom board adds a serial input port and a serial output port. The Opticom+ board adds a serial input port and two serial output ports. If you have an Imagewriter and a serial daisy-wheel printer, you’ll need the Opticom+ board.

A software program, called Opti-Auto, is part of the Printer Optimizer package. Opti-Auto translates MacWrite’s draft mode output into text that any daisy-wheel or dot-matrix printer can print.
Printer Optimizer

The 64K memory buffer (expandable to 256K) is most useful in draft mode printing, when Macintosh sends only characters and tab commands to the printer. Unfortunately, draft mode on the Imagewriter is unpleasant to read, irregularly spaced, and seldom used.

The buffer is less useful in high quality or standard mode printing. Here, the Macintosh translates text in its memory into bit-mapped graphics. This takes time. Meanwhile, the Printer Optimizer waits.

Printer Optimizer with Opticom board, $598; with Opticom+ board, $648; Opti-Auto program, $24.95; additional 64K memory boards, $139 each

The Systemizer

A scaled-down version of the Printer Optimizer designed for single-printer workstations. Up to fifteen computers, each with its own Systemizer, can share from one printer to as many printers as there are Systemizers in a "network." The Systemizer was on the drawing board as this book was being written. See your dealer for details and a demo. $299 (16K parallel); $369 (64K parallel); $399 (64K serial and parallel); $439 (64K serial and parallel with network capability)

Interactive Structures, Inc.
146 Montgomery Avenue, Bala Cynwyd, PA 19004
(215) 667-1713

ShuffleBuffer

A print buffer for Macintosh. Print buffers are units filled with RAM memory, similar to the RAM in Macintosh. They connect between the computer and a printer. When documents are printed, the buffer fills with information—as fast as the computer can send it—then passes the print information along to the more leisurely printer. Because RAM is fast and printers are slow, the potential savings in time is awesome; often the buffer fills in a few seconds, the computer thinks it's "done printing," and you can go back to computing while the printer chugs along at its own pace. A clever idea and a great convenience for printing lengthy documents.

Unfortunately, we had problems with the ShuffleBuffer. The problems came from the ShuffleBuffer, the Macintosh, and (probably) ourselves. First, the ShuffleBuffer wins no awards for "friendliness." We found it necessary to take off the cover and play with DIP switches, while scratching our heads over less-than-clear explanations in a very technical manual (that tries to offer instructions for various computers). There were lots of switches.

When finally (we think) properly configured, the ShuffleBuffer failed to live up to its promise. The fault here, possibly, is the Macintosh. Unlike other computers, the Macintosh streams out print information slowly. Because all printed pages are "graphic" pages to Macintosh, much of the time spent during printing is spent within Macintosh, where each page is formatted prior to printing. Only then does the information slide out the printer port.
In practice, the ShuffleBuffer does speed printing, but not by much. For impressive time savings, it's necessary to print in draft mode, where the formatting step is bypassed. Unfortunately, draft mode is rarely used with Macintosh.

In all, we can't recommend this product. For other computers, it's probably a godsend that speeds printing enormously; for Macintosh, it's not as helpful. And, given the difficulty of installation, it's not "the peripheral for the rest of us." ShuffleBuffer with 32K, $349; with 64K, $399

**Mac 488A Bus Controller**
The Mac 488A Bus Controller connects to the Macintosh serial port and controls up to fourteen IEEE 488 bus instruments, such as digital voltmeters, digital counters, and data acquisition systems.

The IEEE 488 bus is a standard interface used in laboratories and production applications to control instruments; over 2,000 different IEEE 488 bus instruments are available from such manufacturers as Hewlett-Packard, Fluke, and Dana. The Mac 488A allows the Macintosh to communicate as a peripheral with other 488 bus controllers.

Simple high-level commands sent from the Macintosh to the Mac 488A are converted into 488 bus protocol; responses from devices are returned to the Macintosh on the same serial port. Advanced 488 bus features, including Pass Control, Receive Control, Secondary Addressing, Parallel Poll, and Serial Poll, are supported. The Mac 488A has 800-character input and output buffers and comes with BASIC routines to create 488 bus control programs. The package also includes a manual and an interface cable to the Macintosh. $595

**Practical Peripherals**
31245 La Baya Drive, Westlake Village, CA 91362
(818) 991-8200

**Microbuffer In-Line Buffered Serial Interface**
The MBIS is a stand-alone 32K printer buffer that's expandable to 236K of RAM. It can also be used with modems, plotters, and other RS-232 devices. Besides capturing data from the Macintosh and doling it out to the printer, the MBIS buffers data coming into the computer, reducing expensive modem transmission time. These kinds of devices are less useful on Mac than on other computers, which aren't weighted down with the burden of translating all those graphics. Check out the ShuffleBuffer description for more details. Get a demo before you buy. 32K model, $299; 64K model, $349; additional 64K memory expansion modules, $179 each

**Superex International Marketing Ltd.**
151 Ludlow Street, Yonkers, NY 10705
(800) 862-8800, (914) 964-5200 in New York

**MacSpeak**
MacSpeak is an external speaker that plugs into the sound port on the back of your Macintosh. It measures 5 3/4 x 3 x 1 3/8 inches and has a 4-foot cord and plastic case. The sound quality isn't overwhelming, but neither is the price. Check your local Radio Shack for similar small external speakers. $19.95; MacSpeak with 3.5mm mini-jack for earphone listening, $24.95

**Input/Output Devices**

**Apple Computer, Inc.**
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or (408) 996-1010 in California

**External disk drive**
If you're lucky enough to own a hard disk, you probably don't need a second floppy drive. But if you're spending time feeding disks to a single-drive Macintosh, you should
buy an external drive. Life’s too short for disk swapping. Also, many programs now require two drives. Dismissed. $495

Dayna Communications
50 South Main Street, Suite 530, Salt Lake City, UT 84114
(801) 531-0600

MacCharlie
One night the phone rang at The Complete Macintosh Sourcebook headquarters. A man asked, “We’re surveying Macintosh owners. Would you mind answering a few questions?”

“Sure,” we said. Among the questions was, “Would you purchase a device that allowed you to run IBM software on your Macintosh?”

Our response: “Heck no! What an idea!”

Well, popular opinion won out, and now we have MacCharlie. MacCharlie is a coprocessing device that enables Macintosh to use software written for the IBM PC. To the company’s credit, this isn’t another “let’s overcome Mac’s limitations by letting it do what real computers do” product.

The company chairman explains: “We recognized that technologically [Macintosh] is far superior to the IBM PC, but that potential users, particularly businesses, would be reticent to make the purchase decision if it meant abandoning their IBM PC-compatible software.”

Here’s how it’s done. MacCharlie consists of two components: a keyboard extension that snuggles around the Macintosh keyboard and an expansion unit that physically connects to the right side of the Mac. The keyboard extension has ten function keys on the left side and a numeric keypad with eighteen keys on the right side. In “Macintosh mode,” the eighteen keys function as a Macintosh numeric keypad; in “PC mode,” they function as a IBM numeric keypad and perform the cursor control and editing functions of the corresponding keys on the IBM PC keyboard.

Haba Systems, Inc.
15154 Stagg Street, Van Nuys, CA 91405
(818) 901-8828

HabaDisk
The major differences between the HabaDisk and Apple’s external drive are the HabaDisk’s lower profile—4 1/2 inches wide, 9 inches long, 2 inches tall—and its slightly lower price. A nice bonus: With each HabaDisk, Haba Systems bundles a copy of Habadex and the company’s QuickFinder utility, described elsewhere in this book. Haba Systems also plans to offer double-sided drives later in 1985; current HabaDisk owners will be able to upgrade for approximately $100. $449.95
Silicon Video-Mac
Silicon Video-Mac is a powerful—and pricey—digitizer. It allows the Mac to digitize, process, and display a video signal. Silicon Video-Mac digitizes one or more frames from a TV camera or other video source, sends the image data to Macintosh for processing, and displays the image on the Macintosh screen or an external monitor. Video data is digitized at eight bits per pixel. The area and sampling frequency of the video raster are user-programmable. The sampling resolution is programmable from 1 to 752 pixels per line and from 1 to 480 lines per frame.

Silicon Video-Mac has a one-megabyte image memory option for expanded storage of image sequences. It can digitize multiple frames of video as long as the number of pixels per frame is less than or equal to the amount of memory installed (256K or one megabyte, depending on configuration).

We hope that’s clear. Obviously, this product is a high-powered unit. If you have specialized needs, know your digitizers, and don’t blanch at prices, call or write for more information. Silicon Video-Mac with 256K, $3,495; with one megabyte, $4,495

I/O Video
222 Third Street, Cambridge, MA 02142
(617) 547-4141

Mac Private Eye
A digitizer that connects to the modem port, reads a video "frame" (one complete screen image) from a video camera or other video source, and displays the image on the Macintosh screen.

It works with any RS-170 (NTSC) video input. Included in this category are black-and-white TV cameras, color cameras in black-and-white mode, video cassette recorders, videodisc players, computers with NTSC video outputs, and televisions equipped with a "video out" connector.

The Private Eye is a small box that fits under the Macintosh and connects to any standard video source. Connect a camera, then point, focus, set contrast on the Private Eye, and click the mouse to take a picture. The unit has a single control for adjusting brightness and contrast. One of three contrast modes may also be selected from an on-screen menu.

Images are received in MacPaint format and can be touched up, cut or pasted into other documents, or transmitted via modem. Up to twenty images (depending on complexity) may be stored on a single disk.

Mac Private Eye with manual and software disk, $595; black-and-white television camera, $225; both units, $799
from the camera or VCR is passed to the MacVision system, where it's scanned, digitized, then sent to the Macintosh screen. This takes about five seconds, so the VCR has to be paused.

MacVision operates as a desk accessory on the Apple menu. It's easily installed on any system disk. To operate MacVision, you select the accessory "Camera." A window comes up labeled "MacVision." Images in the window are displayed at 320 x 240 resolution. You can then adjust brightness and contrast using controls on the hardware unit. When the picture looks good, you copy the image (using Copy from the Edit menu), put the camera accessory away, and paste the image into any Macintosh application.

Images can then be touched up, saved, copied, or printed like any other MacPaint documents.

The software that drives the Koala scanner is slick and professional—and should be. It was written by Bill Atkinson, author of MacPaint and the QuickDraw graphic routines in ROM. Take a look at this one. Or should we say, "Let this one take a look at you." $399

New Image Technology, Inc.
10300 Greenbelt Road, Seabrook, MD 20706
(301) 464-3100

Magic
Digitizers are certainly all the rage, aren't they? This one can be purchased with or without a camera (any decent VCR camera should work). Images captured with the system can fill the entire Macintosh screen. Features a five-frames-a-second "fast focus" mode, mouse-driven camera interface, the ability to scale or stretch incoming images, and the option of monitoring incoming video on a separate monitor prior to capture within Macintosh. The software lets you enter MacPaint from Magic, without returning to the Finder. Software, interface, cables, and camera, $495; without camera, $350

Servidyne Micro Systems, Inc.
P.O. Box 93846, 1735 DeFoor Place NW,
Atlanta, GA 30377
(404) 352-2050

Micro-Imager
The Micro-Imager video digitizing system lets you capture an image from any black-and-white or color source that conforms to the NTSC (EIA RS-170) synchronization standard—cameras, video recorders, laser disk players, and more. The image can be saved as a MacPaint file, which can be edited, saved, or printed as usual.

The digitizer offers two modes for capturing images. A "two-shade" mode optimizes line drawings or simplifies complex pictures. A "multi-shade" mode offers shades of gray accomplished by filling the image with either random or fixed patterns—much like the patterns available in MacPaint. Random patterns may be specified by defining the relative density of dots for each shade.

The hardware unit has controls for contrast and brightness. Software provided with the system allows you to
cut, copy, or clear parts of the digitized image before saving the image to a MacPaint-compatible file.

The Micro-Imager can be plugged into either of Mac's serial ports. Complete system, including hardware, software interface, user manual, and cable, $349.95. A Panasonic 1410 black-and-white video camera and Panasonic TR930 9-inch monochrome monitor are also available. Video camera, $175; monitor, $150

Thunderware, Inc.
19-G Orinda Way, Orinda, CA 94563
(415) 254-6581

ThunderScan
One of the most talked-about Macintosh products. The ThunderScan is a hardware/software combination that digitizes anything that can be fed through an Imagewriter and converts it to a Macintosh image. Roll a picture, a drawing, a floorplan, a cartoon—anything—through an Imagewriter. The image is scanned and converted to a detailed, high-resolution MacPaint document.

The hardware is an optical scanning cartridge that replaces the Imagewriter printer ribbon cartridge. Pop out the cartridge, pop in the ThunderScan cartridge, fire up the software, and roll away. Instead of an output device, the Imagewriter is now transformed into an input device. The software is, if anything, even more spectacular. Andy Hertzfeld, who designed much of the Mac software (and much of the Macintosh), created the ThunderScan software. Once an image is scanned, the software allows it to be reduced or enlarged, controlled for brightness and contrast, cut or pasted into other documents, sent by modem, or merely fiddled with endlessly. Or even printed out again (if you can bear to replace the scanner head).

Drawbacks? A few. The scanning process is slow, taking many minutes or more to scan complete, complex pages. The product also requires a 512K machine for maximum use. Pictures are comprised of individual dots, or pixels, and each pixel requires memory. Full and complex graphic pages require massive memory. You were going to get a 512K machine anyway, right?

Currently, Hertzfeld is working on software that will allow computer program "code" to be printed out (in some variation on bar code), then scanned, converted back into code, and run on Macintosh. When that's accomplished (and, knowing Hertzfeld, it will be accomplished), the effects may be dramatic. Mac disks cost about five dollars. A sheet of paper, even including the cost of photocopying, costs far less. A nickel, tops? Imagine scanning a sheet of paper and suddenly having a complete Macintosh application program. Imagine printing out a program in bar code, stapling the sheet together, then mailing it to a friend. Imagine entering long programs into Macintosh without ever typing a word.

Everyone should have a ThunderScan. $229

Audio-Visual Systems

Mentauris Technologies
P.O. Box 1467, San Marcos, TX 78666
(512) 396-1565

Mentauris Composite Video Adapter
Macintoshes equipped with a Composite Video Adapter can be plugged directly into video projectors or video monitors for large-screen display of whatever's on the screen. The CVA reproduces Macintosh video frequencies and bandwidths in the form of a composite video signal. The adapter is compatible with a variety of commercial video projectors and monitors from such makers as Arcturus, Aydin, Electrohome, General Electric, Hitachi, Hughes Aircraft, NEC, Sony, and others. $199.95

MicroGraphic Images Corporation
21040 Victory Boulevard, Suite 210, Woodland Hills, CA 91367
(818) 368-3482

CineMac
CineMac is a Macintosh customized with a video port to allow screen images to be sent to an external monitor. The result: a picture with the same quality and resolution that the Macintosh screen provides, only larger. Think of a "video-out" jack on a VCR. The monitor is plugged into the new jack at the rear of the Macintosh, where all good connectors belong. All components of the CineMac are tucked out of sight inside the Macintosh.

The CineMac system includes the CineMac video board, a Macintosh, Imagewriter, Imagewriter Accessory Kit, and MacWrite/MacPaint. If you already own a Macintosh, you can purchase an upgrade kit from your Apple dealer. The kit must be installed by an authorized Apple service center. This isn't a do-it-yourself job.

Monitors for use with the CineMac system must be faster than ordinary single-color monitors. Makers of compatible

ThunderScan
high-speed monochromatic monitors include Conrac, Electrohome, NEC, and Lang. The monitor’s horizontal scan rate must be at least 22 kHz to work with CineMac. MicroGraphic Images also sells a line of high-resolution black-and-white monitors for use with CineMac. Contact the company for details.

Complete 128K CineMac system, $2,985; complete 512K CineMac system, $3,795; CineMac upgrade kit, $249; 14-inch monitor, $300; 15-inch monitor, $680; 17-inch monitor, $995; 23-inch monitor, $1,395; high-frequency monochrome video projector with green phosphor, $3,895

**MacSlide Maker film recorder system**

The MacSlide Maker system incorporates a high-tech, high-resolution film-recording device that lets you convert any Macintosh screen image into a 35mm slide or print. The system requires a CineMac video port (see preceding description).

The image sent to the film recorder is a duplicate of the Macintosh screen. The top and sides of the image may be "cropped out," if desired. With the MacSlide Maker system, slides may be made using any standard 35mm film, including color film to "false color" the Macintosh image and create colorized pictures. The film reproductions are superb. $3,495; CineMac video port, $195

**MacVision visual enhancement system**

A special Macintosh package for visually impaired users. The MacVision system supplements the standard 9-inch Macintosh screen with a 23-inch high-resolution monitor. Also, special enhanced functions allow the system to be used as an image processor with natural voice output.

The standard system includes a 512K Macintosh, MacWrite and MacPaint, external disk drive, CineMac video board, high-resolution camera and copy stand, and ImageWriter. A deluxe version adds MicroGraphic Images’ MegaMac upgrade and MegaRam software (see the Souped-up Macs chapter for details).

The video camera is used to scan any document, photograph, or live image and “freeze” the image in the computer’s memory. From there, it can be enlarged, scrolled, or modified using Mac’s graphic capabilities.

There. What more could anyone want? These are high-powered, well-engineered units for corporations, serious hobbyists, and flush handicapped users. 512K version, $6,195; MegaMac version with MegaRam software, $6,975

**Professional Data Systems**

20 Sunnyvale Avenue, Mill Valley, CA 94941
(415) 383-5537

**The Big Mac Monitor**

The Big Mac Monitor is a 23-inch monochrome monitor that clearly and accurately reproduces Mac's own display. Resolution is 1,280 x 1,000: pretty sharp. Uses include classroom instruction, boardroom presentations, and trade show promotions. Several Monitors can be connected in series. There’s an antiglare picture tube, Scan-Guard circuitry for a clear, crisp display over many brightness levels, a linear gray scale video amplifier providing sixteen levels of black/white/gray, a dual input A/B channel selector switch, and a switchable 110/220/240-volt power supply. Big Mac Monitor system, including monitor, PDS external video card modification, and 25 feet of video cable, $1,995

**Project-a-Mac**

Big Mac Monitor not big enough? The Project-a-Mac video projector accurately and clearly reproduces any Macintosh display on screens measuring up to 10 feet across. It operates at Mac’s horizontal frequency of 22.5 kHz and projects a sharp 1,280 x 1,000 pixel image. It’s pricey, but here’s what you get: brightness and contrast controls, height and leveling controls, simple plug-in/turn-on/focus operation, keystone control to adjust for flat or curved screens, and a switchable 110/220/240-volt power supply. It comes with 25 feet of video cable and a handheld pointer light. Project-a-Mac system, including video projector, PDS external video card modification, and necessary cables, $4,495
Static electricity causes all kinds of annoying problems. Socks and underwear disappear from the laundry and turn up in embarrassing places or not at all. Children shuffle across carpets in furry slippers and give parents a nasty shock with every good-night hug.

Static electricity can also cause problems for your computer. The worst problems are loss of data, head crashes, video scramble, alteration of memory, and complete system failure from zapped components. Granted, a small amount of static electricity won't harm your computer (if the cover is on). But if you find yourself getting zapped a lot or plan on doing work inside the Macintosh (yes, we know...), you'll want protection for those delicate components.

The Static Buster is one solution. It installs in minutes and dissipates electrical charges before they reach your computer. Small pickups attach to the screen and keyboard or disk drive. A ground wire connects to an electrical outlet, water pipe, or grounded building frame. There are no moving parts and no batteries to recharge. But is this product really necessary? Probably not. $49.95

Computer Accessories Corporation
7696 Formula Place, San Diego, CA 92121
(619) 695-3773

PowerLine Four and PowerLine Six
These line conditioning strips are a sleek alternative to traditional multiple outlet strips. Each unit contains solid-state circuitry to protect your computer against dreaded surges and spikes. A lighted power switch controls the entire system. The PowerLine Six has a snap-on cover that conceals the plugs. PowerLine Four, $49.95; PowerLine Six, $79.95

P22 and P2 Power Directors
The Power Director line conditioners eliminate power line pollution that threatens sensitive electronic equipment: radio frequency noise, spikes, glitches, and surges. They also provide fingertip on/off control for both your entire system and individual components. (Macintosh users should rename the switch labeled "Monitor.")

The P22 is a stand-alone model with four outlets; it's sized to stack with disk drives and modems. The P2 is sized
P22 and P2 Power Directors

to fit under a CRT or video monitor (or a Macintosh) and has five power outlets. P22, $99; P2, $129

Cuesta Systems, Inc.
3440 Roberto Court, San Luis Obispo, CA 93401
(805) 541-4160

Datasaver AC power backup
Surge suppressors protect your computer from power line fluctuations. But what if you’re wading through a mess of cables in a tiny work space and pull the power cord loose? You lose everything you typed since you last saved, that’s what. This is particularly distressing to accountants, bookkeepers, and those of us who forget to save often.

The battery-operated Datasaver keeps your system operating for five to fifteen minutes during AC power line interruptions—enough time to save and quit. It also includes overvoltage transient suppression and EMI noise filtering. External battery jacks are provided to allow extended running time or portability with the use of any 12-volt battery. A rechargeable sealed battery, automatic battery charger, solid-state power inverter, AC line-voltage monitor and cutout switch, two outlets, and visual and audio alarms are also included. $395

Electronic Specialists, Inc.
171 South Main Street, Natick, MA 01760
(800) 225-4876, (617) 655-1532 in Massachusetts

Protection and interference control products
Electronic Specialists manufactures protection devices for word processors, scientific instruments, microcomputers, and other sensitive electronic equipment. The company’s Isolator systems, Kleen Line conditioners, and Power Fail Interrupts protect your Mac from all the usual power line evils, including (cringe...) complete power failure. Features and prices are detailed in a free forty-page catalog.

Frontrunner Computer Industries
316 California Avenue, Suite 712, Reno, NV 89509
(702) 786-4600

MacZap I
A miniature surge suppressor that protects your Macintosh from momentary power surges of up to 6,000 volts. MacZap absorbs the destructive overload, allowing normal voltage to pass through. A red light indicates that MacZap is operating properly. $19.95

MacZap II
A multi-outlet electronic surge suppressor that protects against momentary power surges of up to 6,000 volts. Four of its six outlets are controlled by a master on/off switch; the other two outlets provide continuous power at all times. $49.95

MouseMat
The MouseMat is a clean, smooth rolling surface for your mouse that comes with an 8-foot snap-on ground cord to dissipate static charges as you work. It’s made of durable, stain-resistant hard rubber. $29.95
LG20 surge suppressor outlet strip
The UL-listed LG20 has four U-ground outlets, an on/off switch with pilot light, a 6-foot cord with three-prong grounding plug, and a push-to-reset circuit breaker that protects against power overloads. The LG20 absorbs surges of up to 6,000 volts (or 6,500 amps) in less than 10 nanoseconds. Not 15 or 20 nanoseconds: 10. It limits voltage to a safe 205 volts. $34.95
Scooter Guard-It Control Centers

Scooter SP4 and SP6 Guard-It Control Centers
Power strips with built-in surge protection. Each has one-switch power control, a surge failure light, and is rated at 15 amps, 125 volts. One-year warranty. SP4 (four outlets), $47.95; SP6 (six outlets), $52.45

Panamax
150 Mitchell Boulevard, San Rafael, CA 94903
(800) 472-5555, (415) 472-5547 in California

Surge suppressors and line filters
Several models of surge suppressors. The four-outlet Ultra-Max has a 6-foot line cord, an on/off switch, noise and brownout protection, circuit breaker, and undervoltage alarm. The Max 4 and Max 6 have four or six outlets respectively, a 6-foot line cord, an on/off switch, noise protection, and a circuit breaker.

Three other models plug directly into the wall and offer noise protection. The TeleMax has one power outlet and two phone jack receptacles. The Max 2 has two power outlets. The Max 1 has only one power outlet. UltraMax, $149; Max 6, $99; Max 4, $89; TeleMax, $89; Max 2, $79; Max 1, $69

PTI Industries
Production Technology International
320 River Street, Santa Cruz, CA 95060
(408) 429-6881

DataShield Backup Power Source, Model PC-200
A battery operated, self-contained power pack that supplies even, uninterrupted AC power to your Macintosh in the event of a power drop or outage. Also provides surge suppression and filters voltage spikes or surges above 140 volts. Power is supplied from the wall outlet to the Macintosh through the DataShield, thus keeping the unit's battery fully charged. When power drops to below 108 volts, the system switches to the battery backup. 200 watts. $359

DataShield Surge Protector, Model 110AMS
Controls six different pieces of equipment from one on/off switch. One of the unit's six sockets activates the automatic master switch (AMS) inside the surge protector. When the power switch is used for any device that is inserted into the AMS socket, the remaining five sockets are activated and can be controlled by the on/off switch of the piece of equipment plugged into the AMS socket. Also filters out electromagnetic interference and radio frequency interference, common sources of line noise. Any peripheral consuming 30 to 300 watts of power can be used. $119.95

DataShield Surge Protector

MacGard
Protects your system from power surges, radio frequency interference, and common static electricity. Also has a
master on/off switch to power up the Mac and two peripherals. Provides an antistatic pad and an LED ground indicator that tells you if your electrical source is properly grounded. Clamping response time is 5 nanoseconds; peak surge current is 6,500 amps. MacGard is colored to complement the Macintosh and can be attached to the side of the Mac if desired. $89.95

**Cables & Switchers**

**Frontrunner Computer Industries**
316 California Avenue, Suite 712, Reno, NV 89509
(702) 786-4600

**Print 'n Switch**
Allows an Imagewriter and a serial letter quality printer to be connected to Macintosh simultaneously. Print 'n Switch plugs into the printer port. The Imagewriter and the other serial printer plug into the Print 'n Switch. Pressing a button lets you switch between printers. The company is also developing software that will allow Macintosh to be used with a letter quality printer; at present, using most programs with letter quality printers is more involved than simply plugging them in and printing. $119.95

**Kensington Microware Limited**
251 Park Avenue South, New York, NY 10010
(212) 475-5200

**Maccessories A-B Box**
The A-B Box lets you connect two peripherals to one Macintosh serial port. You can use only one of the peripherals at a time, so you don't gain functionality with this product, but it beats unscrewing the hard disk to plug in the modem when you're using the LaserWriter... and so on. The A-B Box is handy for those times when two Macintoshes share one printer. Just plug the A-B Box into Macintosh and plug both printers into the box. $99.95

**Microsoft Corporation**
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8080

**MacEnhancer**
At Mac's introduction, many observers greeted the new machine with a bewildered chorus of "Where's the slots?" Apple left the chore of adding peripheral slots and ports (and IBM compatibility) to other manufacturers, who quickly stepped in with a variety of hardware solutions. Microsoft's MacEnhancer provides three additional ports—one parallel and two serial—enabling Mac to be used with a variety of IBM-compatible peripherals.

**MacEnhancer**
Insurance is boring. Maybe it's the user interface, maybe it's that insurance just isn't "interactive" enough. You fill out some forms, you make out a check, and that's that. Insurance. Boring.

Nevertheless, you should insure your Macintosh. And your printer and your modem and your digitizer and your hard disk and your entire software collection. Everything.

Accidents happen. Things break. And the computer for the rest of us is supremely rip-off able. If you were a thief, would you want a clunky television, a pair of massive JBL speakers, or a dainty tan computer with an attractive "street value"?

Get some insurance.

We've listed two companies that specialize in insurance for computers in general and Apple computers in particular. Many other insurance companies will also protect your equipment, often in the form of extra coverage for "household goods" or as a "rider" to your existing insurance policy.

The Southern California brokerage firm of Emett & Chandler offers "all risk" coverage for your Macintosh, printer, modem, external drive, and other peripherals. The policy is called AppleCare. It's underwritten by the Chubb Group and sponsored, though not subsidized, by Apple Computer.

AppleCare guarantees full—not depreciated—replacement cost of all or part of your system. Coverage applies even when you're using Mac away from home. The policy covers damage from earthquakes, floods, and mechanical and electrical breakdowns.

Rather than insuring your Mac and peripherals specifically, you buy categories of coverage. When you pay your premium (under $37 a year for $5,000 of coverage), any equipment and software you buy is automatically covered. You can also get additional coverage: $5,001-$7,500 ($45), $7,501-$10,000 ($55), $10,001-$25,000 ($65). There's a $100 deductible. See your Apple dealer for an application form or contact Emett & Chandler directly.

Safeware insures some $500 million worth of microcomputer equipment and software. They'll insure your Mac and peripherals against theft, fire, accidents, damage in transit, earthquakes, and power surges. As with the AppleCare program, policy-holders buy categories of coverage. Safeware's premiums are higher than AppleCare's, but the Safeware deductible is only $50. Safeware's premium for up to $2,000 of coverage is $39 per year. Rates for additional coverage are as follows: $2,001-$5,000 ($69), $5,001-$8,000 ($89), $8,001-$11,000 ($109), $11,001-$14,000 ($129).

Emett & Chandler Insurance Services
62 East Colorado Boulevard, Pasadena, CA 91105
(818) 796-4571

Safeware
2929 North High Street, Columbus, OH 43202
(800) 848-3469, (614) 262-0559 in Ohio
drivers, which must be copied onto each application disk, eat up precious space. It would be nice if they could be located in the MacEnhancer unit itself.

Also included in the package is communications software, MacEnhancer Terminal, that provides access to mainframe computers, dial-up databases, bulletin boards, electronic mail services, and more.

The MacEnhancer comes with a wall-mounted transformer, Macintosh interface cable, and MacEnhancer Terminal manual. $249

**Ohm/Electronics**
746 Vermont Avenue, Palatine, IL 60067
(800) 323-2727, (312) 359-6040 in Illinois

**Scooter Interface Cables**
Macintosh to Apple Modem 300/1200, 5-foot, $17.95
Macintosh to Hayes modem, 5-foot, $17.95
Macintosh to Imagewriter, 5-foot, $22.95
Macintosh to Imagewriter, 10-foot, $24.95

**Scooter SC4 and SC6 Control Centers**
UL-listed high-grade outlet strips for home, office, or factory. Each has a power indicator light and resettable circuit breaker but none provides surge suppression. SC4 (four outlets), $26.45; SC6 (six outlets) $27.95
It's the '50s again. Chopped and channeled street machines, Holley carbs, chrome mufflers, fuzzy dice hanging from mirrors.

This time, the low throaty growls come from Macintoshes. Macs stuffed with shiny new 256K RAMs or stripped and rebuilt in compact cases. Souped-up Macs. Fine Corinthian leather. Dames in slinky gowns draped over little tan computers. You get the idea. Upgrades. More than a peripheral, less than a new machine.

The most popular Macintosh upgrade is expansion to 512K of RAM. Get it from your Apple dealer for $700. Get the upgrade from another company and it will cost less. Possibly much less. But you'll also void your Apple warranty. The world is a dangerous place.

Before you decide how to upgrade, consider whether you should upgrade.

For most tasks, 128K is enough. Almost all Macintosh software can run in 128K. It may not run as fast, or offer as many capabilities, but it will run. In most cases, you won't be able to discern any differences in software run on the 128K or 512K machine. In other cases, you will notice a difference with 512K. Microsoft Word and many other “full-featured” programs are significantly faster in 512K. MacPublisher runs fine in 512K but is “fragile” (crashes a lot) in 128K.

If you only play games, you only need 128K. If you use the Macintosh only occasionally, or only for home, hobby, or educational software, you only need 128K. If you’re not flush with cash, you can live with 128K.

Elitist techno-nerds say, “The 128K Macintosh is dead.” We say that over 300,000 owners of 128K machines provide a strong and continuing installed base for software developers. If you wrote Macintosh software, would your program require 512K? Or would you rather have a bestseller?

512K becomes important for business applications, where programs are large and data is plentiful. With more memory, more records in a database (for example) can be kept in memory at once; searches, sorts, and overall program operation improve significantly with 512K.

If you want to run the few, specialized programs that demand 512K, your choice is made. Need Jazz or Odesta's Helix? You must upgrade. Need MegaForm? Want MacNosy? Gotta upgrade.

The larger Macintosh, for now, is a wonderful luxury. If you can afford it, buy it. If you need it, buy it. If you don't need it and aren't sure if you can afford it, think it over. Memory prices will come down; they always do. The upgrade will cost less next year, and less still in 1987.

The hard part is waiting.
This chapter includes other interesting upgrades. For those who sniff at a mere 512K of RAM, MicroGraphic Images offers a full megabyte of RAM. They call the product a MegaMac. The first 512K in the MegaMac is standard memory expansion. The second 512K is an electronic "RAM disk." The memory, to Macintosh, looks like a disk in a drive, so Macintosh treats it like a disk in a drive. A very, very, very fast disk. For those who like speed, this is the ultimate.

As this introduction is being written, MicroGraphic Images is gearing up to introduce 1 1/2 and 2 megabyte Macintoshes. Where will it end? Many megabytes from here.

If MicroGraphic offers the ultimate in speed, Colby offers the ultimate in portability. Their MacColby is a taken-apart-then-put-together-again Macintosh, this time in a case that includes two drives, a modem, and more.

If you've got discretionary income, this is your chapter.
Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or
(408) 996-1010 in California

512K upgrade
The official RAM upgrade from Apple. Here's how it works:
You bring in your Macintosh to an authorized Apple dealer.
They open it up, take out the "motherboard," and replace it
with a new motherboard that contains 512K of RAM. The
old 128K motherboard gets sent back to Apple for use as
spare parts.
That's it. In most cases, you should be able to get
"while you wait" service. Apple throws in MacDraw and
MacProject for those owners who purchased their machines
before the 512K Mac was introduced. As Apple sees small
companies offer 512K for less, it's likely that other limited
offers will become available. Or that Apple will once again
drop the price of the memory upgrade.
The differences in program operation with 512K depend
on the program. With MacProject, 512K allows 2,000 tasks
instead of a measly 200. MacWrite suddenly allows eighty
text. MacPaint doesn't make you wait when you
choose Show Page. MacDraw gives you ten times the
graphic objects allowed in 128K, and Multiplan lets you
build bigger spreadsheets.
Above all, the Apple upgrade is the "safe" upgrade; your
warranty is still intact. If your Macintosh breaks, take it
back to your Apple dealer. Don't expect either sympathy or
service from your Apple dealer if another company's RAM
expansion doesn't work. 512K Macintosh, $2,795; 512K
upgrade, $695

Colby Computer
849 Independence Avenue, Mountain View, CA 94043
(415) 968-1410

MacColby
The same old Mac in a brand-new case. Colby wrests the
Mac from its case, pulls the Apple modem from the Apple
case, does the same with the keyboard and external drive,
then houses them all in a new, portable case. All in one:
Macintosh, two drives (second drive optional), a modem
(optional), and a keyboard that secures to the front and
protects the monitor during lugging. There's even an area on
the side to house the mouse and an optional built-in 12-volt
adapter for the ultimate in portability.
The case is aluminum on the inside and plastic on the
outside. A built-in fan provides positively pressurized, fil­
tered air and keeps the now-scratched-in components cool
and fresh. The case is designed for industrial and military
markets, and a special military "tempest rated" case will
soon be available. Also offered is an optional built-in hard
disk drive.
The unit fits under all airline seats, something we wish
the standard Mac could accomplish more easily. MacColby
measures 8 1/4 x 16 1/2 x 17 1/2 inches and weighs 26
pounds—1 1/2 pounds less than the equivalent Macintosh
components. The unit is available from many Apple dealers
(Colby is approved by Apple as a "value added reseller") or
directly from Colby Computer.
MacColby, completely assembled and tested, $2,699
(128K); $3,699 (512K). Conversion only (you supply the
Macintosh), $699. Optional ten-megabyte internal hard
disk, $1,895. Video output to external monitor board,
$249. DC converter, $249. Bar code reading capability,
$699. Built-in modems: $199 (300 baud) and $399
(1200 baud). Leather-trimmed Cordura carrying case (foam-lin­
ed with a top handle and shoulder strap), $139

General Computer Company
215 First Street, Cambridge, MA 02142
(800) 422-0101, (617) 492-5500 in Massachusetts

HyperDrive
This unit is getting a lot—maybe too much—attention in
this book. We described it in the Hard Disks chapter. We
mentioned it in two introductions, and here it is again,
being described as a "souped-up" Macintosh.
Central to the success of HyperDrive will be General
Computer's success in lining up dealers. The drive is now
offered mail order, but mail order sales alone won't, we
think, be enough. General Computer needs local dealers for
HyperDrives. That may happen. A new version of the
HyperDrive, easily installable by dealers, is now on the
market, and General Computer is busy lining up dealers to
sell, install, and service HyperDrives.
Cost, including expansion to 512K, installation, ship­
ping and warranty, is $2,795; without the RAM upgrade,
$2,195
A full 1,024K of memory (one megabyte) for your Macintosh. The MegaMac consists of a 512K upgrade and another 512K of RAM memory configured as a "RAM disk." Both batches of memory are mounted inside the Macintosh.

If you wish, the MegaMac can be used as a garden-variety 512K Macintosh. In practice, though, you'll want to copy everything to the RAM disk—system files, applications, documents, the works—then compute at the speed of heat. It's a joy to watch applications open in four seconds.

The MegaMac comes with MegaRam software to create the RAM disk. Unfortunately, at this time there's no way to include the second 512K of RAM in Macintosh's address space; the second 512K can be used only as a RAM disk.

The MegaMac and MegaRam software are covered under a ninety-day warranty offered by MicroGraphic Images. Suggested retail price is $1,595 if the original 128K motherboard is returned to MicroGraphic Images, or $1,895 without the 128K board trade-in. MicroGraphic Images also sells the MegaMac as a complete system, including the Macintosh, for $3,795.

But consider carefully: If your memory expansion doesn't work properly, you're out on a limb. Sure, the companies that install the upgrade usually warranty their work, but the companies are small (often basement companies) and may not be in existence for long. If they're nowhere to be found when you have problems, you're in trouble. Don't expect help from your Apple dealer.

We can't in good faith recommend getting a memory upgrade from anyone other than an authorized Apple dealer. That doesn't mean that firms offering this service aren't dependable. It doesn't mean that you won't get a good deal, and it doesn't mean that your upgrade won't work fine for as long as you own your Macintosh. You may get a good deal, a good job, and a dependable upgrade.

We just can't recommend it, that's all.
If you would leave your name and phone number I'll see to it that Clive returns your call.

Clive's computer here. Clive's not home. However, I'm in charge of things at the moment...

I don't speak to @1-?#! computers. and you can tell Clive I said so!!

Yes Sir, as soon as Clive returns from his mother's funeral...

Oh... I'm sorry.

It's quite alright.
In creating a book like this one, much time is spent on nomenclature and categorization. What product belongs in which category? Is it a “peripheral” or an “accessory”? And what’s the difference?

The difference, maybe, is this: A peripheral is usually hardware (electronic or mechanical), often expensive, and sometimes necessary. Printers are peripherals. Disk drives are peripherals.

By contrast, accessories are items that may not be truly necessary but may make life easier, more pleasant, or more convenient.

A nice, loose definition. Until you run across a “Maccessories Surge Suppressor,” a product that’s staunchly electronic.

So don’t be surprised to see a few products here that are duplicated in other categories. It’s better to be redundant than elusive.

That said, here’s a quick rundown of this “grab bag” category:

**Space savers** range from skyscraper-like structures that hold your entire system to simple printer stands that free up precious desk space. You might think that a printer stand is a frivolous purchase, but get one anyway. They’re very practical. Paper tucks neatly under the stand, and new clutter moves in to fill the void.

We tried out lots of **disk holders**, from stylish desktop cases of wood, metal, or acrylic to pocket-sized “library cases” that hold just a few disks. The best ones aren’t necessarily the best-looking. Some stack, some don’t. Some have adjustable section dividers, most don’t. Consider how you want to organize your disks before you buy a case. In real life, work seldom divides neatly into equal-sized sections.

The disk holders we liked best aren’t sold in stores. They’re cheap (under $1), functional, and can have as many adjustable dividers as you want. They’re not particularly attractive and you have to make them yourself. Here’s how: Ask your shoe store salesperson for the very smallest boxes he has. Cut section dividers to size from manilla file folders. That’s it.

**Dust covers** offer protection from the elements for the Macintosh, keyboard, external drive, numeric keypad, hard disk, and even the mouse. Covers are available in nylon, fabric, and hard or soft plastic, in a spectrum of styles and colors, as plain or fancy as you like.

If your desk is littered with small and large debris—crumbs, hair, fingernail clippings, bent staples, congealed diet soda—a **mouse pad** will seem more like a necessity than a luxury. At their best, these pads provide a smooth rolling surface for the mouse; at their worst, they let you trash out 90 percent of your desk space while keeping 10 percent of it immaculate.
When the Macintosh was introduced, carrying bags were advertised but nearly impossible to come by. Printer carrying cases were nonexistent. Now there’s a bewildering assortment of computer and printer bags. Some have decals on the outside that give away the bag’s contents; others are more discreet. Most carrying bags are constructed sturdily enough for normal use, but only specially designed shipping cases should be trusted to airline baggage systems.

Security kits let you cable together your Macintosh and its peripherals and secure them to a sturdy, immovable object.

Ergonomic aids and simple comforts such as anti-glare screens and tilt/swivel stands lessen the discomfort of sitting at the keyboard for long hours.

Sooner or later you’ll want to invest in cleaning and maintenance products—lint-free cloths, CRT cleaner, and a can of compressed air, perhaps. These items are available individually at computer stores, but at least one manufacturer offers a complete mouse-cleaning kit with all the essentials—right down to foam-tipped swabs and plastic tweezers. For major debris, there’s a six-ounce vacuum cleaner that’ll remove particles from hard-to-reach areas. A number of head-cleaning disks remove debris from your drive’s read/write mechanism, reducing error and data loss from smoke, dirt, and oxide buildup.

There’s an ingenious assortment of ribbons and more that let you express your colorful personality with your black-and-white Macintosh. Colored printer ribbons may be used individually to brighten cards and letters or in succession to create full-color graphics. Thermal printer ribbons let you create multicolored, iron-on T-shirt transfers with your dot-matrix printer; these ribbons are also offered in colors by various manufacturers.

Drawing aids range from a pneumatic pad that improves mouse precision by “floating” the mouse on a cushion of air to tablets that aid in designing screen displays or painting with MacPaint.

A final note: Some of these products are more useful, or less useful, than you might imagine. Pause before you sneer at products like “Mouse-Trap.” We’re keeping our Mouse-Trap. It works, it’s cute, we like it. And remember that prices and quality vary sharply among similar products. Shop around and compare carefully.
Carrying Bags & Shipping Cases

Alpenlite
3891 North Ventura Avenue, Ventura, CA 93001
(805) 653-0431

MacLite carrying case
A 1,000-denier Cordura nylon Macintosh carrying case with half-inch closed-cell foam padding and inside pockets for accessories. The MacLite case has Velcro closures, full wrap-around carrying handles, and a padded shoulder strap. Dimensions are 14 x 15 x 10 inches; weight: 3 pounds. Pewter or navy blue. $110

Mac Pro carrying case
A less expensive, 500-denier Cordura nylon Macintosh bag designed especially for students. Same size as the MacLite but not as fancy. Royal blue. $67

Printlite carrying case
A printer carrying case similar in construction to the MacLite. Dimensions are 13.5 x 18 x 5.5 inches; weight: 2.4 pounds. Pewter or navy blue. $92.50
Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696, (800) 862-9238 or
(408) 996-1010 in California

*Macintosh carrying case*
The first Mac bag, now challenged by many worthy competitors. Cordura nylon with padded inside pockets for Macintosh, keyboard, mouse, manuals, and power cord. The case is water- and tear-resistant and may be carried by hand or as a shoulder bag (a detachable shoulder strap is included). $99

ATS Cases
25 Washington Avenue, Natick, MA 01760
(800) 451-4242, (617) 653-6724 in Massachusetts

*Macintosh carrying case*
ATS designs cases for everything from electronic equipment to convention displays. They'll even create customized cases to your specifications. We were impressed with both their carrying case and their shipping case. The Macintosh carrying case is foam-lined and comes in five colors: almond, blue, gray, black, and red, with blue or charcoal-gray interior. ATS's carrying cases are 40 percent lighter than their shipping cases, described below. $159

Macintosh shipping case
A well-designed shipping case that provides maximum protection for the traveling Macintosh. Features include steel knuckle-ball corners, spring-loaded recessed fixtures, and thick plywood/ABS plastic laminations. Colors are almond, blue, gray, black, or red, with blue or charcoal gray interior. $235

Computer Case Company
3947 Danford Square, Columbus, OH 43220
(800) 848-7548, (614) 868-9464 in Ohio

*Trav-L-Case*
A carrying case for Macintoshes on the go. The Trav-L-Case is constructed of plywood covered with scuff-resistant vinyl, and the interior is foam-lined. All edges and corners are metal-trimmed and there are two key-draw bolt locks for extra security. $269

Cover Craft Corporation
P.O. Box 555, Amherst, NH 03031
(800) 547-5600, (603) 889-6811 in New Hampshire

*Field-Pro Macintosh case, model V12004*
A soft carrying case with padded handles and an adjustable, detachable shoulder strap. It has three pockets: one large outside pocket and two padded inside pockets. The entire front of the case unzips for easy access, and the zipper may be locked. Case is fully padded. Available in silver Cordura with black trim. Dimensions are 14 x 14 x 11 1/4 inches. $79.95

East/West Leather
1400 Grant Avenue, San Francisco, CA 94133
(415) 397-2986

*Leather Macintosh carrying bag*
East/West's Macintosh bag is made of high-quality, durable grained leather with a high-density, shock-repellent padded lining. The bag holds the Macintosh, keyboard, mouse, cord, disks, and manuals. It's lightweight and sturdy, and can be carried by hand or with a shoulder strap. Features include double-action zippers, a zippered pocket in the lid, and a rigid bottom. The bag can also double as attractive carry-on or weekend luggage. $229
Mac-Mover carrying case
well as an external disk drive, in separate padded compartments and can be locked. Dimensions are 16 x 20 x 12 inches, 8 1/2 pounds. $99.50

Mac-System flight case
The Mac-System is about the size of the original Macintosh carton (19 x 21 x 15 inches) and provides maximum pro-

East/West leather carrying bag

Fiberbilt
601 West 26th Street, New York, NY 10001
(800) 847-4176, (212) 675-5820 in New York

Mac-Mover carrying case
The Mac-Mover is a fully padded carrying case with an interlocking aluminum frame and ABS plastic end-caps for added protection. It holds all the Macintosh components, as
tection for the traveling Mac. Constructed of polyethylene, the Mac-System has a steel tongue-and-groove frame and double-key locks. The Macintosh, keyboard, and external drive fit in the body of the case. Individual foam-padded compartments in the lid hold a modem, numeric keypad, mouse, and two boxes of disks. $225

I/O Design, Inc.
19 Lafayette Street, Rumson, NJ 07760
(201) 747-0943

*Imageware carrying case*
Designed to carry the Imagewriter and a small supply of computer paper. Dark blue Cordura lined with brushed nylon in a Scottish plaid. Foam-lined interior, inside paper pocket, padded handle, adjustable shoulder strap. $69.95

*Macinware carrying case*
Designed to hold the Macintosh system, including external disk drive, keyboard, mouse, disks, manuals, and cords. The Macinware bag is made of dark blue Cordura lined with brushed nylon in a Scottish plaid. Foam protects the interior contents. $99.95

*Justin Case Manufacturing Corporation*
334 Main Street, Port Washington, NY 11050
(516) 883-2299

*Basket carrying cases*
The Basket is a hard-sided, foam-lined plastic carrying case for the Macintosh, keyboard, mouse, numeric keypad, and power cord. It measures 15 1/2 x 12 1/2 x 15 1/2 inches and weighs 8 pounds. Three rear hinges, two locking front latches, and metal corners provide extra protection. The D-Basket is a slightly larger case (19 1/2 x 12 1/2 x 15 1/2 inches; 10 pounds) with room for modem, external disk drive, and cords. Basket, $100; D-Basket, $130

The company also plans to manufacture a printer carrying case. Call or write for details.

**Kiwi**
6721 N.W. 36th Avenue, Miami, FL 33147
(305) 835-8228

*The Macintosh Bag*
A custom-fit, padded carrying bag that's roomy enough for the Macintosh, keyboard, mouse, external drive, modem, and cables. Here're the specs: 11 1/2 x 12 1/2 x 20 inches; 4 pounds, 5 ounces. Also available with a zip-on printer bag (20 x 12 1/2 x 20 inches; 7 pounds, 14 ounces). Both pieces are made of 1,000-denier Cordura nylon and feature padded dividers with Velcro closures to keep the contents from shifting. $129.95 (Macintosh Bag alone), $199.95 (with printer bag)

**MacPacks**
643 Industry Drive, Seattle, WA 98188
(800) 228-7042, (206) 575-1180 in Washington

*MacAccessoryPak*
An accessories case to carry those extra goodies that won't fit in your Macintosh bag. Navy, tan, burgundy, black, or gray. Call for prices.
**MacBag**
A high-strength, foam-lined Cordura carrying bag with separate pockets for the Macintosh, second disk drive, modem, accessories, papers, and manuals. Black, navy, gray, tan, or burgundy. Call for prices.

**MacFreighter**
A cargo case for the Macintosh, second disk drive, and numeric keypad. Aluminum, steel, ABS plastic, and plywood construction, with heavy shipping foam throughout. Can be easily carried suitcase-style by one person. Call for prices.

**MacPak**
Constructed like the MacBag, but includes a backpack strap. The MacPak can be carried as a backpack, a shoulder bag, or a suitcase. Black, navy, gray, tan, or burgundy. Call for prices.

**MacPrintFreighter**
A heavy-duty Imagewriter shipping case constructed like the MacFreighter. Available for standard and wide-carriage printers. Call for prices.

**MacPrintPak**
A Cordura carrying case for the standard or wide-carriage Imagewriter. Can be carried as a shoulder bag, suitcase, or attached to the MacPak and carried as a backpack. Black, navy, gray, tan, or burgundy. Call for prices.

**MacSak**
Constructed the same as the MacPak, but smaller and more compact (it won't hold all the accessories). Navy, tan, or burgundy. Call for prices.

**Optimum Computer Luggage**
9005 Complex Drive, San Diego, CA 92123
(800) 447-0300, (800) 632-4200 in California

**Mac-Tote carrying case**
A durable, popular, well-designed carrying case for the Macintosh and peripherals. MacTote is made of water-resistant Cordura with a reinforced bottom and pockets aplenty for manuals, cords, and other accessories. There's a zippered outside pouch for the external drive, a padded mouse pouch; inside the lid, two padded inside pouches for keyboard and modem, and lots more. The handle and detachable shoulder strap are also padded for extra comfort. The MacTote measures 15 1/2 x 15 x 12 inches and weighs less than 2 pounds. Royal blue. Recommended. $99.95

**PrintTote carrying case**
A blue Cordura carrying case that lets you use the printer without removing it from the case. Paper feeds from a compartment underneath the printer, and cables are snuggled in zippered pouches next to the handle. Call for prices.

**Qubie**
4809 Calle Alto, Camarillo, CA 93010
(800) 821-4479, (805) 987-9741 in California

**Rev-Pack Macintosh carrying case**
An inexpensive carrying case for the Macintosh and its peripherals. The Rev-Pack is made of water-resistant Cordura with outside pockets for disks and manuals. Thick, high-density foam protects inside contents. There's an inside
keyboard pouch and a padded pocket (with separate mouse pouch) for accessories and cords. Other features include heavy-duty zippers, dual-reinforced carrying handles, and a padded shoulder strap. Black or gold. One-year warranty. $59

**Thermodyne Corporation**
20850 South Alameda Street, Long Beach, CA 90810
(213) 603-1976

**Shok-Stop carrying case**
Thermodyne has built protective cases for sensitive electronic equipment for more than twenty years. Their Shok-Stop Macintosh-sized case (tool number 102407) is made of rugged, shock-absorbent polyethylene with a foam core and is certified for shipping by airlines. It has recessed hinges and latches, spring-loaded handles, and channels and corner bumpers to protect contents from Mac-hungry baggage systems. Gun-metal gray. $230

**Totem, Inc.**
207 Gough Street, Suite 38, San Francisco, CA 94102
(415) 761-7920

**Totem carrying case**
The Totem carrying case has one convenient advantage over other Macintosh bags: It folds flat for storage. This Cordura nylon case is roomy enough for Mac, keyboard, external drive, and modem. There are lots of pockets and a separate mouse pouch. Colors are royal blue, beige, forest green, and camouflage (a bestseller, the manufacturer tells us). All cases have fold-down dividers and a leather bottom. Dimensions are 13 x 20 x 10 inches. The company offers a limited lifetime warranty. $135

**Frontrunner Computer Industries**
316 California Avenue, Suite 712, Reno, NV 89509
(702) 786-4600

**MouseHouse**
A mouse holder that attaches to the side of the Macintosh with two removable Velcro strips. Matches the color and contour of the mouse. Not as slick as the Raex Mouse-Trap but about half the price. $5.95

**Haba Systems, Inc.**
15154 Stagg Street, Van Nuys, CA 91405
(818) 901-8628

**HabaRack**
Yet another solution to "where to put that pesky printer." The HabaRack is made of steel tubing and comes already assembled. "Colors" include black, Macintosh beige, "keyboard brown," and chrome. $59.95
MacPrint Stand

**I/O Design, Inc.**
19 Lafayette Street, Rumson, NJ 07760
(201) 747-0943

**Mac-in-the-Box**
An easy to assemble wooden desktop workstation for the Macintosh and its peripherals. The front may be closed to conceal the cabinet's contents. Available finished (stained and varnished) or natural. **$129.95** (finished), **$99.95** (unfinished)

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**Inland Corporation**
32051 Howard, Madison Heights, MI 48071
(800) 521-8428, (313) 583-7150 in Michigan

**MacPrint Stand**
The MacPrint Stand frees up valuable workspace by storing computer paper under the printer. It's designed especially for the Imagewriter and is available in smoked acrylic or metal (the same color as the Macintosh). **$34.95** (acrylic), **$29.95** (metal)
Kensington Microware Limited  
251 Park Avenue South, New York, NY 10010  
(212) 475-5200

**Maccessories Universal Printer Stand**  
Raises the printer 1 1/2 inches from the desk at the front and 4 1/2 inches at the back, letting you easily monitor your printer’s performance. Several hundred sheets of paper store neatly underneath. $29.95

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L&R Associates  
P.O. Box 390412, Mountain View, CA 94039  
(415) 969-9504

**MacRack**  
A chrome-plated, welded-steel wire rack that stores and organizes your Macintosh system: Mac, keyboard, mouse, external disk drive, printer and paper supply, and modem. The MacRack is easy to assemble and collapses for shipping and storage. Also available with a black finish. Assembled, it's 21 inches high, 16 1/2 inches wide, and 12 inches deep. $79

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MacWood Products, Inc.  
143 Hollister Avenue, Santa Monica, CA 90405  
(213) 392-4561

**MacCabinet**  
MacCabinet is a natural wood system organizer that holds Mac, printer, and peripherals. Its modular construction and removable shelves let you arrange many items in a compact space. MacCabinet has dado and glued-joint construction, a concealed paper tray, and side ventilation ports. Dimensions are 22 x 18 x 12 inches; weight is 15 pounds. $199.95

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MicroRain Corporation  
P.O. Box 96008, Dept. 150, Bellevue, WA 98009  
(800) 547-4000, Dept. 421;  
(503) 694-3000, Dept. 421, in Oregon

**MacStation**  
MacStation maximizes desk space by assembling all your Macintosh components, including the printer, into one compact unit. Like similar products, it's somewhat imposing in design (probably the nature of the beast) but well-thought-out overall. Cubicles can be adjusted to house manuals, floppy disks, a modem, and a second disk drive. Although MacStation ads show the external drive turned on its side in its own compartment, we'd prefer to use the drive in the normal, horizontal position. $95
Mini Printer Stand
A durable, lightweight, smoked acrylic stand that's ideal for the Imagewriter and other small desktop printers. Paper feeds from underneath the stand. $36

Mouse-Trap
The Mouse-Trap is a small storage house for the Macintosh mouse that attaches with a Velcro pad to the side of your computer—a delightful accessory. It's color-matched to the Macintosh and has a foam strip inside for a snug fit. For eleven bucks, why not? $10.95

Synergy Products
P.O. Box 485, Boonville, IN 47601
(812) 897-5351

The Printer Stand
The Printer Stand holds your printer at a 45-degree angle for easy print monitoring, saves desk space (paper is fed from a tray underneath), and is made of attractive solid hardwoods. Choose oak or walnut finish. $49.95 (standard printer), $59.95 (wide-carriage printer)

Security Kits
Anchor Pad International, Inc.
4483 McGrath Street, Ventura, CA 93003
(800) 426-2467; (800) 626-2467 or (805) 658-2661 in California

Anchor Pad security system
Businesses have used Anchor Pad security systems for years to prevent theft of computers, typewriters, and other valu-
Anchor Pad security system

ble office equipment. (IBM ordered 10,000 typewriter Anchor Pads in 1982.)

The Anchor Pad system locks the Macintosh to your desk without requiring that holes be drilled in either the machine or your desk. "Adapter feet" are bonded to the bottom of the Mac, which is then secured to a metal plate. The plate is bonded to a double-faced adhesive desk mat. The Mac may be unlocked from the Anchor Pad and removed. A swivel adapter allows the Mac to be rotated 360 degrees.

$190

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or (408) 996-1010 in California

Secure-It, Inc.
10 Center Square, East Longmeadow, MA 01028
(413) 525-7039

MacKablit antitheft cable
The MacKablit security kit features a proprietary hinged fastener that attaches to existing screws on desk or table. A 10-foot plastic-coated steel cable loops through the equipment and locks with a key. $50

MacKablit antitheft cable

Ergonomic Aids & Simple Comforts

Eqtron Corporation
330 Bay Street, Suite 115, Toronto, Canada M5H 2S8
(416) 361-5002

Anti-Glare Screen
A custom-fitted anti-glare screen that minimizes eyestrain by absorbing reflected light from the viewing surface. Resolution remains sharp, although screen brightness is reduced considerably. Easy to install; just peel off the screen's tape backing and press onto the monitor face. A tack cloth is supplied for cleaning. $26.95 in the U.S., $34.95 in Canada

Ergotron, Inc.
1621 East 79th Street, Suite C-133,
Bloomington, MN 55420
(800) 328-9839, (612) 854-9116 in Minnesota

MacTilt computer stand
Sitting in front of a monitor screen for hours can really take it out of you. The MacTilt stand helps reduce screen glare and user fatigue by adjusting the computer to a perfect view-
ing angle. The stand tilts a maximum of 30 degrees and rotates 360 degrees. The Macintosh can be easily lifted on and off. A mounting bracket holds the external drive, and a cable anchor secures and organizes cabling at the rear of the machine. $99.95

**Inland Corporation**
32051 Howard, Madison Heights, MI 48071
(800) 521-8428, (313) 583-7150 in Michigan

**MacKit**
Includes MacSwivel/MacTilt (described below), MacPrint Stand, Mac and Imagewriter MacCovers, and two plastic library cases. $89.95

**MacSurge Accessory Kit**
Includes MacSwivel/MacSurge (see below), MacPrint Stand, Mac and Imagewriter MacCovers, and two plastic library cases. $129.95

**MacSwivel/MacSurge**
This product combines a MacSwivel/MacTilt with a UL-approved surge suppressor to protect your Mac against power fluctuations. $89.95

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**MacSwivel/MacTilt**
The MacSwivel/MacTilt lets you adjust your Macintosh to the viewing position you find most comfortable. It swivels 360 degrees, tilts 25 degrees, and raises the machine about an inch. It's easy to install; just set your Mac onto the base. The Mac's four "legs" fit into the frame's four holes. The Macintosh used to type this description was sitting on a MacSwivel/MacTilt—if you have to type for hours at a time, it really does make a difference. $34.95

**Jensen Engineering, Inc.**
P.O. Box 7446, Santa Rosa, CA 95407
(800) 358-8272, (707) 544-9450 in California

**Printer enclosures**
If you've had it with annoying printer noise and you can't afford a LaserWriter, you might consider purchasing a printer enclosure. Jensen's universal enclosures surround your printer with foam-lined Isoboard. A clear acrylic shield allows printer monitoring, and paper feeds through slots in the back. $149 (standard Imagewriter), $169 (wide-carriage Imagewriter)
Kensington Microware Limited
251 Park Avenue South, New York, NY 10010
(212) 475-5200

Maccessories Starter Pack
Contains Swivel (described below), Maccessories Surge Suppressor, and Maccessories Dust Covers. $90

Maccessories Swivel
A lightweight Lazy Susan that fits under the Macintosh and revolves 360 degrees. It does not tilt. $35

R&R Concepts
241 Conejo Road, Santa Barbara, CA 93103
(805) 966-0101

Rest 'n Roll ROM Model
After slaving for a zillion hours over a Macintosh keyboard, you deserve a reward—like a foot rub from a good friend, perhaps. Well, the next best thing (not even close, admittedly) is the Rest 'n Roll footrest/exerciser/massager. Its 20-degree-adjustable platform lets you keep your knees higher than your hips as you type, improving posture and reducing lower back strain. Turn the platform over and you'll find thirty-five birch massage balls to soothe tired peds. Oak or walnut. $125

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Alpenlite
3891 North Ventura Avenue, Ventura, CA 93001
(805) 653-0431

Floppylite 3/20
A 400-denier nylon disk case with waterproof coating and Velcro closures. Can be folded flat for easy carrying or opened up for desktop use. Holds and displays up to twenty disks. $24.95

Floppylite 3/20
**Amaray Corporation**
14935 N.E. 95th Street, Redmond, WA 98052
(206) 881-1000

**DiskBank Media Mate 3**
A rugged styrene case with a smoke-colored, see-through cover. With its self-locking cover and carry handle, it's an ideal way to tote up to thirty disks. Also stacks conveniently for desktop use. Adjustable tab dividers are included. Pearl-gray or black base. $14.95

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**DiskBank System/3**
Disk storage modules that may be used individually or locked together as a system. They hold up to ten disks each and slide apart for easy transportability. Pearl-gray or smoke styrene. $5.95

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**Apple Computer, Inc.**
**The Apple Collection**
P.O. Box 306, Half Moon Bay, CA 94019
(800) 227-6703, (800) 632-7979 in California

**Plexiglas disk box**
The "official" Macintosh disk box from The Apple Collection: solid black plastic base, smoked Plexiglas cover, and the colorful Apple logo. Holds thirty-six disks and includes section dividers. **$29.50**

**Computer Accessories Corporation**
7696 Formula Place, San Diego, CA 92121
(619) 695-3773

**Macintosh Kit**
Includes QuickStand and MouseMat. QuickStand is a bi-level slotted holder that stores up to four Macintosh disks. It has a brown anodized finish. MouseMat is a personal pad for your mouse made of sturdy, injection-molded plastic. It has a textured top surface and a bottom surface covered with nonslip rubber to prevent the pad from slipping and sliding across your desktop. 8 1/2 x 11 inches. **$24.95**
**Micro DiskFiler**
A stylish desktop disk holder that stores and organizes up to thirty disks. Disks and dividers are visible through the tinted, transparent lid. The beige-colored base has rubber pads to prevent desktop scuffing. Includes six dividers. $19.95

**Diskus Products**
6003 Bandini Boulevard, Los Angeles, CA 90040
(213) 726-3088

**Diskus 3.5 file drawer**
If your disk collection spans dozens of shoe boxes, you might consider this stackable alternative to flip-top disk holders. The Diskus 3.5 is a smoked acrylic "mini-file cabinet" that holds up to fifty disks. Includes three removable section dividers. $20.95

**edTech**
108 North Cassady Road, Columbus, OH 43209
(614) 263-3715

**Diskpac 3.5**
A nylon carrying case with Velcro closure that holds up to six disks. The Diskpac folds into thirds to fit conveniently in your pocket or Macintosh bag. $14.95

**Information Concepts, Inc.**
P.O. Box 462, Stone Mountain, GA 30086
(404) 979-8479

**Microdisk-a-Do**
A plastic carousel that's 9 inches wide and holds up to thirty disks. The carousel rotates on a ball-bearing base plate. Each disk slot may be numbered to correspond with the printed index directory card that's included. $24.95
DiskFile 3
An exceptionally roomy case that holds up to forty disks and snaps shut when not in use. It's beige plastic with a smoked acrylic lid and includes five dividers. DiskFiles may be stacked to save desk space. $14.95

Floppy Files
These small plastic cases are designed for easy cataloging of disks in a library system; they're also useful as mailers. Each Floppy File holds six disks. $2.95

Innovative Concepts, Inc.
1971 Concourse Drive, San Jose, CA 95131
(800) 538-7015; (800) 662-6284 or
(408) 262-6680 in California

Flip 'n' File/Micro
An attractive black plastic disk holder with a smoked acrylic lid. Holds up to twenty-five disks and includes tabbed dividers and index labels. When closed, the lid is also a carrying handle. $12.95

Flip 'n' File/Micro 5
A beige-colored library case that holds and files up to five disks. Clear front and back panels allow index information to be viewed from both open and closed positions. When opened, the case's easel-type design allows it to double as a user workstation. Includes labels. $2.95

Flip 'n' File/Micro 10
Same as above, but holds up to ten disks. $4.95

Flip 'n' File II for Micro Diskettes
A beige plastic holder with a smoked acrylic lid that stores and files up to forty disks. Built-in tabbed dividers, index labels, and a special closing latch. $29.95
International Datawares, Inc.
910 George Street, Santa Clara, CA 95050
(408) 988-5594

**Micro Disk Minder**
The Micro Disk Minder holds thirty-six disks for fast and easy access. It's made of durable smoked plastic and includes index dividers. $24.95

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**Penta Pac disk cases**
Each of these colorful cases holds five disks. Available for five different files: MacPaint, MacTerminal, MacWrite, Multiplan, and "Generic." You can also create your own cover inserts—a nice touch. Five-piece set, $14.95

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Joyce Computer Products (JCP)
P.O. Box 860, 518 Wynooski, Newberg, OR 97132
(503) 538-3269

**Style File 10 and Style File 20 disk holders**
Style File is a portable disk storage system that closes to a flat 1 1/4-inch-thick folder for carrying in suit pocket, brief-case, or computer bag. It's made of rugged, water-repellent material in a choice of navy blue or tan and holds either ten or twenty disks. The Style File can also stand alone on the desktop, where disk labels can be seen at a glance. Style File 10, $21.95; Style File 20, $26.95

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Kensington Microware Limited
251 Park Avenue South, New York, NY 10010
(212) 475-5200

**Maccessories Disk Case**
A smoked acrylic case that stores thirty-six disks. Includes five dividers for organizing disks and ten blank labels. Of the many disk boxes available, this is one of the best: simple and functional. $30
**Maccessories Disk Case**

A gray plastic case that holds twelve disks and folds flat for traveling. Also pops up for desktop display. **$10.95**

**Maccessories Travelling Disk Case**

**Micro Products Company**

3831 Stone Way North, Seattle, WA 98103
(800) 421-3645, (206) 632-1524 in Washington

**Micro/File 40**

A disk organizer that holds up to forty disks in individual track slots. The Micro/File 40 has a cream-colored base and a smoked acrylic lid. **$21.95**

**Micro/File 40**

A smoked-acrylic, lockable case that holds up to fifty disks and includes indexing dividers. The hinged lid is also a carrying handle. **$26.95**

**MIT02 Protective Panels**

Vinyl and plastic storage panels that hold two disks and can be inserted in either 8 1/2 x 5 1/2-inch or 9 1/2 x 6-inch binders. Each panel, **$1.75**

**MIT050 Tray**

A smoked-acrylic, lockable case that holds up to fifty disks and includes indexing dividers. The hinged lid is also a carrying handle. **$26.95**

**Ring King Visibles, Inc.**

2210 Second Avenue, P.O. Box 599, Muscatine, IA 52761
(319) 263-8144

**SRW Computer Components Company, Inc.**

18385 Bandelier Circle, Fountain Valley, CA 92708
(714) 963-5500

**Microdex/25 Modular ViewFile**

Stores and protects up to twenty-five disks in a stairstep arrangement. Each of five hinged cartridges tilts forward for easy disk access and pops out if desired. All disk titles may be viewed at once. Cartridges come two ways: classic taupe
Microdex/25 Modular ViewFile

(all one color) or color-coded (red, blue, green, yellow, and gray), with or without a lock. $17.95

MicroDisk/10 library case
Stores up to ten disks. Each case is designed with twin pockets and a step-up easel, for convenient desktop display. Colors are blue or champagne. $4.95

MicroDisk/10 library case

Micro/5 ComPak “Color Coder”

Five individual plastic cases, each holding five disks. Choose all-taupe or the Colorburst selection: red, yellow, blue, green, and gray cases. All five cases, $8.95

Dust Covers

Alpenlite
3891 North Ventura Avenue, Ventura, CA 93001
(805) 653-0431

Nylon dust covers
Four-hundred-denier nylon covers for the Macintosh, keyboard, external disk drive, and Imagewriter. Pewter or royal blue. Macintosh cover, $17; keyboard, $10; external drive, $8; Imagewriter, $11

American Covers, Inc.
512 West 9460 South, P.O. Box 1796, Sandy, UT 84091
(801) 566-3100

Macintosh and printer covers
Durable and water-resistant “leather look” covers that protect your Macintosh and Imagewriter from the elements. American Covers also makes covers for other printers; call or write for details. Macintosh cover, $16.95; external disk drive, $7.95; standard or wide-carriage Imagewriter, $9.95

Mouse-House mouse cover
A soft, furry, light-brown cover with beady eyes, tiny felt ears, and a pink nose. Cuter than the real thing. Fits snugly
over your mouse. One of two mouse covers we've seen. More are sure to come. $6.95

Co-Du-Co
5920-A West St. Paul Avenue, Milwaukee, WI 53213
(414) 476-1584

Fabric dust covers
Three-piece set includes Mac, keyboard, and printer covers. Specify tan, navy, royal, cherry, chocolate, or gray. Covers are made of polyester/cotton and are machine washable and dryable. (The company sent fabric and color samples. They were, indeed, very nice.) Silk-screening and monogramming are offered. If you'd like your covers monogrammed, add $1 for each initial. Three-piece set, $35; external drive, $5; numeric keypad, $3

Fabric dust covers

Dust Cover Division
316 California Avenue, Reno, NV 89509
(702) 786-4600

MacCovers
A custom-tailored set of antistatic dust covers for the Macintosh, keyboard, mouse, and Imagewriter. MacCovers are made of six-gauge vinyl with reinforced seams. All four pieces, $29.95

Plush fabric dust covers
These soft Antron velvet covers protect your system and look great, too. We found only one problem with them. After we gave our Macintosh "the decorator look," the rest of the desk looked...well, shabbier than before. The three-piece set includes covers for the keyboard, printer, and monitor, with a side pocket for the mouse. Colors are wine, raisin, clay, fawn, gold, grey, rose, chestnut, forest, rust, or blue. $36.95

Field-Pro dust covers
These clear vinyl, antistatic covers protect your Macintosh and are indeed well constructed. We tugged and pulled and couldn't loosen the double-stitched seams. Macintosh two-cover set, $16.95; Imagewriter, $9.95

Diversified Manufacturing, Inc.
4722 East Eighth Street, Wichita, KS 67208
(316) 263-6120

Hardcover keyboard cover
A vacuum-formed plastic cover that protects the Macintosh keyboard from dust, dirt, and spills. It's colored to match the Macintosh. $17.95

Elegant Interiors
855 South Knoxville, Tulsa, OK 74112
(918) 835-5807

MacCovers

Cover Craft Corporation
P.O. Box 555, Amherst, NH 03031
(800) 547-5600, (603) 889-6811 in New Hampshire

Cotton dust covers
Three-piece set includes Mac, keyboard, and printer covers. Specify tan, navy, royal, cherry, chocolate, or gray. Covers are made of polyester/cotton and are machine washable and dryable. (The company sent fabric and color samples. They were, indeed, very nice.) Silk-screening and monogramming are offered. If you'd like your covers monogrammed, add $1 for each initial. Three-piece set, $35; external drive, $5; numeric keypad, $3
**MacShell**
A flexible plastic “cover” that snaps onto the front of the Macintosh to protect both screen and disk drive from damage during transport. The MacShell may also be placed under the Mac, for a slightly tilted viewing angle. The underside of the MacShell has six “snap-in” disk pockets. Also includes a plastic keyboard cover. Both pieces, $29.95

![MacShell](image)

**Inland Corporation**
32051 Howard, Madison Heights, MI 48071
(800) 521-8428, (313) 563-7150 in Michigan

**MacCovers**
Antistatic, tan-colored fabric covers for your Macintosh and components. Covers are Scotchgardcd for moisture protection. The Macintosh cover protects both the system and the keyboard. Mac cover, $12.95; ImageWriter cover, $12.95; external hard disk cover, $8.95. A plastic MacCover keyboard cover is also available for $8.95.

**Kensington Microware Limited**
251 Park Avenue South, New York, NY 10010
(212) 475-5200

**Maccessories Dust Covers**
Antistatic nylon dust covers that fit over Macintosh and keyboard or ImageWriter. Each, $13.75

**MacPacks**
643 Industry Drive, Seattle, WA 98188
(800) 228-7042, (206) 575-1180 in Washington

**MacCovers**
Antistatic nylon covers for Mac, keyboard, disk drive, numeric keypad, standard and wide-carriage printers, and several models of hard disks. Call for prices.

**Overbyte**
8621 Laurel Canyon Boulevard, Sun Valley, CA 91352
(818) 504-0309

**Keyboard Overalls**
An ultra-thin, ultra-strong, transparent plastic cover that protects the Macintosh keyboard and remains in place while you type. Although interference with fingering is minimal, typing with an Overalls cover on your keyboard feels a bit like wearing surgical gloves. Installs in seconds and provides a watertight seal against nearly any kind of spill. $24.95

**SoftWear**
184 Thompson Lane, Chatsworth, CA 91311
(818) 884-0611

**Furry mouse cover**
We've got one of these on our mouse and wouldn't part with it for nothin'. Pale gray fur, pink ears, and a black nose. Irresistible and inexpensive. $6.95

**Maccessories Starter Pack**
Contains Mac and printer Dust Covers, the Maccessories Swivel, and the Maccessories Surge Suppressor. $90

**Macintosh and ImageWriter dust covers**
SoftWear's brushed denim covers are hand-sewn by a finicky seamstress who cares about details like double-stitched seams and a perfect fit. Your choices are tan with brown trim, brown with tan trim, or light blue with black trim. There's an outside pocket in back for the mouse. SoftWear
Mouse Pads

Computer Accessories Corporation
7696 Formula Place, San Diego, CA 92121
(619) 695-3773

Macintosh Kit
Includes MouseMat and QuickStand. MouseMat is a personal pad for your mouse made of sturdy, injection-molded plastic. Its textured top surface, according to the manufacturer, "gives your mouse the greatest mobility, allowing maximum efficiency to mouse movements." The bottom surface is covered with nonslip rubber to prevent the pad from slipping and sliding across your desktop. 8 1/2 x 11 inches. QuickStand is a bi-level slotted holder that stores up to four Macintosh disks. Brown anodized finish. $24.95

MouseMaster
A clear plastic, 9 x 11-inch mat for improved mouse movement. If this were a different kind of sourcebook, we'd say something like, "The clear plastic material lets the natural beauty of your desktop show through." But we've seen your desk. $9.95

Frontrunner Computer Industries
316 California Avenue, Suite 712, Reno, NV 89509
(702) 786-4600

MouseMat
The MouseMat provides a clean, smooth rolling surface for your mouse. It's made of hard rubber and comes with an 8-foot snap-on ground cord to dissipate static charges as you work. $29.95

MouseMat

Moustrak, Inc.
1 Weatherly, Suite 503, Mill Valley, CA 94941
(415) 383-2477

Moustrak
Moustrak is a foam mouse pad that's superior to most desktop surfaces. (Well, cleaner, anyway.) Its surface is a rayon/nylon blend that ensures smooth and fast mouse tracking and reduces wear on the mouse rollers. Moustrak is available in two sizes. Moustrak I measures 9 1/4 x 7 7/8 inches, and Moustrak II measures 9 1/4 x 11 1/8 inches. Colors are red, green, blue, brown, and gray. Moustrak I, $9.95; Moustrak II, $10.95

Moustrak

Moustrak

Moustrak

Moustrak

MouseMat

MouseMat

MouseMat

MouseMat
Mouse Pad
A smooth Neoprene pad with a raised edge to keep your mouse from skipping and straying across the desktop. The manufacturer writes, "We've baked Mouse Pads in ovens, run my Ford LTD over them, boiled them, frozen them, and soaked them for weeks. We are amazed at the durability of the product, but...we do not recommend parking your car on one."

We didn't. $12.95

Cleaning & Maintenance

Automation Facilities Corporation
Financial Plaza, 3916 State Street,
Santa Barbara, CA 93105
(805) 687-7040

Floppicleane head cleaning kit
Everything you need to clean your disk drive's read/write head: aerosol cleaning solution, twenty disposable cleaning disks, and a disk jacket. Also includes two antistatic screen wipes and a lintfree cloth for cleaning the monitor. Kit, $34.95; refill kit, with twenty cleaning disks and aerosol cleaning solution, $14.95

Frontrunner Computer Industries
316 California Avenue, Suite 712, Reno, NV 89509
(702) 766-4600

MouseMedic
A cleaning kit for the Macintosh mouse. Includes foam-tipped swabs to remove oil from inside the mouse case, non-metallic tweezers to remove hair and dirt particles, lintfree towels, cleaning solution, and an antistatic cloth to clean the ball. Also includes a can of compressed air with a long, thin, flexible nozzle to blow out dust from hard-to-reach areas. You can also use the kit to clean the Mac's screen, keyboard, and printer. $19.95

Kensington Microware Limited
251 Park Avenue South, New York, NY 10010
(212) 475-5200

Maccessories Disk Drive Cleaning Kit
Zap debris before it zaps your drive's read/write head. The Maccessories kit includes a reusable disk cartridge, disposable cleaning inserts, and a spray can of cleaning solution. $29.95
Diskette Head Cleaning Kit, CMP-153
Cleans your disk drive's read/write head to prevent errors or data loss from smoke, dirt, and oxide buildup. The kit includes a software disk that guides you through the cleaning process with on-screen instructions, two disposable cleaning disks that slide in and out of a reusable disk jacket, and head cleaning spray. The software disk steps the head to a fresh cleaning band on the cleaning disk, spins the disk, and automatically shuts the drive off thirty seconds later. Kit, $39.95; software disk only, $29.99

Mouse Cleaning Kit, CMP-232
The essential materials to keep your mouse in tiptop shape: swabs, lintfree cloths, cleaning solution, a compressed air duster, and complete instructions. $17.95

Flexible Head Cleaning Disk
The Flexible Head Cleaning Disk removes ferric oxide buildup and traps debris that can impair your disk drive's read/write capability. It works without abrasives and provides about fifty-two cleanings per disk. $39.95

MouseTracer
A drafting machine-like drawing aid for tracing hard-copy graphics. The MouseTracer is constructed of heavy-gauge metal and mounted on a 12 x 12-inch birch board. The accompanying picture tells the story. $34.95 (plus $3 UPS or $5.50 US Parcel Post; California residents add sales tax)
creating original art. Two final MacPaint screens are stunning full-page drawings.

Copy on the MacGrid package reads: “Beginning artists can use MacGrid to copy any subject (sketch, photo, etc.). Advanced artists will be able to turn their finished paper sketches into high quality works of art.” We'll admit this: MacGrid is not a gimmick, and it really does help. $39.95

MouseAround drawing board
Not a born pixel pusher? Maybe the MouseAround can help. The MouseAround is a 12 x 12-inch plastic board with a sliding mechanism that holds the mouse. Place a drawing you want to copy on the MouseAround and insert the mouse; then trace the drawing using the red crosshairs engraved in the MouseAround's clear plastic frame. The sliding mechanism keeps the mouse aligned horizontally and vertically for more accurate copying. $49.95

Hoglund Tri-Ordinate Corporation
343 Snyder Avenue, Berkeley Heights, NJ 07922
(201) 464-0205

PaintMate
PaintMate is a graphic aid that's tricky to describe. It's a reflective “screen” (measuring 8 3/4 x 9 1/2 inches) that you suspend in front of the Macintosh screen, using a mounting bracket that's supplied. When an object is placed under the PaintMate screen, its image is reflected onto the Macintosh screen. You can then use the mouse to trace the reflected image as a MacPaint document, with proportions and perspective intact. Includes hints for getting a good reflected image. $39.95

Pneu-Mouse Corporation
194 Spence Lane, Nashville, TN 37210
(615) 871-0405

Pneu-Mouse
The Pneu-Mouse literally floats your mouse on a cushion of air, giving increased cursor control that’s especially useful for drawing applications. The Pneu-Mouse consists of a circular disk carrier that “floats” (courtesy of a V-shaped groove underneath) on a panel of glass; the mouse fits into the carrier. The Club Mac News says, “Not only is the mouse easier to use, but control of the cursor on the screen is dramatically enhanced.” Includes all instructions and needed accessories. $74.95

Rubicon Publishing
6300 La Calma Drive, Suite 100, Austin, TX 78752
(512) 454-5004

Starcor Screen Coordinator
The Screen Coordinator is an acrylic overlay with a ruled and numbered grid that helps Macintosh programmers design windows, dialog boxes, and other screen elements. The grid is made up of horizontal and vertical lines spaced ten pixels apart. When a MacPaint printout is placed under the grid, the screen location of elements on the printout can be determined quickly and precisely. $39.95

Heizer Software
5120 Coral Court, Concord, CA 94521
(415) 827-9013

Easy Trace
Tools to aid in MacPainting. Like MacGrid, Easy Trace has a clear plastic background grid and a MacPaint background pattern (on disk, naturally) for precise placement of pixels. Easy Trace also adds clear plastic MacPaint “pixel rulers,” for easy conversion between inch and pixel measurements, and special sketch paper. Using the ruler and sketch paper, you can lay out and sketch a design on paper, then transfer it to MacPaint, using the background grid as a guide to precise tracing. $39.95

Heizer Software
5120 Coral Court, Concord, CA 94521
(415) 827-9013

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Starcor Screen Coordinator is an acrylic overlay with a ruled and numbered grid that helps Macintosh programmers design windows, dialog boxes, and other screen elements. The grid is made up of horizontal and vertical lines spaced ten pixels apart. When a MacPaint printout is placed under the grid, the screen location of elements on the printout can be determined quickly and precisely. $39.95
**Williams AG Products**  
Route 2, Box 85-B, Haskell, OK 74436  
(918) 482-3524

**Sketch-to-Scale overlay template**  
A clear plastic sheet, covered with a grid, that is placed on the Macintosh screen when using *MacPaint* to facilitate drawing to scale. Drawing scales of 1/8-inch up to full-scale, and engineering scales such as 1 inch = 20 feet, are possible with a single template, according to the manufacturer. The basic package includes one template scaled for 2-D drawings, instructions, and examples. The comprehensive package includes everything in the basic package and adds two overlay templates for interior and exterior perspectives. The Sketch-to-Scale may be easily removed. Basic drawing overlay template, $19.95; comprehensive drawing package, $34.95 (plus $1.50 shipping and handling)

**Ribbons & More**

**Applied Technologies**  
806 Forest, Olathe, KS 66061  
(913) 782-1249

**Computer Color**  
With this set of colored transfer sheets, you can print out *MacPaint* pictures, *MacDraw* diagrams, and other Macintosh creations in color. Begin by separating your document into sections—one for each color—and saving each section as a separate file. (See “Mac Prints a Colorful Picture” in this chapter for details.)  
Computer Color sheets work like carbon paper; simply place a sheet of Computer Color paper over a sheet of paper in your printer, remove the printer ribbon, and print a file. Roll the paper back, insert a new sheet of Computer Color, and repeat the process for each section of your drawing. Colors can be overlapped to create twenty-five different hues. Since the pigments are water-soluble, watercolor-like effects can be achieved with a damp paintbrush. Each package contains four sheets each of red, blue, yellow, and white. $5.75. A sample disk of color-separated *MacPaint* files is available for $5.

**Aspen Ribbons, Inc.**  
555 Aspen Ridge Drive, Lafayette, CO 80026  
(303) 525-0646

**Imagewriter ribbons**  
Good ribbons, good prices. Black, $5.75; red, blue, green, brown, or purple, $7.75; black iron-on thermal ribbons (minimum twelve ribbons), $10.75

**Computer Friends**  
6415 S.W. Canyon Court, Suite 10, Portland, OR 97221  
(800) 547-3303, (503) 297-2321 in Oregon

**Mac Inker**  
Ribbon re-inkers are popular among businesses and user groups, where members pool their funds to share an inker. Ribbons may be re-inked a dozen times or more for mere pennies a ribbon. If you’re careful and don’t hurry, re-inking can be a painless, non-messy operation. The Mac Inker will re-ink any fabric (not carbon) printer ribbon; specify printer type when ordering. The company also sells uninked cartridges and several colors of ink. Imagewriter Mac Inker, $59.95; two-ounce bottle of ink (blue, green, red, brown, yellow, or purple), $3

**Diversions, Inc.**  
1550 Winding Way, Belmont, CA 94002  
(415) 591-0660

**The Underware Ribbon**  
T-shirt design is as close as your Imagewriter when you’ve got an Underware Ribbon. Like other thermal ribbons, it lets you print transfers on plain computer paper and iron them directly onto a T-shirt or other material (recommended: a 50 percent cotton/polyester blend). Simple instructions begin with the answer to the inevitable question, “How do I get my T-shirt in the printer?” Easy, fun, and washable, too. Twenty or more transfers per ribbon. $19.95

**Underware ColorPens**  
Felt-tip pens that contain the same thermal transfer ink as the Underware Ribbon, but in color. Simply color your printout and iron the colored transfer onto a T-shirt or other material. Designs are permanent and washable (cool water, no bleach). A five-pen set includes red, orange, green, yellow, and blue pens. $19.95

**Esoft Enterprises**  
P.O. Box 179, Owasso, OK 74055  
(918) 272-7616

**Process color printer ribbons**  
Esoft’s process color Imagewriter ribbons are designed for better mixing of colors on the paper. Unlike ribbons that use opaque inks, Esoft’s ribbons use translucent inks. Light passes through the ink and reflects off the paper, resulting in brighter colors when colors are printed on top of each other. The ribbons are recommended for use with the company’s *ColorPrint* software, which guides users through ribbon changes and keeps the image aligned on the page (see the Graphics chapter for details). The three-ribbon set includes yellow, magenta, and cyan. $29.95
Express Computer Supplies
1684 Market Street, San Francisco, CA 94102
(800) 422-4949, (415) 864-3025 in California

Colored printer ribbons
Colored printer ribbons for multicolored drawings from your Imagewriter, Epson, or Okidata printer. Begin by designing your illustration in "layers." Print the first layer of your drawing, then run the paper back through the printer and print successive layers using different colored ribbons (red, green, blue, brown, yellow, purple). "Blend" colors by overlapping them to produce a variety of shades. Each ribbon, $8.95 (Imagewriter, Epson 80); $14 (Epson 100); $4 (Okidata 80/82/83/92/93). Rainbow Pack (one of each color), $49.95, $79.95, and $21.95 respectively.

Heat transfer ribbons
Heat transfer ribbons enable you to print a design on standard white computer paper and transfer the design with an iron onto cotton/polyester material (T-shirts, napkins, pillows, and so on). $17 (Imagewriter, Epson 80); $19 (Epson 100); $10 (Okidata 80/82/83/92/93)

Frontrunner Computer Industries
316 California Avenue, Suite 712, Reno, NV 89509
(702) 786-4600

Draw 'n Wear colored thermal ribbons
Draw 'n Wear ribbons let you create iron-on T-shirt transfers with your Macintosh in one or more colors: yellow, blue, red, green, or black. Simply separate your MacPaint drawing into several files—one file for each color. Then print the document as usual, rolling the paper back in the printer and inserting a different color ribbon for each pass. According to the manufacturer, each Draw 'n Wear cartridge makes up to 100 permanent, washable transfers. Each ribbon, $14.95

Rainbow Ribbons
Rainbow Ribbons let you escape from the world of black-and-white printing. They're film, not nylon, for crisp reproduction and come in a range of colors: yellow, blue, red, green, brown, silver, and purple, as well as black. Each ribbon, $9.95

I/O Design, Inc.
19 Lafayette Street, Rumson, NJ 07760
(201) 747-0943

Colored Imagewriter ribbons
Six colors: red, blue, green, brown, yellow, and purple. The ribbons use a special lubricated ink that prevents buildup on the printhead; graphic printing instructions are included. Each ribbon, $9.95

T-Shirt Factory
The T-Shirt Factory lets you make colored iron-or transfers of MacPaint designs from a set of heat-sensitive Imagewriter ribbons: black, blue, red, and yellow. $59.95

Mac Prints a Colorful Picture
By David Durkee

With colored transfer papers and colored ribbon cartridges, you can print in color with your Macintosh and Imagewriter. The process is similar to color printing in books and magazines.

Here's how the professionals do it. To produce color printing, a color slide is photographically filtered into four separate pieces of film. Each piece contains a portion of the picture that will be printed in cyan (blue), magenta (red), yellow, or black. Black, of course, is a color, as all Macintosh owners know.

The four "separations" are overlapped during printing to create all the hues present in the final color image. In effect, the picture is separated into colors, then put together again during printing.

Let's see how color "separations" were created for the American flag shown here.

First, the "flag master" shown in figure 1 was created. The drawing was kept as simple as possible (it's easier to add detail or shading after the drawing is separated). The star field was drawn in detail, but the striped flag portion was left unshaded; it was only necessary to draw lines indicating where red and
white stripes border each other. The master drawing was then saved as five identical MacPaint files: Flag Master, Flag Black, Flag Blue, Flag Red, and Flag Yellow.

Next, the individual separations were created. The separations in figures 2 through 5 resulted from erasing those parts of each master drawing that wouldn't contain an individual color, then again saving each file. In the Red Flag file, for instance, each area that wouldn't be printed in red was erased.

The black separation in figure 2 contains only the pole outline, rope highlights, short lines to encase the white stripes, and highlights where the flag "waves in the wind." Figure 3 contains only the blue star field. In figure 4, the red stripes were added by filling in the areas with solid black; everything else was erased. In figure 5, everything but the rope and the flagpole tip was erased.

The final step is printing each file, by rolling back the printer paper and inserting a new transfer paper, or a new ribbon cartridge, after each pass. Whether you're using transfer sheets or color ribbons, the separations must line up precisely (in printing terms, they must be "in register").

Here's an easy way to ensure registration: Mark lines on the edge of the paper that align with a non-moving printer part (like the paper baler) before the first pass. Then make sure the marks line up for each subsequent pass, as you roll the paper back.

Figure 2. Flag Black

Figure 3. Flag Blue

Figure 4. Flag Red

Figure 5. Flag Yellow
Iron-on transfer ribbons
Replacement Imagewriter cartridges that enable you to make iron-on transfers from your printer. Black only. Each ribbon, $17.50 (plus $3 shipping and handling)

Sharp Color
578 Lynnwood Lane, Lancaster, OH 43130
(614) 687-0129

Colored Imagewriter ribbons
Add your own personal touch to letters, brochures, drawings, and other Macintosh creations with colored Imagewriter ribbons. Red, green, brown, blue, yellow, and black. Each ribbon, $18

Imagewriter thermal ribbons
Thermal ribbons let you easily transfer any Macintosh-created design to cotton/polyester material. Simply print the design on standard computer paper, place it face down on a T-shirt or other fabric, and iron in place. $18

The company is also planning to produce re-inkable Imagewriter cartridges, which will come with 1/4-ounce bottles of ink. Call or write for details.

Miscellanea

Apple Computer, Inc.
The Apple Collection
P.O. Box 306, Half Moon Bay, CA 94019
(800) 227-6703, (800) 632-7979 in California

The Apple Collection
The Apple Collection is everything from clothing, gifts, and novelties to...well, why not write for a free catalog and see how completely our favorite computer company has its Yuppie bases covered.

Ferro Enterprises
P.O. Box 2151, La Jolla, CA 92038
(619) 456-2213

Paper Saver
An ingenious little device that fits into the Imagewriter's single-sheet slot and stops tractor-feed paper from curling back into the printer and jamming on itself. It comes off in a second when you're printing individual sheets. $6 (standard Imagewriter), $8 (wide-carriage Imagewriter)

Neb's Computer Forms
12 South Street, Townsend, MA 01469
(800) 225-9550

Computer forms and supplies
Neb's is a mail-order house that sells forms and accessories for Apples and other computers. Send for a free catalog and set aside an hour for wishful browsing.
Hey, I just read in this magazine you're a great computer. Is it true?

Of course it is! Don't you know I'm a computer of the new generation.

with a 32-bit microprocessor

running at a high fast 8 MHz

My God! I would never think "you" could be so smart.

I thought you could just understand 0's and 1's.

Sometimes, I feel very tired.
Books live. Thank God.

And let's put the "glut of computer books" myth to rest. The world needs computer books. People want computer books. Computer books are better than other books—all of them, any of them. Not a single computer book is overpriced or filled with anything less than priceless, needed information.

We hope the book buyers from B. Dalton are reading this.

Actually, there is a glut. There are too many books about computers you don't own and aren't interested in. Too many books that are too technical, or too simple. And too many books like this one.

Book buyers created the glut. Computers were complicated and manuals were lousy. That pirated copy of WordStar wasn't much good without a manual, but there was also Arthur Naiman's Introduction to WordStar, as close as your nearest bookstore.

Books flooded from publishers. Tidal waves of Introduction to Introductory BASIC for Beginners and Preschoolers washed into bookstores. Oceans of watery metaphors were swept along.

The price tags were outrageous. And still are, for a few reasons. Simple greed is one. Another reason is shelf life. Computers come and go. People will always cook Mexican food, but this year's favorite computer language (or computer) won't be next year's favorite. Publishers want to
get in, make money, and get out. Usually they have no choice; the books are dated quickly.

If you think a book is overpriced, don’t buy it. Better yet, write to the publisher. Write: “This book is overpriced. If it were less expensive, I’d buy it. So would others.”

Macintosh presents a special problem for publishers. The Macintosh barely needs a manual; it surely doesn’t need tutorial books, does it?

Sure it does. Computer buyers enjoy reading about their computers. Many are well-educated, and frequent book buyers. Some people truly do want and need introductory books. Windows and scroll bars and buttons and icons make perfect sense, but not the first time you sit before a Macintosh.

Some introductory books are worth the money—full of hints, tips, and insights. Others, we admit, are expensive junk: quickie books that are embarrassingly bad—filled with typos, poor design, and factual errors.

What makes a good book? If you like it, it’s good. But here’s a more critical approach: A book should have good organization (check the table of contents) and a thorough index. The book should feel good in your hands. The typeface and overall design should be pleasing to the eye. The writing should be clear and accurate—not condescending, not obscure. Style is a bonus.

When they’re good, computer books are the equal of books on any other subject. We hope these books achieve the success they deserve. We believe they will.

Apple, Inc., is also a believer in books. To help separate the good from the bad, Apple has entered in partnership with Addison-Wesley and Hayden Books to “certify” some titles. Open up Scot Kamins’s Introduction to Macintosh BASIC and you’ll see these words: “Apple believes that good books are important to successful computing. The Apple Press imprint is your assurance that this book has been published with the support and encouragement of Apple Computer, Inc., and is the type of book we would be proud to publish ourselves.”

In this case, we agree. It’s an excellent introduction to Macintosh BASIC. But the world is increasingly incestuous, isn’t it?

Beyond introductions, there are books on programming, specific applications, and hardware. Also, compendiums, sourcebooks, and buyer’s guides. All here, as many titles as we could dig up. Words enough for all.

A final note: Some of the books described in this chapter exist. Some don’t exist and never will. Others are being written now and will trickle into bookstores and computer stores in the coming months. Vaportext, if you will.

Book publishing, especially computer book publishing, is a risky and unpredictable business. Months before a book is completed—sometimes even before a word is written—publishers reserve space for the book in stores and describe the new offering in spring catalogs. Many a book is written to fit a catalog description of “256 pages with 80 illustrations, $15.95.”
It's from these catalogs and visits to booksellers that we drew many of these descriptions. All the books in this chapter reflect the best intentions of their publishers, but in the end some of them may only be that: best intentions.

As you read this, authors are typing furiously, generating hundreds of thousands of words. Art directors are planning cover designs and promotional brochures. Printers are standing by to turn thousands of paste-up boards into real books. Bookstore owners are dusting off the shelves for new arrivals.

With luck, all will go according to plan. But just to play it safe, we noted those books that are absolutely, positively "available now."

We even read some of them.

Lower on the scale (a snobby viewpoint, we admit) are magazines and newsletters. The premier Macintosh magazine is *Macworld*. The only other "real" magazine devoted exclusively to Macintosh (for now, anyway) is *Macazine*.

A number of other magazines give Macintosh partial coverage. We've included the most notable in this chapter, although even magazines like the *Atlantic Monthly* have had articles about Macintosh. (But not frequently; we passed on the *Atlantic*.)

Next come newsletters. Now it gets interesting.

Newsletters seem to follow three paths: professional "insider" newsletters, "magazine" newsletters, and traditional newsletters.

A traditional newsletter is news in the form of a letter, which only makes sense—written by one person, having only a few pages, stapled together, and free (or almost free). The Little Rock Birdwatchers Club, we suspect, has just such a newsletter.

Many local Macintosh user groups also produce traditional newsletters. Some are quite good. None are listed here. If you'd like to search them out on your own, write to user groups listed in Appendix A.

At the other end of the scale are "insider" newsletters. Typically, they're well produced, full of little-known or very technical information, have a limited circulation, and are expensive. The *Seybold Report on Publishing Systems* is a good example. A typical issue was a hefty thirty-two pages (with no advertising) and covered Apple's LaserWriter and AppleTalk network in great detail. Other issues featured articles on "Technology Trends for the PC Market" and "Software Directions." The *Seybold Report* is issued twenty-two times a year. A year's subscription costs $240.

Is it worth it? For some people, definitely. For others, it's, well, $240 a year.

Between insider and traditional newsletters is a strange breed—newsletters with skimpy content and inflated prices. Starting a newsletter, it seems, is easy to do. But often the newsletters offer little (or nothing) that can't be found in "real" Macintosh magazines. The content is often low and the price is often high.

Here's some advice: Don't subscribe to a Macintosh newsletter until you've seen a few issues and carefully compared its price to magazine subscription prices.
There are some exceptions. The *Club Mac News* is meaty and well produced. Other, more specialized newsletters may also be good bets. *MacTutor*, one of the first “narrow focus” newsletters, would be welcome in any Mac programmer’s mailbox.

Newsletters are often a good value when the subject matter is narrow. Every issue of *Macworld* can’t be filled with FatBits articles, but every issue of the *FatBits Press* can. If you’re thinking about starting a newsletter, keep this in mind.

But why not put the entire newsletter on disk? Two companies have. *SoftSpot* and *Macazine* bill themselves as magazines on disk. (*Macazine* is no relation to the magazine of the same name. Something needs to be done there.)

Actually, these are “newsletters” on disk. That’s okay, but let’s be honest. The disks typically contain short reviews, short articles, editorials, public domain programs, and *MacPaint* pictures. Again, scroll through a few issues and consider the price before subscribing.

And don’t forget the library. Patronize your bookseller and favorite magazine rack, but also patronize your public library. Twenty bucks is a lot of money for a BASIC book. Some of these magazines aren’t cheap either. If the library doesn’t have the publication you want, they can probably get it. Ask. Encourage your library to stock a wide selection of computer (and Macintosh) titles: books, magazines, and newsletters (yes, some libraries will stock newsletters).


If we can do it, anyone can.
Books: General Interest & Software Specific

Ashton-Tate Publishing Group
9901 South La Cienega Boulevard, Inglewood, CA 90301
(213) 642-4637

MacPack: Creative Activities with MacPaint and MacWrite
By Sharon Aker and SoftSync, Inc. Two activity books in one. The MacPaint book has designs, games, shortcuts, hints, and tips. The MacWrite book has ideas for creating word games and Scrapbooks, among other things, and devotes a special section to fun-and-games projects. $15.95

Ballantine Books
201 East Fiftieth Street, New York, NY 10022
(800) 638-6460, (212) 572-2620 in New York

Apple Macintosh User's Handbook
By Weber Systems, Inc. An introduction to Macintosh. Available now. $9.95

Getting Started on Your Mac* (*If You've Never Used a Computer Before)
By Tim Hartnell with Rohan Cook. A beginner's guide to using Macintosh with MacPaint and MacWrite. Available now. $12.95

Banbury Computer Books
353 West Lancaster Avenue, Wayne, PA 19087
(215) 964-9103

Macintosh: The Appliance of the Future
By Gerard Lewis. A beginner's book that devotes about half the text to MacPaint and the other half to MacWrite. Goes a bit deeper into MacWrite than other beginner's books. Has a fairly good index, but no table of contents. We thought all books had tables of contents! Available now. $14.95

Bantam Books
666 Fifth Avenue, New York, NY 10103
(212) 765-6500

Lotus Jazz for the Macintosh
By Datatech Publications. $18.95

Power Painting: Computer Graphics on the Macintosh
By Verne Baumann and Ronald Kidd. $16.95

Brady Communications Company, Inc.
Routes 197 and 450, Bowie, MD 20715
(800) 638-0220, (301) 262-6300 in Maryland

Macintosh: The Definitive User's Guide
By John M. Allswan. Hands-on exercises in using the Macintosh, MacWrite, and MacPaint. Check your results on-screen against those in the book and learn how Macintosh works. $16.95

William C. Brown Company
2460 Kerper Boulevard, Dubuque, IA 52001
(319) 588-1451

Multiplan for the Macintosh with Microsoft Chart
By David Stiff and Michael V. Lasic. A structured, self-paced course that outlines the preliminary steps for running Multiplan, then explains each of the functions of the program as you develop models for business uses. Available now. $16.95; with disk, $26.95

Compute! Publications, Inc.
324 West Wendover Avenue, Suite 200, Greensboro, NC 27408
(919) 275-9809

Becoming a MacArtist
By Vahé Guzelian. An illustrated guide to Macintosh graphics with emphasis on MacPaint and MacDraw. How to construct impressive advertisements, designs, layouts, reports, presentations, and business correspondence with the Macintosh. Includes a knock-out gallery of professional artists' Macintosh creations. Well-written, enthusiastic, and one of the few books that discusses MacDraw. Recommended. Available now. $17.95

MacTalk: Telecomputing on the Macintosh
By Sheldon Leemon and Ari Levitan. Discusses the ins and outs of telecomputing with Macintosh, from selecting a modem to evaluating terminal software. Also describes a variety of information services, including Dow Jones, The Source, and CompuServe. Includes a section on how to transfer files to and from other Macs or other computer systems. $14.95

Datamost, Inc.
8943 Fullbright Avenue, Chatsworth, CA 91311
(818) 709-1202

The Apple Macintosh Primer
By William B. Sanders. One of the earliest introductions to Macintosh to arrive on bookshelves. Skimpy and now outdated. Not recommended. $9.95
dilithium Press
921 S.W. Washington Street, Suite 870,
Portland, OR 97205
(800) 547-1842, (503) 243-3313 in Oregon

Presenting the Macintosh
By Meri Miller and Mary A. Myers. An early introduction to
Macintosh. Many inaccuracies, but fun to read a year later.
$5.95

Hayden Book Company
10 Mulholland Drive, Hasbrouck Heights, NJ 07604
(800) 631-0856, (201) 393-6300 in New Jersey

The LaserWriter Sourcebook
The LaserWriter Sourcebook may be both a “first book”
about the LaserWriter and a continuing reference guide to
operation. Or it may not. Chapters may cover using the
LaserWriter with Microsoft Word, MacDraw, and Lotus’s
Jazz. Or they may not. Clapp is one of the few writers in
this chapter with a legitimate excuse for delivering his book
late: this book. $18.95

MacBook: The Indispensable Guide
to Apple’s Macintosh Computer
By Arthur Naiman. A one-stop resource for Mac owners who
want to get the most from their machines. First, Naiman
details the features of the Mac itself and examines the
assortment of printers, modems, and other hardware availa-
able. Then, he assesses the pros and cons of current Macin-
tosh software and details word processing, database manage-
ment, graphics tools, and more. A thorough, opinionated,
good read. $14.95

Macintosh Multiplan
By Joan Lasselle and Carol Ramsay. A Multiplan resource
book that covers the basics: how to enter text labels, num-
bers, and formulas; how to adjust and save worksheets; and
how to utilize Multiplan templates. As you learn, you’ll cre-
ate and revise an assortment of typical Multiplan work-
sheets. A good introductory book, but lacking in informa-
tion for experienced Multiplan users. Available now.
$16.95

Personal Financial Advisor: Managing and
Making Money with Multiplan
By Expert Systems, Inc. A book and disk package designed
for personal financial use or small business management.
The book explains the basic principles of cash flow, time
and value of money, depreciation, amortization, and internal
rate of return. The templates apply the principles to your
own financial goals and economic situation. The result is a
personalized financial planning program that gives a clear,
integrated picture of total net worth—and suggests alterna-
tive ways of increasing it.

With Personal Financial Advisor, microcomputer pros (or
novices) can track assets, liabilities, and net worth; calcu-
late internal rate of return and break-even points; analyze
and evaluate stocks and bonds with regression analysis;
create budget worksheets; and perform such statistical tests
as standard deviation, means, and variance. Requires
Multiplan. $49.95

Houlberg Development
P.O. Box 271075, Escondido, CA 92027
(619) 747-6379

Macintosh Typefaces, a Reference Guide
to Shapes, Sizes, and Styles
By Michael Houlberg. What appears to be a made-in-the-
basement book. Macintosh Typefaces is 113 pages of
Imagewriter printouts of Macintosh fonts: all the fonts, all
the characters in each, all the sizes available. Also includes
a number of good appendices: font tables, a table of ASCII
printing characters, a guide to Cairo characters, and a guide
to “Mystery Shift-Option-Tilde” pictures. Don’t expect text
with this one; it’s primarily the typefaces—page after page
of typefaces. Still, a good reference for font freaks, hobby-
ists, and font pros. Available now. $14.95 (plus $2.50
shipping and handling; California residents add sales tax)

InfoBooks
P.O. Box 1018, Santa Monica, CA 90406
(213) 470-6786

The Complete Macintosh Sourcebook
By Pat Ryall and Doug Clapp. Describes more than 750
Macintosh products from more than 350 vendors. Many
photos and illustrations. $24.95

Microsoft Word for the Macintosh
By Dennis James. By day, Dennis James is a computer
retailer with ten years experience in selling (and explain-
ing) computers and dedicated word processors. By night, he
writes: clean, engaging prose that doesn’t assume expertise
but is never condescending. Real-world stuff. Why things
work the way they do. Common problems, common-sense
solutions. How to get up-to-speed fast, and how to squeeze
the most out of your hardware and software.

Word for the Macintosh begins with an introduction to
word processing and Macintosh conventions, then covers
the specifics of using Word: editing, formatting, changing,
printing, searching and replacing, using headers, footers,
footnotes, and glossaries, and more. The author also
explains the trickier aspects of Word: placing graphics,
creating division layouts, using mail-merge, and transfer-
ring files from (and to) other applications. The book has
many illustrations and lots of hands-on examples. Word for
the Macintosh was produced entirely on the Macintosh:
written and formatted with Microsoft Word, then output—as
“camera-ready copy”—on the LaserWriter, ready to be pasted
onto “boards” and shipped to the printer. Needless to say,
recommended. $15.95

The One-Hour Macintosh
By Dennis James. An introductory Macintosh book written
by a frequent contributor to this book. Written for novice
users, The One-Hour Macintosh explains the Mac in an
easy, personal style, from setting up to understanding how
to use the machine. The book discusses software packaged with Macintosh and comments on other popular applications. We're admittedly biased about this book: We like the author and we like the publisher, who also published this sourcebook. And the price is right: $5.95

Your Best Interest
By Tom Weishaar. A book that, properly speaking, shouldn't be listed here. Your Best Interest is not specific to Macintosh. Your Best Interest isn't specific, in fact, to any particular spreadsheet or computer; the book is designed for anyone who wrestles with financial problems on any popular spreadsheet—including spreadsheets available for Macintosh. The book begins by explaining common spreadsheet arithmetic and guides readers into mastering complex financial calculations involving mortgages, interest rates, and interest-bearing securities. The book also details financial trickery used to take advantage of unwary investors and borrowers. Tom Weishaar is a former columnist for Softalk magazine and author of bestselling software for the Apple II, including Pronto-DOS. Your Best Interest is published by InfoBooks, the publishing house that's also responsible for this sourcebook—which should explain the inclusion of Your Best Interest in this chapter and our bias toward the book: We like it. You make up your own mind. $9.95

McGraw-Hill/Byte Books
1221 Avenue of the Americas, New York, NY 10020
(212) 512-3493

Designing and Implementing Your Own Expert System
By Beverly Thompson and William Thompson. An expert system is a computer program that can make logical inferences from a database of rules to solve a given class of problems. Designing and Implementing Your Own Expert System provides a front-row view of the state of the art in artificial intelligence, taking readers through the key components of a working micro-based expert system: how the critical components of an expert system interact and how knowledge must be represented for efficient computation of inferences.

The full system includes the book and a software disk, Micro Expert, sold separately. Designing and Implementing Your Own Expert System, $17.95; Micro Expert, $59.95

Introducing the Macintosh
By Charles B. Duff. One of the better introductory Macintosh books. This one's also a "Byte Book"—a clue that the information is more technical than found elsewhere. A well-produced book that covers all the expected topics but also includes details on the Mac video and sound designs, files, and other topics bypassed by competing books. Also, a history of the events that led to Mac, complete with bibliography. Available now. $14.95
MacWork/MacPlay
By Lon Poole. This one's a bestseller and should be. It covers the basics, then goes on to describe a number of "projects" for Multiplan and other Mac application programs. Has a good glossary, excellent production (standard with Microsoft Books), a listing of keyboard shortcuts, and much, much more. Fun, useful, and recommended. Available now. $18.95

Presentation Graphics on the Apple Macintosh
By Steve Lambert. An in-depth exploration of Microsoft Chart. Don't be fooled by the title; this one's about Chart and Chart only. An invaluable guide for anyone who must use Chart extensively, and a good introduction to representing data graphically. Well written, with many good examples. If you use Chart, buy and read this book. Available now. $18.95

The Printed Word
By David A. Kater and Richard L. Kater. A guide to the art of sophisticated word processing and printing on the Macintosh, using Microsoft Word. The book covers simple editing, formatting, windowing, and using Word's glossary and print-merge features. A special section reviews available printers and printer drivers and provides guidance in the production of professional quality type styles, graphics, and camera-ready copy. The authors also describe how to create brochures, newsletters, form letters, mailing labels, technical papers, and more. $17.95

Microtrend
Slawson Communications, Inc.
3719 Sixth Avenue, San Diego, CA 92103
(619) 295-0473

Kidding around on the Macintosh
By Linnea Dayton. A book crammed with Macintosh projects for children nine and up. Here are some of them: masks, T-shirts, paper airplanes, bags, boxes, geometric models, animal models, mobiles, clay beads, beanbags, puppets, tile mosaics, games, puzzles, mazes, greeting cards, electronic string art, flip-action books, notepaper, postcards, newsletters, calendars, and more. Requires a single-drive 128K Mac with MacPaint, MacWrite, and a printer. $9.95

New American Library (NAL)
1633 Broadway, New York, NY 10019
(212) 397-8000

By Leslie S. Smit. How to get the most from Macintosh: an overview of MacPaint, MacWrite, and Multiplan; word processing tips and shortcuts; mouse tricks, too. Available now. $14.95

Macintosh Design Studio: 107 Useful Projects You Can Make Yourself with MacPaint
By Robert Sacks and Jason A. Shulman. "The book that puts MacPaint to work." More than a hundred different MacPaint projects for home and business, for children as well as adults. Letterheads, business cards, greeting cards, business forms, newsletters, menus, calendars, and more. Design Studio was created entirely on the Macintosh. $19.95

Macintosh Graphics: From MacPaint to Your Own Graphics Programming on the Macintosh
By Gordon Mann. A step-by-step guide to producing sketches, pie charts, graphs, and more with MacPaint, MacDraw, and Macintosh Pascal/Microsoft BASIC commands. $16.95

Osborne/McGraw-Hill
2600 Tenth Street, Berkeley, CA 94710
(800) 227-0900; (800) 772-2531 or (415) 548-2805 in California

Macintosh Business Applications
By Robert Flast and Lauren Flast. Not available at this writing. $16.95

MacTelecommunications
By Jonathan Erickson and William Cramer. An overview of telecommunications: the hardware you'll need, detailed instructions for MacTerminal and other communications software, and the inside story on the most popular network and information services. Available now. $16.95
Microsoft Word Made Easy: Macintosh Edition
By Paul Hoffman. An introduction to the basics of word processing with Word. Creating letters, memos, reports, and more, with practical, business-oriented exercises. $14.95

Multiplan Made Easy: Macintosh Edition
By Walter A. Ettlin. Practical instructions and skill-building exercises that help you get the most from Mac's premier spreadsheet program. Covers everything from the basics of using Macintosh to formatting worksheets, entering data, building formulas, and using basic and advanced mathematical functions. $14.95

Using MacWrite and MacPaint
By Tim Field. An idea book designed to "spark your ingenuity so you can make the most of this innovative software." Learn to use Write and Paint to produce reports, illustrations, business correspondence, designs, and more. Available now. $11.95

Penguin Software
830 Fourth Avenue, P.O. Box 311, Geneva, IL 60134
(312) 232-1984

Macintosh! Complete
By Doug Clapp. Macintosh! Complete was one of the first books out about Macintosh and is now showing its age, but it remains a light, often readable introduction to Macintosh. Contains a good glossary of terms and an engaging Further Reading appendix. $14.95

Prentice-Hall, Inc.
General Publishing Division
Englewood Cliffs, NJ 07632
(201) 592-2141

Ken Uston's Illustrated Guide to the Macintosh
By Ken Uston. In all, a catchall book. Part one is the introductory material. Part two is "Writing with Macintosh." Part three is "Spreadsheets, Calculating, and Programming." Then there's a section on games and MacPaint, and a section on telecommunications. Uston is an engaging writer, but we wish he had "engaged" a bit more time and thought into this one. Available now. $9.95

Macintosh Notebook: Multiplan
By John Heilborn. How to exploit the unique features of Multiplan and the Macintosh for easier, more productive business and personal financial use. If you like this approach, you might want to investigate other offerings in Prentice-Hall's Notebook series for MacPaint, MacWrite, and Macintosh BASIC. $14.95

School and Home Guide to the Apple Macintosh Computer
By Everett Murdock and Susan Sudbury. How Macintosh compares to other personal computers as an educational tool. The authors describe the Macintosh and its operating system and evaluate "the merit and usefulness of the Mac's learning programs within the context of the school and home learning environment." $15.95

Random House
201 East Fiftieth Street, New York, NY 10022
(800) 638-6460, (212) 751-2600 in New York

101 Ways to Use a Macintosh: A Practical Guide for the Rest of Us
By David D. Thornburg. A collection of ideas for home, office, or classroom that help you explore the creative potential of your Mac. How to create charts and graphs, résumés, family trees, music notation, computer art, patterns, chain letters, databases, and more. Available now. $14.95

Reston Computer Group
Reston Publishing Company, Inc.
11480 Sunset Hills Road, Reston, VA 22090
(703) 437-8900

The Epson Connection: Macintosh
By Rick Dayton. Covers the basics of using a Macintosh with the Epson MX and FX series printers, then moves on to advanced topics such as character printing, bit-mapped graphics, and the printers' wide range of capabilities with various word processing programs. $16.95

Understanding the Macintosh Computer
By Rick Dayton. A general introduction to Macintosh and its earliest software: MacWrite, MacPaint, Multiplan (called MacPlan), and Microsoft Chart (called MacChart). Available now. $18.95

Howard W. Sams & Company
4300 West 62nd Street, Indianapolis, IN 46268
(800) 428-7267, (317) 298-5400 in Indiana

Introducing the Apple Macintosh
By Edward S. Connolly and Philip Lieberman. One of the earliest introductions to Mac and its software. Skimpy, quickly done, and not recommended. $12.95

Scott, Foresman and Company
1900 East Lake Avenue, Glenview, IL 60025
(312) 729-3000

Doug Clapp's Jazz Book
By Doug Clapp. In the words of its author, "Not only the best book about Jazz that will ever be written, but a book destined to be an instant classic to be read and reread many generations from now." $17.95

MacCats: 99 Ways to Paint a Cat with MacPaint
By Floyd Flanagan. One of our favorite MacPaint books. Not surprisingly, it's about cats—lots of cats and lots of ways to use MacPaint to draw cats. A fun book and a fun way to learn MacPaint. Available now. $9.95
MacPower: Using Macintosh Software
By Allen Munro. An introduction to popular Macintosh software: Filevision, ThinkTank, Multiplan, and more, with tips on using each package productively. Includes hints, shortcuts, and a brief guide to Mac peripherals. Available now. $15.95

Multiplan Mastery on the Macintosh
By Andrew J. Townsend. A guide to creating useful spreadsheets to manage business, personal, or statistical information on the Macintosh. Leads first-time Multiplan users from the basics to advanced concepts in spreadsheet design. Includes dozens of illustrations and sample spreadsheets. $15.95

Simon & Schuster, Inc.
1230 Avenue of the Americas, New York, NY 10020
(800) 223-2336; (800) 442-7070 or (212) 757-9152 in New York

SuperMac
By Danny Goodman. Useful and practical advice for getting the most from Macintosh. How to cope with a one-drive system, how to structure files efficiently, and how to optimize disk space. Also covers connecting peripherals, exchanging files with other computers, and evaluating new software. The author, a frequent Macworld contributor, also reveals many undocumented features of MacPaint and MacWrite. $16.95

Sybex Computer Books
2344 Sixth Street, Berkeley, CA 94710
(800) 227-2346, (415) 848-8233 in California

The Easy Guide to Your Macintosh
By Joseph Caggiano. Everything from setting up Macintosh to using MacWrite, MacPaint, and Multiplan. How to expand your system and what to do if there's a problem. A special section of "One Minute Recipes" outlines the steps involved in the most commonly used procedures. Available now. $12.95

Jazz on the Macintosh
By Joseph Caggiano. The ins and outs of Lotus's new integrated software package. Step-by-step lessons on using each of the functions, supplemented with tips on how to integrate them into solutions to business problems. $22.95

Tab Books, Inc.
P.O. Box 40, Blue Ridge Summit, PA 17214
(800) 233-1128, (717) 794-2191 in Pennsylvania

Jazz!
By David Bolocan. All about Jazz, with detailed explanations, nontechnical language, and lots of examples. $17.95
MacBusiness—Solving Problems with Your Macintosh
By Toby Younis. In the words of its publisher, "A forthright, businesslike approach to using the Macintosh for a wide range of practical applications." Okay. $14.95

Mac Graphics
By Tony Fabbri. Dozens of things to do with MacPaint, from game playing to preparing business graphics. $14.95

Mac Multiplan
By David Lefest and Linda K. Woods. Hands-on help for Multiplanners. Available now. $16.95

1,001 Things to Do with Your Macintosh
By Mark R. Sawusch and Tan A. Summers. An idea book for those looking for new ways to use their Macs. Everything from games to technical applications, all written in Microsoft BASIC. The programs are also available separately on disk. Available now. $9.95; with disk, $26.50

John Wiley & Sons
605 Third Avenue, New York, NY 10158
(212) 850-6000

Mac at Work: Macintosh Windows on Business
By Diane K. Burns and Sharyn D. Venit. How to create over fifty different business documents with Macintosh: from balance sheets, invoices, and organizational charts to business plans, proposals, and financial reports. No technical esoterica here, just advice on how to calculate, chart, plan and schedule, communicate, and sort your way to sophisticated documents that can be tailored to fields such as insurance, real estate, law, and medicine. $17.95; with disk, $39.95

Macintosh: A Concise Guide to Applications Software
By Dirk Van Nouhuys. Explains what Mac can do and shows how to run major application programs: spreadsheets, drafting and design programs, database management systems, and more. We haven't seen it, but here's a quote from the publisher: "This software guide candidly reviews the most popular software on the market. It tells readers the ones to buy and the ones to avoid, and even gives them a glimpse at what's to come with previews of beta-test versions of new Mac software soon to hit the market." Vaporware previewed!

The author also describes how to create music and charts, how to move text files from other machines to the Mac, and how to reach on-line information services. Includes more than ten printed programs and a glossary of personal computer terms. $16.95

Addison-Wesley
Publishing Company
6 Jacob Way, Reading, MA 01867
(800) 238-3801, (617) 944-3700 in Massachusetts

Early in 1985, as part of its Apple Press program, Apple chose Addison-Wesley as the exclusive distributor of selected Apple II and Macintosh user and technical reference manuals for the trade and college book markets. It seems like a good match: Apple has manuals and technical information; Addison-Wesley has marketing resources and distributing channels.

So expect to see many technical books from Addison-Wesley, written by Apple insiders or development team members. Also, Addison-Wesley has taken on the monumental task of making a book of Apple's Inside Macintosh documentation. Inside Macintosh should be in stores this summer, as a three-volume set; contact Addison-Wesley for details.

The Macintosh Developer's Guide
By William G. Nisen and Dennis Brothers. Begins with an introduction to the Macintosh and Mac XL and offers specific advice for programmers and commercial developers. The authors examine various programming environments, including Pascal, C, and BASIC, and explain how the Macintosh versions differ from other versions of these languages. Addison-Wesley explains, "The Macintosh Developer's Guide will not teach programmers how to crank out code. It will teach them all the development concepts they need to make programming the Macintosh efficient and productive."

The authors also speculate on additions to the Macintosh, such as artificial intelligence applications. Sections on peripherals and add-ons discuss such topics as memory enhancement, hard disks, and networking possibilities. $16.95

Macintosh Pascal Illustrated:
The Fear and Loathing Guide
By Scott Kronick. Billed as "an informative and entirely irreverent voyage into the heart of Macintosh Pascal." Join Mr. Moss and his hound dog Rollo as they explore Macintosh Pascal's menu options and show readers how to enter, save, run, print, and alter programs. Follow Mr. Moss into QuickDraw and the Toolbox, where you'll learn how, through sample programs, to use the mouse to initiate graphics, manipulate the Mac windows, send multi-styled text to the printer, and connect Macintosh Pascal to MacPaint and MacWrite.

Mr. Moss encourages experimentation throughout to help readers grasp the structure and grammar of Mac Pascal. Members of the Macintosh development team contributed programs that teach how to create full four-channel sound, format dollars and cents for business applications, display
smooth-moving animated graphics, and more. For referencing, the Whiz-Kids Encyclopedic Guide gives a comprehensive illustrated dictionary of Macintosh Pascal, including the QuickDraw and Toolbox routines. $16.95

Ashton-Tate Publishing Group
8901 South La Cienega Boulevard, Inglewood, CA 90301
(213) 642-4637

MacBASIC Programming
By James Heid. A step-by-step approach to introductory Macintosh BASIC, with examples, illustrations, and sample programs. Each chapter ends with a summary and a brief quiz on the material covered. $24.95

Bantam Books
666 Fifth Avenue, New York, NY 10103
(212) 765-6500

Macintosh C Primer Plus
By The Waite Group. A realistic look at C, for those with some programming experience but no prior acquaintance with the C language. Part 1 provides a “vanilla tutorial” of the C language as it applies to Macintosh programming, concentrating on those parts of the language syntax and constructions that are appropriate for Mac usage. Part 2 showcases features of some (only some) ROM “managers” and includes some simple C examples. $18.95

Programming in Macintosh BASIC
By Bob Albrecht and Don Inman. A BASIC tutorial for beginners to intermediates, planned for fall ’85 release. $16.95

Brady Communications Company, Inc.
Routes 197 and 450, Bowie, MD 20715
(800) 638-0220, (301) 262-6300 in Maryland

Business and Home Applications for the Macintosh Using Microsoft BASIC
By Stan Schatt. A beginner’s book of business, education, and home applications written in Microsoft BASIC. Introduces basic BASIC commands and explains how to use them to access peripherals and take advantage of Mac’s graphics capabilities. $14.95

Inside the Macintosh
By Thom Hogan. How Mac works: a detailed look at the 68000 microprocessor, the Macintosh ROM, and how information is stored and retrieved from disk. Includes thirty different routines and a comprehensive glossary of computer terms. $15.95; with disk, $40.95; disk alone, $25

Macintosh Assembly Language
By Leo J. Scanlon. Introduces and explores the 68000 instruction set and outlines the steps necessary to create and run assembly language programs. $18.95; with disk, $43.95; disk alone, $25

The MacPascal Book
By Paul Goodman and Alan Zeldin. An interactive Pascal tutorial; recommended by Brady as a textbook for schools teaching Macintosh Pascal. $15.95

Microsoft BASIC for the Macintosh
By Larry Joel Goldstein and David I. Schneider. An introduction to the fundamentals of Microsoft BASIC. Here are some chapter titles: Controlling the Flow of Your Program, Working with Data, Easing Programming Frustrations, Your Computer as a Filing Cabinet, String Manipulation, An Introduction to Computer Graphics, Computer Generated Simulations, and more. Includes an alphabetic listing of BASIC commands and numerous sample programs. $19.95

CompuSoft Publishing
535 Broadway, El Cajon, CA 92021
(619) 568-0996

Learning Microsoft BASIC for the Macintosh
By David A. Lien. An introduction to Microsoft BASIC from a bestselling author of books about BASIC for other computers. Light and humorous, with lots of examples. Available now. $19.95

Hayden Book Company
10 Mulhollland Drive, Hasbrouck Heights, Nj 07604
(800) 631-0856, (201) 393-6300 in New Jersey

Hayden is producing an impressive list of books about the Macintosh. In many cases, the authors are Apple employees who were directly involved with the creation of Macintosh or consultants to Macintosh. Steve Chernicoff, author of Macintosh Revealed, is a member of the Macintosh documentation team and wrote much of the material in the Inside Macintosh documents aimed at developers. Scot Kamins documented Macintosh BASIC for Apple during the design of the language and contributed to many of the design decisions. Arthur Naiman, though not connected with Apple, is the author of (among many other books) Introduction to WordStar, a book that has sold over 100,000 copies.

Basic Microsoft BASIC for the Macintosh
By James S. Coan and Louisa Coan. Step-by-step instructions, sample programs, and screen illustrations that guide you in writing control routines, subroutines, and complete programs quickly and easily in Microsoft BASIC 2.00. You’ll learn how to access the QuickDraw ROM routines; highlight short, simple programs with additional capabilities; write memory-efficient programs; and more. $18.95

Introduction to Macintosh BASIC
By Scot Kamins. Teaches the concepts and practice of solid programming: how and where to implement variables, loops, subroutines, random numbers, and arrays. The style is light, and the examples are often hilarious. Kamins is the acknowledged authority on Macintosh BASIC and, thankfully, an extremely good writer.
Exercises and quizzes lead you through Macintosh BASIC programming tools, unique commands, coding, the Macintosh Editor, and the accessories for developing, testing, and debugging programs. Recommended. Available now. $18.95

Macintosh Revealed, Volume One: Unlocking the Toolbox
By Stephen Chernicoff. Details the software encased in the Macintosh ROMs and shows how to create programs that access the ROM routines. Most examples are given in Pascal, the de facto Apple development language, although a nod is given to assembly language programmers. A good grounding in Pascal (and an interest in Pascal) is highly recommended to purchasers. In parts, very similar to Inside Macintosh. Includes, as an appendix, a sample "skeleton" application that implements the full Macintosh user interface—a valuable addition. Available now. $24.95

Macintosh Revealed, Volume Two: Programming with the Toolbox
By Stephen Chernicoff. Shows how to create overlapping windows, customized menus, scroll bars, disk I/O routines, and dialog boxes with the Macintosh Toolbox—and how to integrate these features into application programs. Explains how Mac responds to mouse clicks and keypresses. A simple text editor called MiniEdit demonstrates the implementation of the Toolbox; the source code for MiniEdit is described in the Programmer's Handbook following each chapter. Chernicoff uses Lisa Pascal to develop applications that use the Toolbox. $29.95

Microsoft Press
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8080

Macintosh Midnight Madness
By The Waite Group; Mitchell Waite, Dan Putterman, Don Urquhart, Chuck Blanchard, and Harry Henderson. Thirty-two games and utilities in Microsoft BASIC, each with an illustrated narrative describing its operation. How to write, list, run, and debug programs. Midnight Madness also teaches "the secrets of animation," how to use Mac's sound synthesizer to compose music, how to create a simple text editor, and how to turn your Macintosh into a "central message center." $15.95

Microsoft Macinations
By The Waite Group; Mitchell Waite, Robert Lafore, and Ira Lansing. Introduces the fundamentals of Microsoft BASIC programming and offers a quick look at the most commonly encountered programming statements. Presents a variety of practical applications for business, professional, and entertainment use, including disk file management, report printing, statistical graphing, animation, sound, and formatted data entry. A special section features instruction in using BASIC programs with Multiplan. $14.95

New American Library (NAL)
1633 Broadway, New York, NY 10019
(212) 397-8000

Assembly Language Primer for the Macintosh
By The Waite Group; Keith Mathews. This book is modeled on CP/M Primer and the bestselling Assembly Language Primer for the IBM PC. First, the author introduces the Macintosh's program development process. Then we're taken on an exploration of the Mac's many features, including the window into the 68000 microprocessor, 68000 assembly language itself, the strengths and uses of the Mac's built-in ROM routines, and the power of the Mac's program development system. A series of interactive tutorials explain assembly language as it governs Mac's QuickDraw routines, the event and menu managers, and other built-in ROM routines. $24.95

Games and Utilities for the Macintosh
By The Waite Group; Dan Shafer and Chuck Blanchard. Games and utility programs written in BASIC and Pascal that you type in and run. Just follow the step-by-step instructions; each program is accompanied by a detailed explanation of how it operates. Some of the offerings are games like Space Shuttle Pilot, Tron Cycle Chase, and Shooting Gallery; others are education, art, and music programs or useful utilities that sort text files, manage fonts and icons, and redefine keyboard keys. $18.95

Hidden Powers of the Macintosh
By The Waite Group; Christopher Morgan. Hidden Powers is billed as "the essential guide for serious programmers." Starting with a discussion of the ideas and concepts that went into the design of the Macintosh, Hidden Powers provides insight into the operation and functions of the Mac and the specific skills that programmers need to write fast, clean, powerful programs. Topics include the internal structure of the Macintosh; Mac's QuickDraw routines; the windows, menus, and resources of the User Interface Toolbox; and the many features of the Macintosh operating system, including memory and file management and device drivers. $21.95

Instant Pascal Primer
By The Waite Group; Dan Shafer. A comprehensive, step-by-step guide to Macintosh Pascal. Many explanations, exercises, and examples. $17.95

Osborne/McGraw-Hill
2600 Tenth Street, Berkeley, CA 94710
(800) 227-0900; (800) 772-2531 or (415) 548-2805 in California

The Microsoft BASIC Book/Macintosh Edition
Walter A. Etting and Gregory Solberg. Styled after the IBM BASIC Handbook, this step-by-step tutorial is divided into three sections that present a series of programming tools: basic, advanced, and "power." Four new chapters cover the sound, graphics, and event trapping capabilities of the Macintosh. $18.95
Using Macintosh BASIC
By Richard Norling. Insights into the many capabilities of Macintosh BASIC, with discussions of BASIC statements, functions, and operations. Special emphasis is given to graphics and sound. You'll learn how to create Macintosh windows and menus, how to program the mouse, and how to use Macintosh's Toolbox commands. Available now. $17.95

Using Macintosh Pascal
By Paul Sand. Hands-on instruction in learning to write, edit, and debug Macintosh Pascal programs. Many illustrations and sample screen displays. $17.95

Late in 1985, look for these titles from Osborne/McGraw-Hill:

Macintosh Assembly Language Programming
By Lance Leventhal. $19.95

Macintosh Game Animation
By Ron Person. $16.95

Macintosh Graphics
By David Kater. $17.95

The Macintosh Program Factory
By George Stewart. $17.95

Reston Computer Group
Reston Publishing Company, Inc.
11480 Sunset Hills Road, Reston, VA 22090
(703) 437-8900

Macintosh Hands-On Pascal
By T.G. Lewis and Abbas Birjandi. Pascal programming fundamentals: structure, integers, subprograms, iteration, files, arrays, sets, scalars, and more. Also, how to use the mouse and the Macintosh windows with a Pascal program. For beginning programmers and new Macintosh owners. $18.95

Scott, Foresman and Company
1900 East Lake Avenue, Glenview, IL 60025
(312) 729-3000

Getting inside the Macintosh:
A Programmer's Guide
By William B. Twitty. An exploration of the Macintosh and its operating system. Discusses the Mac and the 68000 microprocessor, along with the available compilers. $16.95

Microsoft BASIC Programming for the Mac
By Sharon Zardetto Aker. A BASIC tutorial for beginning to intermediate programmers. Includes programming techniques, numerous programs and examples, and advice on managing menus, windows, and the mouse. $12.95

Sybex Computer Books
2344 Sixth Street, Berkeley, CA 94710
(800) 227-2346, (415) 848-8233 in California

The Macintosh BASIC Handbook
By Thomas Blackadar and Jonathan Kamin. A weighty guide to every Macintosh BASIC command, arranged alphabetically. Includes an extensive listing of commands to access the Macintosh ROM routines and a number of well chosen examples. Not a tutorial, but a thorough reference to the Macintosh BASIC vocabulary. A puzzling omission: page numbers! (Not surprisingly, that omission makes an index impossible and the table of contents—there is one—silly.) Available now. $24.95

Programming the Macintosh
By Steve William. Information, examples, and guidelines for programming the 68000 microprocessor in assembly language. Covers the entire 68000 instruction set, with numerous examples of programming techniques useful in the Macintosh environment, including using the Toolbox routines in Mac's ROM. $21.95

Tab Books, Inc.
P.O. Box 40, Blue Ridge Summit, PA 17214
(800) 233-1128, (717) 794-2191 in Pennsylvania

MacPascal Programming
By Drew Berentes. Introduces the Pascal language as it relates to the user-friendly Macintosh. You'll get hands-on experience in Pascal as you experiment with text output, graphics, and sound. Then put 'em all together to create real working Pascal programs. MacPascal Programming leads off with a look at the general features of Pascal and how Mac lends itself to Pascal programming. Then the author moves gradually through more complex program structure, giving examples of each new concept. You'll learn about variables, new data types, forms of repetition, procedures, statements, files, and more. Includes several complete programs: a simple blackjack program, a gradebook program, and an inventory program. Also, listings of Pascal reserved words and built-in procedures and functions. $14.95; with disk, $27.95

Using and Programming the Macintosh
(Including 32 Ready to Run Programs)
By Frederick Holtz. A brief overview of the Mac and discussion of using Microsoft BASIC with the Macintosh. Sample chapters include Using the Macintosh Finder, Manipulating the Microsoft BASIC Screen, Programming Graphics in BASIC, Macintosh Filekeeping, and Programming the Mouse. Includes simple programs and source listings. Available now. $12.50; with disk, $28.50
John Wiley & Sons
605 Third Avenue, New York, NY 10158
(212) 850-6000

Scientific Programming with Mac Pascal
By Richard E. Crandall. A Pascal tutorial that addresses the educational needs of students and teachers in the sciences. Includes numerical and graphics programs, as well as advanced applications. $18.95

Newsletters

Macazine
Dail’s Software Company
23 Timberline Crescent, Newport News, VA 23606
(804) 595-6957

A monthly “magazine” on disk. Although parts of the issue (indications, contents page, pictures, solicitations, and certain short articles) are kept on the Scrapbook, the wordier items are contained in text files created by File, a simple and handy editor from the Macintosh Software Supplement. (Although it doesn’t support any type style but Geneva 12 plain, File’s abilities to keep more than one file open at once and to wrap text when you resize the window make it more convenient than MacWrite for notes and memos—and magazine articles.)

The first issue contained a few in-depth reviews, numerous short reviews—ostensibly of all the products that the editors had seen—and a lengthy list of products they had heard of (many of which are still not available). Macazine leans toward Pascal in its programming efforts; initial offerings included two utilities, a music maker, and a Breakout game in that language as well as a Pascal tutorial. Articles included an editorial on copy protection and a database of databases. $15.95 (single issue); $36 (one-half-year subscription/three issues); $60 (one-year subscription/six issues)

The Macintosh Connection
Hi-Tek Publications
P.O. Box 99, North Salem, NH 03073
(603) 893-2485

A slim, pricey newsletter. A typical mix: news, reviews, tips, product descriptions, book reviews (oh no!), and odds and ends. The newsletter is produced on the Macintosh, offset-printed on light-green paper, contains eight pages an issue, and comes out ten times a year (monthly except for August and December). This, like similar newsletters, is far too expensive for the amount and kind of information you get.

First-time subscribers get a year of issues for $16. Regular subscription price is $35.

Macintosh Support Group Newsletter
Macintosh Support Group
P.O. Box 461483, Garland, TX 75046
(214) 238-3114

A newsletter for dealers, distributors, and marketing professionals. Not for ordinary users—although you can maybe sneak a subscription. The newsletter is free; send your name and business card to John Zapata at the above address to subscribe.

Mac Notes
Aegis Development, Inc.
2210 Wilshire Boulevard, Suite 277, Santa Monica, CA 90403
(213) 306-0735

A chatty newsletter for software authors and programmers. Published monthly. Aegis Development markets the game Pyramid of Peril and actively solicits software to market in the newsletter. The premiere issue contained such articles as “Getting your program to market” and “How to keep your reputation in good shape,” and reviewed two versions of Forth for Macintosh. The first issue was eight pages; bigger
issues are planned. A recommended newsletter for developers. $60 (one-year subscription)

**MacTutor**
P.O. Box 846, Placentia, CA 92670
(714) 993-9939

One of our favorites. A fat newsletter aimed at Mac programmers, from beginners on up. The last issue we looked at was forty-three pages of good material, well presented. Each issue has these regular departments: C Workshop, BASIC School, Pascal Procedures, Forth Forum, and Assembly Lab. Also: letters, a new products section, and other good tidbits. A limited number of back issues are available for $3 each. Source code for published programs is also available for $9 a disk—a good deal. Recommended if you like programming on the Macintosh or want to learn. Published monthly. $24 (US/one-year subscription); $30 (Canada); $36 (overseas)

**Semaphore Signal**
Semaphore Corporation
207 Granada Drive, Aptos, CA 95003
(408) 688-9200

A monthly newsletter originally slanted toward Lisa (now the Mac XL) and slowly becoming slanted toward Macintosh. A typical issue is sixteen pages, with little copy and large advertisements. The type is big; the articles are short but interesting. If you own a Lisa or Macintosh, enclose your serial number and get a free subscription. Others pay. For free, recommended. $10 (ten issues)

**SoftSpot**
1053 Arroyo Drive, Fullerton, CA 92633
(714) 526-3062

Another monthly disk "magazine." The articles are contained in files created by the SoftSpot editor, a simple but useful editing program similar to Apple's text editor, *File*, from the Software Supplement. Along with articles, a question and answer column, and extremely terse reviews (shorter than this description), SoftSpot gives you programs, pictures, and other goodies every month. Two programs were included in the first issue (not counting the editor): SoftDial, a simple terminal program, and The Creator, a database application creator written in Microsoft BASIC and translated for Macintosh by its author. Other goodies included fonts to increase the screen capacity of Multiplan and two MacPaint pictures containing dozens of icons collected from Macintosh programs. $19.95 (single issue); $199 (one-year subscription/twelve issues)

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### Macintosh Magazines

**Macworld**
Icon Concepts Corporation
111 East Tyler Street, Athens, TX 75751
(214) 677-2793

A monthly newsletter that's recently become a magazine. The content is good and getting better every issue. The design and editorial values are still more akin to newsletters but are also improving monthly. Has a good mix of letters, articles, and reviews. As more advertising arrives and subscriptions increase, the magazine should blossom. We hope so; but the magazine business is a tough racket. We've got our fingers crossed for *Macazine*. One Macintosh-only magazine isn't enough. $2.75 (single issue); $24 (one-year subscription)

**Macazine**
555 De Haro Street, San Francisco, CA 94107
(415) 861-3861

A glossy, classy Macintosh magazine. Clean, open art direction. *Macworld*'s design can hold its own against any "real" magazine you'd care to name. A good mix of editorial, reviews, features, columns, and letters, all staunchly Macintosh related, though frequently predictable. Short on technical information and technical articles, long on articles aimed at beginners. Contains much general, useful information about Macintosh. In the past, criticized for reviewing products—in glowing terms—as if the products were available. They weren't. *Macazine* is a good magazine. All it lacks is strong competition—competition that might force *Macworld* from its often middle-of-the-road approach. Recommended. $4 (single issue); $30 (one-year subscription)

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### Other Magazines

**A+**
Ziff-Davis Publishing Company
11 Davis Drive, Belmont, CA 94002
(415) 598-2290

The magazine most likely to be found at your local newsstand. The largest magazine (both in pages and subscribers) devoted exclusively to Apple computers. At present, the Macintosh section of the magazine is tucked inside, surrounded by articles about ProDOS and other strange non-Macintoshian Appleish goings-on. Despite the relative size of the section, the Mac articles and reviews are thorough, well-written, and well-produced. Macintosh product information and some reviews, however, have recently
been mixed in with copy about other Apple computers, making it difficult to find Macintosh-specific information.

Rumors abound about a "split" of the Macintosh section into a Mac-only magazine. A good idea. Recommended. $2.95 (single issue); $24.97 (one-year subscription)

**Byte**
McGraw-Hill, Inc.
70 Main Street, Peterborough, NH 03458
(603) 924-9281

The largest circulation computer magazine of them all. *Byte* is the definitive computer magazine, unfortunately—a fact that says more about *Byte*’s competitors than about *Byte* itself. Has many excellent articles, some extremely technical. Not much Macintosh coverage, but at least (lately) one article a month related to Macintosh.

If you love computers, *Byte* is a must. If you don’t think computers are a big deal, you won’t think that *Byte* is a big deal. $3.50 (single issue); $21 (one-year subscription)

**Call -A.P.P.L.E.**
Apple PugetSound Program Library Exchange
280 S.W. 43rd Street, Renton, WA 98055
(206) 251-5222

*Call -A.P.P.L.E.* is the official publication of A.P.P.L.E. Co-op, the world’s largest Apple user group. Besides publishing the magazine, A.P.P.L.E. Co-op maintains a bulletin board and technical assistance hotline for members and offers April ‘85 issue contained sixty-four pages, was printed on a LaserWriter, and looked marvelous.

The content is consistently good. *Club Mac News* reviews finished products in a timely fashion. They couch their rumors as—surprise—rumors! And they’re usually reliable rumor mongers. They also offer tips (how to connect and use a modem, how to use Font Editor), opinions, speculation, and occasional bits of technology-related news. In past issues, the *News* has even reprinted a few Bloom County cartoons featuring the Maclike Banana Junior 9000, an extra bonus for Berke Breathed fans. Features have included:

- "The Virtues of Manual Labors," about the little-known tricks that can be discovered by actually reading manuals.
- "What Can an Anthropologist Do with the Macintosh?" in which custom fonts prove invaluable to academic specialists.
- "Mac Users Create Great Mastheads," a pictorial of other user groups’ newsletter graphics.
- "Comdex Review Special," containing a first look at Jazz, a report on Mac products at Comdex, a review of Lotus’s Comdex party, and an article on Apple president John Sculley’s keynote address, "Of Champions and Challengers." (*Club Mac News* accurately summarized it: "Don’t clone around.")
discounts on selected hardware and software. Call A.P.P.L.E. recently added a Macintosh section with tips and Mac-related articles. $3 (single issue); $21 (one-year subscription, non-members); $26 (one-year subscription, including membership in A.P.P.L.E. Co-op)

Creative Computing
Ziff-Davis Publishing Company
39 East Hanover Avenue, Morris Plains, NJ 07950
(201) 540-0445

Byte without the depth of technical information or the heights of smugness. Geared toward the computer beginner, hobbyist, and gamester. Strong on product announcements, reviews of new products, and "round-up" reviews of related products. Good coverage of recently introduced computers. Has a monthly Apple column and a number of articles about programming and "computer recreations." $2.95 (single issue); $24.97 (one-year subscription)

Dr. Dobb's Journal
M&T Publishing, Inc.
2464 Embarcadero Way, Palo Alto, CA 94303
(415) 424-0600

A well-produced hacker's magazine. Strong on CP/M, C, Forth, operating systems, and assembly language. Good editing and writing. A favorite, but not for everyone. Frequent provocative. Infrequent but increasing Macintosh coverage. But don't expect anything like a Macintosh sec-

Club Mac also offers a bulletin board system. Members can use the bulletin board to leave general interest messages, send E-Mail to other members, or access a member database or wine database through a program called the Intelligent Database Machine. More features are being added to the BBS on a regular basis.

The bulletin board also includes a good and growing selection of public domain software for downloading.

Club Mac's library may not contain as many programs as CompuServe's MAUG database does, but Club Mac's may be more selective (although there's a great deal of overlap between the two services). If you're looking for a particular program, you have to decide whether it's cheaper to call CompuServe (with connect-time fees and extra charges for 1200 baud, but few or no long distance charges) or the Club Mac BBS (with no connect-time fees or extra charges for 1200 baud, but with long distance charges to Houston, where the BBS is located). We can say that the Club Mac BBS, being smaller, is easier to navigate within than CompuServe, especially for merely logging on, getting software, and getting out. Other Club Mac BBS functions are harder to master. Those BBS functions are documented, along with a list of available files, in the quarterly Club Mac Road Show Tour Guide & Member Directory.

The Club Mac Road Show is a mini-exposition on wheels. Four times a year, Club Mac staffers hit the road with their favorite computer and the latest Macintosh software, hardware, and gew-gaws to visit colleges and user groups around the country. We haven't seen a Road Show presentation yet, but according to their newsletter, it's an experience at the grass-roots level: getting in there and interfacing with the users, pressing the flesh, and demonstrating Mac goodies.

We like the club, we like the idea, we like the newsletter. Go, Club Mac!

Annual dues, $35 (includes a one-year subscription to Club Mac News)

Club Mac
735 Walnut
Boulder, CO 80302
(303) 449-5533
tion from Dr. Dobb's; their mission is too general. If you understood the second sentence of this paragraph, pick up a copy. $2.95 (single issue); $25 (one-year subscription)

**InfoWorld**
CW Communications, Inc.
1060 Marsh Road, Suite C-200, Menlo Park, CA 94025
(415) 328-4602

*InfoWorld* wants to be *Time* magazine for microcomputers. It isn't, but it's trying. A good weekly source of industry news, speculation, and opinion. A number of products (for various computers) are reviewed in each issue. *InfoWorld* would like the reviews to be considered the definitive word on products. They aren't, due to inconsistency, space considerations, and poorly paid reviewers, but they're often good guides nonetheless.

If you want to know which companies are doing well, who's almost bankrupt, and what new computer was just announced, *InfoWorld* is mandatory. $2.25 (single issue); $26.95 (one-year subscription/50 issues)

**Nibble**
MicroSparc, Inc.
45 Winthrop Street, Concord, MA 01742
(617) 371-1660

A magazine devoted to Apple computers. Smaller and more technical than *A+*. Mainly Apple II-oriented. Not much Macintosh coverage, but a Mac-only section, with articles, reviews, programs, and new product announcements, is being readied. $3.25 (single issue); $26.95 (one-year subscription)

**Personal Computing**
Hayden Publishing Company, Inc.
10 Mulholland Drive, Hasbrouck Heights, NJ 07604
(201) 393-6000

A general, mass-market computer magazine. *Personal Computing* has a wide focus and leans heavily toward features and wrap-up articles that cover a range of products ("lap-top computers," for example) in a single swoop. Here and there, a Macintosh article surfaces.

Good general reading about computers. $2.50 (single issue); $18 (one-year subscription)

**Popular Computing**
McGraw-Hill, Inc.
70 Main Street, Peterborough, NH 03458
(603) 924-9281

After *Byte*, possibly the best general-nature computer magazine. Well produced, slick, and aimed at a less technical audience than *Byte* (*Popular* is published by the company that produces *Byte*). Much information, many reviews, and a few columnists who spew opinions in an effort to be provocative and sometimes succeed. Which, come to think of it, is the pot calling the kettle black. $2.50 (single issue); $15 (one-year subscription)

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**Periodicals**

**The Apple Index**
BP Publications
P.O. Box 617, Stiles Road, Southbury, CT 06488
(203) 264-2143

If you're familiar with the massive *Books in Print* or *Guide to Periodicals* found in libraries, you'll be right at home with *The Apple Index*. The index is a subject guide to magazine articles concerning Apple, Apple computers, or most anything else that relates to either. The index appears once every two months, with a year-end cumulation that includes everything from the previous indexes. The index is extremely thorough. Everything, it seems, is in there somewhere.

Here are two typical entries, under the heading "MACPAINT(SOFTWARE)"

- Profile of programmer; describes development of QuickDraw routines in MacPaint graphics program. MacPaint: The electronic easel. J. Young. (disp, rev) *MAC* 1:50-61 Fe 84

Detailed review of graphics program for the Macintosh.

The magazines indexed are *Apple Orchard, Byte, Call A.P.P.L.E., Compute!, Creative Computing, inCider, Macworld, Microcomputing, Nibble, Peeling II, Personal Computing, Popular Computing, Softalk*, and *ST.Mac*. The last two magazines are indexed until their demise in 1984.

A necessary purchase for the true Appleophile. Better yet, should be in all public libraries, alongside the magazines indexed. $32 (1984/six issues and cumulation); $35 (1985/five issues and cumulation); $60 (1984/1985)

**Icon Review**
177 Webster Street, Suite A404, P.O. Box 2566, Monterey, CA 93942
(800) 228-8910, (800) 824-8175 in California

This is interesting. It's a combination "reviews" newsletter and mail order software house. Here's a paragraph from the company's flyer: "Our editorial staff reviews significant Macintosh application programs from third-party software developers. Our selection guidelines appear on the back cover. We will endorse and offer for sale only the best two or three applications in each category."

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**The Macintosh Library**
A good deal, maybe, if you can trust the reviews. Hopefully, the products with the best “dealer mark-up” won’t get the best reviews.

The premiere issue is free. No price is listed for subsequent issues—we suspect that they too may be free, like most catalogs. Pick up the phone and get one. What can it hurt?

MacBriefs Digest
P.O. Box 6307, Huntington Beach, CA 92615
(714) 841-1771

A newsletter of “abstracts” from recently published magazines and newsletters. Also contains some short, original reviews of hardware and software. A hodge-podge of material, some useful. For those who can’t get enough Mac info, though, worth a glance. Regardless of its value, a massive amount of work for a one-man show. $18 (one year/six issues, charter subscription); $30 (regular subscription price)

The Macintosh Buyer’s Guide
Redgate Publishing Company
3381 Ocean Drive, Vero Beach, FL 32963
(305) 231-6904

The Buyer’s Guide is, like this book, a compendium of Macintosh product descriptions. Unlike this book, however, the first issue of the Buyer’s Guide never had an unkind word to say about anything—a fact that led us to create this book. Many of the “healthy competitive feelings” we had toward the Buyer’s Guide disappeared with the realization that the task of cataloging Macintosh products is awesome.

The Buyer’s Guide is in the process of becoming more a reviews magazine and less a press release assemblage. Still, even as a conduit for press flack, it’s useful. Think how much trouble it’d be to get all those companies to send you all those press releases!

Four issues are planned for 1985: Spring, Summer, Fall, and Winter. $5 (single issue); $10 (one-year subscription/US); $15 (Canada); $40 (foreign)
So you want to become a Macintosh software developer, do you? It can be done, but the process involves extra care, a thoughtful approach, and—for many developers—a completely new attitude.

Many programmers fall prey to a development style they’ve used in the past. The trap is set when they jump into the Macintosh programming game.

To succeed in developing software for Macintosh, programmers must follow certain rules. The following homegrown guidelines are a starting point for anyone interested in developing Macintosh software.

**Project Planning.** The software project should first be fully outlined. Next, a picture storyboard should be created that details every step of the program, and the exact visual "looks" should be approved by all parties involved. When an individual programmer takes on the tasks of programming, interface design, and product design, a major development problem results. These planning steps require critical attention and expertise that can’t be supplied by a single programmer.
The tasks involved in the planning stage can be broken down into these general categories:

- Product description
- Interface description
- Code arrangement description
- Product operation storyboard
- Project time and resource schedule

We've included a MacProject outline that details the step-by-step process of creating a product and another chart that details use of Apple's 68000 Macintosh Development System.

Basic Qualifications. The major difference between Macintosh development and development on other PCs is the extra care that Macintosh developers must exercise to produce a saleable product. Macintosh developers should have the following experience under their belts:

- Interface design
- 68000 machine code
- Storyboard design and planning
- Project management and planning

Becoming a Developer. Anybody who is organized and can plan carefully can become a Macintosh developer. To start the process, call up Developer Relations at Apple Computer and have them send you the Developer Application Package. The package contains a set of forms that you must fill out, in detail, describing your business. When filling out the business plan, it's critical to fully describe both how you plan to do business and the product you plan to develop and market. The paperwork is designed to filter out the casual developer, but it may also discriminate against the one-man-shop developer, especially if that person doesn't understand project planning or marketing descriptions.

Apple will respond to a well written package and send you various license forms and equipment price lists. You'll also need to purchase the Inside Macintosh documentation, available through the International Apple Core (San Jose, California). Addison-Wesley is now producing an Inside Macintosh book that will replace the documentation available from Apple. Look for it in stores sometime this year.

Apple's support for developers is good, provided you don't need too much information. Apple has been swamped by developers. If you expect hand-holding, you're in for a bad awakening. Apple generally starts hand-holding after you've developed your product and are having problems that prevent or delay final marketing. You need to realize up front that Apple is so busy and spread so thin in the area of developer support that you're essentially on your own. Don't be surprised if you need to yell, kick, and scream to get attention from Developer Relations. This is part of the game.

It helps to associate yourself, and your company, with as many outside developers and VAR (value added reseller) groups as possible. Professional associations are a good source of information and programming
resources. Apple also periodically offers classes and MacCollege, a course for developers.

Technical Information. Despite its shortcomings, Inside Macintosh is the primary source for Macintosh technical information. Inside Macintosh should be studied—not merely read casually—before attempting a software application. Currently there’s no exhaustively thorough documentation to hand-hold you through the development process.

Also helpful are Macintosh user groups on The Source, CompuServe, and other electronic bulletin boards. But your primary sources for support will remain other companies and other programmers already developing Macintosh software.

Ups and Downs. Major ups and downs for developers include the following:

Up & Easy
- Apple includes your product in product lists to dealers
- Macintosh user groups are available for presentations and feedback
- Apple becomes more helpful as you near product completion
- Apple technical support helps put final touches on your product
The Software Development Process

**Down & Hard**
- Apple is impossible to reach for help in initial stages of development
- You need to keep pounding on Developer Relations for help
- You've never planned a project before and you need help, but you can't get it
- Software marketing is ruinously expensive

**Development Languages and Equipment.** In the early days of Macintosh software development, a Lisa (now Macintosh XL) was required. You had to use the Lisa Pascal development system and you had to add the Macintosh Software Supplement included with *Inside Macintosh*. Apple Computer clearly defined the path that you had to travel to produce software.

Macintosh software developers now have many paths and choices. Complete development is possible using only a 512K Mac. Game developers in particular often need only the 512K Macintosh for development.

We've listed the major development languages by name and function, and noted the major features of each package. Ideally, your development library should include everything listed here:

**Pascal Development**
*MacAdvantage:UCSD Pascal* from SofTech Microsystems is ideally suited to developers familiar with the Lisa Pascal environment. The pack-
age is similar to Apple's Pascal development system, and most of the Lisa source code can be directly ported over to the Macintosh and converted to *MacAdvantage* Pascal. One word of caution: The package doesn't offer native code assembly; instead, it runs under an interpretive "p-Code" system. Development of general business software, databases, and word processors should go smoothly with this system.

**C Development**

Developers who use C are often involved in programming games or graphics—software that requires speed greater than Pascal development systems can produce. We'll consider two C packages that differ greatly but produce similar results.

Consulair's *Mac C* incorporates Apple's 68000 Macintosh Development System. *Mac C* includes elements found on other systems, primarily because Consulair developed the Editor, RMaker, and other packages for license by Apple to other developers. The system has recently been upgraded to include full floating-point. The Editor and entire development package are well designed and fully mouse driven.

*Aztec C* from Manx Software Systems is a well thought out and well implemented development tool. The major difference between *Aztec C* and other C's is Aztec's Unix-like shell. Programmers coming from the Unix environment will be at home with this system. Manx also licenses the Apple mouse-driven editor, but most programmers who choose this package prefer *Aztec C* because of their Unix background.
Forth

Creative Solutions' *Forth Level III* is a development option that can't be overlooked. The Forth language isn't suited for all programmers, but it's an attractive alternative for some. The Creative Solutions package has been used by both business and game software developers.

Assembly Language Systems

Two assembly language development systems are currently available: Mainstay Software's *MacAsm* and Apple's *68000 Macintosh Development System*. *MacAsm* is a nonlinking assembler. *MacAsm* has a fast compiler and may be the best alternative if you don't need the linking features offered by higher level languages. The operating environment is similar to Unix and CP/M. It offers high speed compilations, allows quick returns to the editor for corrections and changes, and produces executable applications in no time at all. If you're one of those rare programmers who create projects entirely in assembly code, this is the package for you.

The *Macintosh Development System* from Apple operates with a mouse-driven Editor and is fully compatible with other linking development systems.

Debugging Tools

Debugging tools are essential for program development. Besides helping you to solve problems (including major problems) after you've finished your software product, they help you tighten up the final product.
The 68000 Macintosh Development System includes three debuggers (from small to sophisticated) and a disassembler. 

MacNOSy from Jasik Designs is a symbolic disassembler useful for exploring the Finder, System, or other software to discover “what the other guy is doing.”

Hardware, Software, and Documentation Minimums. Developers should have, at a minimum, the following:

**Hardware**
- 512K Macintosh
- External disk drive
- Imagewriter printer
- Modem

**Software**
- MDS assembly language system
- One of the development languages listed above

**Documentation**
- Inside Macintosh and the Software Supplement
- 68000 documentation, available through your local tech bookstore
- Additional documentation for your primary development system, whether C, Forth, Pascal, or some other system

**Miscellaneous**
- 100 blank disks
- Three reams of paper (several thousand sheets)
- Five extra printer ribbons

**Most Important...** Here’s the most important thing to remember, assuming you’ve followed Apple’s guidelines and also have the best programmers in the world: Plan, plan, plan your project before you start.
Developer Services

Data Encore
585 North Mary Avenue, Sunnyvale, CA 94086
(600) 872-8778, (408) 720-7400 in California

Disk duplication services
Data Encore's ads promise to take your product "from raw materials, to disks, to packing, to delivery to your customers." Sounds good to us. In the beginning, when Mac was introduced, few such companies handled 3 1/2-inch disks. Now there are many. Look for them in InfoWorld's classified section under "Diskette Copy Service."

Echo Data Services, Inc.
Marsh Creek Corporate Center, Lionville, PA 19353
(800) 441-9374, Ext. 1411; (215) 363-2400 in Pennsylvania

Disk duplication services
One of the largest duplication houses on the East Coast, Echo specializes in copying and protecting all 3 1/2-inch and 5 1/4-inch formats. They'll provide labels and custom sleeves, and do your packaging and mailing, too. Call for more information.

The Robert Jacob Agency
1642 Eveningside Drive, Suite 110, Thousand Oaks, CA 91362
(805) 492-3597

Software agents
The Robert Jacob Agency represents independent software developers who wish to market the rights to their programs to established publishers. The agency has negotiated the sale of several leading Macintosh products.

If you're not able, or willing, to market your own program, a reputable agent can be a godsend—for a price, of course. Software agents, like literary agents, are many; you may want to talk to several before signing a contract. The Robert Jacob Agency may or may not be good—but they did manage to make it into this book, didn't they?

Media Systems Technology, Inc.
16950 Armstrong Avenue, Irvine, CA 92714
(800) 443-8515, (714) 863-1201 in California

Disk duplication services
In the old days, when Lisas were Lisas and Macs were still on the drawing board, MST was certified by Apple as the disk duplication service for authorized Lisa software developers. The company offers everything from copying to packaging and shipping. Call or write for information.

MicroStrategies
11409 28th Drive SE, Everett, WA 98204
(206) 337-2849

Mac Developers Guide
An on-disk guide to software development, written "for developers by developers." Discusses Apple support, details of Mac development, and available documentation. Includes undocumented programming hints and an abstract of development routines. The tone is informal and full of useful information. A recommended view of the development process at a good price. $24.95

Network Nexus
1081 Alameda, Belmont, CA 94002
(415) 591-2101

MacTraps
A Filevision template that categorizes and explains the mysteries of ROM contained in Apple's Inside Macintosh. All the ROM procedures and functions are here, neatly

MacTraps
categorized in a graphic *Filevision* database, waiting to be found and studied. Ideally, you'd have two Macintoshs, one for developing programs and the other for the *MacTraps* database. This setup would be more convenient than thumbing through the *Inside Macintosh* documentation, although admittedly more expensive. $49.95 (plus $4 shipping and handling)

**Replico Technologies Corporation**
834 Charcot Avenue, San Jose, CA 95131
(408) 945-1697

*Software duplication services*
Replico's disk duplication services include formatting, serialization, and copy protection for 3 1/2-inch and 5 1/4-inch disks. The company will also help with documentation, package design, media procurement, assembly, shipping, consulting, and accounting, if desired. Call for details.

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**SoftWeaver**
P.O. Box 7200, Santa Cruz, CA 95061
(408) 425-8700

*MacPorter*

*MacPorter* isn't a product, it's a service. For a fee, SoftWeaver will convert existing programs for other machines to run on the Macintosh. The company claims that, "With *MacPorter*, you select from a wide range of treatments for your program's user interface: from sensitive preservation to thorough facelift." The company will also provide foreign editions of programs.

SoftWeaver provided the Macintosh rendition of Scarborough Systems' *MasterType*, and did, indeed, make the program enjoyably Macish (or, as we like to say, better). Call or write for more information and price quotes.
If you like to program, or want to learn, you’re in luck. Almost every language that experienced programmers want is now available for the Macintosh. And beginners have a selection of remarkable languages that are easier to use, easier to understand, and easier to learn than versions for other computers.

Programming languages are classified in many ways. One way divides languages into two types: interpreted and compiled. But the division is misleading: Languages are a precisely defined set of rules and syntax—conceptual universes. The process of turning text into programs—whether by interpreting or compiling the text—is merely mechanics. Any language, in theory, can be either compiled or interpreted.

Language interpreters process lines of a program on the fly when the program is run. The program runs within the interpreter, which must be present each time the program is executed. BASIC is the best-known interpreted language (although “BASIC language interpreter” would be the most proper description).

Language compilers process a program in its entirety (and only once—if no mistakes are found); the result is a program that’s usually smaller and faster than a program written with an interpreted language. Compiled programs, once compiled into low-level machine code, can be run independently of the language compiler.

So why doesn’t everyone use compiled languages? A few reasons.

Let’s look at the history. Compiled languages, traditionally, required patience and a steady hand. The program first had to be written (using a text editor), then compiled (using the language compiler—usually a slow process), then possibly linked to other globs of program code (using yet another program—a “linker”). The result, in theory, was a program that ran correctly the first time. In reality, everybody makes mistakes. Back to the editor, back to the compiler...

Interpreted languages, in contrast, weren’t fast or small, but programs could be written quickly and used right away. Quick and dirty programming, if you will. And better for beginners, because programs could be modified fast and run again.

But times have changed. Some of the languages available for Macintosh are “semi-compiled” (or, if you prefer, “semi-interpreted”). Both Macintosh Pascal and Macintosh BASIC are semi-compiled languages. As you’d expect, both languages are faster than interpreted languages but...
slower than compiled languages. Both programs, though, achieve many of the benefits of compiled languages without saddling users with the inconveniences of editing, compiling, etc.

But for developers and other professional programmers, compiled languages are still the way to go. Which language to choose depends on the programming task, the qualities the program must have, and—maybe most important of all—the preference of the programmer. If you’re comfortable with the ultimate in fast, “low-level” program code, look into the assemblers, particularly Apple’s excellent 68000 Development System.

If you prefer C, a powerful and popular language, the choice is more difficult. There are many versions of C now available, and each differs significantly from the others. Pay attention to how each version differs from the unwritten “standard C” described in the book *The C Programming Language*.

Other compiled languages will find other audiences. Pascal is a general-purpose language suited for a variety of programming problems. Modula-2 is called by some the successor of Pascal. FORTRAN is sometimes favored for scientific and “number-crunching” applications. COBOL is a weighty language for weighty business applications. Forth, an interpreted language, is favored by some developers and despised by others. If you’re interested in Forth, MacForth from Creative Solutions is an excellent package that includes an on-disk tutorial.

Beginners and hobbyists should purchase either Microsoft BASIC or Apple’s Macintosh BASIC. BASIC is the lingua franca of microcomputers; many excellent BASIC programs are free for the asking, but you’ll need BASIC to run them (see the chapter on public domain software for more information on these programs). Currently, most public domain software is written in Microsoft BASIC. The scales may tip, though, as Macintosh BASIC is finally released.

Both Macintosh BASIC and Microsoft BASIC are excellent choices for beginners. Both offer, in their own way, access to Macintosh features. Neither requires line numbers, unlike other BASICS (including Microsoft’s BASIC for other computers). Both offer excellent debugging tools. Macintosh BASIC offers advanced “flow of control” structures found in many compiled (and more expensive) languages and access to about three hundred of the Mac’s ROM calls. Microsoft BASIC offers better control of windows, menus, and dialogs. The battle rages—and will continue—over which is the better language. On purely technical grounds, Macintosh BASIC wins. In terms of popularity, Microsoft wins. Examine both carefully if you’re in the market for BASIC.

Another good first language is Logo, a language similar to Lisp. And Lisp is similar to, well, Lisp isn’t really similar to anything! Like Logo, Lisp is a general-purpose language. Lisp devotees are often found making lists comprised of other lists that contain still more lists. It’s an unusual style of programming often used in artificial intelligence research. If you like to program for the sheer intellectual joy of programming, look into both Logo and Lisp.
A few languages are still unavailable for Macintosh. APL, noted for bizarre syntax and blithe juggling of matrices of data, isn’t yet available but should eventually arrive. Ada, beloved new child of the Pentagon, has no home in Macintosh and shouldn’t be missed. More arcane languages, like SNOBOL, COMAL, and ALGOL, aren’t expected but may show up anyway. And Smalltalk, the language behind the machine that inspired Macintosh, remains the great hope of language devotees but is unavailable for Macintosh—or any other computer with a price tag lower than $10,000. (Neon, however, does have some of the flavor of Smalltalk; it’s worth a look.)

The best language is like the best meal of your life: waiting, up there, in the future. But for now, Macintosh users have a selection of programming languages that can satisfy both snobs and gourmets, gluttons and picky eaters, those with a taste for the exotic and those accustomed to regular fare.
Assemblers

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or
(408) 996-1010 in California

68000 Macintosh Development System
A complete system for creating Macintosh applications. Includes an assembler, editor, linker, exec program, resource maker, debuggers, and more. Everything that Apple thinks you need to create applications in assembly language. It's all here, and all done well.

The assembler produces fast, highly optimized 68000 machine language code and fits the Macintosh interface precisely. The assembler also allows access to all ROM routines. The "equate" files alone are worth the price of admission for Macintosh hackers.

The program editor and debuggers are both excellent programs that can also stand alone. The full debugger requires a 512K Macintosh or two 128K Macintoshes cabled together. The package also includes two less sophisticated debuggers that 128K Macintosh owners can use to better their productions. The premier assembler now available for Macintosh. Complete package, $125

Macintosh 68000 Development System

Mainstay
28611-B Canwood Street, Agoura Hills, CA 91301
(818) 991-6540

MacAsm
The style of this macro assembler will be instantly recognizable to Apple II hackers. It works almost exactly like the S-C Assembler, one of the most idiosyncratic assemblers for that market. You might guess that idiosyncrasies in the Apple II market translate to heresies in the Macintosh world. You'd be right. MacAsm uses one nonmovable, non-sizeable text window, no menus, no dialog boxes, and no mouse. It uses command key combinations to move the cursor! Its editor uses line numbers, which even BASIC on the Macintosh has abandoned.

Nevertheless, it may be a hacker's delight. Unlike Apple's Macintosh assembler, it allows you to assemble short routines in memory (rather than to a disk file), which makes the assembly process faster and allows you to run routines immediately. You can get away with this on a 128K machine with only one disk drive, although 512K would allow you to assemble larger programs in memory. Larger programs can always be assembled to the disk, but with less immediacy. The assembler also supports macros, conditional assembly, and local labels and comes with two versions of the Macbug debugger.

And even though the assembler itself lacks Macish features, it includes a resource compiler that allows the creation of programs with menus, windows, etc.—the whole nine yards, as a sampling of example programs shows. (One demo shows the outline of a Mac tumbling in three-dimensional space, a tribute more to the talent of MacAsm's author than to the assembler's ease of use.)

Beware the documentation. It is no substitute for Inside Macintosh (you shouldn't expect it to be), and it is only barely adequate in describing the assembler itself. But real hackers don't use manuals anyway, do they? $125

BASIC

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or
(408) 996-1010 in California

Macintosh BASIC
Apple's contender against Microsoft BASIC 2.00. Like Macintosh Pascal, this one is semi-compiled and loaded with features. It's also fast. Macintosh BASIC implements many ANSI BASIC standards, including SELECT-CASE, DO-LOOP, WHEN-ENDWHEN, extended IF-THEN-ELSE-ENDIF, and extended functions. It allows parameter passing to subroutines and subprograms, and uses full screen editing and labels instead of line numbers. It can also run several programs simultaneously and gives access to many of the Macintosh's Toolbox ROM routines. Excellent debugging facilities include two ways to trace program flow and a window to show the current values of variables. A fine program for beginners and loaded with features for BASIC hobbyists. May create a rash of public domain programs. As this book was being written, Apple had not announced a price.
Microsoft BASIC 2.00

Consulair Corporation
140 Campo Drive, Portola Valley, CA 94025
(415) 851-3849

Mac C
A high-powered C compiler and C development system written by Bill Duvall of Consulair. Duvall also wrote the 68000 Macintosh Development System assembler for Apple. Mac C includes a fast disk-based editor (for creating both C and assembler files), a C compiler, a Linker, an Exec program, and Apple’s Mac Assembler/Debugger. The compiler conforms to the unwritten “C standard” and allows inline assembler code and direct access to Macintosh ROM routines. The compiler generates small, efficient programs. It includes three debuggers and excellent sample programs. Integration between the various modules is smooth and

Consulair Mac C

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Microsoft BASIC

Microsoft Corporation
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8060

Microsoft BASIC 2.00

Microsoft's newest version of BASIC for Macintosh. Actually, it's two versions: a "binary" and a "decimal" version of BASIC are included on the disk. The decimal version offers to-the-penny accuracy for financial programs; the binary version runs faster. Both flavors offer boldfacing of keywords; easy creation of Macintosh menus, buttons, and dialogs; and Mac-like editing, cutting, and pasting within and between programs. Line numbers aren't required. Advanced program control structures and esoterica such as "subroutines with local variables" are also supported. Most programs created with Microsoft's earlier version of BASIC can be run unmodified or converted to take advantage of new features.

Advanced BASIC programmers may be frustrated by limited program size and much disk thrashing on 128K machines. With 512K, however, this BASIC allows huge programs and offers greater convenience. $150
quick; adherence to the Macintosh user interface is precise and sure.

Recommended. Mac C runs on either a 128K or 512K Macintosh, or on the Mac XL. $295

**Mac C Toolkit**
A set of routines to complement Mac C. Included are a Teletype simulation to port existing programs to Macintosh, high-level C interfaces to low-level Macintosh routines, a "starter program" user interface skeleton, and a byte-oriented buffered I/O system to speed disk accesses. Mac C Toolkit, $175; Mac C and Mac C Toolkit, $425; Corporate Site License, $1,200

**Hippopotamus Software, Inc.**
1250 Oakmead Parkway, Suite 210, Sunnyvale, CA 94086
(408) 738-1200

**Hippo-C Level 1 compiler**
Includes compiler, screen editor, debugger, interactive tutorial, and help screens. Produces an intermediate code that requires the presence of Hippo-C to run. First release versions crashed frequently. The second version, 1.2, was better. We recommend reading thorough reviews of this product before purchase. $149.95

**Hippopotamus Software, Inc.**
1250 Oakmead Parkway, Suite 210, Sunnyvale, CA 94086
(408) 738-1200

**Hippo-C Level 1 compiler**
A complete C development environment. Programs written with the Level 1 system are transportable to Level 2. $399.95

**Manx Software Systems, Inc.**
Box 55, Shrewsbury, NJ 07701
(800) 221-0440, (201) 780-4004 in New Jersey

**Aztec C68K-p and C68K-c**
The Manx C compiler is available in two versions: C68K-p and C68K-c. The initials represent "personal" and "commercial." Both versions run on 128K systems with one drive. Aztec's products get generally good notices from developers, who find them to be standard, well-tested systems for developing code that's easily ported to other computers. The personal version includes the compiler, a relocating macro 68000 assembler, a full Unix system library, and a shell command editor.

The commercial version includes features of the personal system and adds support for the Macintosh Toolbox, an overlay linkage editor, and dynamically relocatable code of unlimited size, according to Manx. The Aztec compilers are a favorite with developers for other computers. Includes C utilities. C68K-p, $199; C68K-c, $500

**Megamax, Inc.**
P.O. Box 851521, Richardson, TX 75085
(214) 987-4931

**Megamax C**
A commercial C development system. Includes a C compiler, standard C library, linker, librarian, disassembler, text editor, and resource maker. The compiler allows floating-point arithmetic and full access to all Macintosh ROM routines.

The linker uses "procedural resolution," which links only code needed by the application, resulting in smaller, faster programs. Dynamic overlays and inline assembly language code are also supported. Example programs are included. No license fees are required for use of the system library in commercial applications. $299.95

**Softworks Limited**
607 West Wellington, Chicago, IL 60657
(312) 975-4030

**Softworks C**
Includes C compiler, standard header files, and five sample programs. Although documentation is skimpy, the White-smith's C manual, which describes—in part—Softworks C, is also included. At present Softworks C also includes Apple's 68000 assembler, linker, resource maker, and editor. The compiler supports the standard Unix function library.

The compiler supports full floating-point arithmetic, unlike some other C compilers now available. Softworks' floating-point routines are not Apple's SANE floating-point
package but are well implemented. Full compatibility is claimed with all Macintosh ROM routines, 512K Macintoshes, and Mac XLs. A workmanlike, rather "traditional" C compiler, not recommended for newcomers to C. Complete package, $395; documentation only, $30.

COBOL

Micro Focus, Inc.
2465 East Bayshore Road, Suite 400, Palo Alto, CA 94303
(415) 856-4161

*Mac COBOL*

Yes, some people still program in COBOL. Really. And, yes, it was probably inevitable that COBOL would be offered for Macintosh.

Here it is. It's from Micro Focus, a company known and respected for COBOL implementations on other computers. Their version is High Level ANSI '74 COBOL and requires 512K, which shouldn't be surprising if you're acquainted with COBOL. The package includes a number of programming tools. Among them are an editor, forms generator, syntax checker, compiler, debugger, library, and on-line help facility. Also included is "Build," which creates executable modules formed from application programs and "Applications Support Modules." Build also creates pre-organized links to any libraries required by the application. In all, a professional, feature-filled COBOL from a respected vendor—at a price. $2,000.

**Forth**

Creative Solutions, Inc.
4701 Randolph Road, Suite 12, Rockville, MD 20852
(301) 984-0262

*MacForth Level I*

A full-featured Forth language and operating system. Level I is aimed at beginners and hobbyists. It allows user-defined menus, windows, and graphics and is compatible with Macintosh files. Also includes an excellent disk-based Forth tutorial and comprehensive manual. $149.

*MacForth Level II*

Includes Level I. Enhances Level I by providing a 68000 assembler, IEEE floating-point arithmetic, advanced graphics capabilities, support for text editing within programs, and access to ROM controls and dialogs. $249.

*MacForth Level III*

Includes Levels I and II. A complete Forth development system for professionals wanting to turn Forth into cash. Enhances Level II with Trace, Debug, and Snapshot capabilities. Includes an overlay manager, as well as a 350-page manual. Price entitles purchaser to support on CompuServe. $499.

Developers should contact Creative Solutions for information about licensing and royalties.

MicroMotion
12077 Wilshire Boulevard, Suite 506, Los Angeles, CA 90025
(213) 821-4340

*MasterForth*

A Forth that conforms to the '83 Forth standard. MasterForth is a full 16-bit Forth that is extremely fast. It deals with the stack as a 16-bit entity, compiles true 16-bit addresses of assembler routines, and compiles programs quickly. MasterForth also allows linking of precompiled modules, in a manner similar to many C compilers. Unfortunately, programs written in MasterForth can't use more than 64K for programs (although arrays can use additional memory).

The product is a good choice for developers wishing to develop applications in Forth, but MasterForth is not as well suited for beginners as MacForth. $125.
FORTRAN

Absoft Corporation
4268 North Woodward, Royal Oak, MI 48072
(313) 549-7111

MacFortran
An ANSI FORTRAN 77 compiler with debugger. Generates position-independent, directly executable native code. Produces either Macintosh application files or FORTRAN subroutine files, which can then be called from application programs.

The compiler is disk-based and allows the creation of large programs, even on 128K machines. Compiles and runs standard FORTRAN 77 files with little or no modification. Handles complex numbers, unlike some other compilers. Source files can be created with MacWrite or other Macintosh word processors. Includes linker, library manager, IEEE floating-point routines, and Debug, an interactive source code debugger. Allows full access to the Toolbox, including QuickDraw, the Window Manager, and the Font Manager. Takes good advantage of the Macintosh user interface. Includes a 300-page reference manual. $395

MacFortran

SoSoft Microsystems, Inc.
16875 West Bernardo Drive, San Diego, CA 92127
(800) 451-8080; (800) 824-7867 or
(619) 451-1230 in California

Advanced Development Tool Kit
Tools for use with SoSoft’s FORTRAN or Pascal compilers. Includes source code for a graphics or mouse interface, a symbolic debugger, 68000 assembler, and linker. $150

FORTRAN-77 Development System
A subset of the ANSI 1977 FORTRAN standard. Supports structured programming and improved character types. Includes a screen editor, file manager, and library manager. $295

Lisp

ExperTelligence
559 San Ysidro Road, Santa Barbara, CA 93108
(805) 969-7874

Experlisp
The first Lisp for Macintosh. This is reported to be a robust version of the language that also provides access to the Macintosh Toolbox. Compiles directly to 68000 machine code. Has extensive graphic capabilities, including 3-D and spherical graphics. $495

Experlisp

Experlisp Workstation
For Lispers who want the very best. The package includes Experlisp, a Macintosh XL (Lisa), two megabytes of RAM memory, and a ten-megabyte hard disk. Cost for the complete package is said to be “under $7,000.” We’d hope so.

Experlisp

Logo

ExperTelligence
559 San Ysidro Road, Santa Barbara, CA 93108
(805) 969-7874

ExperLogo
A compiled version of Logo. Language commands can be chosen from pull-down menus, and menus can be customized by users. Supports multiple windows and cut and paste between windows. Features turtle graphics (like other Logos) and also offers “bunny graphics.” The “bunnies” are capable of movement in three-dimensional, program-defined spaces and can also “live” in cubes and spheres. ExperLogo pro-
ExperLogo

Procedures may reside on disk, allowing a program size greater than 128K. Disk files may be read by other applications. ExperLogo prides itself on speed and is relatively fast once the programs have been compiled. Getting to that point, though, takes a while. $149.95

Microsoft Corporation
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8080

Microsoft Logo

Microsoft Logo was developed by Logo Computer Systems of Montreal, Quebec, and is being distributed by Microsoft as a MacLibrary program. Microsoft Logo wasn't completed as this book went to press. Preliminary specifications call for a Logo capable of multiple windows, access to Quick-Draw graphics, procedure formatting and comments, arrays, and "high-precision" math.

Turtle graphics and on-line help are included in the package being readied for release. According to Logo Computer Systems, additional groups of commands—"loadable primitive sets"—will become available later on that allow users to configure Microsoft Logo for specific tasks. $150

Modula-2

Modula Corporation
1673 West 820 North, Provo, UT 84601
(800) 545-4842, (801) 375-7400 in Utah

MacModula-2

A complete two-disk package for developing programs in Modula-2. Includes a compiler, linker, library, run-time system, 600-page tutorial, and reference manual. The compiler produces "M-code," an intermediate form of code similar to p-Code produced by UCSD Pascal. $150

Volition Systems
P.O. Box 99628, San Diego, CA 92109
(619) 270-6800

Modula-2

A complete program development package. Includes a one-pass Modula-2 compiler and library, an Apple Pascal-like operating system and file manager, a Unix-like shell, batch command interpreter, a screen editor, and other utilities.

With the 128K Macintosh or Macintosh XL, the package supports access to Macintosh ROM routines, and applications created can be run from the Finder. On the 128K Macintosh, only a subset of ROM routines is available, due to memory limitations. Price and availability not announced.

Neon

Kriya Systems, Inc.
505 North Lake Shore Drive, Suite 5510, Chicago, IL 60611
(312) 822-0624

Neon

A new language written for the Macintosh, Neon is a hybrid of Forth and Smalltalk. Like Forth, it's a stack-based "threaded language" that can be extended by creating new "words." Like Smalltalk, it employs the ideas of objects and classes of objects.

Neon includes an install command, which makes only the application program visible to the user, and comes with an editor, debugger, and other utilities. Full access to the Macintosh ROMs is provided, according to the manufacturer.

The language wasn't available for review, so here are some comments from a press release about Neon: "Neon simplifies and integrates the logical model created by the Toolbox, making it easier to comprehend by hiding unnecessary details. If you need an object modified to work differently, simply create a new 'class' of objects that inherit the properties of another class, changing only the characteristics that need to be changed."
We suspect that programmers who like Forth may also like Neon. Others may feel that Neon is, well, much like Forth. The price includes a full license to use Neon in commercial applications. $150

Pascal

Apple Computer, Inc.
20525 Mariani Avenue, Cupertino, CA 95014
(800) 538-9696; (800) 662-9238 or
(408) 996-1010 in California

Macintosh Pascal
A fast, semi-compiled version of Pascal, loaded with features. Boldfaces keywords, indents lines, checks syntax, and offers windows for just about everything: text, graphics, and programs, as well as for observing variables and checking "instant" performance of specific program lines. A superb package for learning Pascal. May result in a wealth of public domain Pascal programs, due to its acceptance by many universities as the standard "teaching Pascal." Offers full access to Toolbox ROM routines if you follow the rules and exercise caution. $125

The MacAdvantage: UCSD Pascal
A Pascal development system tailored for Macintosh. Includes a mouse-based editor, UCSD compiler, symbolic debugger, interface units to ROM routines, a library utility to combine code segments into a single file, an RMaker resource compiler, and other development tools.

The compiler is specially enhanced for developing Macintosh programs. It supports 32-bit integers, bit manipulation intrinsics for integer and integer2 data types, pointer manipulation intrinsics that use the 32-bit absolute addresses of Macintosh's ROM, and new external procedures that generate in-line calls to ROM. $295

UCSD Pascal Development System
SoITech's version of its well-known Pascal compiler, adapted for Macintosh. UCSD Pascal creates an "intermediate code" called p-Code that runs under the full Pascal system or with a smaller run-time package. Criticized on other machines for producing slow-running programs. Praised on other machines for offering a well-known "standard Pascal" language and programming environment. Allows access to the mouse, graphics, fonts, and Mac ROM routines.

Apple II and Apple III Pascal programs can be run with little or no modification. $195

Operating Systems

I.Q. Software
2229 East Loop 820 North, Fort Worth, TX 76118
(817) 589-2000

CP/M for the Macintosh
The population of the world can be divided into two categories: those who know what "CP/M" means and those who don't.
For those who don't, CP/M is an acronym for Control Program (for) Microcomputers. It's an operating system, written by Gary Kildall, who parlayed the program into Digital Research, a large firm that markets operating systems and languages. CP/M was and is the premier operating system for eight-bit microcomputers; CP/M and Z-80 (a popular eight-bit microprocessor) are nearly inseparable. The operating system for IBM Personal Computers is a revamped version of CP/M that shares many of the same concepts.

CP/M is roughly equivalent to the Macintosh Finder. In the same way that Model A's are roughly equivalent to Porsches. Sorry about that, but...

What is this product for?

According to the manufacturer, CP/M for the Macintosh is the bee's knees. I.Q. Software, we're told, is currently compiling a vast library of CP/M software that can be ported over to the Macintosh. Advantages to using CP/M, again according to I.Q. Software, are quick program transfer from other CP/M computers, the opportunity to run bigger programs (up to 300K with a 512K Macintosh), faster computer operation of CP/M programs (makes sense), more disk space available (CP/M computers often only have 80-140K of disk space), and, of course, much, much more.

And you can run WordStar, at last, on a Macintosh.

Enough snickering. Some people may want to buy this, after all. Here's what you get: a six disk system, voluminous documentation from I.Q and Digital Research, a macroassembler, the Modem 7 communications program, a C compiler, a text editor, a program to put menus into programs, a standard printer driver, a copy program, and a Lear-Seigler ADM3A terminal emulation program.

Not sold yet? here's an excerpt from an I.Q. Software press release: "Tight compact code...floating point math...signing and co-signing tangent...utilities such as STAT, PIP, DDT, ED, DUMP, INIT, LINK68, NM68, SIZE, LO68, RELOC, and AS68. CP/M for the Macintosh is the only standard operating system for the Mac...your developer customers as well as end user customers need it."

Goodness. We should note that neither the AS68 assembler nor the version 1.2 C compiler work on the 128K Macintosh. And the AR68 ARCHIVE utility "has not been tested on the 128K machine." The manual is laced with a number of caveats and upper-case warnings.

Advanced programmers with a sense of high adventure and nostalgia should rush to their dealers. $395

Island Software, Inc.
One Richmond Square, Providence, RI 02906
(401) 421-4550

CP/M

Another CP/M for Macintosh. For more words on the CP/M subject, see the preceding description of I.Q. Software's product. The CP/M from Island Software is said to be a "full 64K CP/M 2.2 emulation" that includes ASM, DDT, PIP, STAT, and more. $125
Remember learning about dinosaurs? Pterodactyls were the flying lizards, leathery-looking things with long beaks.

Pterodactyl Software was one of the first development companies to write software for Apple's Lisa. Apple's Lisa, when first announced, was not the world's most popular computer among developers. Among other things, it was slow. This didn't deter the Pterodactyl people. They plowed into the Lisa software, mucked around, and got everything figured out. These guys are the nerd's nerds. We mean that as a compliment, of course.

It's now time to unveil Pterodactyl's corporate slogan: "We make dinosaurs fly."

Pterodactyl markets a number of products for Lisa—er, the Macintosh XL. They're also developing a number of products for the non-XL Macintosh. They also do consulting and have quantity and educational rates. The company's president is writing a book (for Hayden Books) about assembly language programming on the Macintosh.

On to products. Pterodactyl's best-known product is a PC BASIC compiler. The compiler runs on the Macintosh XL and is syntax-compatible with IBM BASIC. In other words, code written in BASIC for the IBM PC can be compiled and run on a Macintosh XL—a convenience for developers.

The package is sold in two versions. The developer's version costs $1,000 and includes a communications package for use between the IBM PC and Macintosh (XL or regular size). Purchase also includes the right to sell code produced with the software. The communications package alone is $100 and includes a RS-232 cable.

A user's PC BASIC compiler—which allows the use of the software on one machine—costs $250.

Pterodactyl also offers a "Simple BASIC Conversion Service." They'll transport, compile, list, and test one product for a fee of $2,500. And they'll throw in the developer's BASIC compiler package.

New products for Macintosh should be forthcoming. Developers should write for more information.
If you've waded through the previous chapters, you now have, we suspect, a wish list many thousands of dollars long. But before you take a second mortgage on the house or hit up your cousin for cash, remember: There's lots of free software out there. Lots. Mountains of software. Free. Yours for the asking. At no charge.

That's the good news. Here's the bad news: Most of it's junk. But there's so much free software available that, even after winnowing good from bad, a wealth of good stuff remains to plunder and enjoy.

In the retail market, only a few hundred companies market Macintosh software. In the public domain "market," the potential vendors number in the thousands—the hundreds of thousands!

Public domain software, simply put, is software freely given by authors to the public. And everyone with a Macintosh and a programming language is a potential author. With Macintosh, in fact, it's possible to create public domain material even if you don't know how to program; some of the most delightful freebies are MacPaint documents, digitized pictures, or MusicWorks songs.

Why would anyone give away software? A few reasons. First is pure and simple altruism. Some of the best programmers give their creations away, motivated only by the desire to help other people. Seriously. Dennis Brothers, author of MacTep and other "freeware," is a good example of talent coupled with altruism. Apple programmers Bill Atkinson, Andy
Hertzfeld, and others have also graced Mac users with terrific—and free—programs. Let’s give a nod to Apple for allowing them to do so.

Then there’s the pride of sharing your accomplishment with other users. It’s fun to have a freeware “hit,” even if you never see a nickel from it. It’s gratifying to watch other hobbyists use your program, add to it, refine it, then pass it along to others for further enhancements.

Another class of public domain software skirts the line between “for free” and “for sale.” Sometimes called “shareware,” these programs are offered for your consideration. The authors request contributions (usually $10 to $50) from those who use the software and find it valuable. It’s software on the honor system. The authors encourage you to copy and pass around their disks—which builds the base of potential payees.

Honor still exists, at least among computer users. Some shareware authors have grossed over $100,000 in sales, though most do far less well. If you use shareware programs on a regular basis, we encourage you to send in your check. It doesn’t hurt much, at least not in comparison to that $200 database, and it usually makes you a “registered user,” entitled to free (or low-cost) upgrades and ongoing product news. It’s also the right thing to do.

Do these freeware, or shareware, programs hurt commercial software companies? Maybe. But public domain materials also help the sales of commercial software! Spreadsheet templates for Multiplan, graphic databases for Filevision, and programs for Macintosh Pascal all boost sales of those commercial programs. Often, we suspect, commercial programs would flounder and die without vigorous support from free software. That’s certainly true for Microsoft BASIC and other languages.

Now, where do you get this stuff? The most lucrative sources are CompuServe, The Source, Delphi, bulletin board systems, and Macintosh user groups. The commercial telecommunications services are listed in Appendix B; write for membership information and descriptions of services offered. For now, let’s just say that you’ll need a modem and a terminal program to maximize your haul.

Once of the best sources for programs is the Macintosh area of CompuServe. The Macintosh area (or SIG, for “special interest group”) is called the CompuServe Micronetworked Apple Users Group, also known as the Apple MAUG. The MAUG has sub-areas for users of other Apples, but the Mac section is the largest, and the Mac action is furious, fun, and frequently fascinating, especially for the technically minded.

Here’s a typical entry from CompuServe’s massive Macintosh library:

[71735,1675]
CATDSK.DOC 04-Dec-84 7670 Accesses: 261

Keywords: CATALOGGER MS-BASIC DISKETTE

Catalogger is a Microsoft BASIC program that semi-automatically maintains a disk-based Diskette Catalog and lists it to screen, printer, or anywhere. This is the documentation; read it to see what must be downloaded. This version is a minor update to fix problems on the 512K Mac.

Tom Parrish 71735,1675
Here’s an explanation:
The first line—the numbers in the brackets—is the User ID of the person who “uploaded” the material. The second line contains the program name, the date that the program joined the library, and the number of people who had accessed the program (those who had read the file or downloaded it into their computers). Checking accesses is a quick way to see what’s hot, and what’s not, with Mac downloaders.

Next come keywords—words that allow users to search the database for specific programs, or to find all programs in a given category: MS-BASIC programs, for example.

Last is the description of the program and, usually, the name and ID of the submitter.

The database is huge. The program synopses alone made a healthy appendix for this book. The entire database—programs and all—covers about 100 megabytes somewhere in the bowels of CompuServe.

After your CompuServe membership arrives, expect to set aside a few nights for practice. Learning to wade through the complexities of transferring programs across telephone lines takes time.

User groups are easier. Most groups have libraries of public domain software, often available for the price of a few blank disks. The larger groups have libraries of twenty disks or more—all stuffed with free software, from the sublime to the ridiculous.

A few commercial businesses have recently begun collecting, organizing, and selling disks of public domain software. We have mixed feelings about this one. Certainly, anyone can do anything with public domain material. And the companies do provide a legitimate service, and they don’t charge much per disk (so far, anyway). Still, the enterprises violate the public domain spirit and often violate specific instructions of program authors. That’s our spiel; you make up your own mind.

The final source is friends. With over 300,000 Macintoshes now sold, you must know somebody else with a Macintosh. Hit ’em up. But remember that “copyable” isn’t synonymous with “public domain.”

We have no more speeches.

Macintosh already boasts many public domain classics in a variety of categories. There’s even a public domain programming language for Macintosh: XLisp. All that’s missing are databases and spreadsheets. But even those categories have public domain programs on other computers. Free versions for Macintosh should also show up, eventually.

A few public domain programs are particularly noteworthy:

**MacTep** is a terminal program written by Dennis Brothers. It requires Microsoft BASIC (like many other public domain programs) and works fine. The last we looked, it was up to version 1.87 and getting better all the time. Two variations, **AutoTep** and **MouseTep**, add convenience and features to an already excellent program. Brothers has written many other useful programs. They’re available, like most programs mentioned, on CompuServe or from most user group libraries. **Red Ryder**, by the late Wat Buchanon, is another good communications program.
Bill Atkinson's *Life* is a fast implementation of Conway's famous "game" in which populations live, grow, and die according to strict mathematical rules. A version of Othello written by *Wizardry* author Robert Woodhead shames many commercial Othello programs. The author asks for contributions, which go toward purchasing computer equipment for a disabled Apple user. This one you had better pay for.

The utilities category is full of good programs. *Desk Accessory Mover* is shareware and does what it says. *File Edit* lets you peek into, and change, any byte in any file. It's well done and invaluable for changing or fixing files. And you don't even need to know hexadecimal, though it helps.

*MockTerminal* is a terminal program that's also a desk accessory; it too is shareware.

Apple created a number of utilities for in-house software development. The programs are offered to developers as a Software Supplement. Apple also placed the programs on CompuServe, for all to use, gratis. Included are Font Editor, Resource Mover, Icon Editor, Menu Editor, and others. If you understand the titles, you'll probably enjoy using the programs to develop other programs. In particular, Font Editor requires no programming skill, though you'll find designing fonts tougher than you might have guessed.

Then come BASIC programs. There are literally hundreds of programs that require Microsoft BASIC, with more coming every day. Apple's Macintosh BASIC will have a rough time gathering an equal following. It pays to be first in the marketplace.

Also included, as Appendix D, is the CompuServe public domain Macintosh library title listing—the entire database of offerings, complete as of January 1985. It's the verbatim listing of software and other material available from CompuServe and makes interesting reading, especially for the technically astute. It's an "as is" listing, although we couldn't resist fixing a few typos. Not all, just a few. Also, we don't claim the listing is current—it isn't. The programs frequently accessed should still be around, but the less popular programs may be purged by the time you look for them. Our thanks to Neil Shapiro for providing the listing.

Another good source of public domain software is the Boston Computer Society. Being a resident of Boston is not a requirement. We scoured the BCS disks in preparation for this chapter and look forward to spending more hours with the disks soon.

Here's a pitch from the Boston Computer Society. It came off a disk that happened to be in the public domain:

For information about more public domain software for the Macintosh contact:

Robert Hafer
Macintosh User's Group
Boston Computer Society
One Center Plaza
Boston, MA 02108
617-367-8080
Note: Only members, other user's groups, and contributors can request P/D Software. The Boston Computer Society is a nonprofit organization that offers members a bi-monthly magazine, a monthly calendar of events, up to two newsletters from any of our 47 user's groups, free access to our public domain library, and, of course, free admission to all meetings. Membership costs a mere $24.

End of spiel from BCS. We strongly recommend membership. And the BCS public domain disks are packed with programs; even if you never read the newsletters, the membership price is a bargain.

One last note. Some of the better, and better-known, shareware programs are also found in other chapters, nestled against completely commercial offerings. That's how we dealt with concept straddlers.

Here are descriptions of a few programs you might need or enjoy. The problem we had with creating the listing was knowing when to stop. For more, check the public domain appendix. Now, if only disks were free...
Business Forms for MacPaint

A collection of business forms similar to those found in the Graphics chapter, only these are available under the shareware plan. The forms include purchase order, sales order, invoice, packing slip, statement, payment due, return authorization, debit memo, credit memo, telephone message, transmittal memo, petty cash received, petty cash record, expense report, and daily planner. On many of the forms, an area is reserved for a pasted-in company logo.

The forms were produced from a six-lines-per-inch master sheet, ensuring that lines on the forms line up precisely in typewriters, or on computer printers (if you start precisely at the top of the form, that is).

An extra feature is a Microsoft BASIC program that prints multiple copies of a form. If you've got Microsoft BASIC handy, this program allows you to get lunch (or some sleep) and come back to lots of forms.

A $20 contribution is suggested. Sending a blank disk and a stamped return mailer will get you the forms, but you do want to enclose a check, right? Order from Computer Aide, 1063 Silver Tip Way, Sunnyvale, CA 94086; (408) 984-2558.

The Creator

This one's unusual. It's a "roll your own" database program, written in Microsoft BASIC. You tell the program what your database will be like, and it writes a database program for you. Powerful databases are possible, but the program's best use may be instructional. The manual is recommended. Contributions are welcome but not explicitly requested ($35; manual alone, $11). Order from TNT Software, 34069 Hainesville Road, Round Lake, IL 60073; (312) 223-0832.

Communications

Kermit

A well-known public domain program converted for use with Macintosh. Designed to help personal computers communicate with mainframe computers. Documentation is in a separate KERMIT.DOC file.

MacTep

MacTep stands for "Macintosh Terminal Emulation Program," probably the best-known and most-used public domain program. MacTep is available in numerous versions, some that use the mouse, some that offer help screens, and some that are split into two parts for use with 128K machines. Make sure you get the latest version. Dennis
MacTep

Brothers enjoys improving this one, and a new MacTep shows up, it seems, every few weeks. The program also needs a "loader" program that clears memory in Microsoft BASIC to handle the program. These are also called "runner" programs (as in MacTep Runner). Some of the many versions and files in the MacTep world are: MacTep++, MacTep Notes, MacTep Part 2, MacTep DOC, MaugTep2.1, AutoTep2.1, Real Mouse MacTep, Tep Plus, Tep Plus Help, and NewTep. Yes, it is confusing.

MockTerminal

Communications software tucked into a desk accessory.

Red Ryder

A sophisticated communications program. Offered as shareware. Features auto log-on and many other features. Good for "expert users."

Fonts

There are hundreds of fonts in the public domain. And more coming everyday. Anyone with Apple's Font Editor is a potential author of a new font (and Font Editor is easier to learn than BASIC).

The Font Editor program is widely available in the public domain. If you like FatBits, Font Editor is your kind of program. Here's a rather arbitrary selection of font-related files from a typical user group library (* marked programs require Microsoft BASIC). See Appendix D for more fonts.

Apple Font
Cairo Keyboard
Dummy Font
Edfont*
FNTDTA.HCX
Font List
Fontlist 2.0*
Font Samples
LISTFONT*
Math/Greek
New York-9
N.Y.-36
Schematic Font
Seattle-20
Games

Amazing
The maze on the Guided Tour disk. You must have it already.

Backgammon*
Free backgammon, written in BASIC.

Daleks
A simple, fun game for children with clever graphics. We’ll pass on attempting a further description.

Eliza*
The well-known “artificial intelligence” demo program, re-written in BASIC. Interesting, but not impressive.

Go*
A BASIC version of the ancient Chinese game. Make sure you pick up the file titled “Go Rules” also.

Hangman
Another good game for kids and others. Guess the word before the man hangs.

Hi-Res Chess*
We haven’t seen this one, but we have seen chess programs written in BASIC. They’re always accomplishments, regardless of how slowly they run, and they always run slowly. Study the code for insights into data structures.

Iago*
Another name for Othello (Iago was a villain in Shakespeare’s Othello), which is another name for Reversi. This one’s in BASIC.

Life
Bill Atkinson’s classic rendition of Conway’s classic game. Fast and fascinating.

Mastermind*
A guess-the-code game in BASIC.

Reversi
This is the Othello/Iago/Reversi you want. Written by Wizardry co-author Robert Woodhead on a free day, it will beat you, again and again and again.

Home, Hobby & Demos

We could make a book from the potential listings in this category. We resisted the temptation. In particular, “demo” programs are everywhere. It’s been estimated that over thirty-six billion demo programs have already been written for Macintosh. Some are actually over five BASIC lines in length. Those requiring Microsoft BASIC are marked with an
asterisk (*). A few of the more interesting home and demo creations are as follows:

- BioWave*
- Chi-Square*
- Exprtl.bas•
- Home Budgeting*
- Lease/Buy Decision*
- Menu Demo*
- Mondrian*
- Mouse Demo*
- Nerd 1.0*
- 1984 Script*
- Rolodex
- RoloFile
- Shape*
- Statistical Estimation Theory*
- Statistics*
- 3D Demo v2.0*
- Unbiased Estimation of Standard Deviation*
- Window Demo

And here are two shareware disks:

**Dimensional Filer**
**Mac Sampler**

**Dimensional Filer** is a Microsoft BASIC-based filing program. A very elementary filing program, but nicely executed. **Mac Sampler** contains these programs: Arthropod Classification, Biorhythm, Borders, Calendar, Life Expectancy, Constellations, Time between Dates, Solar System, and two shapes. The programs all require Microsoft BASIC, version 1.00, and are revamped public domain programs. All programs use the mouse and are chosen from a menu. A pleasant collection. Suggested contributions are $5 for **Mac Sampler** and $10 for **Dimensional Filer**. Order from Dimensional Disks, P.O. Box 1810, Blaine, WA 98230; (604) 584-2601.

**Languages**

**XLisp**
A public domain language! XLisp, to quote David Betz, the program's author, is "an experimental object-oriented language." A variation of the Lisp programming language, XLisp has extensions that provide a taste of "object-oriented" programming à la Smalltalk.

XLisp is now available for many computers, including Macintosh. The program's author intends to continue adding functionality (a favorite programming term) until the language is comparable to full-bore Lisps available on larger systems. If you obtain XLisp, make sure you also get the documentation file, XLispDoc. For more information, you might try writing to Betz. We don't know if he answers mail or sends out disks; better enclose a stamped self-addressed envelope. David Betz, 114 Davenport Avenue, Manchester, NH 03103.

**Music & Sound**

CompuServe has scores (sorry) of MusicWorks songs in the MAUG database. Some are excellent. All are free.

**Hendrix**
From the depths of Apple comes this bizarre program that makes Jimi Hendrix-like sounds as you move the mouse and hit various keys. Particularly good over public address systems in high schools.

**Macmelody**
A free, though limited, program to create music. Good graphic keyboard.
Sound Lab
A classic from Apple, written by Andy Hertzfeld. Sound Lab lets you alter the waveform of a sound and hear the results. The mouse "draws" the desired sound. Volume controls and selection of different Macintosh sound synthesizers add to the fun. Primarily a demo program; highly recommended.

### Utilities

If you can’t find the utility you need in the public domain, your needs are indeed precise. Here are some; there are more—many more.

**ASCII File Printer**
Prints any ASCII file.

**BASIC X-Ref**
Cross-references BASIC programs.

**BINHEX 3.0**
A necessary program if you want to download application programs from CompuServe. This “binary-hex” program converts compressed downloaded programs to usable form. If you don’t have and use BINHEX, you can’t run many downloaded programs. We wish it were a simpler process, but it isn’t. Also look for the files BINHEX.RM and BINHEX.RS3.

**Block Editor 2.1**
**Blocksmith 1.5**
Two programs to edit data blocks on disk. Know hexadecimal? You may like them.

**Compare**
Compares two files for differences.

**Compress**
Compresses BASIC programs.

**Dissassembler**
A disassembler program, written in Microsoft BASIC.

**DSKDM.BAS**
Dumps the contents of a disk to the screen or printer.

**Error Codes**
A text file of the error codes that show up in Macintosh dialog boxes, with explanations of each.

**FATMAC.HEX**
A MacWrite file (with embedded MacPaint schematic) that describes in detail how to upgrade your Macintosh to 512K. Available from the MAUG database, last we looked.

**File Edit**
One of the classics. Allows you to scroll through information on disk and—if you dare—to change the data on a byte-by-byte basis. Extremely well implemented. Could easily be a successful commercial program.

**File Edit 1.2**

**File Splitter**
Makes one file into two files—good when files are larger than MacWrite can handle.

**MacBackup**
Another Dennis Brothers creation. This one copies disks that are copy protected. It won’t copy everything, and it’s slow (due to Microsoft BASIC), but it copies a good share of programs that you’re not supposed to copy.

**MacWidth**
More Brothers. This one sets the width of lines in text files. Best use: preparing text for transmission by modem, a process that often chops off the ends of long lines.

**MakeWrite**
Still more Brothers. This converts plain-vanilla ASCII files to MacWrite files.
**Menuedit**
Written by Andy Hertzfeld, this utility lets you change menus. You can change the menu text or add Command-key alternatives to reaching for the mouse. Extremely useful and lots of fun. Our suggestion: Add Command-key options to the Finder menus.

**RamDisk**
If you've got a 512K Macintosh, this program allows you to apportion part of RAM for use as an electronic disk. Just don't eject the RAM disk!

**Resource Mover**
The Apple Resource Mover program. Included with the Apple Software Supplement. Invaluable for developers.

**View Paint**
Allows you to view (but not change) a MacPaint document without all the trouble of actually running MacPaint.

---

**Words & Printing**

Some of these programs do specific things. Others are text files of good information.

**Dvorak.Bas**
A BASIC program to redefine the keyboard layout.

**File**
A handy program. Think of it as a stripped-down MacWrite.

**MacCables**
A text file that discusses cables—dull but sometimes necessary information.

**MockWrite**
A public domain, desk accessory word processor.

**Print a File* and Print a File II**
Programs to print MacWrite or other "text-only" files on all standard serial printers, including daisy-wheel printers. Printers can be connected to either serial port, enabling the use of two printers without switching cables. Cable listings are included.

The program is offered as shareware, sort of, we think. To simplify matters, send either $8 or $19 to Nathaniel Hawthorn, 21115 Devonshire Street, Chatsworth CA 91311. For $8, you get a program written in Microsoft BASIC; $19 gets you version II, a speedy, assembly language version of the program.

**Text Editor**
A text editor written in BASIC. A good instructional program for learning about manipulating text, but not a replacement for Microsoft Word.

**Type 1.0**
A program to read files from within Microsoft BASIC.
Here we have the results of the Great Macintosh User Group Search. The "GMUGS" was conducted by our publisher, Gerald Rafferty. His was a thankless task: to discover and catalog all major Macintosh user groups in the United States. The results are listed here, alphabetically by state and, within states, alphabetically by city. From Alaska to Florida, from big to small, here they are.

Regardless of their location and size, user groups share one (and maybe only one) common quality: a fascination with Macintosh. The fascination may be accompanied with cursing, but it's there. Macintosh. The simplicity and the complexity of the machine creates a desire. The desire, for most, is to do more, know more, and have more.

If you want to know more about Macintosh, or learn to better use your machine, or stock up on free software, join a user group. It's easy: find the nearest group and show up. In most cases, you'll be hit for dues. In most cases, the dues will be eminently reasonable.

What happens next depends. Smaller user groups may be nothing more than MacCoffee Klatches: regular meetings where the talk is exclusively Macish. Larger groups publish newsletters (from single-sheet-Xerox to magazine-quality productions), and have speakers such as Bill Atkinson, Steve Jobs, and other names that provoke yawns from non-believers. The larger groups often splinter into sub-groups called SIGs (for "Special Interest Groups") that focus on topics such as C programming, graphics, hardware, or telecommunications.

The very largest groups are national. You may never attend a meeting, but you'll probably receive a great newsletter and access to a voluminous library of public domain disks.

If a local user group doesn't exist in your area, start one. Do this: put an ad in the newspaper, or tack up a sign at your local computer store. Don't be surprised if the first meeting brings out the banker, the baker, the used-car salesman, and the little old lady down the street—Mac owners, all ready to group together, draw up a charter, set dues, plan an outing, and elect officers.

Don't be surprised if you're elected president. When you are, send us information about the country's newest Macintosh user group. We'll add it to the next edition.

And that's it. User groups are easy, fun, informative, instructive, and provide the one ingredient missing in Macintosh: camaraderie.

Go. Mingle. Enjoy.
SERVING ALL STATES

Club Mac
735 Walnut Street
Boulder, CO 80302
Steve Elliott, President
CompuServe 74166,1702
(303) 449-5533
Newsletter: The Club Mac News

National Apple Pi
Wayland Square
P.O. Box 2198
Providence, RI 02906

The International Apple Core
908 George Street
Santa Clara, CA 95054
(408) 727-7652
Newsletter: IAC Express

Micronetworked Apple Users Group (MAUG)
CompuServe Page PCS-51
Neil Shapiro, Sysop
CompuServe 76703,401
Dennis Brothers, AltSysop
CompuServe 70065,172

ARKANSAS

Fayetteville Apple Users Group
2313 Holly
Fayetteville, AR 72703
Clifford Goeke, President
(501) 442-7040

CALIFORNIA

Sequoia Macintosh Users Groups
P.O. Box 4623
Arcata, CA 95521
Jack Turner
(707) 822-3578

Mac Desert User's Group
36935 Hayward Avenue
Barstow, CA 92311

Berkeley Users Group
1442A Walnut St., Suite 153
Berkeley, CA 94709
(415) 849-9114

Santa Barbara User Group
c/o Computer Terminal
90 W. Highway 246
Buellton, CA 93427
Andrew Bang, Coordinator
(805) 688-1713

Mac Mania
964 Nottingham Drive
Corona, CA 91720
(714) 735-6814

Orange Apple Computer Club
17661 Falkirk Lane
Huntington Beach, CA 92649
(714) 840-0048

South Coast Mac User's Group
P.O. Box 2035
Goleta, CA 93118
(805) 968-6565
Newsletter: The Mouse Times
Editor, David Dunham

Mac Orange
P.O. Box 2178
Huntington Beach, CA 92647
(714) 841-1771

ARIZONA

MacExplorers-Phoenix
c/o APSCO
P.O. Box 21666, M/S 6079
Phoenix, AZ 85036
(602) 932-5697

Mesa Mac Group
Mesa Computer Mart
1153 E. Main Street
Mesa, AZ 85203

ALASKA

The Anchorage Mac User Group
c/o Nevin McClintock
1200 Diamond, #812
Anchorage, AK 99515
(907) 344-6465

MacMania
964 Nottingham Drive
Corona, CA 91720
(714) 735-6814

Mac Orange
P.O. Box 2178
Huntington Beach, CA 92647
(714) 841-1771

Orange Apple Computer Club
17661 Falkirk Lane
Huntington Beach, CA 92649
Robert Arnetti
(714) 840-0048

Editor, David Dunham

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<tr>
<th>San Diego Mac Users Group</th>
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<tr>
<td>P.O. Box 12561</td>
<td>c/o Computer Connection</td>
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<tr>
<td>La Jolla, CA 92037</td>
<td>214 California Street</td>
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<tr>
<td>Charlie Jackson, President</td>
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<td>(619) 566-3939</td>
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<td>Newsletter: <em>San Diego Mac News</em></td>
<td>Lewis Guice, Consultant</td>
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<td>Gordon McComb, Editor</td>
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<th>Los Angeles Macintosh Group</th>
<th>The Macintosh Users Group</th>
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<tr>
<td>12021 Wilshire Blvd., Ste. 349</td>
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<tr>
<td>Eric Anderson, President</td>
<td>(415) 432-9713</td>
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<td>c/o Ron Bastone</td>
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<td>(303) 428-5627</td>
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FLORIDA

Fort Walton Beach Apple Club
Manintosh SIG
924 Holbrook Circle
Fort Walton Beach, FL 32548
Elizabeth Schattner
(904) 862-4908
Newsletter: Mac Playground News

North Florida Macintosh User Group
P.O. Box 10262
Jacksonville, FL 32247
Christopher Allen, President
CompuServe 76703,472
(904) 396-6953

Miami Apple User Group
Macintosh SIG
3250 Mary St., Ste. 305
Miami, FL 33133
Stanley Kuperstein, Coordinator
CompuServe 71445,1170
(305) 448-4411

HAWAI I

Hawaii Macintosh User's Group (H.M.U.G.)
P.O. Box 1355
Pearl City, HI 96782
Dale Ott

IDAHO

Dennis R. Gillis
1824-B Main Street
Lewiston, ID 83501

ILLINOIS

Fermilab Macintosh Users Group
Box 500
Batavia, IL 60510
(312) 840-3017

Southside Macintosh Group
5704 Harper
Chicago, IL 60637
Bob Mintzer, Program Director
(312) 955-0582

Applepeople Personal Computer User Group
P.O. Box 333
Crystal Lake, IL 60014
(815) 455-4525

Macintosh Computer User's Group of the Sangamon Valley
1540 W. Cook Street
Springfield, IL 62704
(217) 546-2782

IOWA

Club Mac Midwest
6904 Hopkins Road
Des Moines, IA 50322
William Davis Jr., President
CompuServe 71505,410
(515) 276-2345 or 276-9046

Macintosh User Group
ICOR
200 W. Washington
Fairfield, IA 52556

LOUISIANA

New Orleans Macintosh User Group
3301 W. Esplanade, #162590
Metairie, LA 70002
(504) 834-2968

Club Mac of New Orleans
111 Atherton Drive
Metairie, LA 70005
Simon L. Streiffer, President
(504) 831-8275

MARYLAND

SIG Mac
Washington Apple PI, Ltd.
8227 Woodmont Ave., Suite 201
Bethesda, MD 20814
Thomas Warrick, Chairman
(301) 654-8060

Capital Macintosh User Group
9431 Georgia Avenue
Silver Spring, MD 20910
George Perantonakis, President
CompuServe 70321,103
(301) 585-4262
Newsletter: MacUSA Hotline
**MASSACHUSETTS**

Boston Computer Society
Macintosh Users Group
1 Center Plaza
Boston, MA 02108
Jack Hodgson, Director
(617) 367-8080
Robert Hafer, P.D. Software
CompuServe 73775,253
(617) 227-5528
Newsletter: Mac User Group Newsletter

**MICHIGAN**

SEMCO Mac Pac (Southeastern Michigan Computer Organization)
P.O. Box 02426
Detroit, MI 48202

Southeastern Michigan MacUsers Group
9720 Lakewood
Gross Isle, MI 48138
(313) 671-5535

**MINNESOTA**

Mini-App'les Minnesota
Apple Computer User Group
P.O. Box 796
Hopkins, MN 55343

Macintosh User Group
4306 Upton Avenue
Minneapolis, MN 55401
Mike Carlson
(612) 924-4120

**MISSOURI**

AppleJac
2539 Lexington Drive
Jefferson City, MO 65101
Thomas R. Piper, Coordinator
(314) 634-3102

Kirkville Macintosh User Group
100 W. LaHarpe
Kirkville, MO 63501

**MONTANA**

Montana Macademics
c/o Michael Sexson, President
Dept. of English, Montana State University
Bozeman, MT 59717

Montana Mac
c/o Al Donahue - Heritage Inn
1700 Fox Farm Road
Great Falls, MT 59404

**NEW JERSEY**

The DUsers
The Macintosh Users Group
at Drexel University
21 Saddle Lane
Cherry Hill, NJ 08002
Steve Weintraut, Vice President
(609) 667-3131

Amateur Computer Group of New Jersey
Macintosh Users Group (ACG-NJ-MUG)
698 Magnolia Road
North Brunswick, NJ 08902
Keith Sproul, Coordinator
(201) 821-4828

**NEW YORK**

The Muggers Monthly
Cornell Univ./DCS
401 Uris Hall
Ithaca, NY 14853
(607) 256-4981, ext. 205

New York Mac User Group
P.O. Box 6686
Yorkville Station
New York, NY 10128
(212) 535-1943
CompuServe 74146,2256
Newsletter: Mac Street Journal

**NORTH CAROLINA**

Catawba Valley Lisa/Mac User Group
Rt. 1, Box 540-19/AB
Conover, NC 28613
Steve Baker, President
CompuServe 72356,645
(704) 256-7035
CAROLINA
Apple Core
P.O. Box 31424
Raleigh, NC 27603

OKLAHOMA

Oklahoma City MacUsers
A Div. of Oklahoma MacUsers & Developers Group
P.O. Box 6915
Lawton, OK 73505
James F. Carpenter Jr., President

Big Red Apple Group
c/o Stanley Hall, Secretary
1704 Valley Ridge Road
Norman, OK 73069

Tulsa Users of Macintosh Society
P.O. Box 470564
Tulsa, OK 74147

OREGON

M.U.G. of Corvallis
P.O. Box 1912
Albany, OR 97321

The Eugene Macintosh Users Group
P.O. Box 10988
Eugene, OR 97440
(503) 345-2393

Mac Users of the Rogue Valley
502 N.E. Dean Drive
Grants Pass, OR 97526
(503) 479-1541

PENNSYLVANIA

Carnegie-Mellon Macintosh Users Group
Box 661
515 Margaret Morrison Street
Pittsburgh, PA 15213
(412) 578-4097

Fortune Corp. Mac Users
2325 Collins Road
Pittsburgh, PA 15235
Bob Wilde, Coordinator
(412) 963-1424

RHODE ISLAND

TCS Macintosh Users Group
C/o The Computer Store
740 North Main Street
Providence, RI 02904

SOUTH DAKOTA

Team Mac
Box 203
Yankton, SD 57078
Roger Deltrip, President
CompuServe 70371,306
(605) 665-8402

TENNESSEE

Oak Ridge Mac Users Group
Route 2, Box 65E
Oliver Springs, TN 37840
Roger Perkins, President
(615) 435-1120

TEXAS

River City Apple Club
P.O. Box 13449
Austin, TX 78771

The University MacUser Group
Box 320, The Texas Union
The University of Texas at Austin
P.O. Box 7338
Austin, TX 78713
John Glanville, President
(512) 472-0226

St. Mug (South Texas Macintosh User's Group)
317 Breezeway
Corpus Christi, TX 78404
(512) 888-4653

El Paso Mac User Group
5534 Ketchikan
El Paso, TX 79924
Donald Smith, Secretary
(915) 751-3508
Newsletter: The El Paso Mac Times
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<th>User Groups</th>
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<td>Health Sciences Center - Dept. of Dermatology</td>
<td>Lubbock, TX 79430</td>
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<td>Salt Lake City, UT 84112</td>
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<td></td>
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<td>Joe Buchanan, Coordinator (801) 581-8814</td>
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<td>VIRGINIA</td>
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<td>290 S.W. 43rd Street</td>
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<td>MACS—Macintosh Apple Club of Spokane</td>
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<td>Keith Elkin</td>
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</table>
CompuServe
CompuServe Information Service
5000 Arlington Centre Boulevard
Columbus, OH 43220
(800) 848-8199
(800) 282-1765 or (614) 457-8600 in Ohio

Delphi
General Videotex Corporation
3 Blackstone Street
Cambridge, MA 02139
(800) 848-8199
(617) 491-3393 in Massachusetts

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Networkers Central
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San Francisco, CA 94131
(415) 550-0929

The Source
Source Telecomputing Corporation
1816 Anderson Road
McLean, VA 22102
(800) 336-3366
(800) 336-3330
(703) 734-7500 in Virginia
A

Absoft Corporation
4268 North Woodward
Royal Oak, MI 48072
(313) 549-7111

MacFortran
RBuilder

Addison-Wesley Publishing Company
6 Jacob Way
Reading, MA 01867
(800) 238-3801
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The Macintosh Developer's Guide
Macintosh Pascal Illustrated: The Fear and Loathing Guide

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19301 Ventura Boulevard, Suite 200
Tarzana, CA 91356
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Mac-Challenger
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Washington, DC 20002
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Spring, TX 77383
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DiskBank System/3

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(801) 566-3100

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American Training International (ATI)
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Ventura, CA 93003
(800) 426-2467
(800) 626-2467 or (805) 658-2661 in California

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Ann Arbor Softworks
308 1/2 South State Street
Ann Arbor, MI 48104
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Animation Toolkit: Advanced Version
Animation Toolkit I: The Players
Animation Toolkit II: The Stage
Grid Wars
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(206) 251-5222

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(214) 556-2916 in Texas

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Applied Logic Systems, Inc.
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Lafayette, CO 80026
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Santa Barbara, CA 93105
(805) 687-7040

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Sunnyvale, CA 94089
(408) 747-1900

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The Card Shoppe
MacMatch

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201 East Fiftieth Street
New York, NY 10022
(800) 638-6460
(212) 572-2620 in New York

Apple Macintosh User's Handbook
Getting Started on Your Mac* "If You've Never Used a Computer Before"

Banbury Computer Books
353 West Lancaster Avenue
Wayne, PA 19087
(215) 964-9103

Macintosh: The Appliance of the Future
Bantam Books
666 Fifth Avenue
New York, NY 10103
(212) 765-6500

Lotus Jazz for the Macintosh
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Basic Business Software, Inc.
P.O. Box 26311
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(702) 876-9493

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114 Davenport Avenue
Manchester, NH 03103

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6744 Eton Avenue
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(800) 835-2246, Ext. 234
(818) 346-0730 in California

Baron
Millionaire
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Boston Software Publishers, Inc.
19 Ledge Hill Road
Boston, MA 02132
(617) 327-5775

MacPublisher
MacPublisher Professional Designs, Volume One

BP Publications
P.O. Box 617, Stiles Road
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(203) 264-2143

The Apple Index

Brady Communications Company, Inc.
Routes 197 and 450
Bowie, MD 20715
(800) 638-0220
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Using Microsoft BASIC
Inside the Macintosh
Macintosh Assembly Language
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Calabasas, CA 91302
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Think Fast

Brimark Innovations
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(818) 885-8660

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(815) 459-4210

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San Rafael, CA 94903
(415) 479-1170

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Lode Runner

William C. Brown Company
2460 Kerper Boulevard
Dubuque, IA 52001
(319) 588-1451

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<td>Brownbag Software Division</td>
<td>Microcomputer Service Corporation</td>
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<td>31 All-Time Favorite Programs</td>
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<td>Button Down Software</td>
<td>P.O. Box 19493</td>
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<td>San Diego, CA 92119</td>
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<td>Casady Company</td>
<td>P.O. Box 223779</td>
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<td>Fluent Fonts</td>
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<td>CBS Software</td>
<td>One Fawcett Place</td>
<td>(203) 622-2500</td>
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<td>Greenwich, CT 06836</td>
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<td>Murder by the Dozen</td>
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<td>Central Point Software, Inc.</td>
<td>9700 S.W. Capitol Highway, Suite 100</td>
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<td>CE Software</td>
<td>801 73rd Street</td>
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<td>Challenger Software</td>
<td>18350 Kedzie Avenue</td>
<td>(312) 957-3475</td>
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<td>Homewood, IL 60430</td>
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<td>Copy II Mac/MacTools</td>
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<td>CompuSoft Publishing</td>
<td>(619) 588-0996</td>
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<td></td>
<td>535 Broadway</td>
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<td>CompuSoft Publishing</td>
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<td>324 West Wendover Avenue, Suite 200</td>
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<td>Greensboro, NC 27408</td>
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Computer Accessories Corporation
7696 Formula Place
San Diego, CA 92121
(619) 695-3773

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Consulair Corporation
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(602) 831-5004  
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(415) 328-4602  
InfoWorld

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San Francisco, CA 94107  
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D

Dail's Software Company  
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108 North Cassady Road
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San Francisco, CA 94107
(415) 543-7644
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Quickset
Quickword

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Chicago, IL 60645
(312) 764-9186
Silicon Video Mac

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Torrance, CA 90505
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Toronto, Canada M5H 2S8
(416) 361-5002

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Bloomington, MN 55420
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(612) 854-9116 in Minnesota

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Typing Intrigue

Fortune Systems Corporation
101 Twin Dolphin Drive
Redwood City, CA 94065
(415) 595-8444

ForTalk
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<th>Company</th>
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<td>Frazier, Peper and Associates</td>
<td>Box 3019, Santa Cruz, CA 95063</td>
<td>(408) 476-2358</td>
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<td>Clip 1</td>
<td>Frontrunner Computer Industries</td>
<td>316 California Avenue, Suite 712, Reno, NV 89509</td>
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<td>Draw 'n Wear</td>
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<td>1524 Pine Street, Philadelphia, PA 19102</td>
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<td>LG20 surge suppressor outlet strip</td>
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<td>Gamestar, Inc.</td>
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<td>Gamma Productions, Inc.</td>
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<td>(213) 451-9307</td>
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<td>Ground Zero</td>
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<td>George Graphics</td>
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<td>Typeset graphics</td>
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<td>Great Plains Software</td>
<td>1701 38th Southwest, Fargo, ND 58102</td>
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<td>Hardisk Accounting Series</td>
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<td>Great Wave Software</td>
<td>P.O. Box 5847, Stanford, CA 94305</td>
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<td>ConcertWare</td>
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<td>Haba Systems, Inc.</td>
<td>15154 Stagg Street, Van Nuys, CA 91405</td>
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<td>500 Paint Patterns</td>
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<td>Haba Check Minder</td>
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<td>Haba Window Dialer Quartet</td>
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<td>Hanzon Data, Inc.</td>
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<td>Hanzon 12319 Universal Interface Card</td>
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(800) 343-0654, Ext. 5500
(800) 322-1233, Ext. 5500, in Massachusetts

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P

Paladin Software Corporation
2895 Zanker Road
San Jose, CA 95124
(408) 946-9000

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Palantir Software
12777 Jones Road, Suite 100
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(800) 368-3797
(713) 955-8880 in Texas
MathFlash
MacType
Panamax
150 Mitchell Boulevard
San Rafael, CA 94903
(800) 472-5555
(415) 472-5547 in California
Surge suppressors and line filters
Paradise Systems, Inc.
217 East Grand Avenue
San Francisco, CA 94080
(415) 588-6000
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PBI Software
1155B-H Chess Drive
Foster City, CA 94404
(800) 843-5722
(800) 572-2746 or (415) 349-8765 in California
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PCA Software
P.O. Box 1231
Arlington, TX 76010
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P-Cubed, Inc.
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Wichita, KS 67218
(800) 682-2900
(316) 686-2000 in Kansas
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3445 Peachtree Road NE
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(404) 325-7900 in Georgia
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Penguin Software
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Geneva, IL 60134
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Macintosh Complete
Pensate
The Quest
Transylvania
Xyphus
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P.O. Box 4250
Ann Arbor, MI 48106
(313) 996-1580
Biblio-Link
Professional Bibliographic System
Personal Computer Peripherals Corporation
6204 Benjamin Road
Tampa, FL 33614
(800) 622-2888
(813) 884-3092 in Florida
MacBottom
Pilot Communications
25 West 39th Street
New York, NY 10018
(212) 302-2826
MacUser
The Pine Cone
Blake Building, P.O. Box 1378
Gilroy, CA 95021
(408) 842-7597
Mini-Vac
Pneu-Mouse Corporation
194 Spence Lane
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(615) 871-0405
Pneu-Mouse
PowerTools Software
5059 San Aquario Drive
San Diego, CA 92109
(619) 483-3436
FontPak
Practical Computer Applications
1305 Jefferson Highway
Champlin, MN 55316
(612) 427-4789

MacSmith

Practical Peripherals
31245 La Baya Drive
Westlake Village, CA 91362
(818) 991-8200

Microbuffer In-Line Buffered Serial Interface

Prentice-Hall, Inc.
General Publishing Division
Englewood Cliffs, NJ 07632
(201) 592-2141

Ken Uston's Illustrated Guide to the Macintosh
Macintosh Notebook: Multiplan
School and Home Guide to the Apple
Macintosh Computer

Princeton Research Software
P.O. Box 2398
Princeton, NJ 08540

MacChip

Professional Data Systems
20 Sunnyside Avenue
Mill Valley, CA 94941
(415) 383-5537

The Big Mac Monitor
Project-a-Mac

Professional Software
51 Fremont Street
Needham, MA 02194
(617) 444-5224

Trivia Fever Volume 2

The Professor
959 N.W. 53rd Street
Fort Lauderdale, FL 33309
(800) 223-5838
(305) 771-6498 in Florida

The Mac's Core and The Mac's Core, Part II

Prometheus Products, Inc.
45277 Fremont Boulevard
Fremont, CA 94538
(415) 490-2370

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ProCom-M

ProVue Development Corporation
222 22nd Street
Huntington Beach, CA 92648
(714) 969-2431

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Pryority Software, Inc.
635 South Sanborn Road, Suite 22
Salinas, CA 93901
(408) 757-0125

Forbidden Quest
Gateway

Pterodactyl Software
200 Bolinas Road, Suite 27
Fairfax, CA 94930
(415) 485-0714

PC BASIC compiler

PTI Industries
Protection Technology International
320 River Street
Santa Cruz, CA 95060
(408) 429-8881

DataShield Backup Power Source, Model PC-200
DataShield Surge Protector, Model 110AMS

Q

Quark Peripherals
2525 West Evans Avenue, Suite 220
Denver, CO 80219
(800) 543-7711
(303) 934-2211 in Colorado

QC10 and QC20
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<td>4809 Calle Alto, Camarillo, CA 93010</td>
<td>(800) 821-4479, (805) 987-9741</td>
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<td>Reston Computer Group</td>
<td>Reston Publishing Company, Inc.</td>
<td>11480 Sunset Hills Road, Reston, VA 22090</td>
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<td>Raex Enterprises</td>
<td>P.O. Box 327, Beloit, WI 53511</td>
<td>(608) 365-9798</td>
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<td>Random House</td>
<td>201 East Fiftieth Street, New York, NY 10022</td>
<td>(800) 638-6460, (212) 751-2600</td>
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<td>P.O. Box 691, Southport, CT 06490</td>
<td>(203) 255-2732</td>
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<td>Redgate Publishing Company</td>
<td>3381 Ocean Drive, Vero Beach, FL 32963</td>
<td>(305) 231-6904</td>
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<td><em>The Macintosh Buyer's Guide</em></td>
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<td>The Reference Corporation</td>
<td>212 Fifth Avenue, Suite 1312, New York, NY 10010</td>
<td>(212) 685-4809</td>
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<td><em>Complete Accounts The Electronic PAD TalkShow</em></td>
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<td>Replica Technologies Corporation</td>
<td>834 Charcot Avenue, San Jose, CA 95131</td>
<td>(408) 945-1697</td>
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S

Safeware
2929 North High Street
Columbus, OH 43202
(800) 848-3469
(614) 262-0559 in Ohio

Insurance

Howard W. Sams & Company
4300 West 62nd Street
Indianapolis, IN 46268
(800) 428-7267
(317) 298-5400 in Indiana

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5507 Woodlawn Avenue North
Seattle, WA 98103
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25 North Broadway
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(914) 332-4545 in New York

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207 Granada Drive
Aptos, CA 95003
(408) 688-9200

Semaphore Signal

Servidyne Micro Systems, Inc.
P.O. Box 93846, 1735 DeFoor Place NW
Atlanta, GA 30377
(404) 352-2050

Micro-Imager

Shaheerazam
P.O. Box 26731
Milwaukee, WI 53226
(414) 442-7503

MusicType

Shapechanger Software Products Division
Icon Concepts Corporation
113 East Tyler
Athens, TX 78551
(214) 677-2793

Webster's Revenge
Sharp Color
578 Lynnwood Lane
Lancaster, OH 43130
(614) 687-0129
Colored Imagewriter ribbons
Imagewriter thermal ribbons

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P.O. Box 485, Sierra On-Line Building
Coarsegold, CA 93614
(209) 683-6858
Frogger
Ultima II

Silicon Beach Software
P.O. Box 261430, 11212 Dalby Place, Suite 201
San Diego, CA 92126
(619) 695-6956
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Airborne!
WaveEdit

Simon & Schuster, Inc.
1230 Avenue of the Americas
New York, NY 10020
(800) 223-2336
(800) 442-7070 or (212) 757-9152 in New York
SuperMac

Simon & Schuster, Inc.
Electronic Publishing Group
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New York, NY 10020
(212) 245-6400
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(415) 381-2650
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Sir-tech Software, Inc.
6 Main Street
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(315) 393-6633
Wizardry

Smith Micro Software, Inc.
P.O. Box 7137
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San Diego, CA 92127
(800) 451-8080
(800) 824-7867 or (619) 451-1230 in California
Advanced Development Tool Kit
FORTRAN-77 Development System
MacAdvantage: UCSD Pascal
MailManager
UCSD Pascal Development System

Soft-Life Corporation
15411 South Butler
Compton, CA 90221
(800) 235-6646, Ext. 561
(800) 235-6647, Ext. 561, or (213) 774-3054 in California

Mac-Slots

Softron
P.O. Box 23202
Santa Barbara, CA 93121
(805) 962-0587
R.E. Pro-1

SoftSpot
1093 Arroyo Drive
Fullerton, CA 92633
(714) 526-3062

SoftSpot

Softsync, Inc.
162 Madison Avenue
New York, NY 10016
(212) 685-2080
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Software Apple-cations
11510 Alejandro
Boise, ID 83709
(208) 322-8910

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Superfonts

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27 Mica Lane
Wellesley, MA 02181
(617) 237-4000

TKISolver
TKISolverPacks

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Tolland, CT 06084
(203) 872-1024

FlexFile

Software International Limited
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Hertfordshire, England
HP23 5AA
0442 82 7933

Laserbase

Software Masters
3330 Hillcroft, Suite BB
Houston, TX 77057
(713) 266-5771

inTouch

Software Publishing Corporation
1901 Landings Drive
Mountain View, CA 94043
(415) 962-8910

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Chatsworth, CA 91311
(818) 884-0611

Furry mouse cover
Macintosh and Imagewriter dust covers

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400 Mobil Avenue, Building D, Suite C
Camarillo, CA 93010
(805) 388-2626

MacInTax

SoftWeaver
P.O. Box 7200
Santa Cruz, CA 95061
(408) 425-8700

MacPorter

Softworks Limited
607 West Wellington
Chicago, IL 60657
(312) 975-4030

Softworks C

South Bay Software
Box 969
Millbrae, CA 94030
(415) 579-5455

Mouse Pad
Music Character Set

SRW Computer Components Company, Inc.
18385 Bandelier Circle
Fountain Valley, CA 92708
(714) 963-5500

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MicroDisk/10 library case
Micro/5 ComPak “Color Coder”

State of the Art
3191-C Airport Loop
Costa Mesa, CA 92626
(714) 850-0111

Electric Checkbook

Stel Enterprises
Triple Play Division
P.O. Box 6354
Lafayette, IN 47903
(317) 742-5369

Triple Play Game Disk Number One
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<td>Stoneware, Inc.</td>
<td>50 Belvedere Street</td>
<td>(415) 454-6500</td>
<td>Stoneware, Inc. 50 Belvedere Street San Rafael, CA 94901 (415) 454-6500</td>
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<tr>
<td>Summagraphics Corporation</td>
<td>777 State Street Extension, P.O. Box 781 Fairfield, CT 06430 (203) 384-1344</td>
<td>Summagraphics Corporation 777 State Street Extension, P.O. Box 781 Fairfield, CT 06430 (203) 384-1344</td>
<td>Summagraphics Corporation 777 State Street Extension, P.O. Box 781 Fairfield, CT 06430 (203) 384-1344</td>
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<td>MacTablet</td>
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<td>Sunol Systems</td>
<td>1187 Quarry Lane</td>
<td>(415) 484-3322</td>
<td>Sunol Systems 1187 Quarry Lane Pleasanton, CA 94566 (415) 484-3322</td>
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<td>Superex International Marketing Ltd.</td>
<td>151 Ludlow Street</td>
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<td>Superex International Marketing Ltd. 151 Ludlow Street Yonkers, NY 10705 (800) 862-8800 (914) 964-5200 in New York</td>
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<td>EstiMac</td>
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<td>EstiMac The Home Executive Inventory Manager EstiMac The Home Executive Inventory Manager</td>
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<td>Sybex Computer Books</td>
<td>2344 Sixth Street</td>
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<td>Sybex Computer Books 2344 Sixth Street Berkeley, CA 94710 (800) 227-2346 (415) 848-8233 in California</td>
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<td>Jazz on the Macintosh</td>
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<td>Synergy Products</td>
<td>P.O. Box 485</td>
<td>(812) 897-5351</td>
<td>Synergy Products P.O. Box 485 Boonville, IN 47601 (812) 897-5351</td>
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<td>Systems Control</td>
<td>P.O. Box 788</td>
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<td>Systems Control P.O. Box 788 Iron Mountain, MI 49081 (800) 558-2001, Ext. 115 (906) 774-0440 in Michigan</td>
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<td>Systems Plus</td>
<td>1120 San Antonio Road</td>
<td>(415) 969-7047</td>
<td>Systems Plus 1120 San Antonio Road Palo Alto, CA 94303 (415) 969-7047</td>
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<td>Systems/Services Engineering</td>
<td>3648 Eastern Drive</td>
<td>(513) 429-2709</td>
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<td>MacGard</td>
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<td>Tab Books, Inc.</td>
<td>P.O. Box 40</td>
<td>(717) 794-2191 in Pennsylvania</td>
<td>Tab Books, Inc. P.O. Box 40 Blue Ridge Summit, PA 17214 (800) 233-1128 (717) 794-2191 in Pennsylvania</td>
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<td>Jazz!</td>
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<td>Tardis Software</td>
<td>2817 Sloat Road</td>
<td>(408) 372-1722</td>
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<td>Tecmar, Inc.</td>
<td>6225 Cochran Road</td>
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<td>MacDrive</td>
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<td>Telos Software Products</td>
<td>3420 Ocean Park Boulevard</td>
<td>(800) 554-2469 (800) 368-3813 or (213) 450-2424 in California</td>
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<td>Filevision</td>
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<td>Tess Data Systems, Inc.</td>
<td>17070 Red Oak Drive, Suite 403-B</td>
<td>(713) 440-6943</td>
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<td>Tesseract Distributing, Inc.</td>
<td>P.O. Box 937</td>
<td>(416) 685-4854</td>
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<td>MacCopy</td>
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<td>Textco</td>
<td>27 Gilson Road</td>
<td>(603) 643-1471</td>
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<td>The DNA Inspector</td>
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<td>Thermodyne Corporation</td>
<td>20850 South Alameda Street</td>
<td>(213) 603-1976</td>
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<td>Shok-Stop carrying case</td>
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<td>3Com Corporation</td>
<td>P.O. Box 7390</td>
<td>(415) 961-9602</td>
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<td>Networking hardware and software</td>
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<td>Think Educational Software, Inc.</td>
<td>16 Market Street</td>
<td>(315) 265-5636</td>
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<td>MacEdge II</td>
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<td>Thunderware, Inc.</td>
<td>19-G Orinda Way</td>
<td>(415) 254-6581</td>
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<td>T/Maker Graphics</td>
<td>2115 Landings Drive</td>
<td>(415) 962-0195</td>
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<td>TNT Software</td>
<td>34069 Hainesville Road</td>
<td>(312) 223-0832</td>
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<td>Toshiba America, Inc.</td>
<td>2441 Michelle Drive</td>
<td>(714) 730-5000</td>
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<td>Totem, Inc.</td>
<td>207 Gough Street, Suite 38</td>
<td>(415) 761-7920</td>
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<td>Totem carrying case</td>
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<td>TouchStone Software Corporation</td>
<td>909 Electric Avenue, Suite 207</td>
<td>(213) 598-7746</td>
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<td>MacLine</td>
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<td>TPS Electronics</td>
<td>4047 Transport, Palo Alto, CA 94303</td>
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<td>PC-380 Bar Code Reader</td>
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<td>PC-580 Magnetic Stripe Reader</td>
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<td>PC-680 interface</td>
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<td>PC-3800 Bar Code/Magnetic Stripe Reader</td>
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<td>Transsensory Devices, Inc.</td>
<td>44060 Old Warm Springs Boulevard, Fremont, CA 94538</td>
<td>(415) 490-3333</td>
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<tr>
<td></td>
<td>Sensorbus sensory interface modules</td>
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<tr>
<td>Tri-Data</td>
<td>505 East Middlefield Road, Mountain View, CA 94039</td>
<td>(415) 969-3700, Ext. 221</td>
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<tr>
<td></td>
<td>Netway 1500</td>
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<tr>
<td>21st Century Software</td>
<td>2306 Cotner Avenue, Los Angeles, CA 90064</td>
<td>(213) 829-4436</td>
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<tr>
<td></td>
<td>UltraFonts Edition Two</td>
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<td></td>
<td>UltraFonts Technical &amp; Business Set</td>
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<td>Netway</td>
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<tr>
<td>Visionary Electronics, Inc.</td>
<td>141 Parker Avenue, San Francisco, CA 94118</td>
<td>(415) 751-8811</td>
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<tr>
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<td>Visionary 1200 system</td>
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<tr>
<td>Volition Systems</td>
<td>P.O. Box 99628, San Diego, CA 92109</td>
<td>(619) 270-6800</td>
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<td>Modula-2</td>
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<td>W</td>
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<tr>
<td>The Waite Group</td>
<td>2320 Marinship Way, Suite 200, Sausalito, CA 94965</td>
<td>(415) 332-5555</td>
</tr>
<tr>
<td></td>
<td>Book authors</td>
<td></td>
</tr>
<tr>
<td>Warner Software</td>
<td>666 Fifth Avenue, New York, NY 10103</td>
<td>(212) 484-3070</td>
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<td></td>
<td>The Desk Organizer</td>
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<tr>
<td>John Wiley &amp; Sons</td>
<td>605 Third Avenue, New York, NY 10158</td>
<td>(212) 850-6000</td>
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<tr>
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<td>Mac at Work: Macintosh Windows on Business</td>
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<td>Macintosh: A Concise Guide to Applications Software</td>
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<td>Scientific Programming with Mac Pascal</td>
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</tr>
</tbody>
</table>
Williams AG Products  
Route 2, Box 35-B  
Haskell, OK 74436  
(918) 482-3524

Sketch-to-Scale overlay template

Winterhalter, Inc.  
3853 Research Park Drive, Box 2180  
Ann Arbor, MI 48106  
(314) 662-2002

DataTalker/Mac 3270 emulation

X, Y, Z

Ziff-Davis Publishing Company  
11 Davis Drive  
Belmont, CA 94002  
(415) 598-2290

A+

Ziff-Davis Publishing Company  
39 East Hanover Avenue  
Morris Plains, NJ 07950  
(201) 540-0445

Creative Computing
One of the best sources for public domain programs is the Micronetworked Apple Users Group, an area of CompuServe also known as the Apple MAUG. The directory that follows lists the variety of programs available for downloading from MAUG's database library. Many of these programs date all the way back to Mac's introduction. The descriptions are reproduced here in their (near) original form, with thanks to Neil Shapiro. See page 271 for an explanation of how to read the descriptions.

### Telecommunications

<table>
<thead>
<tr>
<th>File</th>
<th>Date</th>
<th>Size</th>
<th>Keywords</th>
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<tbody>
<tr>
<td>SMTDOC.HCX</td>
<td>19-Jan-85</td>
<td>32775</td>
<td>SMT SMTF SUPER MAC TERM VERSION 2.0 DOCUMENTATION TERMINAL</td>
</tr>
<tr>
<td>MACKER.SH</td>
<td>16-Jan-85</td>
<td>72545</td>
<td>MACINTOSH KERMIT</td>
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<td>MACX.FOR</td>
<td>16-Jan-85</td>
<td>25950</td>
<td>XMODEM MODEM MACINTOSH MACTERM</td>
</tr>
<tr>
<td>KMICRO.DOC</td>
<td>19-Dec-84</td>
<td>28995</td>
<td>KERMIT Introduction and tutorial for Kermit</td>
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<tr>
<td>HAYES-.TXT</td>
<td>15-Dec-84</td>
<td>1640</td>
<td>HAYES MAC MACINTOSH MODEM PIN DB9 RS232</td>
</tr>
</tbody>
</table>

This is Super Mac Term version 2.0 documentation. It is in BinHex compressed format. It is a MacWrite document. This is a three part document. This is part 2 of the documentation.

Source for Macintosh Kermit. Written in C.

VAX VMS Fortran program to transfer complete Macintosh files between a Vax and a Macintosh running MacTerminal.

This is the third upload of RLMTEP.303 and corrects a bad upload producing fatal errors. Check your copy for a line just BEFORE line 1510 reading QUIT=TRUE. If that line is missing, insert it and do not bother redownloading. If line 1630 is missing, you MUST redownload. See RLMTEP.111 and RLMTEP.302 which must be used with this program. Ralph Miller 70516,1366

This version of RLMTEP is for use with Basic V2. All instructions are the same as for earlier versions EXCEPT the macro instructions are now in DATA statements at the beginning of RLMTEP (instead of RLMTEP II). See instructions for use in RLMTEP.111. You can use EITHER the old keys or the new menus. Users with pulse dialing instead of tone -- see REM at beginning of RLMTEP. Ralph L. Miller 70516,1366

This is a one-line overlay for RLMTEP.203 (called RLMTEP II after download) to correct a timing problem some people run into using auto-redial. Ralph L. Miller 70516,1366

Introduction and tutorial for Kermit.
Yet another version of the famous how to wire a Smartmodem to a Macintosh. How about someone entering part #'s and sources for cable etc.

[72466,3570] CATDOC.30 08-Dec-84 3620 45
Keywords: NOVATION APPLE CAT CATSEND DOCUMENTATION DISK TRANSFER MODEM 3.0
This is an addendum to the earlier versions of the Catsend documentation file. If you have Revision 3.0, then you will want to download this file in addition to CATSEN.DOC found elsewhere in this database. If you have Revision 2.1 or earlier, skip this file and proceed directly to CATSEN.DOC.

Yet Another Version of MacTEP. Read YAVOM.DOC before downloading! YAVOM.BAS adds CompuServe A Protocol support to Dennis Brothers' MacTEP.187 program.

[76703,542] YAVOM.BAS 27-Nov-84 16615 100
Keywords: MACTEP A PROTOCOL BASIC
YAVOM.BAS adds CompuServe A Protocol support to Dennis Brothers' MacTEP.187 program.

[76703,542] YAVOM.DOC 27-Nov-84 2875 228
Keywords: DOCUMENTATION
Documentation for YAVOM.BAS as well as advice on whether or not it will be worth it to you to download it.

[74435,160] SIMPLE.HEX 09-Nov-84 9620 102
Keywords: MACTEP TERMINAL MACINTOSH
This is a simple tty emulator for the Mac written using the Pascal Workshop on the Lisa. CMD-' and CMD-BACKSPACE produce ESC and DEL respectively. Be careful, not all error checking has been implemented. Convert with BINHEX.V30. William Bond 74435,160

[73775,1717] RLMTEP.TMP 01-Nov-84 885 155
Keywords: RLMTEP OVERLAY COMPU SERVE CONTROL CHARACTERS INDENTED MARGIN
An overlay to add ^S, ^Q, ^O (CompuServe controls), ^Z, ESC, an indented 8 characters left margin and option to view file names on disk to RLMTEP II (RLMTEP.113). LOAD "RLMTEP II" then MERGE "RLMTEP.TMP". Rename resultant file back to RLMTEP II to complete conversion.

[75016,1225] MACTER.TXT 28-Oct-84 1025 985
Keywords: MACTER TERMINAL MACINTOSH HINTS
Corrected hints on using MacTerminal's XMODEM to transfer files to/from CompuServe.

[70000,764] XMODEM.DOC 23-Oct-84 26920 414
Keywords: XMODEM CHRISTIANSEN PROTOCOL COMPUSERVE CIS MODEM TELECOMMUNICATIONS
This is CompuServe's own document describing the type of XMODEM or Christiansen Protocol available on the SIGs.

[74176,2243] XMODEM.TXT 21-Oct-84 9300 158
Keywords: XMODEM PROTOCOL COMMUNICATIONS UPLOAD DOWNLOAD
This document describes problem with nulls in the TYPEAPPL field of file headers and their failure to upload properly. A solution is documented. Thanks Yves for your hint.
This is a description of the XMODEM protocol. It was written for CP/M users, and refers to some specific CP/M programs, but most of it is applicable to XMODEM in general.

XMOPRO.TXT 21-Oct-84 770 441
Keywords: XMODEM MACTERMINAL PROBLEM

Results of some experimentation and problems with XMODEM and MacTerminal on CIS.

TEPFIX.TXT 14-Oct-84 1360 272
Keywords: TEP PLUS TEP HELP MACTEP TERMINAL COMMUNICATIONS MODEM BASIC

A short text file describing a minor bug in TEP Plus and providing the fix, along with some additional documentation. Nobody's perfect!

TEP 08-Oct-84 21340 354
Keywords: TEP PLUS MACTEP TERMINAL COMMUNICATIONS MODEM BASIC

Yet ANOTHER terminal emulator program? Yes! TEP Plus is based on MacTEP (tm) 1.87 by Dennis F. Brothers, but includes features to automatically dial and re-dial on busy, maintain a disk-based Phone Directory, has an on-line Help key, and improved Transmit and Receive modes. See TEPHL.PAS (the Help program for TEP Plus) for more info. Gary R. Voth 72376,250

TEP 07-Oct-84 10790 243
Keywords: TEP HELP TEP PLUS MACTEP TERMINAL COMMUNICATIONS MODEM BASIC

This is the Help program for TEP Plus (see TEP+.BAS). Download it and change the name to TEP Plus Help. You can then run it from TEP Plus on-line. It contains information about TEP Plus and can also be used as a generic Help program in other applications. Gary R. Voth 72376,250

KERMIT.HEX 05-Oct-84 62850 153
Keywords: KERMIT FILE TRANSFER PROTOCOL TERMINAL MODEM MACINTOSH COMMUNICATION

A terminal program with KERMIT file transfer protocol. See KERMIT.DOC for details. Must be converted with BINHEX.V30. From the Boston Computer Society (BCS) Macintosh library.

RUNME.1ST 26-Aug-84 1480 155
Keywords: RED RYDER TERMINAL USER SUPPORTED FREESOFT 3.0

REPLACEMENT FOR FAULTY UPLOAD: File #6 of 6. This is a MS-BASIC program (as are all Red Ryder programs) that instructs you how to make the programs executable after downloading them. It also prints a copy of the documentation to your Imagewriter. Scott Watson 73176,61

RR3MOD.TXT 25-Aug-84 8195 111
Keywords: RED RYDER TERMINAL PATCHES MODIFICATIONS FREESOFT MODS

This is a text document that can be printed out with RED RYDER's Print a File command. It describes several REQUIRED modifications to correct known bugs, in addition to several OPTIONAL modifications that can be made to the package to suit your individual preferences. Scott Watson 73176,61

RR3.ASC 18-Aug-84 4740 172
Keywords: RED RYDER TERMINAL USER SUPPORTED FREESOFT 3.0

File #1 of 5. This is the Introduction program to RED RYDER.

RRDOC.TXT 18-Aug-84 81025 95
Keywords: RED RYDER TERMINAL USER SUPPORTED FREESOFT 3.0

File #5 of 6. The documentation for RED RYDER which can be printed on the Imagewriter by RUNME.1ST. RED RYDER is a communications program for the Macintosh, and has the power to be as simple or powerful as needed. Among other things, it supports XMODEM and ASCII file transfers, macro keys, automatic logon sequences, an extensive dialing directory, 26 customization parameters, and memory recall of the last 48 lines of data. Scott Watson 73176,61
This program contains the dialing and parameters functions. Scott Watson 73176,61

This is file #2 of 5. It provides the terminal functions and links to the other RED RYDER programs. Scott Watson 73176,61

This is file #4 of 6. It provides the utility functions of RED RYDER. Scott Watson 73176,61

This is the program that was not uploaded for RED RYDER. If you go the other program's working (don't forget line 3210 of RRT2); this is what you need. Please note that at the present time there are no other RED RYDER terminal programs on MAUG. Larry Loeb 72466,1465

Documentation for Kermit-65. (The lengthy bootstrapping procedure described here is unnecessary)

A version of the Kermit protocol file transfer program for the Apple II with Hayes Micromodem. See Byte magazine, June and July 1984, for a detailed discussion of Kermit. This file can be Execed into the monitor and Bsaved (A$800, L$3600).

This document must be viewed and understood before executing RRDTD.BAS. RRDTD.BAS copies 40 disk sectors at a time into a nonspecific document transmittable by modem. Sectors copied may include **applications**. Resultant files are directly XMODEM transmittable or may be BINHEX converted to CIS compatibility. When reconstituted all Mac-ish information (icon type, position) will be present. Written by Wat Buchanan with a tip of the hat to DSKZAP.BAS. Larry Loeb 72466,1465
[72466,1465]
RRDTD.RNR  24-Jul-84  40  7
Keywords:  MACINTOSH DIRECTTODISK COPY UTILITY MS BASIC

This is the runner program for RRDTD.BAS, which is how the runner expects to see it stored. If you change the name, change the file name in quotes to match. RRDTD.BAS will copy sectors of a disk and store them as an unspecified document that may be sent by modem. See RRDTD.DOC before any use of RRDTD.BAS or you can wipe a diskette.
Larry Loeb 72466,1465

[70065,172]
MAUGTEP.BAS  17-Jun-84 13:00  20
Keywords:  MACINTOSH MACTEP TERMINAL MACRO

Comments on how MAUGTEP3.DOC was condensed from the original MAUGTEP.BAS, and a list of variable aliases.

[70065,172]
BASCAP.BAS  12-Jul-84 23:05  453
Keywords:  MS BASIC CAPTURE BOOTSTRAP TERMINAL COMMUNICATIONS MACTEP

Short, simple Microsoft BASIC program designed to be used to capture a more sophisticated terminal program (such as MacTEP). Only 20 lines to be typed. Instructions are contained in comments. Original program by Chris Allen 72135,250, corrections by Dennis Brothers 70065,172.

[70045,1007]
AUTOTE.187  07-Jul-84 20:20  83
Keywords:  AUTOTEP MACTEP MOUSETEP TERMINAL

THIS VERSION OF MACTEP WAS OBTAINED BY MERGING EDITED PORTIONS OF AUTO.TEP WITH MACTEP.187. MOUSE MENUS NOW HAVE FULL WIDTH BARS. PHONE NUMBER EDITOR NOW ALLOWS DELETING OF NUMBERS. VIEW FILE NOW ALSO ALLOWS PRINTING OF FILES, 60 LINES PER PAGE. THIS VERSION HAS AUTOLOGON FOR COMPUSERVE ONLY. ADD ROUTINES FOR OTHERS AT LINES 5020,5220, AND 5300. DUPLEX IS SET TO HALF DUPLEX FOR ALL EXCEPT COMPUSERVE. CLEAR 27500,2048 TO RUN.

70065,527

MAUGTE,NOTE  27-Jun-84 32:15  21
Keywords:  MAUGTEP MACTEP MOUSETEP

Notes for using MaugTEP. Note that proper CS Autolog lines to edit are 4290 and 4300; and for Dow, 4310. Note that this file is a binary file, which either needs to be converted by MaugTEP or by binhex.bas, into a MacPAINT document. -- Mike McKay

[70065,527]
MAUGTE  25-Jun-84 21:00  44
Keywords: MAUGTEP AUTOTEP MOUSETEP MACTEP

Here it is!! Name by Larry Lieb, Foundation by Dennis Brothers, Floor by Loftus Becker, Walls by Michael McKay, Ceiling by William B. Davis, Jr. A debugged version of AutoTEPv2, but allows conversion of SIG files loaded from a BINHEX conversion to be converted immediately after download. CS overhead for this privilege will work out to (300 baud) approx. $0.12 per 10K (e.g. $0.20 for ACEPAI)... but a ready MacPAINT document!

[70007,1656]
MACTEP,NOTE  14-Jun-84 5:90  427
Keywords: MACINTOSH TERMINAL EMULATOR COMMUNICATIONS MACTEP DOCUMENTATION NOTES

Some notes on the use of version 1.87 of Mactep, a Macintosh Terminal Emulator Program. See MACTEP.187 and MACTEP.RNR. Dennis F. Brothers - 70065,172 - 14-JUN-84

[70007,1657]
MACTEP.187  07-Jun-84 17:34  570
Keywords: MACINTOSH MS BASIC TERMINAL EMULATOR COMMUNICATIONS MACTEP UPLOAD DOWNLOAD

This is the runner program for RRDTD.BAS, which is how the runner expects to see it stored. If you change the name, change the file name in quotes to match. RRDTD.BAS will copy sectors of a disk and store them as an unspecified document that may be sent by modem. See RRDTD.DOC before any use of RRDTD.BAS or you can wipe a diskette.
Larry Loeb 72466,1465

[70516,1366]
RLMTEP111 15-Jul-85 5505 288
Keywords: MACINTOSH MACTEP TERMINAL MACRO

VERSION 1.1 OF RLMTEP A terminal emulation program based on Dennis Brothers' MacTEP v. 1.87. with macros, autologon, mouse menus, and more. RLMTEP.111 is a file of instructions. RLMTEP.112 is the main program - download to a file of your choice. RLMTEP.113 is the second half of the main program and MUST be downloaded to a file named RLMTEP II (unless the CHAIN statement in RLMTEP.112 is changed).

[71505,1765]
MAUGTE.BAS  13-Jul-84 14:10  89
Keywords: TEP MAC AUTOTEP MACTEP MODEM

See MAUGTEP3.DOC for full details. Basically, just a condensed (12K) version of the excellent MAUGTEP.BAS' program (with mouse menus, autodial, autologon, font select, file lister/translator, upload/download, etc.). THIS CONDENSED version allows full use of MAC Desk Accessories. Again, see MAUGTEP3.DOC for details and list of original/alias variable names, for comparison/editing by comparison with the original MAUGTEP.BAS program. -- Frank Grady

[71505,1765]
MAUGTE.DOC  13-Jul-84 5:13  60
Keywords: MAC TEP MAUGTEP MODEM AUTOTEP TERMINAL

Comments on how MAUGTEP3.BAS was condensed from the original MAUGTEP.BAS, and a list of variable aliases.

Notes for using MaugTEP. Note that proper CS Autolog lines to edit are 4290 and 4300; and for Dow, 4310. Note that this file is a binary file, which either needs to be converted by MaugTEP or by binhex.bas, into a MacPAINT document. -- Mike McKay
Version 1.87 of MacTEP, a Macintosh Terminal Emulator Program. Written in Microsoft BASIC. This is essentially a maintenance release. Changes and improvements include cleaner, commented code; better support of printer and clipboard; user selection of X-ON/X-OFF throttling, and prompted upload capability. WARNING: requires CLEAR, 25000 before loading - see MACTEP.RNR. Dennis F. Brothers - 70065, 172 - 7-JUN-84

[70007,1657]
MACTEP.RNR 07-Jun-84 175 353
Keywords: MACINTOSH MS BASIC MACTEP TERMINAL EMULATOR COMMUNICATIONS RUNNER

MacTEP Runner, a very simple program which can be double-clicked in order to run MacTEP. MacTEP V1.87 cannot itself be double-clicked, due to memory constraints. MacTEP Runner's sole function is to clear enough memory for MacTEP, then run it. Dennis F. Brothers - 70065, 172 - 7-JUN-84

[70206,67]
MOUSE.TEP 03-Jun-84 17400 21
Keywords: TERMINAL MOUSE MACTEP

Revision of MacTEP for mouse-controlled menus. YOU MUST CLEAR,25000 BEFORE YOU LOAD THE PROGRAM. If you have a Hayes modem, DELETE lines 4240 and 4250. Put your own phone numbers in the DATA statements at the end. Lofty Becker 4 June 1984

[74166,1006]
VOLKSM 30-Apr-84 330 60
Keywords: MAC TO VOLKSMODEM

Pin connection scheme for Macintosh and Volksmodem. Works with MacTEP 1.81 and MacTerminal.

[74405,351]
MODEMS.CMP 25-Apr-84 3365 134
Keywords: MAC MACINTOSH MODEMS FEATURES HAYES COMPARISON

A comparison of the Apple Modem and Hayes Smartmodem commands. All information taken directly from Apple and Hayes manuals.

[70206,67]
OVERLA.10 17-Apr-84 4080 44
Keywords: MAC MACTEP MODEM OVERLAY ANCHOR HAYES

An overlay for Dennis Brothers' MacTEP 1.81 to give autodial/redirect (Anchor Mark XII or Hayes Smartmodem - but see below), ability to change baud rates, viewing disk files, and other changes. For the Hayes, DELETE LINE 30015 or the program will hang. Changing Line 33510 to RESUME 33000 fixes another occasional bug. To use, Load MacTEP 1.81, MERGE the overlay, and save and run. Lofty Becker April 22, 1984

[71236,1712]
MODEM 25-Mar-84 8805 30
Keywords: MAC MACTEP MODEM SMART HAYES

MODEM 1.33 IS A HACKED UPDATE OF DENNIS BROTHERS' FINE JOB OF MACTEP 1.33. MODEM 1.33 INCLUDES CRUDELY WRITTEN BUT WORKABLE ENHANCEMENTS TO MACTEP1.3 WHICH ADD AUTO DIALING, BAUD RATE CHANGE, MENU DIALING, MODEM DISCONNECT, CAPABILITY TO JUMP BACK AND FORTH BETWEEN MAIN MENU AND TERMINAL MODE, LOGGING OF CALLS, TIME ON LINE, ETC. ETC. MOST OF THIS SUPPORT IS FOR THE HAYES COMPATIBLE MODEMS. CODE NEEDS CLEANING UP BADLY BUT IT WORKS....

[70007,1715]
NEWMAC.CAB 20-Mar-84 760 146
Keywords: MAC CABLE MODEM

The following is the correct pin assignment for Macintosh and Apple 300/1200 Modem (courtesy of Apple, Accessory Products Group).

[72466,1473]
CABLE.MAC 14-Mar-84 950 129
Keywords: MAC CABLE MODEM

Description of the MAC's serial pin assignments (BRIEF!) and modem cable pin-outs.

[70275,1235]
PAMS 17-Nov-83 40270 7
Keywords: PAMS BBS DIRECTORY TELECOMMUNICATIONS

This is the PAMS (Public Access Message Systems) listing, containing almost all bulletin boards across the country. It was last updated 10/22/83 and appears courtesy of Bill Blue [70315,1305] and PMS Santee (619 561 7277).

How-To's

[76703,1027]
BINHEX.HLP 13-Jan-85 12170 62
Keywords: BINHEX HELP BINARY HEXADECIMAL CONVERSION DOWNLOADING UTILITY
This file will explain how you can get the BitHEX application program that you need to download many Macintosh/Lisa programs from our databases. This file assumes that you have read the UPDOWN.MAC file and either MACTEP.GET or MACTER.HLP. Address any questions to SYSOP. -- Neil Shapiro 75703,401

[76703,401] UPDOWN.MAC 04-Jan-85 15450 518 Keywords: UPLOADING DOWNLOADING HELP MACINTOSH LIBRARIES DATABASE

This file will give a very good overview of how to use our database libraries with the Apple // computer and many terminal programs. If you have the Apple // and want to share programs here, this is the first file you should read. By Bill Steinberg

[75076,2603] MACTER.HLP 21-Dec-84 5110 701 Keywords: MACTERM MACINTOSH HELP MESSAGES CIS COMPUSERVE MAUG TEXT

MACTER.HLP describes settings, techniques, etc. to make using MACTERM, MAUG and CIS easier and less frustrating. In particular, it describes what settings to use (USE TTY, NOT VT100), how to use the XMODEM protocol and other lessons learned after extensive use. Much of it is easier than MACTER.USE. MACTER.HLP can be read via R MACTER.HLP. Questions and comments are welcome. Jeff Jacobs, CONSART Systems Inc., Manhattan Beach, CA 90266 user id=75076,2603

[70545,1176] XA.CAT 14-Dec-84 1290 572 Keywords: XA CATALOG DESCRIPTION

This file describes how to obtain a complete description of all the database files.

[76703,1031] EUROPE.HLP 14-Dec-84 3705 45 14-Jan-85 Keywords: EUROPE TELECOMM HELP

I saved this collection of informative messages as a help file for those looking to connect with Compuserve from Europe. Thanks to Jim Putnam for sharing his expertise.

[76174,105] MACTER.USE 09-Dec-84 7130 808 Keywords: MACTERM MACINTOSH TERMINAL EMULATOR MODEM BASCAP

I have had to learn from experience how to use MacTerminal with the XA databases. This file should save some of you the repetition of my trials and errors. It explains some common problems with using MacTerminal in MAUG, and is based in part on the message traffic of the past week.

[76703,1031] MACTEP.GET 17-Nov-84 8410 792 20-Jan-85 Keywords: MACTEP GET HELP DOWNLOAD MACINTOSH TERMINAL EMULATOR MODEM BASCAP

This is a text file that describes, in great detail, the procedure to follow to get MacTEP (Macintosh Terminal Emulator Program) up and running on your Macintosh. Also included are sections on coping with phone line noise and general guidelines for downloading from and uploading to the MAUG XA databases using MacTEP. Dennis Brothers 70065,172. Changed to ref XA8. 612 uploads to date.

[70160,250] OCT13Q.THD 13-Oct-84 4075 224 Keywords: MAC MONITOR UNUSUAL VISUAL EFFECT DISCUSSION DEMONSTRATION

A description of a rather unusual visual effect that has been seen on the Macintosh. The file tells you how to demonstrate it and offers some suggestions as to its causes. Have your chopsticks and tuning forks ready for this one.

[76703,401] HOWTO.CO 08-Sep-84 5330 831 Keywords: CO CONFERENCE RULES PROTOCOLS COURTESY MEETING MAUG

This file should be read and understood by anyone who wishes to attend one of our announced CO or Conference Line meetings. It contains the rules of conduct which must be followed by all members attending. Thanks--Neil Shapiro (MAUG Sysop)

[72105,762] SMTCOM.HLP 11-Jul-84 4245 252 Keywords: SMARTCOM HAYES MICOMODEM DOWNLOAD MMTERM
This is a short file consisting of two messages regarding downloading with the SmartComl program that comes with the Micromodems. The gist of it is that one should Read with Copy on, rather than get tangled up in protocols! I have added an exchange I had with Bill Steinberg that gets into use of the program with other hardware.

[72105,762]
TIMSAV.TXT  16-Jun-84 11970  429
Keywords: CONNECT TIME USAGE COSTS CIS SAVING EXPENSE THREAD

This is a "saved" thread on reducing the costs of connecting to SIGs on CIS. It includes Walt Mossberg's concatenation of commands breakthrough and some suggestions from others as well.

[70001,1056]
NEWCMD.TXT  02-Apr-84 1075  1131
Keywords: NEW SIG COMMANDS 3A74

This file is courtesy of SIG*ATARI and Ron Luks (Sysop). It details the new commands in this test version of the SIG.

[70001,1056]
SETSEC  17-Mar-84 1510  504
Keywords: SECTIONS RETRIEVE SELECTIVE SIG

This message, posted by Walt Mossberg, tells how you can set your sections to automatically avoid information from sections that you are not interested in following.

[70255,1271]
SIGHOP.TXT  25-Feb-84 5855  321
Keywords: SIGS R COMMAND GO SIG HOP SIG HOPPING

A help file describing the SIGs, their functions, their GO address, and the "Rxxxxx" name needed to use the R command to get to another SIG. From GameSIG, and courtesy of Charles McGuinness of the Programmers SIG.

[70001,1056]
NODES.TXT  27-Apr-83 14270  153
Keywords: NODES UST USER LISTS MEMBERS CIS COMPUSERVE

This is the "secret" list of where all of CompuServe's "Nodes" are. A node being those esoteric three-letter codes you see following a person's PPN when you do a UST at Function. Some codes are easy to figure out, others are really strange. The next time someone tells you they are in the Fiji Islands, you can check it out!

[70335,1243]
FILDEC.FP  08-Feb-83 4775  57
Keywords: FILGE TEXT LONG LINES

This software is to be used to circumvent the line length limit when using FILGE to UP/DOWNLOAD BASIC programs with line lengths. Prior to uploading, the file should be modified by placing an "@" at the end of each line. Then reformat the lines to a limit of 80 or so and upload. The person downloading can use this program to reconvert the file back to a long lined basic program or whatever.

[70160,250]
SIGHLP  24-Jan-83 20830  627
Keywords: CIS SIG HELP COMMANDS FUNCTIONS

This file is the edited and reformatted SIG help file that puts up all those pretty messages when you request help at the various function levels. All of the functions are documented, even the obscure ones you never use.

[70001,1056]
USEFUL.COM  10-Jul-82 2655  844
Keywords: CIS HELP COMMANDS EFFICIENT

This file contains information vital to all users, especially those who are new to the CIS system. By using the commands listed you will be able to make more efficient use of your online time and, therefore, keep your costs down. If something is unclear or you need further information, contact Mimi Hiller by leaving a message in Section 5, or any of the sysops for that matter.

**Mostly Technical**

[70006,513]
EJRSFK.HCX  21-Dec-84 675  50
Keywords: KLIMAN EJECT RESET FKEY FUNCTION KEY RESOURCE

This is a resource file containing an FKEY resource. Move the FKEY to the System file with Resource Editor or RMover. It allows Shift-Cmd-9 to be used to eject both disks and reset the Mac (works nicely on Lisa too). By Dave Kliman. Convert with BINHEX,HcX.
A short description of the new Examples disk for Mac C from Consulair Corp. $20.00 for new files and DA example.

A little program that a friend wrote showing Brownian Motion (the movement of a free molecule in free space). I did up the icon for the program but don’t know how to bind it properly, so I stole the resources from Resource Editor. The icon is type RSED, but should be type KATZ. Can anyone help?

This is a desk accessory (in D.A.M. format) which will eject both disks and reset the Mac (Works on Lisa, too - very handy). By Dave Kliman. Use BINHEX.HEX to convert.

An animated Christmas card by Rick Jansen. Convert with BINHEX.HEX.

A MacPaint drawing of the feature building at Vancouver, B.C.'s, Expo '86. Convert with Binhex.

A picture to remind all of us of the horror that awaits those of us that fail to make back-ups. Convert with BinHex.

A MacPaint picture of a greyhound dog. Convert with Binhex.

The original title for this very busy picture was "A picture this obscure should have a very long name." Convert with BinHex.

An overhead shot of Vancouver, B.C., taken with the MicronEye. Convert with BinHex.

"Snow Storm" is a small application I wrote in C to fool around with QuickDraw. It looks nicest if you have the New York font in your System. Convert with BinHex.hex. Merry Christmas! -Jeff Miller 71426,564

THIS A SIMPLE MACFORTH PROGRAM I WROTE LAST WEEKEND FOR MY 1ST GRADE DAUGHTER TO TEST HER MATH (ADD/SUBTRACTION) USING A FLASHCARD-TYPE SCREEN. USES CUSTOM CURSOR, WINDOWS, MENUS, ETC. USE CONVERT.4TH TO CONVERT TO BLOCKS CODE. BOB FROM SEWICKLEY

This is the documentation (such as it is) for the ICNxxx.HCX files. Each unique numbering range is listed, and which file it is in. All the actual icons and ICN# resources have names, but this reference will help locate them faster. Robert Wiggins (75136,373)
A very small desk accessory that simply clears as much memory as possible. Especially useful for those with 128K and Tecmar hard drive, allowing you to eject the disk in most cases and thereby preserve the desktop file. Fun to watch if you have the Uriah desk accessory! Convert with BINHEX.HEX and install with Desk Accessory Mover. (Sysop: Replaces earlier version!)

MACADV.RVW  11-Dec-84  5290  124  23-Dec-84
Keywords: MAC PSYSTEM PASCAL SOFTECH
MACADVANTAGE REVIEW COMMENTS
A first look at MacAdvantage, a p-System Pascal that lives within the Mac Operating System. As long as the run-time files are there, your Pascal programs can be run by double clicking their icons. Separate compilation is supported, and some 500 ROM routines are available. Uses the Apple MDS Editor. Debugger provided. Looks powerful, clean, and nice.

UPMIDC.HEX  09-Dec-84  12160  107
Keywords: MUSIC WORKS MW XMAS HCX UPON A MIDNIGHT CLEAR
music upon a midnight clear from musicworks hope you enjoy

SHAPES.BLK  08-Dec-84  15235  66
Keywords: MACFORTH GRAPHICS CONBLK
Graphics program for MacForth. Convert with Conblk.

TSCALE.BLK  08-Dec-84  1665  53
Keywords: MACFORTH EDITOR EXTENSIONS CONBLOCK
MacForth editor extension to add a thumb scale to the margin to allow fast access to various blocks. Convert with conblk.

ARGSIM.C  07-Dec-84  21380  37
Keywords: C SHELL WILDCARD ARG ARGV SOURCE
This is the source of a program that performs a subset of the command line argument processing provided by the UNIX(TM) shell. It is written for use with the Mac C compiler from Consulair Corp. See ARGSIM.DOC for examples of how it can be used. WC.HEX provides an executable program that uses the argument processing.

COMPAC.HCX  13-Dec-84  1025  144
Keywords: DESK ACCESSORY COMPACT MEMORY TECMAR D.A.M.
ARGSIM.DOC 07-Dec-84 2690 43
Keywords: C WILDCARD ARG C ARGV WORDCOUNT

This is a brief description of the capabilities of the argument processing program ARGSIM.C. It uses the program WC.C to illustrate how the argument processing works. An executable version of WC.C is available as WC.HEX. Steve Langdon [74036,2427]

WC.C 07-Dec-84 3585 31
Keywords: C WILDCARD ARG C ARGV WORDCOUNT SOURCE

This is the C source of a program which implements the functions of the UNIX(TM) wc (word count) command. It uses the argument processing capabilities of the ARGSIM.C program. An executable version of this program compiled with the Mac C compiler from Consulair Corp. is available as WC.HEX. Steve Langdon [74036,2427]

FKEQUE.TXT 07-Dec-84 1555 275
Keywords: QUEUE AND FKEY INSTRUCTIONS

This text file has some very brief instructions on installing and using QUEUE and FKEY. Steve Bobker [74206,420]

FKEY.HCX 07-Dec-84 870 304
Keywords: QUICK EJECT AND RESET FUNCTION KEY AND DESK ACCESSORY RMOVER

Consists of resource files to be pasted into System files using RMOVER. On selecting the desk accessory or keying Command-Shift-9 you immediately eject both drives and reset the Mac. Not for Lisa. DA by Dave Kliman and Russ Brenner, function key by Dave Kliman. Uploaded with permission. Steve Bobker [74206,420]

QUEER.HCX 07-Dec-84 4610 313
Keywords: QUICK EJECT AND RESET DESK ACCESSORY D.A.M.

A very small desk accessory by Dave Kliman and Russ Brenner, and uploaded with permission. When selected, this tool ejects both drives and reboots the Mac immediately. Does not work with MacWorks. See FKEQUE.TXT for more detail. Convert using Binhex.Hex and install with D.A.M. Steve Bobker [74206,420]

LISTV3.HCX 06-Dec-84 24700 122
Keywords: MINIFINDER LIST MULTI-FILE BASIC-1.01

List up to 10 files. Files are selected with the Mini-Finder. When up to 10 have been selected, program is told to print them, one after another. Uses Mac-ish buttons to select options. Breaks for pages. Nice for printing out all those files you've downloaded from MAUG.

MACCDA.HCX 06-Dec-84 3680 186
Keywords: MACINTOSH DESK ACCESSORY DUVAL CONSULAIR MAC-C C SAMPLE DAM-FORMAT

This is Bill Duval's sample desk accessory, in which the original code was written in Consulair's Mac C. The source is available to registered owners of Mac C, possibly at a nominal fee to cover disk and postage. Many other goodies are on the update disk. Uploaded by Chris Allen 76703,472

FKEQUE.TXT 04-Dec-84 1705 328
Keywords: NAKED ICON

This is the infamous "Naked Icon" (PG-13) originally uploaded by William Randolph Hearst III for Neil Shapiro, but which was erroneously deleted by Bill Steinberg (AltSysop) because he didn't know that a document can have the bundle bit set (but only if it has a resource fork). If no icon appears, use FEDIT to set the bundle bit. Robert Wiggins (75136,373) (who saved a downloaded copy)

BUST.HCX 04-Dec-84 1280 350
Keywords: BUST ICON GIRL SWITCH

This is a bust of a girl icon attached to a switch Finder type of application. Hex file is 2K long. APPL file is 1K long. Less than a minute to download.

FACE.HCX 04-Dec-84 1280 208
Keywords: FACE ICON CONTEST GIRL

This is a stand-alone icon of a girl's face attached to a switch finder type of application. Hex file is 2K long. APPL file is 1K long, less than a minute to download.

ICPUZ1.HCX 04-Dec-84 1280 211
Keywords: PUZZLE 1 OF 6 ICON GIRL IPCUZ HCX

Part 1 of 6 of an icon puzzle. It makes a well formed girl. Give each file a one character name. The icon is attached to switch Finder type application. Hex file-2K long. APPL file-1K long.
Grabber is a quick & dirty file transfer program, in Pascal. It is designed to be the first program you will type in on your mac to transfer a more powerful textfile file transfer program into the MAC. Typing is about 2000 bytes. Run at 300 baud, or you may lose characters. Damn little error checking! UCSD Based. --> Bart

Mark Allen's Talker program (Pascal) It compiles under both Softtech V IV.13 and Apple // Pascal 1.2. A good example of the sort of more powerful transfer program referred to in Grabber. Seems to bomb with a System error in the quit process on the Mac. By then you have your files. Maybe I'll fuss with it manana! --> Bart

This MacWrite file (with embedded MacPaint schematic) describes in detail how to upgrade your Mac yourself to a FatMac. Download and convert with BinHex.Hex. Previous version was erroneously sent as 8 bit. Nate Goldshlag

Modification of Dennis Brothers's program SND4T.BAS. Dennis's program was designed to demonstrate the technique of 4-tone music synthesis on the Mac; it had the music data embedded in the source code. This version, MUSIC.BAS, mod #2, takes the music data from a text file on disk, providing more flexibility to transcribers and to listeners. For data file format, see end of MUSIC.BAS. For music data files available in this database, use SCAN (or BROwse) *.MUS.

Music data text file for use with MUSIC.BAS. Promenade from Moussorgsky's Pictures at an Exhibition. Transcription by Rick Connolly, 70120,213.
[70365,164]
SAMPLE.MUS  27-Nov-84 425   82
Keywords: MAC MACINTOSH MUSIC MUSIC.BAS
Music data text file for use with MUSIC.BAS. Short excerpt from Star Wars theme, transcribed by Dennis Brothers.

[70365,164]
STRWAR.MUS  27-Nov-84 5350  127
Keywords: MAC MACINTOSH MUSIC MUSIC.BAS
Music data text file for use with MUSIC.BAS. Star Wars Main Theme -- John Williams. Transcription by Joe Gagnon, 72065,267.

[75126,3533]
EJECT.DOC  25-Nov-84 2300  164
Keywords: EJECT DISK DOCUMENTATION
This is a short note describing a method to detect a command-shift disk command from within an application program. As far as I know, this routine has not been documented in Inside Macintosh or elsewhere.

[70526,1372]
MENTMP.PAS  22-Nov-84 6275  255
Keywords: MACINTOSH PACAL MACPASCAL MENU MENUS
This Macintosh Pascal program gives you a template to create, delete, modify, and manipulate 'real' pull down menus. It's a nice form to work from. Does anyone have nice window or dialog templates?

[70436,1425]
XMASCD.HCX  19-Nov-84 18945  266
Keywords: MACPAINT BINHEX.HEX CHRISTMAS CARD XMAS
Print your own Christmas cards on your Imagewriter with this one. Artist Diane Hewlett of the Macintosh Apple Corps of Wilmington, NC, created this and offers it with a wish for everyone to have a Merry Christmas. Try different colored ribbons for variety and then fold for a nice card. Requires BinHex.Hex compressed format. Bruce Hemingway, 70371,111

[76174,57]
CURSOR.HEX  19-Nov-84 15360  88
Keywords: MS BASIC CURSOR EDITOR BINHEX.HEX
This program written in MS-BASIC produces ready to run subroutines that can be merged with other MS-BASIC programs or run as is. This program was uploaded in compressed format and must be converted with BINHEX.HEX. Roger Smith 76174,57

[71106,1435]
MATHLDEF  17-Nov-84 680   106
Keywords: MATH MODULA DEFINITION MODULE
This is the definition module for mathlib.mod.

[71106,1435]
MATHL.MOD  17-Nov-84 8065  75
Keywords: MATH MODULA IMPLEMENTATION MODULE
This is an implementation module for a Modula 2 math library. You will also need MathLib.DEF.

[75015,1421]
HELPME.LAB  17-Nov-84 3145  70
Keywords: HELP WANTED LAB LABORATORY VIRTUAL SLOTS APPLEBUS
Help me decide if there's any reasonable prospect of using a Mac or Lisa as a credible real-time lab machine. -- Dan Smith 75015,1421

[70371,111]
SOUND.HCX  09-Nov-84 6275  585
Keywords: SOUND SYNTHESIS MUSIC DRIVER APPLICATION
This application demonstrates a new sound routine which implements FM (frequency modulation) synthesis for the production of complex timbres. Two sine wave oscillators are frequency and amplitude controlled. The envelope is a repeating linear ramp. Modulator frequency is set in ratio with carrier frequency. I wrote this in assembler. Convert with Binhex.hex compressed format. Bruce Hemingway, 70371,111

[72405,604]
SWITCH.HEX  09-Nov-84 1370  352
Keywords: SWITCH TRANSFER NULL APPLICATION FIXED DISK RAMDISK
This is a nominal application which, when run, makes its diskette the startup disk. This is useful when you want to change system diskettes, and is particularly useful to switch control to a fixed disk or a ramdisk. Download and convert with BinHex. If the Icon doesn't show at first, use SetFile and set the Bundle bit. R. W. Zehr

[73026,2663]
FROMHE.C  06-Nov-84 2470  103
Keywords: FROMHE C PROTOCOL BINHEX
These are C source programs for the hex format used for binary files on the ARPA Mac conference fa.info-mac. They were taken from the Usenet conference net.sources and have not been re-compiled. They are straightforward
enough that a translation into Basic should be easy. --
George Acton

[75146,3477]
VEWPNT.HEX 06-Nov-84 5400 327
Keywords: MACPAINT UTILITY GRAPHICS PRESENTATION

A short program that shows the upper left corner of a MacPaint document (512 x 342). Useful for seeing what a StartUp screen will look like or doing a presentation with MacPaint documents without MacPaint. The program name is View Paint Vers. 0.5 and something that will be added to a later version is thanks to Bill Atkinson for the core of the program in his structure of a MacPaint document. P.S. I am uploading this for a friend who is temporarily at odds with CIS over his billing.
This program copies files. Save as "cp". Uploaded by Christopher Allen 76703,472 with the permission of Hippopotamus software. For more information see HOS.DOC.

**HIPPOC.HEX** 20-Oct-84 3715 106
Keywords: MACINTOSH HOS HIPPO C OPERATING SYSTEM LOADER PROGRAM APPLICATION

This is the loader program for HOS. Save as "Hippo-C". Uploaded by Christopher Allen 76703,472 with the permission of Hippopotamus Software. For more information see HOS.DOC.

**HOS.DOC** 20-Oct-84 7100 361
Keywords: MACINTOSH HOS HIPPO C OPERATING SYSTEM DOCUMENTATION

This is the documentation on the 12 files that make up HOS (the Hippo-C Operating System). Uploaded by Christopher Allen 76703,472 with the permission of Hippopotamus Software. Please read before downloading any of the other 11 programs.

**HOS.HEX** 20-Oct-84 28455 109
Keywords: MACINTOSH HOS HIPPO C OPERATING SYSTEM V11

This file is version 1.1 of the Hippo-C operating system, and is loaded by Hippo-C. Save as "HOS" (note caps). Uploaded by Christopher Allen 76703,472 with the permission of Hippopotamus Software. For more information see HOS.DOC.

**LS.HEX** 20-Oct-84 1405 86
Keywords: MACINTOSH HOS HIPPO C OPERATING SYSTEM LIST FILE DIRECTORY UTILITY

This program lists the file directory. Save as "ls". Uploaded by Christopher Allen 76703,472 with the permission of Hippopotamus Software. For more information see HOS.DOC.

**MV.HEX** 20-Oct-84 1535 76
Keywords: MACINTOSH HOS HIPPO C OPERATING SYSTEM RENAME FILE UTILITY

This program renames files. Save as "mv". Uploaded by Christopher Allen 76703,472 with the permission of Hippopotamus Software. For more information see HOS.DOC.

This program displays files in a number of formats. Save as "od". Uploaded by Christopher Allen 76703,472 with the permission of Hippopotamus Software. For more information see HOS.DOC.

This program removes a file from the directory. Save as "rm". Uploaded by Christopher Allen 76703,472 with the permission of Hippopotamus Software. For more information see HOS.DOC.

This program counts lines, words, and characters in a file. Save as "wc". Uploaded by Christopher Allen 76703,472 with the permission of Hippopotamus Software. For more information see HOS.DOC.

This is the "Fractal" program from the September issue of BYTE. It's in Microsoft Basic; if using MacTEP, download with Option-B. Neal Lebedin

This Microsoft Basic program to print Rolodex file as mailing labels on an Imagewriter. Can be easily modified to suit your file card format, and to send output to a text file for printing from MacWrite if you want to have fancy fonts rather than straight Imagewriter printing.

Documentation of XLisp 1.2. Assumes familiarity with Lisp, and some familiarity with, say, the Smalltalk books wouldn't hurt.
XLISP.12 from the ARPA Info-Mac archive. This is a C implementation of an extended LISP-like language. The extensions are mainly in support of object-oriented programming. See XLISP.DOC. (Although the program is definitely PD, it may be wise to assume a non-commercial usage restriction.)

Convert this file with BINHEX.v3 to Scrapbook File. This Scrapbook file contains icons for most of the major Macintosh programs. It can be used for reference, or for creating graphic disk labels in MacPaint. I will update it with new icons as new software comes available. Chris Allen

Set all three BASIC windows to MONAC0-9 with two POKE's. Use the FILE utility with MONAC0-12 instead of the (normal) GENEVA-12. Manipulate the Macintosh default fonts and sizes. Good luck, hope it doesn't blow up on a 512K Mac --Dan Smith, 75015,1421

If you find "WORDS" a poor substitute for an extended VLIST or just want to explore how MacForth utilizes RAM, this short MacForth 1.1 program may help. This will dump the following data on an individual word, a range of words, or the entire dictionary: NFA, name, token, CFA, PFA, the 1st 3 words of the parameter field and whether the word is immediate or linked to the heap. For a really powerful combo, use with DEFINE.4th and DSML.4th and DUMP.

This file contains the MacForth assembler source definitions for the words (GET.FILE) and (PUT.FILE). MacForth Level 2 is required to load these definitions. Download as text, and use CONBLK.4TH to convert to a blocks file. -- Neal Lebedin
Documents and demonstrates a short machine-language fragment which permits you to call Toolbox integer-valued FUNCTIONS from MS-BASIC. For advanced programmers with access to Inside Macintosh. The program demonstrates a call to FindWindow. Comments would be very welcome. Dan Smith, 75015,1421

Eject is a Mac ROM routine which ejects either the internal or external floppy from its drive. EJECT.BAS contains the assembly language call to execute the low level function call PBEject (See page 36 of the File Manager write-up <dated 5/21/84> in the Inside Macintosh manual.) The assembly language call is an adaptation from Dennis Brothers' program MacWRT.BAS. It is a general calling sequence for a number of ROM routines such as GetFilelno, SetFileInfo, etc.

MacForth 68000 disassembler, based on R. Nicholson's DSM.V3 and DSM3.O. Download as text, then use CONBLK.4TH or TOBLKS.BAS to convert to blocks file. The file DSM10.HEX is also required. Download the latter as text, then use BINHEX.V30 to convert to "application", i.e. binary file, under the name DSM10.BIN (if a different name is used, the blocks file must be changed).

This is the object table file required by DSM10.4TH. It is a condensed version of DSM3.O. Download as text, then use BINHEX.V30 to convert it to a binary file with the name DSM10.BIN.

This is a short program that will allow you to use the files command with mbasic in order to get a screen listing of the files of the non-default drive.

This is a short file describing the font numbering scheme devised by Apple. I'm going from memory, but I believe the information is correct. Thomas Newton (72475,1202)

This is a short program that will allow you to use the files command with mbasic in order to get a screen listing of the files of the non-default drive.

This document describes the structure of MacPaint files. This information was used to write a BASIC program for driving the QMS LG1200 laser printer as an output device for MacPaint pictures, so I believe the information is basically correct. Beware, though, as I don't have Inside Mac.

This program is a utility to help in constructing (mouse) cursors for use in MS-BASIC programs. It provides a FatBits-like facility for defining the cursor and the mask, and allows the user to try his cursor against various backgrounds. The cursor can be saved as a file of DATA statements to be MERGEEd with another MS-BASIC program. In order to work with its help program overlay (in Mcursor.hlp), it must be downloaded as MacCursor.

This BASIC program is a help overlay for MacCursor (in Mcursor.bas). It is chained from MacCursor when the HELP button in that program is clicked. It must be downloaded as
A short program that has an object moving across the screen and bouncing off the boundaries.

With minor modifications and additions, the string package written by Gregg Harris for C64 Forth converted to run under MacFORTH. All string operators use range checking to prevent overwriting past the end of a string. Sample operators include: $\text{CONSTANT}$, $\text{VARIABLE}$, $\text{RIGHTS}$, $\text{LEFTS}$, $\text{MID}$, $\text{ASC}$, $\text{CHR}$, $\text{COMPARE}$, $\text{VAL}$, $\text{<}$, $\text{=}$. $\text{>}$, $\text{STR}$, $\text{POS}$.

Documentation for the MacFORTH string package STRING.4TH. Please read this before using STRING.4TH - it'll save you a lot of time and hacking. Uploaded by Adam Fishman. Got any questions? Feel free to leave me a message.

A short demonstration program to show one way of using mouse-controlled menus in MS-BASIC. Relatively easy to adapt to MacTPEP with the Overlay if you like mouse menus better than the keyboard. If you do this, though, be sure that all variables are preset at the start of the program.

This program allows you to change the font and font size of the Microsoft Basic List window.

This is a short program written in Macintosh Pascal as a demo of some of its capability.

This is the MusicWorks version of the infamous "Louie Louie." Convert with BinHex and play with MusicWorks. Todd Nix 74106,466

This is a short program in Macintosh Pascal that prints all of the printable characters in Cairo font along with their ASCII codes. Might be useful, so I thought I would upload it.

This is a Super MacPaint picture. It is what I'd like my own ChipWit to grow up like so he can beat Bill Steinberg's ChipWit.

Great MacPaint Picture! Big One, 42K. Convert with BinHex.
This MusicWorks file is "The Eyes of Love," better known as the theme song from Ice Castles. It was put on the Mac by "Burn" Boring of Burke, Texas. Convert with Binhex.hex. If you have the release version of MusicWorks be sure to adjust the tempo. Does anyone have "Zarathustra" or the "William Tell Overture?" Would be nice.

A Scott Joplin song which he called An Afro-Intermezzo. It is a Two Step Rag (2/4 Time) written in 1904. There are four separate themes with several repeats. This song is more interesting than The Sting (Entertainer). Eric Johnson (75126,1617)

This file is documentation that I have written for the Mac*Memory*Disk. It tells how to use it. Hints in its use, warnings in its use, and other things. I hope this helps everyone out there, as the company did not see fit to put any documentation in with the disk and program. This is a three page MacWrite Document in BinHex Compressed Format. Yours, James Doherty

The following is the complete (I hope) pinouts and switch configuration for connecting the Mac to a Hayes Smartmodem (1200 or 300). It works with all the terminal programs on MAUG (I've used most of them). Have fun!!

This is my version of the Tocatta from the Tocatta and Fugue in D Minor by J.S. Bach. Must be converted with Binhex.hex. Enjoy! Michael Eskin

Answer to the age-old question, "How can I use my Mac to correspond with my Dwarvish friends?" File contains font,
"Rivendell" the Angerthas Daeron. Key layout is phonetic. Short vowels and consonants unshifted. Long vowels and diphthongs shifted. See RK pp 502-3 for phonetic correspondences. CREATED BY MARTIN BRYANT 12/84. The Feanorian Tengwar is under construction and should be ready for upload shortly. Font #299, Hex file 3K, FFIL 2K Convert with Binhex ->compressed.

[74706,661]  
RAMDIS.TXT  13-Dec-84 2940 299  
Keywords: RAMDISK RAMDIS RAM DISK REVIEW ASSIMILATION PROCESS MEMORY DISK  
Comparison of a commercial RamDisk (Assimilation Process' $29 Mac'Memory'Disk) with RAMDIS.HCX in XA4. They're both terrific but I think the commercial version is worth the $29.--Dan Smith!ERI 74706,661

[70176,1375]  
BET5TH.HCX  12-Dec-84 12035 146  
Keywords: MUSICWORKS MUSIC BEETHOVEN BINHEX  
A jazzed-up version of Beethoven's 5th symphony. Convert it with BINHEX.HEX and play it with MusicWorks. Hope you enjoy it... Robert Eberhardt (70176,1375)

[70176,1375]  
BRKIN2.HCX  12-Dec-84 11010 83  
Keywords: MUSIC MUSICWORKS JACKSON BREAKING BINHEX  
Convert this file with BINHEX.HEX, play it with MusicWorks. It is the popular song "Breaking Us in Two" by Joe Jackson... Robert Eberhardt (70176,1375)

[70176,1375]  
GRYMJ.HCX  12-Dec-84 4480 106  
Keywords: MUSIC MUSICWORKS CHRISTMAS BINHEX  
I'm sure everyone has heard "God Rest Ye Merry Gentlemen." Here is the MusicWorks version. Convert with BINHEX.HEX and play... Robert Eberhardt (70176,1375)

[70176,1375]  
HLYNGT.HCX  12-Dec-84 5635 91  
Keywords: MUSIC MUSICWORKS HOLY NIGHT CHRISTMAS BINHEX  
The Christmas carol "O Holy Night." Convert it with BINHEX.HEX and play with MusicWorks... Robert Eberhardt (70176,1375)

[70176,1375]  
HYJUDE.HCX  12-Dec-84 12290 98  
Keywords: HEY JUDE MUSIC MUSICWORKS BEATLES BINHEX  
This is "Hey Jude" by the Beatles. Convert with BINHEX.HEX and play it with MusicWorks... Robert Eberhardt (70176,1375)

[70176,1375]  
INSPEC.HCX  12-Dec-84 10130 99  
Keywords: MUSIC MUSICWORKS INSPECTOR CLOUSEAU BINHEX  
The famous theme song for Inspector Clouseau of Pink Panther fame. Convert with BINHEX.HEX and play with MusicWorks. Written by Henry Mancini... Robert Eberhardt (70176,1375)

[70176,1375]  
WISHING.HCX  12-Dec-84 12035 69  
Keywords: MUSIC MUSICWORKS WISHING SEAGULLS BINHEX  
This song is called "Wishing" and was written by the popular group A Flock of Seagulls. Convert with BINHEX.HEX and play with MusicWorks... Robert Eberhardt (70176,1375)

[70176,1375]  
WNTWLD.HCX  12-Dec-84 8960 79  
Keywords: MUSIC MUSICWORKS WINTER WONDERLAND CHRISTMAS BINHEX  
The MusicWorks version of "A Winter Wonderland". Convert this file using BINHEX.HEX and play it with MusicWorks... Robert Eberhardt (70176,1375)

[72405,604]  
RAMDSK.HCX  12-Dec-84 2725 141  
Keywords: RAMDISK BINHEX UTILITY MAC  
This application is a ramdisk and must be converted with Binhex.hex. It is only usable on a 512K Mac. You must have RMove to install this application. Documentation detailing how to install and use the ramdisk is available in Ramdisk.doc. -Paul Emerson- Icon added by R. W. Zehr

[70156,1303]  
CASTLE.HCX  11-Dec-84 31035 71  
Keywords: CASTLE PICTURE MACPAINT PAINT MACINTOSH BINHEX  
This is a picture of a castle that I created to represent my BBS called "Crystal Castle." Convert with Binhex.hex with compressed on. Hope you enjoy it as much as I did in creating it!!! Pam Barnhart (07156,1303)

[74206,1406]  
GRANTC.HCX  11-Dec-84 6780 89  
Keywords: MUSICWORKS MUSIC BINHEX COMPRESSED
"Grantchester Meadows" by Pink Floyd. Convert with BinHex.Hex, play using MusicWorks.

This fourth screen should replace the last three screens of LAM4th. In the old version, SAVE' and RELOAD' does not work with words with CREATE...DOES> in it. This new version saves the so-called token table also, and now works even if CREATE...DOES> appears.

A neat version of The Entertainer done in MusicWorks. Feel free to improve it and send it back. Enjoy!!!! -- James

This MusicWorks file is many a hacker's theme song. Hint: It's by Paul Williams. I think you'll really like this one; it was transcribed by Raul Gutierrez and Smilin' Bob Johnson. -- >binhex.hex compressed<--

This MusicWorks file is Dimitri Kabalevsky's "Toccata." It is a lively and interesting (very 4 voice) number that really shows off MusicWorks at its best. It was transcribed by Raul Gutierrez. -- >Reconstitute with BinHex.hex compressed format<--
This MusicWorks file is the Beatles' "Yesterday." It was transcribed by Smilin' Bob Johnson. -->reconstitute with Binhex.hex compressed<--

This is an AD&D Character Record Sheet that can be used to keep track of any information pertaining to your characters. It's a MacWrite document so convert it with Binhex.Hex with compressed and line feeds on. Hope you enjoy this. Pam Barnhart

This is documentation for Ramdisk.hcx. This file documents how to install and use the ramdisk. Use Binhex.hex. Paul Emerson

This application is a ramdisk and must be converted with Binhex.hex. It is only usable on a 512K Mac. You must have RMover to install this application. Documentation detailing how to install and use the ramdisk is available in Ramdisk.dcc. -Paul Emerson-

This is a nice long MusicWorks file that needs to be reconstituted with Binhex.hex compressed format. The song is "The Rainbow Connection" by Paul William (Kermit de Frog's song). It was transcribed by a guy who likes to call himself Smilin' Bob.

The new upgrade to CE Software's MacHonor program of Desk Accessory Mover. This fixes the prior bug of not setting the purgeable bit.

MockPrinter is a desk accessory that prints text files. It is available under a freeware system from CE Software in conjunction with MockWrite and MockTerminal.

MockTerminal is the true, really and honestly MacHonor terminal desk accessory from CE Software. Requires Binhex.hex to convert to a file you can load with Desk Accessory Mover 1.4.

MockWrite is a text-editor desk accessory available as freeware from CE Software.

This is a 36 point display font for MacPaint styled after the Infocom logo. Characters are typed in lower case although certain characters have shift and option attributes (some option characters require pushing the character key twice, e.g. <OPT n> n). Convert with Binhex.hex. - P. Whitelock

Here we go again! The latest (6 December) list of products now shipping for the Macintosh. This version contains 249 items - that means 70 have been added in less than 2 weeks!! There are actually more than 300 at this time, but I still do not have that complete list. Enjoy...
APPENDIX D

[70310,365]
DANCER.HCX 05-Dec-84 6745 144
Keywords: MACPAINT PICTURE PIX BINHEX COMRESSED GRAPHIC

From McPic! vol.#2 with modifications. Animation ain't but close! Convert with Binhex.hex, compressed.

[71735,1675]
CATDSK.BAS 04-Dec-84 3780 165
Keywords: CATALOGGER MS-BASIC DISKETTE

This is the main program for Catalogger. See CATDSK.DOC for full information.

[71735,1675]
CATLST.BAS 04-Dec-84 7510 167
Keywords: CATALOGGER MS-BASIC DISKETTE

This is the List portion of the Catalogger program. See CATDSK.DOC for full information.

[71735,1675]
CATUPD.BAS 04-Dec-84 14435 145
Keywords: CATALOGGER MS-BASIC DISKETTE

This is the Update portion of the Catalogger program. See CATDSK.DOC for full information.

[76703,472]
MELODY.HCX 04-Dec-84 8590 157
Keywords: MACINTOSH MELODY MUSIC SOUND APPLICATION ONE-VOICE GENERATOR

This program is a Macintosh one-voice synthesizer. You play the piano, and notes appear on the staff. You can play back your composition, but the program does not have any disk storage. Uploaded by Chris Allen 76703,472

[70007,546]
APPLE.HCX 03-Dec-84 21760 77
Keywords: MACVISION DIGITIZER KOALA BITMAP MACPAINT FILE GRAPHICS APPLE

Second of 4 full-screen (upper-left 512 by 342) MacPaint images digitized with MacVision. A little nostalgia can be delicious! Download with BinHex.Hex and view with VEWPNT.HEX (in XA3).

[70007,546]
ROOFL.HCX 03-Dec-84 32640 63
Keywords: MACVISION DIGITIZER KOALA BITMAP MACPAINT FILE GRAPHICS SKIPPY

Third of 4 slides digitized with MacVision. This image <in "portrait" mode> of a male marsupial at the Prague zoo asks: "Who am I? Why am I here in Czechoslovakia? Where did I leave my boxing gloves?... <Shot from photo in a recent issue of Life magazine.>

[70007,546]
TIGER.HCX 03-Dec-84 34050 88
Keywords: MACVISION DIGITIZER KOALA BITMAP MACPAINT FILE GRAPHICS

This is a full-screen (512 x 342) "unretouched" image of a Bengal tiger digitized with MacVision from Koala Technologies. VEWPNT.HEX, in XA3, is very handy for viewing these full screen slides. Download with BinHex.Hex.

[70007,546]
TREK.HCX 03-Dec-84 28930 84
Keywords: MACVISION DIGITIZER KOALA BITMAP MACPAINT FILE GRAPHICS TREK

Last of 4 MacVision screens. Use VEWPNT.HEX to view these vaguely familiar characters. Download with BinHex.Hex.

[71236,1101]
COMET 02-Dec-84 3165 185
Keywords: PASCAL COMET ORBIT DEMO
A MacPascal program that demonstrates a cometary orbit in two dimensions. It has a few neat routines like a title centering procedure. I hope you like it.

[71476,1613]
SILENT.HCX 02-Dec-84 2560 106
Keywords: MUSICWORKS SONG COMPRESSED HEX FORMAT

Keeping with the Christmas spirit, here’s another MusicWorks song. Hope you enjoy it! Merry Christmas.

[75216,2100]
RAPSDY.MW 02-Dec-84 10075 81
Keywords: MUSIC MUSICWORKS RHAPSODY MACINTOSH MACROMIND

Some more MusicWorks music for you to "rhapsodize" over. Convert with BinHex.HCX. Price Collins, 75216,2100

[70235,1066]
FIRST 01-Dec-84 7680 153
Keywords: MUSIC MUSICWORKS BINHEX HCX CHRISTMAS

Here’s another contribution to the MusicWorks collection. Something to put you in the Christmas spirit. It’s in BinHex.HCX format. Have fun and Merry Christmas! Allen Knapp 70235,1066

[72446,2227]
JINGLE.HEX 01-Dec-84 5660 138
Keywords: MUSICWORKS MUSIC MACINTOSH MACROMIND BINHEX

This is a MusicWorks version of Jingle Bells. Use Binhex.hex to convert it back. This was done with the release version.

[72466,1465]
MWORKS 01-Dec-84 2435 152
Keywords: MUSIC MUSICWORKS DOCUMENT

MWORKS is a MusicWorks document containing "Larry's Gavotte," a quickie done by yours truly. This is a re-UPL of MWORK1.HCX (which should have disappeared). Convert with Binhex.hex (thanks, Yvas!). The line feed option was turned on during conversion, so TYPing the file should work as well. Comments always appreciated—Larry Loeb 72466,1465

[76174,411]
ACTION.BAS 01-Dec-84 12160 183
Keywords: BASIC 2.00 HEX GAME ANIMATION MENUS

Instructions and more on ACTION.BAS program, a movie program that uses Cairo font graphics for animation, as well as menus and more. -- Mark Underwood 76174,411

[71725,1675]
TERVAX.TXT 29-Nov-84 2655 164
Keywords: MACTERM BACKSPACE DEL BS VAX VMS EDT

Instructions to patch MacTerminal so that it sends an ASCII DEL instead of an ASCII BS when Backspace is typed. Useful for those who talk to VAX/VMS with MacTerminal.

[75016,550]
SHOTS.BAS 29-Nov-84 12545 98
Keywords: MS-BASIC GRAPHICS ANIMATION GAME SHAPES SHOTS

SHOTS.BAS is a two player artillery game implemented in MBasic Version 2.0. It requires the compressed file SHOTS.HCX (which now works OK). After downloading SHOTS.HCX, convert it with BINHEX .HEX, giving converted file the name of SHOTS.DAT. SHOTS is not a high speed arcade game (interpreted Basic has its limits), but it should provide hours of fun for groups and "kids" of all ages. Kids and adults can compete equally. Experiment with bags and angles for some surprises!

[75016,550]
SHOTS.HCX 28-Nov-84 2560 106
Keywords: MS-BASIC GRAPHICS ANIMATION GAME DATA SHAPES SHOTS

SHOTS.HCX is the data file for the game in SHOTS.BAS. It contains the data to create the graphic shapes. BINHEX.V30 version uploaded in error, try this one. After downloading, convert it to binary with BINHEX.HEX.

[76004,67]
PICTS.HCX 27-Nov-84 142340 230
Keywords: SMOOTH TALKER DEMONSTRATION PROGRAM FILE 2 OF 2

Download and convert with BinHex. You must also have the file TALKER.HCX. Rename TALKER.HCX to SmoothTalker,
and rename PICTS.HCX to SmoothPics. This is a good demo of the SmoothTalker program.

TALKER.HCX 27-Nov-84 45570 183
Keywords: SMOOTH TALKER DEMONSTRATION

This File is the main program file of the SmoothTalker Dealer Demo. You must also download file "PICTS.HCX" and have them both on the same disk. BEWARE! Both files are over 130K. Convert both files with BinHex. This demo is uploaded with the permission of Richard Schott, First Byte Software Inc. If you have any problems please let me know.

CALIG3.HCX 26-Nov-84 45570 168
Keywords: LARGE FONTS VENICE 28 LONDON 36 BINHEX COMPRESSED FONT MOVER

Three calligraphic fonts, London 36, Venice 24, and Venice 28. Useful for large-format text in MacPaint, or for better-looking text from MacWrite. Use BINHEX.HEX version 2 to convert this compressed file to a Font Mover file. -- Fritz Anderson

LISTV2.HCX 26-Nov-84 9315 139
Keywords: MACINTOSH LIST FILE UTILITY V2

This is version 2.0 of my list file utility. It uses the new FILOPN get file dialogue, and it is great for printing out those files you download from CompuServe. The program paginates and sets a left margin just in the same manner as the previous list file programs do. Chris Allen 76703,472 (Use the latest version of BINHEX.HEX to convert to a MSBASIC document)

SONAR.HCX 25-Nov-84 14535 281
Keywords: MACWORLD DECEMBER SONAR SUB BINHEX

The program SONAR SUB from the December 1984 issue of MACWORLD. This program must be converted with BINHEX.HEX into a MS-BASIC VERSION 2.0 program and run with that version of BASIC. A text file version (not requiring the BINHEX.HEX step) will be uploaded once I have MS-BASIC V. 2 myself! Program courtesy of MACWORLD, copyright 1984 by PC World Communications Inc. and uploaded with permission. -- Neil Shapiro

MISSILE.HCX 24-Nov-84 13375 506
Keywords: GAME ARCADE COMPRESSED BINHEX APPLICATION


FILOPN.BAS 23-Nov-84 4710 150
Keywords: MS BASIC MINIFINDER GETFILENAME

This is a Microsoft BASIC Ver 1.01 subroutine that gets the full file specification (i.e. Volume:FileName) for any existing file on any volume using the standard Macintosh "MiniFinder" dialog box. It is intended to be merged into any BASIC program that wants to open a file for any reason.

CHICAO9.HCX 23-Nov-84 3840 143
Keywords: FONT CHICAGO 9_POINT FONT_MOVER RESOURCE_MOVER

Chicago in 9-point flavor. Replaces erroneous font uploaded here earlier. I use this font almost exclusively in programming. Full Chicago set (including bit Apple, command key, etc.) with a font number (obviously) of 0. Use Font Mover to move into your System file, or Resource Mover to move into a particular application. Compressed format (use BINHEX.HEX to convert)

ICNUITC.HCX 23-Nov-84 20610 116
Keywords: CONSULAIR_C MAC_C C SOURCE ICON UTILITY

Consulair C source for ICNUTL (found here as ICNUTL.HCX). This is a Q&D utility that takes icon and mask files created by Icon Editor and does one of the following: 1) Makes an RMaker .R file 2) Makes a resource file 3) Automatically binds the icon to an existing application Several caveats: read the file for more info. Compressed file (to preserve type/creator/tabs, etc.)
A very Q&D application. Bind icons into applications with this utility, or create an RMaker file for inclusion in your own programs. See ICNUTC.HCX for more info/instructions/caveats. Compressed file (use BINHEX.HEX to convert.)

ROCK-N-ROLL is a MacPaint document that I thought warranted sharing. I hope you enjoy it. Translate with BinHex.Hex (compressed).


Review of PFS File and Report for the Macintosh (v. A.00) describing some problems encountered. Review is in an InfoWorld-type format. Recommendation is not to buy them at current level and price.

Since the sequel, 2010, is about to be released, here's a reminder what the first film was about.

This is a collection of utilities in CONBLKS format. Use John Baxter's CONBLKS to convert it to blocks file. See Lam4th.doc for documentation. Allows local variables and relieves you from managing the stack, gives you macros ability, allows saving and reloading (snapshot) of compiled codes.
PRFONT.HCX 15-Nov-84 43005 87
Keywords: MACINTOSH PRINCETON FONT MATH GRAPHIC DOUGHERTY LAM

(File 4 of 4) This a font file containing Princeton 12 and 24 and a modified Geneva 12 and 24. NOTE: You must use RMOVER to remove Geneva 12 from your system file, as font mover will not copy over a system font. NOTE: Princeton is stored as font number 12, which may conflict with other fonts (in particular Los Angeles). You can use RMOVER to change the font number (see FONTED.TXB in XA5), however the documentation files will not reflect the changes. Uploaded by 76703,472

PRKEYS.HCX 15-Nov-84 7635 71
Keywords: MACINTOSH PRINCETON FONT KEY MAP DOCUMENTATION MATH GRAPHIC DOUGHERTY LAM

(File 3 of 4) This is a MacWrite file showing the key layout of the Princeton font and the graphic enhanced Geneva. See PRREAD for more information. Uploaded by Christopher Allen 76703,472.

PRREAD.HCX 15-Nov-84 9925 90
Keywords: MACINTOSH PRINCETON FONT FONTS MATH GRAPHIC SYMBOLS DOUGHERTY LAM

(This is file 1 of 4) This is the read-me MacWrite file for the Princeton with graphic enhanced Geneva. All four files are for non-commercial use only, and are by D.E. Dougherty and S.H. Lam of Princeton. Princeton font is designed for technical word processing using mathematical and greek symbols. These files from Princeton folder on Keith Sproul's font disks. Uploaded by Christopher Allen 76703,472

THIRTY.HCX 14-Nov-84 20730 49
Keywords: MACPAINT BINHEX PICTURE .38
A .38 Police special revolver.

CARD.HCX 10-Nov-84 28090 112
Keywords: GREETING CARD PHOTO DIGITIZING MICRONEYE CAMERA

This is a greeting card from our family to yours. The bottom half was created with the help of the MicronEye digitizing camera for the Macintosh. It includes a pix of my wife and me along with our cute dog Princess. Hope you enjoy it. It may give you ideas on how to make personal greeting cards etc... Rees Roberts 70705,1420

BUGS.HECX 10-Nov-84 23170 105
Keywords: MACPAINT PICTURE OF BUGS
NICE COLLECTION OF INSECTS. CONVERT WITH BINHEX. FILE IS 23K.

DINO1.HEX 10-Nov-84 26115 97
Keywords: DINOSAUR MACPAINT PICTURE
NICE MACPAINT DOC WITH INTERESTING TEXTURE. CONVERT WITH BINHEX. FILE IS 26K

DINO2.HEX 10-Nov-84 13185 58
Keywords: ANOTHER MACPAINT DINOSAUR PICTURE
MacPaint picture. Convert with Binhex.

EXPOSE.HEX 10-Nov-84 24705 355
Keywords: EXPOSE YOURSELF TO MACINTOSH...
ARTIST UNKNOWN. A really great MacPaint Poster!! I'm running to my dealer with it to swap for goodies! Convert with Binhex. File is 25K.

HDWE.HEX 10-Nov-84 16770 53
Keywords: SCREWS AND BIRDS MACPAINT PICTURE
A nice collection of nuts, bolts & birds. Convert with Binhex.

JAPAN.HEX 10-Nov-84 15360 155
Keywords: MACPAINT PROMO PICTURE
A Nice MacPaint Promo Picture. Convert with BinHex.

JAPAN2.HEX 10-Nov-84 13185 344
Keywords: MODIFIED GIRL FROM JAPAN MACPAINT PICTURE
This is a slightly modified version of the Apple Promo MacPaint Picture. Rated perhaps PG-13.

SHOE.HEX 10-Nov-84 8835 119
Keywords: TENNIS SHOE MACPAINT PICTURE
The elusive Mac Promo Picture. Convert with Binhex.
This william conflicts BINHEX V2
Keywords: MACVISION DIGITIZER KOALA BITMAP MACPAINT FILE GRAPHICS

Download this MacPaint image and convert with BINHEX.HEX. This picture was digitized with MacVision from Koala.

[76074,136]
ACLOCK.OBJ 08-Nov-84 10430 466
Keywords: ANALOG CLOCK DISPLAY APPLICATION

A Clock, version 1.0, copyright 1984, written and uploaded for free distribution and use by Erez Anzel, CompuServe 76074,136 telephone (212) 884-5798. Compiled from Pascal; occupies 7K. Displays a working analog clock. Try it. (Note from Sysop - This file is in BinHex compressed format)

[70371,111]
RONNIE.HCX 05-Nov-84 18525 96
Keywords: MACPAINT RADIO MAC BROADCAST

This is a MacPaint drawing of the (presumed) winner of the Presidential election, as broadcast on radio station KAMT-AM, Tacoma, Wa., on Nov. 4, 1984, on the computer show "DOWNLOAD." The artist is Jim Campiche. Please give credit to Jim and "DOWNLOAD" if used. Convert with BinHex.hex.

[71216,1463]
FINDER.NEW 05-Nov-84 1550 478
Keywords: MAC LISA FINDER NEW PRODUCT FAST

This is a press release for a new Finder for the Mac (FastFinder). A description is given along with information on how to contact the company via EMAIL or directly. Try it, you'll like it! Works with all hard disks and floppy disks too!

[70506,1711]
CAMLOTHCX 05-Nov-84 15035 171
Keywords: CAMELOT FONT FONTS COMPRESSED BINHEX V2 CAMLOT

This is "Camelot," a vaguely Arthurian font, with large caps and small lower case with long ascenders and descenders. Convert with BinHex.V2 and install with Font Mover or RMover. Font number is 250, change with RMover if it conflicts with any font you have installed. (This version fixes the dot under the "i"). Robert Wiggins 70506,1711 (and 75196,373)

[70160,212]
HANDON.HCX 03-Nov-84 65635 324
Keywords: HANDSON HANDS ON BINARY TREE TUTORIAL GRAPHICS DARTMOUTH GLENN INTERACTIVE

Actual name is "Hands-On." This is a graphically oriented tutorial on using Binary Tree data structures for keeping alphabetical lists and Parse Trees. It was written by a student named John Glenn at Dartmouth. Very Macintosh. - Submitted by Wayne R. Loofbourrow

[73765,1254]
ARABIC.HEX 03-Nov-84 27195 130
Keywords: FONT ORN ARABIC BINHEX.HEX

This is an Arabic font created by Don Johnson of the EE Dept at Rice University. It is 24 point, font number 215. Not too useful to most of us, but it does look nice.

[74016,1741]
BINHEX.ASM 03-Nov-84 35460 296
Keywords: BINHEX RESOURCE DATA BINARY HEX FILE CONVERSION V2.0 SOURCE

This is the source of version 2.0 of BinHex.Hex. It should be assembled using MacASM FROM MAINSTAY. This source is copyrighted and is for personal use only! Yves Lemperere (74016,1741)

[75006,114]
MACPNC.HEX 03-Nov-84 58370 456
Keywords: MACPAINT BINHEX.HEX NEW MAC FEATURE

This file needs to be converted back to a document by BinHex.Hex. This is a full featured upgrade for either a standard or 512K upgraded Macintosh. Documentation is included in file. Enjoy. - William Dvorak (75006,114)

[75056,2015]
IAKO.HEX 03-Nov-84 33280 358
Keywords: GAME

Iago is an Othello type game for the Macintosh. Download it and convert with BinHex. This game was put here by permission of David Reed, the author. David works for Apple Computer at the Dallas Sales Office. Have Fun! Chris C. Neal 75056,2015

[75015,1421]
FONTLIBAS 01-Nov-84 2485 164
Keywords: FONT SIZE BASIC MS-BASIC LISTER

Fontlibas version 2 (replaces older version). MS-BASIC program to list the name of every font in the system together with the unscaled sizes it exists in, and displays a sample of each in its smallest available size. Contains a machine-language subroutine that can be used elsewhere to determine what sizes a font exists in. --Dan Smith, 75015,1421
This program is an assembly language implementation of BINHEX.V30 written in MS-Basic. It is much faster and features flags transfer (Ex: Bundle bit, etc...), compressed mode which reduces the length of the file by 30% and few useful options. How to get it: 1) Download it, (ASCII or XModem 7 bits) 2) Convert BinHex.Hex to BinHex.Tmp with BinHex.V30 3) Convert BinHex.Hex to BinHex with BinHex.Tmp 4) Delete BinHex.Hex and BinHex.Tmp Yves Lempereur {74016,1741}

This program is an font for doing schematics in MacPaint (or MacDraw). The name is Schematic 24. It's full of ANDs, ORs, NORs, Transistors, and Resistors. I solicit comments and suggestions, since I am not a REAL hardware person. (I do know which end of a soldering iron NOT to pick up!) Font ID is 201. Documentation is in Schmdoc.hex. Paul Dobbs

This is a font for creating your own application icons. See RLMICN.TXT for details. Part of a package to create your own application icons. See RLMICN.TXT for details.

Here is a step-by-step on how to create your own icons for applications using only tools available here on MAUG. The text got a bit messed up in step 5. The garbled instruction is to make sure the SCRAPBOOK you used is on the same disk as RMover -- if it is not, copy it there. Have fun! Ralph L. Miller 70516,1366

This file contains some messages about user experience with the Tecmar hard disk for the Mac. These messages were unloaded from fa.info-mac on ARPANET.

This is an overlay for the BinHex.v30 program that corrects a few omissions and makes the program a little more aggressive at finding the beginning of the file. Just MERGE the file with BinHex.v30 and you will have BinHex.v31! As a reminder, if you remove all the remark statements from BinHex with REMREM.BAS and then save the file as a
binary file, you should be able to start BinHex from the
desktop with a double-click. Any complaints/suggestions,
give me a buzz.

[71705,772]
G 18-Oct-84 13790 95
Keywords: MACPAINT BINHEX CC PICTURE

A picture of the yacht I was about to buy this fall....until I
spent the down payment on my MAC! Graydon Patterson
[71705,772] Ottawa, Canada

[75156,2670]
MPNTFLRES 18-Oct-84 19715 270
Keywords: MACPAINT RESOURCE FIX UNDOCUMENTED
SHORTCUTS RMOVER

This is a Resource called Resource File. In it is a resource
called 'PICT' with an ID number of 2401. Use it to replace the
resource in MacPaint with the same number using RMove (the
resource mover). After doing this you will find that the
undocumented features of MacPaint Versions 1.3 and
greater are now documented in the SHORTCUTS screen of
the GOODIES Menu (things like Watercolors, Trace Edges,
and Pattern PickUp). James L. Doherty

[75735,357]
GLIGUN.HEX 18-Oct-84 11175 147
Keywords: MACINTOSH GAME LIFE GLIDER-GUN

Glider Gun is a life form for use with Bill Atkinson's version
of the Game of LIFE (LIFE.HEX, now in XA5 and converted
with BINHEX.V30). Convert GLIGUN.HEX with
BINHEX.V30 after downloading and print out as a MacWrite
document. The Glider Gun renews itself every 30 steps,
launching a Glider in the process at the 17th step. This new
upload restores one bead that was missing from the Glider
Gun pattern in the original upload. -Marion Stokes

[75046,704]
EDIT.HEX 17-Oct-84 23320 130
Keywords: MS-BASIC CURSOR PATTERN EDIT
QUICKDRAW

EDIT.HEX. This MS-BASIC programmer's utility,
'QuickDraw Editor,' is transmitted in hex format due to line
lengths (use BinHex V3.0 to convert). It will allow you to
create custom "mouse cursors" and "pen patterns" for use
in your own programs, store them as disk files, and reload
them for further editing. Includes base conversion utilities,
and uses pull-down menus, etc. -Program and Upload
by Daryl L. Scott

[74206,420]
DAMV13.HEX 16-Oct-84 39045 319
Keywords: DESK ACCESSORY MOVER VERSION 1.3
UTILITY BINHEX V3.0

This is the latest version (1.3) of the desk accessory mover
written by Donald Brown of CE Software. This version
corrects some flaws in an earlier version (1.1) on MAUG and
is converted using BINHEX V3.0. It is shareware (CE asks
$15 if you keep and use it). Check XA4 for related files
(instructions, new accessories, etc.) Key CAT/DES/KEY:
DESK at any XA4; prompt. And READ the instructions!
Steve Bobker [74206,420]

[71036,267]
ANDOVR.HEX 13-Oct-84 3835 196
Keywords: FONT ANDOVR ANDOVER BINHEX
MACINTOSH

This font shares similarities with Paul Griffin's Walla Walla,
although a bit smaller at 5 point and all characters are of
equal size (useful for charts/lists/download monitoring). At
maximum window size, 38 lines of 86 characters are
displayed. Andover conforms to ASCII conventions but
also contains some useful symbols and chart drawing
figures when used with the Option key. ANDOVER
NUMBER=181 SIZE=12 Michael P. Halter

[74206,1406]
APLFNT.HEX 13-Oct-84 23505 83
Keywords: APL BINHEX FONT MOVER CHARACTER SET

This font mover document (in BINHEX format) holds the APL
character set in 12 and 24 point sizes (font #242). Unshifted
keys are uppercase letters, shifted keys are APL symbols,
and Option keys are composite symbols. See
APLMAP.HEX for a map of which keys have which
characters. Use this font to document mainframe APL
workspaces. Comments on what you want to see in a
MacAPL are welcome. -Mike O'Connor

[74206,1406]
APLMAP.HEX 13-Oct-84 28575 55
Keywords: APL MACPAINT BINHEX DOCUMENT FONT
MAP

This MacPaint document (in BINHEX format) maps the APL
font which is in the file APLFNT.HEX. It is a drawing of the
keyboard which shows what keystrokes generate each
character. -Mike O'Connor

[75146,2345]
SCREEN 13-Oct-84 10500 199
Keywords: STARTUPSCREEN MACPAINT BINHEX NOIBM

This is a MacPaint document, about 10K long. It should be
converted with BINHEX.V30, renamed "StartupScreen," and
installed with MAKSCREEN. This produces a new startup
screen, more interesting than the one Mac comes with.
Mouse Ball is a simple game like Breakout written in Version 1.1 MS-BASIC. It uses apples instead of bricks, and the mouse controls a tennis racquet. You can see how to do animation without flicker from 1.1. An updated version of this game appeared in MacWorld. They introduced errors and that version won't run. Have fun. ---Mitchell

This program is a MacFORTH implementation of BINHEX.V30 written in MS-BASIC. It uses the standard file package, and is considerably faster. Please feel free to incorporate these routines into an integrated Terminal Package. Steve Stokes 70166,651

This is a "mouse" drawn pix of a lil Star Wars character. Use Binhex.v3 to convert back to a "Paint" document. Do with it as you please, I don't know if LucasFilms has any copyrights on the character. File is 12800 bytes as a Paint document. Graydon Patterson 71705,772 Ottawa, Canada

This is an MS-BASIC game of 'Concentration' for one to four players, transmitted in hex format (due to line lengths) Convert with BinHex v3.0. Includes pull-down menus, dialog boxes, and more. NOTE: Cairo font MUST be in System file (use Font Mover). Enjoy! Program & upload by Daryl L. Scott

Here's another font; Hood River (Font Number = 218). It is a 12-point font but only three pixels wide. 123 characters to 6-inch MacWrite screen. For its skinny width, the font looks pretty good. I also tried my hand at graphic characters with the Option-Shift key pressed. Anyone who has been in the vertical Hood River country in the Columbia gorge can figure out the rationale for the font's name. --- Paul J. Griffin (Richland, WA)

This is a functional demonstration of Day Keeper (tm) by Dreams of the Phoenix, Inc. This program allows only 20 items per month, and the multiple file, print, search, and utility window functions are disabled. The full version of Day Keeper is $39.95 and is available from Dreams of the Phoenix, Inc., P.O. Box 10273, Jacksonville, FL 32247; (904) 396-6952. Convert with BINHEX.v3. You must have New York 9 and 18 on your disk. $5.00 bounties paid on verifiable bugs.

This font is called Square Serif. It is a 24 point font. The Font is 6K long. The Hex file is about 13K long. The font L.D. number is 212. Yours, James Doherty

This is my first attempt at creating a font. It is a realization of a popular graphic arts font called "Park Avenue." It is script-ish in nature, and scales fairly well. Its font number is 202. This file is in "Font" format - use Font Mover to copy it into your System after converting it first with BinHex. V30 or equivalent. Or, alternately, you can use RMover to copy it into a particular application. Russ Wetmore

This is Dali-24 font. It is a 24 point Surrealistic font. The font itself is about 7.5K long. The hex file is 16K long. I hope you like it. Yours, James Doherty

USE BINHEX.V3 TO CONVERT THIS TO A MACWRITE DOCUMENT. STEP-BY-STEP GUIDE TO A $30 SURGE SUPPRESSOR THAT CAN BE BUILT IN ONE NIGHT. SEE CREDIT AT BEGINNING. JESS HEIMLICH 71545,1532 TCY548.
This is mini-review of two assemblers for the Macintosh that RUN on the Macintosh. The Apple Assembler is much like the Lisa Workshop version; and the Mainstay Assembler behaves like it's on an Apple III! I've spliced together several messages that I previously posted on the bulletin board.

[75236,3524]
BACKG.FX2 01-Oct-84 975 150
Keywords: BACKG.4TH BACKGAMMON MACFORTH
FORTH

This is the 3rd (and last!) try to upload a short text file correcting "BACKG.4th." There are two illegal types of move which the original does not detect (allowing you to cheat unmercifully), and a slight update for version 1.1 is needed. The previous upload had a typo, making Screen#15 into Screen#2. Sorry to all who may have tried the impossible correction given earlier and thanks to Sam Roberts for telling me. --Ward McFarland 75236.3524

[72065,267]
ANLYST.HEX 30-Sep-84 23680 221
Keywords: MAC MACINTOSH DESK ACCESSORY CALCULATOR DEMO BINHEX

This is a four function calculator patterned after the TI Business Analyst 2. The demo version has only the four function calculator implemented. The full version is available from the software order line at (604) 430-3466 and is only $35.

[72405,604]
ATHENS.HEX 30-Sep-84 9970 105
Keywords: ATHENS FONT MACWRITE

This is a modified version of the Macintosh Athens font. Changes are for appearance only. Specifically, the capital M and N are changed from enlarged lower case to true upper case, and a few other errors are corrected. The font has a more formal, less funky appearance.

[72475,1202]
UTAHFI.HEX 30-Sep-84 40190 162
Keywords: FILE EDIT UTAH SOFTWARE SUPPLEMENT

This is the "Utah" version of Cary Clark's FILE program that appeared some while back on info-mac. It will display text in three fonts and two sizes, but each window can only have one font/size combination. I don't remember who made the modifications, but they certainly are useful.

[73125,1150]
LED.HEX 29-Sep-84 24065 117
Keywords: LED INDICATOR- MACINTOSH DRIVES

This is a MacPaint DOCUMENT that shows the method of installing a small LED INDICATOR on the Macintosh Drives. It is a hardware project not recommended for the faint of heart. I have converted several Mac Drives in this manner and I know it works GREAT. FEEL FREE TO LEAVE ANY QUESTIONS TO GARY WALLIS 73125,1150

[75236,3524]
COPY.4TH 26-Sep-84 5045 371
Keywords: DISK COPY BACKUP MACFORTH
FORTH

A MacForth 1.1 program for making carbon-copies of most disks, including some with copy protection. Uses 1 or 2 drives. Complete copy takes under 80 seconds to complete (with 2 drives). Convert this file with TOBLKS.BAS or CONBLK-4TH. This should be run by double-clicking its icon. Attempting to include it from another forth program may not work because of the amount of memory it uses. -- Ward McFarland 75236.3524

[76703,472]
MUGPN.OCT 25-Sep-84 8370 496
Keywords: MACINTOSH USER GROUP PRESIDENTS NEWSLETTER LISTING BBS MUG LIST

This is the first Mac U.G. Presidents Newsletter. Other than some casual commentary, it contains a list of over 30 user groups and 10 BBSs. Please let me know about any changes or corrections, and I invite submissions for the next Newsletter (out in November). By Chris Allen (76703,472)

[70215,1126]
REVRSI.HEX 21-Sep-84 35325 456
Keywords: REversi GAME SHAREWARE OTHELLO BINHEX3

This is a version of the game Othello or Reversi, written by Robert J. Woodhead of Wizardry fame. In return for use of the program, he requests a donation to a fund for the blind, as described in REVRSI.DOC (also in x44). Have fun with it! This version is repaired so that a distinctive icon appears, both for the application, and for the saved games. Originally uploaded by Tim Binder 71106,1124 Bill Steinberg 70215,1126

[70376,1165]
WALLA.FNT 18-Sep-84 4280 318
Keywords: WALLA WALLA FONT BINHEX.V3

This is a tiny but legible 6-point font which I created and find very useful for chart descriptions in MacPaint. The font number is 180 and the name is Walla Walla, named after the small town 50 miles east of here. Download with the R command and convert with BINHEX version 3.0, and install with the Font Mover. MacPaint will show the font size as 12 point, but it's only half that size. --- Paul Griffin 70376,1165 (Richland, WA)
Simple BASIC program illustrates data structure for Rolodex program. By using a similar program you may convert old address lists, etc. to work with Rolodex.

This MS-BASIC program (use Binhex.v3 to convert) is a successor to the Remove Remarks (REMREM) program here in XA4. It will remove rems, spaces, and combine lines to save the maximum amount of space in an MS-BASIC program (for example, Binhex.v3 squishes to 11K).

WARNING -- the resulting source code is almost undecipherable, and the program will create lines of code too long to upload on CompuServe in text mode. Use the program on spare copies first. Chris Allen

This file is a MacWrite document--convert using Binhex V3.0. This is the legend for my MUSIC FONT. First install the font, then use MacWrite to print this file (after conversion). The font takes over 18K of disk space and is 24 point. Brady Graham

This is Dan Smith's TrimLines program modified to remember the file type of the file it is trimming so you don't have to go and change it back after trimming. Steve Dagley

FILE 1 OF 3 This is a MacPaint document that shows the ASCII values for all the keyboard combinations of the Mac. Use BINHEX V3.0 to convert back to MacPaint. Please see files 2 and 3 for the rest.

FILE 2 OF 3 These files are MacPaint documents to be converted by BINHEX V3.0. They give the ASCII values for all the keyboard combinations of the Mac.

Software. (Sorry about the formatting, it was from MacWrite.)

This program will output any text file to your Imagewriter. It uses a Macintosh-style dialog box allowing you to choose pica or elite print, single, double or triple spacing and other style choices. Robert Eberhardt

This is the shortest possible Mac application. It consists of a begin and end statement. It is useful if you are swapping a lot of disks around and you want to key the Finder to a disk without having to run a large application. This is probably identical to MoveToTop on the Dollars & Sense disk, which is a better name but it's theirs and MakeStartup is what I called it when I "wrote" it a couple of months ago. Actually it is one of my most used applications. Steve Dagley

This is a brief document outlining the possible error conditions in Filevision written by Matt Jacobs, Telos

This is a brief summary of the possible error codes in Filevision and their possible causes.

This file is a MacPaint document--convert using Binhex V3.0. This is the legend for my MUSIC FONT. First install the font, then use MacWrite to print this file (after conversion). The font takes over 18K of disk space and is 24 point. Brady Graham

This is a brief document outlining the possible error conditions in Filevision written by Matt Jacobs, Telos

This is a brief summary of the possible error codes in Filevision and their possible causes.

This is a brief document outlining the possible error conditions in Filevision written by Matt Jacobs, Telos

This is a brief summary of the possible error codes in Filevision and their possible causes.
File 3 of 3. These files give all the ASCII values available from the Mac keyboard. This is a MacPaint document—convert using BINHEX V3.0. This file gives the values for the numeric keypad.

This is the base program for a personal calendar database using Filevision. Be sure to read the file CALEND.DOC for more information. It is still very simple, so if you come up with a marvelous addition or change, I'd like to know. Bob Luce [72436,3374]

This is the MacPaint Document of Mickey Mouse. You should download it and then use BinHex V3.0 to convert it back. The file is about 5000 bytes long. Permission granted to use except for commercial purposes. Walt Disney Productions will get you if you do! Have fun with it. Eliot Lipps [74166,1173]

This picture was generated totally by hand from the Dr. Who Tech Manual. It is 19,968 bytes long and takes up a full MacPaint page. All you Dr. Who fans out there, ENJOY!!! David Metzener [74375,325]

These are the instructions for CALEND.FVX.

These are the instructions for CALEND.FVX.

WARNING: Filevision application file consisting of a series of business subsystem flowcharts. It should provide many ideas on how to use Filevision (and possibly even some winners). Download using R and convert using Binhex V3.0. This is from the Telos disk of Filevision ideas and is copyright 1984 by Telos. Permission for noncommercial use is granted. Steven Bobker [74206,420]

This is a MacPaint picture of London Bridge. But I cheated! It was created by using the Micron Eye digitizing camera pointing to a snapshot I took while on a boat on the River Thames in London a few years ago. I think it's the first camera pic for CompuServe. Enjoy. Rees Roberts 70705,1420

This is a very complicated Filevision application file consisting of a series of business subsystem flowcharts. It should provide many ideas on how to use Filevision (and possibly even some winners). Download using R and convert using Binhex V3.0. This is from the Telos disk of Filevision ideas and is copyright 1984 by Telos. Permission for noncommercial use is granted. Steven Bobker [74206,420]

This is the full text of the Question and Answer document that was distributed as part of the Apple Macintosh announcement. Included are answers to questions about price, distribution, Lotus, manufacturing, availability, and the future of Lisa. Robert Wiggins (75136,373)

This is a Font Mover document that contains the Cyrillic alphabet (Russian alphabet). All the characters are assigned to alphabetic keys, but some are accessed with the Option key. Reconstruct it with BINHEX V3.0. (For those who care about such things, the font number is 237.) Enjoy! Scott Wilde (75136,373)
This application will print out large banners on your Imagewriter in your choice of font, size and style. It was written by a friend of mine, John Gregory of PowerTools Software, 5059 San Aquario Drive, San Diego, CA 92109; (619) 483-9436. Use BINHEX.V30 to convert it back to its application status. Also, make sure that you have a copy of the Imagewriter file on the SAME disk or nothing will be printed. Robert Eberhardt 70176,1375

This is a font based on New York which contains all of the Greek alphabet, plus a large number of math symbols. It is supplied in only one size -- 12 point. The font ID is 200, and the name is Math-Greek. It is documented in the MacPaint file Mthdoc.hex. Download with the R command, convert with Binhex.V3, and install with Font Mover. Paul Dobbs 72155,1560

Download, convert with Binhex 3.0 (in XA4 as BINHEX.V30), and rename to "Nick's D&D." Download the other 11 files (all have Filevision and Nick's D&D as keywords), convert and rename as their individual descriptions detail. Put all 12 on same FILEVISION data disk to enjoy an animated dungeon. YOU MUST HAVE FILEVISION TO USE THESE 12 FILES. --Neil Shapiro 76703,401

Rename, after converting with Binhex 3.0, to "....Gold" (File 11 of 12)

Rename, after converting with Binhex 3.0, to "....Keys" (File 8 of 12)

Rename, after converting with Binhex 3.0, to "....Lamp" (File 9 of 12)

Rename, after converting with Binhex 3.0, to "....Macs" (File 10 of 12)

Download, convert with Binhex 3.0, and rename to "....Nokey" (File 7 of 12)

Rename, after converting with Binhex 3.0, to "....Pit" (File 5 of 12)

Rename this file, after Binhex 3.0 converting, to "....Scarabs" (File 2 of 12)
Rename, after converting with Binhex 3.0, "...Shells" (File 4 of 12)

[76703,401] SNAKDD.FVX 02-Sep-84 12205 82
Keywords: FILEVISION NICKS DD

Rename, after converting with Binhex 3.0, to "...Snake" (File 6 of 12)

[72155,1560] RDLISA.BAS 01-Sep-84 10855 232
Keywords: MAC LISA FILE TRANSFER UTILITY MS-BASIC

The missing description of RDLISA.BAS Dave Alverson, 72155,1560

[70176,1375] DSKBUG.HEX 30-Aug-84 3605 609
Keywords: DESK ACCESSORY MOVER BUG

Use BINHEX 3.0 to convert this to binary format, then use the Desk Accessory Mover to install it in your System file. The cutest desk accessory to date, as far as I'm concerned.

[72475,1202] DALKS2.HEX 30-Aug-84 35310 357
Keywords: DAKLKS ESCAPE GAME BINHEX

This is a version of Johann Strandberg's game with an icon that looks like a real Dalek (from the Dr. Who TV series). Don't download this program to any disk that has contained a copy of the original -- the Finder has a tendency to cache icons and would probably show you the original icon. Thomas Newton (72475,1202)

This example Filevision file gives a rather unusual, but very interesting, example of the way this DB can be used. Think of wipeout in surfing terms. Upload feedback to Steve Bobker [74206,420], tech feedback and how did you do it questions to Greg Ames of Telos [75176,2673]. Copyright 1984 by Telos Software Products. Permission is given for personal, noncommercial use. Convert using Binhex.v30. Steve Bobker 74206,420

[70176,1375] DSKBUG.HEX 30-Aug-84 3605 609
Keywords: DESK ACCESSORY MOVER BUG

Use BINHEX 3.0 to convert this to binary format, then use the Desk Accessory Mover to install it in your System file. The cutest desk accessory to date, as far as I'm concerned.

This is a complete documentation file for the game DAELEKS, which is a version of the game Escape for the Macintosh.
The documentation includes information on downloading and converting it, game rules, strategy, and miscellaneous notes. Thanks to Chris Allen for help with the strategy. -- David S. Rose [70210,563]

[70215,1126] DALEKS.HEX 26-Aug-84 35290 469  
Keywords: DALEKS ESCAPE GAME BINHEX

A neat little game for the Mac. This version of Escape was programmed by Johann Strandberg while he was at Apple. Use BINHEX.V30 to convert this to an application once you've downloaded it. If you don't get the cute Robot ICON, use SetFile (from Apple) to set the bundle bit. This version has the typos in the menus fixed. See also DALEKS.DOC Bill Steinberg 70215,1126

[74156,1615] INVFTN.HEX 26-Aug-84 8335 131  
Keywords: MACINTOSH INVERSE FONT CHICAGO BY NIGHT

The following file is an inverse version of the System font -- Chicago. This was created for documentation purposes. The only problem with this font is that the space bar doesn't generate an inverse space, but a normal one. Thus we set Option-shift-tilde to act as inverse space. I know three keystrokes is cumbersome, but that's what we could think of. Any ideas? Anil Baja

[75206,416] GIRL.HEX 26-Aug-84 46525 555  
Keywords: MACINTOSH MACPAINT PICTURE

A MacPaint pinup girl. Parental discretion advised. Use BinHex.v3 to convert from .HEX to MacPaint file. Somewhat faded Imagewriter ribbons are recommended for printout. Permission is hereby granted for personal, noncommercial use and reproduction of this file provided that while the file is being accessed by the MacPaint program the hand cursor is never used.

[75015,1421] PICA.HEX 25-Aug-84 4260 213  
Keywords: PICA FONT RESOURCE BINHEX

This is the same font as PICA10.HEX. PICA10.HEX is a Font Editor document. Now that we have BINHEX.V30 it is possible to store Font Mover documents that can be used without the Font Editor. Download, convert with BINHEX.V30, and install with the Font Mover. This font is monospaced 10 characters per MacWrite "inch."

[75156,2670] LABELS.HEX 25-Aug-84 29185 139  
Keywords: BINHEX.V30 MACPAINT LABELS TEMPLATE

This is a MacPaint document converted with BinHex.V3. It contains six Blank outlines of the correct size to make full fold-over labels for the 3.5 Mac disks. It also has the Order # and Maker of 8 1/2" x 11" solid label sheets to print them on, on the Imagewriter.

[74156,1615] CALNDRL.HEX 21-Aug-84 48385 741  
Keywords: CALENDAR MACINTOSH DESK

Calendar by Mike Schuster. This program (in BinHex format) is an application which lets you install a Calendar desk accessory into the Apple menu. To install -- run Calendar, select Install from the File menu. Once installed and called, it will present you with a calendar and a notepad-like section to let you store notes for each day. The notes are stored in Calendar file. Note, however, that it requires approximately 20K so it may not run with MacTerminal etc., but OK with Finder.

[74156,1615] NEWDFNT.HEX 20-Aug-84 20260 324  
Keywords: MACINTOSH FONTS HEX

This file is a BinHex format hex file -- when converted, it is a Fonts File which can be used with Font Mover. This file contains two new fonts that I created a few days ago. One is "Silicon Valley-12" which is a byte font. The second is "Broadway-24" -- a show-biz font. Enjoy..Anil Baja

[74206,1406] CATLOG.HLP 20-Aug-84 15375 205  
Keywords: FILEVISION BINHEX DOCUMENT DISK CATALOG

This Filevision document is a simple diskette catalog. Read the file CATLOG.HLP for a description. Download as a normal text file, then convert using BINHEX.V30. --Mike O'Connor 74206,1406

[74206,1406] CATLOG.FVX 20-Aug-84 1815 252  
Keywords: FILEVISION CATLOG HELP DISK CATALOG

This is a description of the CATLOG.FVX Filevision document, which is a simple disk catalog. --Mike O'Connor 74206,1406

[74206,1406] CAIRO.HEX 18-Aug-84 49695 43  
Keywords: CAIRO MACPAINT BINHEX DOCUMENT

This hex-encoded MacPaint document is a chart showing all the characters in the Cairo font, and which keys to press to get them. Download as a normal text file (example: Option-R in MacTEP). Then use BINHEX to convert to a MacPaint document (I suggest BINHEX.V30). -- Mike O'Connor 74206,1406
Window Demo - By Andy Hertzfeld From Capitol Mac User Group Library. This Macintosh application with robots, bugs, Pepsi caps, and more demonstrates some new window concepts. Use BinHex.v3 to convert to an application. Submitted by Christopher Allen 76703,472

This is the smallest application I know of, just a little over 1K. It is a good test of BINHEX.V3 as it is so short. And no, I didn't write it. Christopher Allen 76703,472

Bill Atkinson's Rolodex in binary DTD form. When downloaded with XModem (transmission time is 0.8 of Rol.o.HEX's), 144 128-byte blocks should appear for RRDTD3 or RRDTD.BAS to write on an initialized disk that is otherwise empty. Use 8-bit binary XModem (binary) to download from CIS. Which format is more useful to the MAUG community? I would appreciate input on that question. Larry Loeb 72466,1465

This is a short text file listing the phonemes used by MacTalk and Speechi. This list is more complete than the first one uploaded to XA4. This file replaces PHONEM, which was a bad upload. -Max Tribble

A 19 line overlay for CATLST.BAS allows you to save catalog in a file directly loadable from Multiplan. Merge this file into 'CATLST.BAS/ 'List Catalog' and rename. When 'List Catalog' asks for File Name, use a name that ends with 'MP'. Resulting file will get right clickable icon when resaved from Multiplan. The format is minimal SYLK. Jim Putnam

This is the Minifinder in hex. You must use the new BinHex.v30 to reconstruct it. Its uses are left to your imagination, or you can just keep it on the desktop to show off its pretty icon. Bob VanBurkleo 74435,1373

Graphic rendition of DX Beacon Schedule heard on 14,100 kHz. Download as text file and trim transfer garbage with TRIM.BAS (first line starts with # sign, last line has CHECKSUM). Then convert to MacPaint binary file using BINHEX.V2.
This file is a MacPaint document containing disk labels for Sony 3.5 inch disks. It was converted for upload using BINHEX.V2 and should be converted to download the same way. The labels were designed using, in part, some of the techniques and patterns available in the Mac the Knife utility program. Paul Dobbs

[74435,1373]
BINHEX.V30 11-Aug-84 19810 2352
Keywords: BINHEX UPLOAD DOCUMENTS MS-BASIC RESOURCE DATA MACPAINT APPLICATIONS MACWRITE

This is an improved version of BinHex that supports both Data and Resource files. It will automatically convert the files to transmitable hex files and restore the hex files. It is compatible with BinHex.v2 but not the BinHex.R-- programs.

The file is large with the rem statements, so you can either do a "Clear,24000" from MS-BASIC and run the file or use REMREM.BAS to remove the rem and it will then load and run from the desktop.

[71735,1626]
CONBLK.4TH 08-Aug-84 18660 308
Keywords: MACFORTH SCREEN BLOCKS FILE TEXT CONVERT CONVERSION

This MacFORTH program is version 1.01 (replacing versions 0.5b and 1.00) of a program that converts between MacFORTH Blocks files and an interim text file form which is suitable for uploading, archiving, etc. Upgrade from version 0.5b is optional; file formats are the same. Main new features: improved (dialog box) interface, and text files are created as MacWrite text-only documents. John W. Baxter WILL NOT RUN WITH VERSION 1.0 OF MACFORTH!!

[71735,1626]
CONBLK.BUG 08-Aug-84 725 106
Keywords: MACFORTH CONBLK.4TH FILE CONVERSION TEXT SCREEN BLOCKS BUG ERROR PROBLEM

This short text file reports a problem with Block to text file conversion by CONBLK.4TH version 1.00. A workaround is included. John W. Baxter

[71735,1626]
CONBLK.FX2 08-Aug-84 4495 46
Keywords: CONBLK.4TH BUG ERROR FIX FILE CONVERT CONVERSION SCREEN BLOCKS TEXT

This MacFORTH program (in CONBLK format), when downloaded and converted, changes your version 1.00 of CONBLK.4TH to version 1.01. Version 1.01 corrects the error in handling short hex-data lines found in 1.00. You may either download version 1.01 from CONBLK.4TH, or download this program and convert your 1.00. The resulting files should be the same, this download is 8 blocks instead of 31. John W. Baxter

[71735,1626]
INTLUT.4TH 08-Aug-84 685 74
Keywords: MACFORTH INTERNATIONAL UTILITY DATE TIME COMPARISON

A MacFORTH program (CONBLK.4TH format) that implements the International Utilities Package, which provides for country-specific date and time conversion, and country-specific string comparison in which diacritical marks can be ignored, as can case. Requires the routines in TOOLBX.4TH (XA4) either preloaded or in file Toolbox on default disk. Suggest you remove the ABORT from block 1 of TOOLBX.4TH before using. John W. Baxter

[75015,1421]
DAM.DOC 08-Aug-84 7645 334
Keywords: DISK ACCESSORY MOVER DOCUMENTATION

THIS IS FILE 8 OF 8. This is CE's documentation for the Desk Accessory Mover. It is supplied as a nice multi-font MacWrite document but I have converted it to ordinary text because I couldn't stand hexifying one more thing. There are one or two lines that run off the end of the screen because I goofed. It's legible anyway. I'm just telling you so you won't think it's a downloading error.

[75015,1421]
DAM.RPN.HEX 08-Aug-84 6030 224
Keywords: DISK ACCESSORY MOVER RPN CALCULATOR

THIS IS FILE 7 OF 8. For information see DAMINS.TXT. When de-hexified with BINHEX.V2 this produces a document which can be loaded with Desk Accessory Mover as a desk accessory, an RPN calculator similar to the normal one but with reverse Polish operation (like most HP calculators).

[76703,401]
DAM.HEX 08-Aug-84 39040 167
Keywords: DISK ACCESSORY MOVER APPLICATION HEX

THIS IS FILE 2 OF 8 (a replacement file, the other files are in 75015,1421's PPN). This is CE Software's Desk Accessory Mover application. It must be de-hexified with BINHEX.RS4 or .RS3 and given file type creator APPLDAMV with FILTYP.BAS or FILE.INF.

[74166,2431]
BULLET.4TH 07-Aug-84 9700 151
Keywords: MACINTOSH FORTH GAME

Simple minded target shooting game in Forth. Must be converted from ASCII into Blocks format. Maybe someone could add better looking gun and target shapes. Direct any comments to user number 74166,2431. Have fun.
I just received the "Desk Accessory Mover" described in DSKACC.MOV in XA4. It's not fantastically useful but it sure is neat and VERY professionally done. Further details enclosed.

[74435,160]
TERM4T.FIX  29-Jul-84 2220 158
Keywords: FORTH 4TH TERMINAL

THE FOLLOWING PATCHES WILL FIX PROBLEMS FOUND IN THE TERMINAL EMULATOR SUPPLIED WITH MACFORTH 1.1 AND ALSO ADD THE FOLLOWING NEW FEATURES: 1) FULL AND HALF DUPLEX OPERATION. 2) OPT-B WILL SEND A BREAK. 3) OPT-BACKSPACE WILL SEND A DELETE (RUBOUT). 4) UNDERLINE CURSOR IS IMPLEMENTED. NOTE: THIS IS A LIST OF PATCHES ONLY, NOT THE COMPLETE PROGRAM. INCLUDES FIX FOR CURSOR FREEZE PROBLEM  WILLIAM BOND 74435,160

[71735,1626]
NULSPC.4TH  26-Jul-84 4450 178
Keywords: FORTH MACFORTH FILE NAME SPACE NULL CHANGE

This short MacFORTH program, in CONBLK format, replaces all ASCII NULs in one or more Blocks files with spaces. NULs are introduced into block 0 by APPEND.BLOCKS, and can be Cut/Pasted into other blocks where they stop loading. The program, more importantly, demonstrates use of the dialog box used by MacWrite for input file selection. See also the MacFORTH word (GET.FILE), which is similar [leave out the two NIL procedure pointers for that word]

[70001,576]
RADAR.BAS  23-Jul-84 1270 467
Keywords: MACINTOSH WEATHER RADAR MAP DISPLAY BASIC MS-BASIC

This program will display the appropriate weather maps that have been previously downloaded from CIS page AXW-4. Any program that downloads into a text file will work [I have used MacTEP]. Once the file is downloaded, this program will use it as input to display the map on the Macintosh screen.

[70220,200]
DECOMP.4TH  23-Jul-84 6795 183
Keywords: DECOMP DECOMPILER FORTH MACFORTH

DECOMP -- Decomposes the definition of the next word in the input stream. Since Forth words are not always reloaded to the same memory location, all addresses are shown relative to the start of the definition. Numeric parameters are shown in both hex and decimal. 9 point type is used to get more code on the screen. The user's type size and arithmetic base are restored.
This program allows you to print the contents of ANY SIZE text file to the Macintosh screen one full screen at a time. This should be very useful for viewing downloaded files offline. Enjoy! Jim Hansen (70765, 1031)

This is a monospaced 10 point font about 10 chars/inch. It is "very" similar to the Pica font that comes built into the Imagewriter. This font was created by the Font Editor that comes with the Software Supplement and then converted by BINHEX.V2. Binhex.v2 needs this modification 2295 D$ = D$ + SPACES$(8) . The Font Editor is required to use this document. -- Ron Nicholson 71555, 1513

This program will read a standard MacPaint document and produce four more pictures, each an enlarged 1/4 of the original. Get out the scissors and tape, and you've got a poster! Of course, you may want to enlarge each of the enlarged quarters to get an even bigger image! Be warned, this program will take about 15-20 minutes to enlarge an image. ROBERT EBERHARDT 70176, 1375

This program replaces LIST.BAS. It lists any ASCII file to the Imagewriter printer with margins and pagination. This version differs from 1.0 by allowing option to list directory, and fixes a minor bug in the ASCII file test rejecting files that begin with a carriage return (CHR$(13)).

This is an updated version of PRINT.V10. This version fixes a minor bug in the TAB SETTING sequence. Great program for setting Imagewriter to whatever print mode. Enjoy! Jim Hansen (70765, 1031)

This disk zap utility is an adaptation of Ron Nicholson's DskDmp program. I have fixed the bugs, and added a few
features, including editing what you read into the buffer and writing the block back to disk. -- Gary Boudreaux

72135,1555

[70176,1375]
ICMMOV.BAS 08-Jul-84 5465 121 Keywords: TRANSFER COPY MOVE ICON CLIPBOARD

This program will copy to and from the Clipboard and an icon file created with the "ICON EDITOR" program on the MacStuff developer's disks. Now, will someone please figure out how to install a new icon in the system file without the use of a Lisa?!?.....Robert Eberhardt 70176,1375

[70176,1375]
MOON.HEX 08-Jul-84 10640 140 Keywords: PAINTING PICTURE MACPAINT BINHEX MOON GRAPHICS

Use BINHEX to convert this to a MacPaint document. It's a funny little picture of the Man in the Moon. Hope you like it...Robert Eberhardt 70176,1375

[71505,410]
DSKACC.MOV 07-Jul-84 3835 558 Keywords: INFO ABOUT MACINTOSH DESK ACCESSORY MOVER FREEWARE

This is a fact sheet that came with a "freeware" type Macintosh application that a local Mac Developer has written. It tells how to obtain a copy of DESK ACCESSORY MOVER -- a program that does for desk accessories what Font Mover does for fonts.

[71645,1543]
CURVE.BAS 07-Jul-84 1740 161 Keywords: SIERPINSKI CURVE GRAPHICS

A SHORT MS-BASIC PROGRAM THAT DRAWS A FOURTH ORDER SIERPINSKI CURVE ON THE SCREEN. THIS PROGRAM WAS ADAPTED FROM AN ARTICLE IN THE JULY 84 ISSUE OF CREATIVE COMPUTING. BY CHANGING LINE 40, VARIATIONS OF THE SAME CURVE MAY BE OBSERVED, e.g., DI=1 TO 2 OR 1 TO 3 OR 2 TO 3 OR 2 TO 5.

[70066,527]
FILE.INF 05-Jul-84 8475 531 Keywords: FILES INFO FINDER MSBASIC

Files.Info is a MSBasic program that will allow the FileInfo for any file on the desktop to be displayed. It also allows some alterations, such as hiding or showing an icon, changing type/creator. Uses Toolbox calls via an assembler subroutine. Especially useful for those of you with IM but no supplement.

[76703,472]
SURVEY.LIST 05-Jul-84 14445 169 Keywords: SURVEY MACINTOSH USER GROUPS ST.MAC MAGAZINE

This print file (with form feeds for proper printing) contains a survey that I am doing about Macintosh User Groups and BBSs for ST.Mac magazine. It contains a cover letter, a list of 13 groups that I know about, and the actual survey itself.

[70176,1375]
NCC170.HEX 04-Jul-84 8470 139 Keywords: MACPAINT PICTURE PAINTING ENTERPRISE CONVERT

This is a picture I worked up of the U.S.S. Enterprise. Use the BINHEX program to convert it back to a MacPaint document when you are done downloading it. Also, my artistic ability is not very evident, so if you'd like to do a little work on the front end (Primary Hull area), feel free to re-upload the revised version...ROBERT EBERHARDT 70176,1375

[70215,712]
SUPER 04-Jul-84 3705 342 Keywords: JOKE MAC PROGRAM

THIS IS NOT WHAT IT SEEMS. A GAG PROGRAM IN BASIC BY LARRY GUST OF SYSTEMS SOURCE, CHICAGO.

[72406,1131]
MACPLT.BAS 01-Jul-84 9460 255 Keywords: PLOT GRAPH MBASIC MACINTOSH

MacPlt.bas is a plotting program written in Microsoft BASIC for the Macintosh. It will plot data from a text file or from the clipboard. Multiple traces on one graph are possible. Save the completed plot to a screen image document for editing and hardcopy using MacPaint.

[72456,3705]
MACPAT.BAS 01-Jul-84 7475 205 Keywords: MACINTOSH PATTERN EDITOR GRAPHICS QUICKDRAW ROM

MACPAT is an easy to use, mouse-driven program that allows you to graphically design patterns required by some QUICKDRAW ROM routines. With the mouse, you select the pixels you wish to turn on or off in an enlarged 8x8 pattern grid. After each pixel is chosen, the code that describes the pattern, and a "window" filled with the sample pattern, is displayed. Makes patterns even.... Patrick A. Cosgrove [72456,3705]

[70160,212]
BACKG.4TH 30-Jun-84 19890 437 Keywords: FORTH GAMES BACKGAMMON
This is William F. Toleman's Backgammon properly converted so that it can be turned into a blocks file using ToBiks.BAS (in XA4). One modification has been made so that the points alternate in color as in a normal backgammon board. Submitted by Wayne R. Loofbourrow (70160,212).

This is a (hopefully) corrected version of Castle.hex for use with the BINHEX program. Be sure to delete the CIS junk at beginning and end of file. This is a painting of a medieval castle, complete with portcullis, towers, and flag. Permission is hereby granted to reproduce this artwork in its original form, provided the artist's name remains intact. Created by Jeff Buterbaugh 70003,1430

This document file describes the bug fixes in Microsoft BASIC Version 1.01 and also gives some tips for making disk space available.

A small picture, which I'd like to see someone really artistic expand to a full page... RC (70120,213)

This MS-BASIC program will remove all except the first (theoretically copyright) remarks from a MS-BASIC program. Note: This program creates an ASCII file that cannot be double-clicked; you must load the compressed file from BASIC, then resave. Note: This program is particularly useful with MACTEP.187 and other large programs. MACTEP.187 was compressed small enough to eliminate the runner programs. SYSOP: This is for XA4

This MS-BASIC program will print and cross-reference MS-BASIC files stored in ASCII form.

This is a (hopefully) corrected version of Castle.hex for use with the BINHEX program. Be sure to delete the CIS junk at beginning and end of file. This is a painting of a medieval castle, complete with portcullis, towers, and flag. Permission is hereby granted to reproduce this artwork in its original form, provided the artist's name remains intact. Created by Jeff Buterbaugh 70003,1430
A list of all known and running bulletin boards that support the Apple Macintosh computer. If you have any additions, deletions or corrections please let me know. [70346,13]

Thanks Jim Ryan, Sysop, The Silver Screen System The Source Macintosh Users Group

This is a MacPaint document (An Ace of Spade card drawn by Jeff Buterbaugh) that has been converted into a format that will allow it to be transmitted via modem. Use the BINHEX.BAS program to convert this HEX file back to a BINARY file - option 2 on the BINHEX menu. Then run MacPaint and load the BINARY file into MacPaint! Bill Davis [71505,410]

Program will plot a 14 level halftone image of either MONALISA or LINCOLN. It is mouse driven and uses various pixel patterns and their inverses to simulate gray levels. Looks even better if you step back a bit. Remember, you can dump the image to the Imagewriter via SHIFT-CMD-4. Patrick Cosgrove [72456,3705]

This is a brief summary of the rules of the game of go to accompany the program GO.BAS.

Promenade from "Pictures at an Exhibition" by Moussorgsky, for the SND4T.BAS program by Dennis Brothers.

Version 1.40 of MacCopy, a utility program for copying, appending, and printing files. Written in Microsoft BASIC. Improvements in this version include better support of printer and Clipboard. Dennis F. Brothers - 70065,172 - 7-JUN-84
This program implements a go game. The mouse is used to "place stones" on the board. Additional features include the ability to retract and replay moves, count the board, and save or restore positions to disk files.

This MacWrite file describes the MacFORTH screen to Blocks files. Primary use is to convert downloaded CONBLK.4TH to a Blocks file for use. See system description in CONBLK.TXT. John W. Baxter

Full length version of the Star Wars Main Theme by John Williams, for use with SND4T.BAS by Dennis Brothers. Note the changes to lines 1120 and 1170. Joe Gagnon 72065,267

Princess Leia's Theme from Star Wars, by John Williams, for use with SNDSW.BAS by Dennis Brothers.

This is a Microsoft BASIC program for the Macintosh. It patches the KEYC package in memory. This converts the keyboard from QWERTY to DVORAK (Simplified) layout. This is the same as the alternate layout for the Apple /c.

Theme from Anton Dvorak's New World Symphony. For use with SND4T.BAS by Dennis Brothers

Minuet by J.S. Bach for use with SND4T.BAS by Dennis Brothers.

This utility will list an MS-BASIC file on a Mac to an Imagewriter printer, super-deluxe style, with pagination, page headers, date, and your choice of normal, bold, or compressed print! I modified this program, which I found on my IBM BBS, for the Mac. Doug Forman 75775,1147

This file, if printed in MacWrite, will serve as a handy chart for conversion to the Cairo font. Since CIS only supports ASCII, it will be necessary to change the font of one of the columns. This chart does not list one character, the Option-Shift-a Car. Jeff Buterbaugh 70003,1430

MS BASIC program that demonstrates Macintosh four-tone sound synthesis via ROM calls. Plays a tune (in four-part harmony) encoded in DATA statements using familiar music notation. Written for A+ magazine (? issue). Dennis F. Brothers - 21-May-84

MS BASIC program that demonstrates Macintosh free-form sound synthesis via ROM calls. Written for A+ magazine (Aug '84 issue). Dennis F. Brothers - 21-May-84
MS BASIC program that demonstrates Macintosh square-wave sound synthesis via ROM calls. Plays a tune encoded in DATA statements using familiar music notation. Written for A+ magazine (Aug '84 issue). Dennis F. Brothers - 21-May-84

This is a concise guide to MS-Basic for those who have found it tiring to plow through the Microsoft manual.

This program splits any file that MS-BASIC for the Macintosh is willing to open, and process using LINE INPUT# and PRINT#, into pieces of about 10,000 bytes each. These pieces are small enough for MacWrite. New files are <name>.1, <name>.2, etc, where <name> is the name of the input. Destruction of existing <name>.n IS NOT CHECKED!

This is a rewrite of the real-time perspective of a rotating globe program that was written originally for PCWORLD. It creates a large data file, so make sure you have disk space.

This MS-Basic program displays a series of lines in an ever changing pattern. It is similar to Kinetic String Art, except up to 10 groups of lines may be animated at once. These groups may be separate or overlapping. Complete instructions are included in the listing. Steve Medwin [74146,3303]

Short BASIC program that lets you delete zero to nine lines from the beginning and/or end of a text file of any length. Intended for removing "garbage" lines from text files captured, e.g. by using MacTEP--for example, "TYPE FILE" at the beginning and "<RETURN> XA4:" at the end.

This is a Microsoft BASIC program that reads blocks from the Sony disks and reads them into Macintosh memory where the data can be examined.

This is a RUDimentary Editor for BASIC text files (or MacWrite documents saved as text only). Not very sophisticated, but it beats having to load MacWrite every time you want to change a couple of lines in a file. Now will someone please improve the use of the mouse in this? Lofty Becker, April 15, 1984

This is a review of the MegaMerge program for the Macintosh, from MegaHaus. The program allows you to merge a letter from MacWrite with a mailing list also from MacWrite. The program is not at all slick, not overly useful, and at $149, extremely overpriced. On the other hand, it is available now. -David S. Rose

This is a MACINTOSH ANIMATION GLOBE BASIC GRAPHIC PERSPECTIVE 3-D

This is a Microsoft BASIC program that reads blocks from the Sony disks and reads them into Macintosh memory where the data can be examined.

This program splits any file that MS-BASIC for the Macintosh is willing to open, and process using LINE INPUT# and PRINT#, into pieces of about 10,000 bytes each. These pieces are small enough for MacWrite. New files are <name>.1, <name>.2, etc, where <name> is the name of the input. Destruction of existing <name>.n IS NOT CHECKED!

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This is a combined BASIC and assembly language program that disassembles 68000 code on the Mac. A dump utility is also built in.

<table>
<thead>
<tr>
<th>[71555,1513]</th>
<th>DSM3.O</th>
<th>14-Apr-84</th>
<th>13345</th>
<th>338</th>
</tr>
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<tbody>
<tr>
<td>Keywords: MAC DISASSEMBLER MBASIC</td>
<td></td>
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</tbody>
</table>

This is a text file consisting of the code needed to use the DSM.V3 disassembler.

<table>
<thead>
<tr>
<th>[76703,390]</th>
<th>MACOD</th>
<th>12-Apr-84</th>
<th>15450</th>
<th>308</th>
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<tr>
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This file documents calls to Mac's QuickDraw ROM routines accessible from MS-BASIC.

<table>
<thead>
<tr>
<th>[70065,172]</th>
<th>MKWRT.V10</th>
<th>09-Apr-84</th>
<th>2850</th>
<th>417</th>
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<tr>
<td>Keywords: MACINTOSH MS_BASICUTILITY MACWRITE MAKEWRITE CONVERT</td>
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</table>

Version 1.00 of MakeWrite, a utility that changes a text file to a MacWrite document. Written in MS BASIC. Dennis F. Brothers, 9-Apr-84

<table>
<thead>
<tr>
<th>[74405,351]</th>
<th>MACLIS.V2</th>
<th>06-Apr-84</th>
<th>26195</th>
<th>258</th>
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</tbody>
</table>

Latest (6 Apr 84) list of Mac software and hardware announced. List includes publisher, phone number, and availability date. All information taken from current magazines, etc. Thanks to Apple/Chicago.

<table>
<thead>
<tr>
<th>[70375,350]</th>
<th>SHAPE.BAS</th>
<th>02-Apr-84</th>
<th>2845</th>
<th>294</th>
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<tr>
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<td></td>
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</tbody>
</table>

Utility for creating graphics images to be used for animation in MBASIC. Uses several QuickDraw functions and saves image in an array that can be with MBASIC's Screen PUT command.

<table>
<thead>
<tr>
<th>[72376,330]</th>
<th>QUICKD.TXT</th>
<th>20-Mar-84</th>
<th>6585</th>
<th>328</th>
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<tbody>
<tr>
<td>Keywords: MAC MACINTOSH QUICKDRAW GRAPHICS SUBROUTINES PENMODE PATTERNS</td>
<td></td>
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</table>

A quick look at using the Mac QuickDraw routines from MS-Basic covering some of the material which is missing from the Appendix of the reference manual. Topics covered include "patterns" and "transfer modes."

<table>
<thead>
<tr>
<th>[74405,351]</th>
<th>MACERR.LIS</th>
<th>17-Mar-84</th>
<th>5310</th>
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</tr>
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<tr>
<td>Keywords: MAC MACINTOSH ERRORS LIST</td>
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</table>

A complete listing of the Mac error codes, including the 'cute little bomb' you have all come to know and love...

<table>
<thead>
<tr>
<th>[70065,172]</th>
<th>MACWID.V11</th>
<th>16-Mar-84</th>
<th>1475</th>
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</table>

Primitive utility program for copying a Mac text file (such as a MacWrite file saved as text-only) while word-wrapping to a specified maximum line length. Also provides word and line counts. Useful for preparing a MacWrite document for uploading. Dennis F. Brothers.

<table>
<thead>
<tr>
<th>[75125,1163]</th>
<th>FORTH.TXT</th>
<th>15-Mar-84</th>
<th>7830</th>
<th>278</th>
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<tbody>
<tr>
<td>Keywords: MACMACINTOSH MACFORTH FORTH LANGUAGE</td>
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<td></td>
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</tbody>
</table>

Here it is! The first language to fully support windows, menus, etc. It's MacFORTH from Creative Solutions, and judging by their fact sheet reproduced here, it looks PRETTY GREAT! So give it a look, and if you like it, buy it, and if you buy it, write some snazzy programs, and let's fill up XA4! Typed in by Adam Fishman 75125,1163.

<table>
<thead>
<tr>
<th>[70065,172]</th>
<th>MACNOT.001</th>
<th>23-Feb-84</th>
<th>2010</th>
<th>156</th>
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<tr>
<td>Keywords: MACINTOSH NOTES INFO</td>
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Miscellaneous notes regarding using the Macintosh.

<table>
<thead>
<tr>
<th>[72415,1411]</th>
<th>1984AD.MAC</th>
<th>25-Jan-84</th>
<th>5040</th>
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<tbody>
<tr>
<td>Keywords: APPE L MACINTOSH TELEVISION ADVERTISEMENT 1984 SCRIPT</td>
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</table>

Transcript of Apple Computer's "1984" TV ad for the Macintosh, which was aired during the 1984 Superbowl (1/22/84). In case you missed it, this may give you some idea of what everybody's talking about. It's in split-page video/audio format, 70 columns; best to print it out to make it easier to read (rather confusing if viewed on narrower displays).

<table>
<thead>
<tr>
<th>[70545,1176]</th>
<th>CODATA</th>
<th>17-Jan-83</th>
<th>23090</th>
<th>69</th>
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<tr>
<td>Keywords: CODATA 16BIT UNIX</td>
<td></td>
<td></td>
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</tbody>
</table>

This review of Unix running on 16-bit systems was written by a member of the Center for Learning and Teaching (CRTL) staff at the University of Michigan.
GAMES

Aegis Development, Inc.
2210 Wilshire Boulevard, Suite 277,
Santa Monica, CA 90403
(213) 306-0735

Mac-Challenger
A challenging space shuttle simulation. Your mission: land it. The simulation will often be compared to Microsoft's classic Flight Simulator. Unlike Flight Simulator, Challenger doesn't offer the illusion of powered flight; after all, this is a space shuttle—a glider—not a powered airplane. Given that, the simulation is excellent. With help from NASA (and the aid of some superb in-house animation routines) the simulation is authentic, fun, and indeed challenging. A number of detailed help screens (and a few surprises) are also included. Like other Aegis products, this one started out good and keeps getting better with each release. Recommended. $49.95

DataPak Software, Inc.
14011 Ventura Boulevard, Suite 401, Sherman Oaks, CA 91423
(818) 905-6419

MacCommand
Another version of Missile Command. Said to be "extremely fast-playing." The price looks good. $19.95

HOME

Aegis Development, Inc.
2210 Wilshire Boulevard, Suite 277,
Santa Monica, CA 90403
(213) 306-0735

The HouseKeeper
A household inventory management program that keeps track of your belongings and provides a number of reports. Inventory reports are sorted by item, room, cost, place of purchase, insurance company, or "marked item list." Insurance reports include the item, price, serial number, description, and place of purchase. Specially item reports can be used to track hobbyist collections. The program also does pie and bar charts. Input is quick and easy. Program operation is smooth and...friendly, if that makes any sense. $69.95

MAGAZINES

Pilot Communications
25 West 39th Street, New York, NY 10018
(212) 302-2626

MacUser
The latest Macintosh-only magazine. The first issue of MacUser was unreleased as this book went to press. Here's what we know: the editor is Neil Shapiro, formerly with the Hearst Corporation's electronic publishing division and best-known as the ever-present, ever-busy sysop of CompuServe's Apple MAUG SIG. The specs in the press kit are these: the magazine is standard size, on 50-pound premium glossy paper, 148 pages minimum each issue, with a $3.50 cover price. MacUser, we're told, will aim higher than "absolute Mac beginner" in its editorial content. Columns by John Dvorak and other Macintosh notables will be a regular feature of the magazine. The first issue is slated for September 1985.

SERVICES

Barbara Leone
116 Glorieta Boulevard, Orinda, CA 94563
(415) 254-4999

Ms. Leone is a Macintosh consultant. She assists small and medium-sized businesses in becoming Macintosh Office businesses. Her services include selecting hardware, software, and configuring both to tap into mainframes or other microcomputers. She has more than a decade's experience in computers and is a former systems analyst and trainer at Apple Computer. She called, asked to be in the book, and sounded professional, qualified, and personable. Here she is.
Mac Underground
607 North Court, Fairfield, IA 52556
(515) 472-9613

Somewhat like a "buyer's club," somewhat like a user group, and somewhat like an "insider's bulletin board," Mac Underground is a unique organization, founded and run by honest, friendly, straight-ahead people.

The group offers a snazzy bulletin board service: part catalog and part online insider's newsletter. MU offers hardware, software, peripherals, and accessories, all at "cost plus 10%"—great prices! For example, Apple's LaserWriter was still priced at $6,995 as this book went to press. Mac Underground was offering the LaserWriter to members for $5,280 plus shipping. Other prices, particularly for hardware items (including a variety of RAM upgrades), are rock-bottom.

Membership is a reasonable $25 per year. You'll need a modem and patience; the MU bulletin board, like all bulletin boards, is a hassle until you get used to it, but the prices, news, tips, and rumors make it worth the effort. Highly recommended.

SPREADSHEETS

Microsoft Corporation
10700 Northup Way, Box 97200, Bellevue, WA 98009
(206) 828-8080

Excel

And the victor in the Great Spreadsheet Wars is...Excel!

Probably. Excel hadn't been released as this book was finalized. We did, however, examine a prerelease copy of Excel. It is, indeed, a killer spreadsheet: fast, powerful, extraordinarily easy to use, quick with numbers, and superb with charts. And it does macros, the vaunted feature of Lotus 1-2-3. Macros are stored-up collections of commands that can be invoked quickly for repetitive tasks. Well-chosen macros result in time-saving, automated spreadsheets.

Excel's macro feature is terrific.

As always with Microsoft products, the program fits the Mac Interface as few other programs do. Some welcome additions are also included. The File menu in Excel includes the usual Open item and also a Delete item that allows files to be deleted from within Excel.

We could go on and on. This is a must buy for anyone who uses extensive spreadsheets extensively. One remaining question is the future of Microsoft Multiplan, a dependable, usually underrated and overlooked spreadsheet. Look out, Jazz! $395

Paladin Software Corporation
2895 Zanker Road, San Jose, CA 95124
(408) 946-9000

Crunch

A "power spreadsheet" from the firm that bought out the now-defunct VisiCorp Corporation. Crunch is Paladin's first product, one meant to mop up in the "What's the best spreadsheet" competition. If it weren't for Microsoft's Excel, it might. Crunch offers a 250 column by 9,999 row spreadsheet, lots of predefined functions, graphs, a notetaking feature, and a limited database capability à la 1-2-3.

Spreadsheets can be linked to other spreadsheets, and up to four graphs may be displayed simultaneously. Graph types are line, bar, pie, and area. The program and manual are professional jobs. A 512K Macintosh is required. $295

STATISTICS

Brainpower, Inc.
24009 Ventura Boulevard, Suite 250, Calabasas, CA 91302
(818) 884-6911

StatView

A statistics package that does descriptive statistics, comparative statistics, nonparametric tests, harmonic and geometric mean, standard deviation and error, variance, median, and frequency distribution. The calculations are performed to 80-bit precision using IEEE floating-point math routines. Works with all Macs and one-megabyte Macintosh XLS. $199.95
Consultant
A "thinking aid" program for organizing and prioritizing thoughts, notions, and actions. The program begins by asking basic information about you, the user. It next guides you through the task of identifying your problem and selecting the procedure to deal with the problem. Questions such as "What facts seem pertinent to your assignment?" help in sorting everything out. When you've finished, a printed report should present a clear, logical solution to the problem, task, or assignment.

In all, it seems interesting and worth investigation. $200

Knowledge Engineering
G.P.O. Box 2139, New York, NY 10116
(212) 473-0095

LaserTools Volume I
Consists of three new products, each for use with Apple's LaserWriter: Text Tools, Graphics Tools, and Utilities. Text Tools is a word processor that makes life with the LaserWriter easier. It gives full control of the LaserWriter using traditional typesetting codes. It also does discretionary and automatic hyphenation, better line-breaking, user-controlled kerning, fixed spacing in a number of ways, and more. Graphics Tools includes Icon Collector, Pattern Collector, Paint To PostScript, and ThunderScan to PostScript programs. Utilities includes a program to make labels, a program to address envelopes, and a program that prints out layout forms emblazoned with LaserWriter coordinates. All this is included in LaserTools Volume I, it seems. Write for more information. $129.95

Mainstay
28611-B Canwood Street, Agoura Hills, CA 91301
(818) 991-6540

MacBooster
One of two recently introduced "disk cache" programs. Disk caching, without getting too technical, is a method where information is sneakily loaded from disk into RAM memory, without your request. The programs "guess" which program or disk data will be requested next. If the guess is correct: wham! There it is. In practice the programs do work and speed things up enormously, unless you frequently move from disk to disk. A 512K Macintosh is required. $50

Nevins Microsystems, Inc.
210 Fifth Avenue, New York, NY 10010
(212) 563-1910

TurboCharger
Another disk cache program. Works similar to MacBooster, listed above. Easy to use and with more features than MacBooster, but priced higher, too. Look at both and make up your mind. $95

Rocinante
Box 210682, Auke Bay, AK 99821
(907) 789-2947

ISAM
An Indexed Sequential Access Method for use with Microsoft BASIC programs. ISAM is the "core" of many full-featured database programs. Essentially, once you've got the ISAM code, much of the work of writing a database is done. Includes sample programs. $79.95; demo disk, $9.95

Tardis Software
2817 Sloat Road, Pebble Beach, CA 93953
(408) 372-1722

The Macintosh Programmer's Library
The Utilities chapter describes FastFinder, a command-line interface that replaces Apple's Finder. Tardis Software now offers four additional disks of utilities: ToolPak 1, ToolPak 2, C-leaner, and MacMake. The disks are sold separately; together, Tardis calls them The Macintosh Programmer's Library. The products are primarily useful to C programmers. ToolPak 1 includes diff, search, dump, ASM xref, and a librarian. ToolPak 2 includes a "C beautifier," a C xref program, and the C sources for various subroutines. C-leaner helps to optimize existing code; we assume the code in question is C code. Finally, MacMake is a program maintenance utility that "simplifies rebuilds." Each disk, $49.95
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