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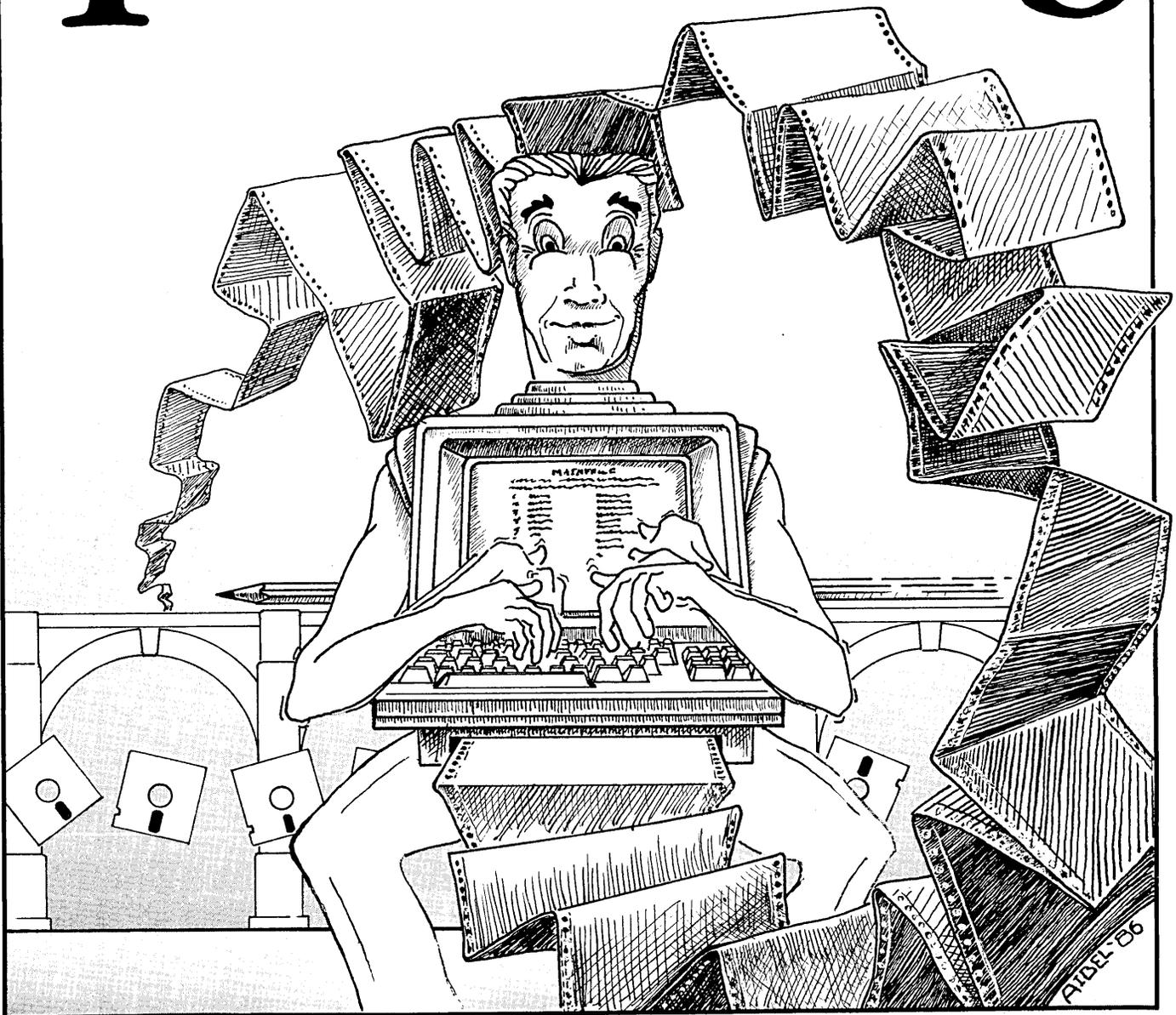
For CP/M Users!

# Morrow Owners' Review

THE INTERNATIONAL MAGAZINE FOR USERS OF MORROW COMPUTERS  
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# TOOLS FOR WRITERS

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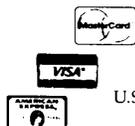
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# Morrow Owners' Review

P.O. Box 5487, Berkeley, CA 94705  
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# EDITORIAL

## Morrow files for Chapter 11.

For a few days it seemed that Morrow Designs, Inc. was on the move again. What had spurred them on? The contract for 15,000 Z-171 laptops the Internal Revenue Service awarded Zenith. You may have seen the announcements in the press. This is the laptop which is practically identical to the PIVOT II designed by Morrow. It is the biggest contract ever awarded in this class of microcomputers.

All that Morrow is likely to get out of the publicity around the Z-171 contract are pats on the back for being the clever designer of this laptop. Zenith will manufacture their own units for the IRS and will not even pay royalties to Morrow. If another IRS contract bidder, Sperry Corp., had won, Morrow would have been sitting on roses, because Morrow had the agreement to build all the PIVOTs Sperry needed.

On March 4th, Morrow tried to make the best of a lost opportunity by announcing the third creation in the PIVOT line, the PIVOT XT. This is a laptop, very much like the PIVOT II, but with a 10-Megabyte hard-disk on board. At the announcement luncheon, George Morrow confidently and cheerfully told the press that the Z-171 contract would boost Morrow's fortunes.

That might have been true if the IRS had not taken so long to make up it's mind. As it was, Morrow's thin resources wore even thinner during the long waiting period until there was not much left to carry on with.

The euphoria Morrow showed the press did not last long, if indeed it ever really existed. Within days Morrow laid off 23 of its remaining 35 employees. On Friday March 7, a fateful meeting with its bank, (Union Bank of Los Angeles), resulted in Morrow Designs' filing for bankruptcy under Chapter 11 of the federal bankruptcy code. Morrow remains in business, but its creditors are now in control.

Morrow Designs or the rights to Morrow's portable computer technology are now for sale. George Morrow will stay on as unpaid chairman of the company, with Bob Shepherd as executive vice president. They are exploring new business opportunities. Who knows what might happen.

As I tried, unsuccessfully, to get in touch with George Morrow to congratulate him on the completion of another exciting enterprise, I remembered why I bought a Morrow three years ago. There was something distinctly decent about the machine, about its solid design, and about the man behind it all. We are left with nearly 40,000 decent machines. In these days of flashy, and often flash-in-the-pan, computer products that's a legacy to be proud of.

## Changes in progress at MOR.

The slowdown at Morrow has neither daunted the spirit nor slackened the pace at MOR. We are too busy getting out a quality CP/M magazine and offering several forms of support to our readers. We are not experts on every technical question, but we do try to answer your pleas for help. Because phone help is too time-consuming to be practical, we are developing projects for MOR subscribers that provide service without requiring a lot of individual interaction. Two successful examples are the FLOBs (Floppies of the Bi-Month) and the MOR Manuals. We may not be able to give much personal attention, but we can get technical information out to you.

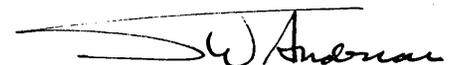
We have a new project on the boards: An update kit that will enable you to bring your machine up to the latest ROM and BIOS (CP/M) revisions. We hope to provide a kit that will be easy to install and will include a replacement ROM chip. Don't send your checks yet though. It will be a while before we have sorted out all the material given to us by Morrow and are able to construct comprehensive kits.

The staff changes we have almost completed reflect MOR's shift towards becoming a more service-oriented organization. New staff members Greg Smith, Bruce Gowens, Steven Wartofsky and the managing editor we are in the process of hiring are, or will be, well-versed in the various applications of our computers and their software.

This summer MOR is coming out with two issues specifically geared to make you more self-sufficient as a Morrow owner. (See *Upcoming Themes* on page 35.) We have also dramatically increased the number of reviews published each issue so you will be better informed about hardware enhancements and the new wave of CP/M software becoming available.

With 4000 subscribers MOR is a little too small to be financially viable at the level of quality we have attained. The plain fact is that quality costs money, most of it spent to compensate our talented staff members. To maintain its quality, MOR must enlarge its subscriber base. We are exploring ways to serve a larger part of the CP/M community, beyond Morrow owners. Not many pure CP/M magazines exist today. Among those MOR is probably best in delivering quality articles to its users' community. To succeed in adding users of other CP/M machines to MOR's subscription roster, we may have to change the name of the magazine.

But, name-change or not, our main business will always be to deliver a quality, CP/M oriented publication to you. We will continue to be your magazine, publishing the articles you so generously submit and providing a forum for your ideas, opinions and suggestions. Some things may change, but some will stay the same.



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# LETTERS TO THE EDITOR

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## IRRESISTIBLE

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Dear Editor:

I have found it entertaining to follow the discussion and controversy surrounding PERSONAL PEARL in recent issues of the magazine. This kind of dialogue is precisely why MOR is so valuable.

Many of us gave up on the PEARL long ago. I have been using dBASE II for all of my data storage, except for two small lists I put on PEARL before dBASE II came along. But I am beginning to learn that PEARL may have a real place in this world, and that it can be used effectively for many tasks. It does have its limitations, but so do all other programs. Even those written for BIG BLUE and clone have their limits. I understand that Lotus 1-2-3 has over 600 commands to learn! NO THANKS.

One of the advantages of the software bundled with our machines is that there is a high degree of compatibility between them. Data from one can, in many cases, be transported to another. Because of this it is relatively simple to solve many problems just by using more than one program, each for the job it does best.

For several months the problem of gaps between fields has been described as a limitation of PEARL when printing mailing labels. This is true, but there is a simple and elegant way to solve the problem, and that is to use PEARL for data entry, and NewWord for label printing. The procedure is quite straight forward, and easy to set up. Just tell PEARL to generate comma-delimited records by designing a list type report that has all necessary fields on one line, each separated by a comma. Then print the report to disk. The resulting file is perfect for use by NewWord's merge print feature. NewWord will automatically eliminate unused spaces in each field, and has the added benefit of being able to format the label/envelope/page as it prints. This enables you to have, for example, two name lines on your label. If the second is not used on some records, NewWord can eliminate the unused line and move the next used line up to take its place. This makes for extremely professional results, results which are impossible or not so easily attained when using only one program.

It is easy to criticize PEARL or any other program. The trick is to learn how to use any program within its limitations. You are helping us all to learn what some of the effective uses for PEARL are. The kind of dialogue occurring in MOR is exactly what we need to help us realize the potential of our machines.

Keep up the good work. As we become more adept at using our machines, this type of discussion helps us fine tune our skills. In my case, I am starting to look at PEARL again as a more useful program than I originally thought. I am not ready to give up dBASE II, but used within its limitations, I suspect PEARL can do some wonderful things.

Peter Campbell, Albany, CA

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## FROM THE GARRET

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Dear Editor:

My officemate and I were looking for a machine on which to write our Ph.D. dissertations, but we didn't want to spend a lot of bucks. I kept seeing advertisements in the paper for something called a Morrow. The local dealer was very accomodating and made us a nice little word processing package, dual disk drives, printer, and a footnote program to go with NewWord, all for a very reasonable price. I've used Apples and IBM's, but for straight word crunching I'll take this combination every time.

I'm sending this on the assumption that you are alive and well, even though I haven't found the \$18.00 to pony up for a subscription yet. One of these days I'll get aound to that, but right now I'm trying to save enough pennies to add a hard disk to this thing. NEVER SAY DIE, even if the company has quit.

Keep up the good work, one of these days I'll find the bucks to subscribe.

Charles A. Seavey, Madison, WI

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## CREATIVE CONTROVERSY

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Dear Editor:

Your equation of the Dutch Resistance distributing information as being similar to today's users obtaining Public Domain programs was brilliant!

You should also be congratulated on several other counts: 1) You have stuck with the CP/M user when everyone else had abandoned him for MS-DOS; 2) You run a very professional journal while maintaining a down-to-earth style; 3) Your authors are very knowledgeable and yet write for the high school graduate.

Myles Carter, Willow Springs, MO

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## MORE ON TOOLS FOR WRITERS

(not in this issue)

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Also check out the MOR PD Diskettes—a collection of all Floppies of the Bi-Month (FLOBS). They contain many Writers' Tools programs. See pp. 36-7 for info on this issue's FLOB. For a directory of all available FLOBS, write to MOR, PO Box 5487, Berkeley, CA 94705. Attn: MORPD. Be sure to include a Self-Addressed Stamped Envelope (SASE).

## SPECIAL CREDITS

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Editorial Assistance	-- Georgia Babladelis -- Dale Alan Clark
Production Artist	-- Steven Aibel
FLOB Manager	-- Steven Wartofsky
Morrow Liaison	-- John Seamster

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# THE BASICS OF COMPUTER TYPESETTING

by Bill Steele

Printing has gone through several revolutions. First came movable type, set by hand one letter at a time. Then came the Linotype machine, filled with little molds in the shape of letters: as the typesetter struck keys, the molds fell down into a line, and molten lead was poured into them to create a line of type. A real Rube Goldberg arrangement, yet it revolutionized the newspaper business. About a decade ago came phototypesetting, where letters were stored as images on film or plastic disks, and focussed onto light-sensitive paper. Today, most typesetting machines store the images of letters as digital information, making for greater speed and previously unheard of special effects like slanting letters at a variety of angles, or printing the top of a line in white on black, with the bottom in standard black on white.

Best of all, modern computer typesetting equipment will accept copy directly from a word processor file on disk or transmitted over the phone. Even if you're not interested in special effects, having typesetting done directly from your computer file offers a number of advantages:

--Since no one has to rekey your text into the typesetting machine, you can save up to 50% on the cost, and usually get your copy back sooner.

--Newsletters and other periodicals can further reduce the time lag between editing and printing by sending their copy to the typesetter over the phone.

--Assuming you have carefully proofread your file beforehand, you should get back error-free text; where technical material is involved, the proofreading is done at your end, by people who understand the subject matter.

Computerized typesetting services are now available in most large cities, and a number of firms advertise nationally in computer magazines and in magazines like *Writer's Digest*. I haven't checked this, but I'm told typesetting service is available through CompuServe and The Source.

Most companies will accept material either on disk or via modem, prepared on almost any word processor, including WordStar and NewWord. Advertisements make much of sending your copy in by phone, but unless it's a local call or you need

instant service, doing it that way can make for pretty big phone bills!

We thought it might be hard to find typesetters who would accept material in CP/M format, but the fear was groundless. In fact, the first typesetting company I contacted, Davis Graphics Services right here in Ithaca, New York, turned out to have three Morrow computers in its shop. (Ithaca may be atypical of smaller markets, since it's a college town; Davis, it turned out, sets type for the national magazine *American Demographics*, published at Cornell.) Other nationally advertised companies I talked to later were all using UniForm or a similar disk translation program, and most were prepared to accept Apple, TRS-80, Commodore and other formats as well as CP/M and MS-DOS.

Copy for computer typesetting is prepared like any other file on your word processor. You can usually use either document or non-document mode and have justification on or off as you prefer; most typesetters will run your file through a program that strips out control codes and other oddities. The one caution, according to Kim Davis of Davis Graphics Services, is that hyphen help should be turned off, since the conversion program will turn soft hyphens into hard ones no matter where they are in the line. Margin settings are irrelevant: the typesetting machine rejustifies the copy for the line length that will appear on the printed page.

Instead of the usual dot commands and control codes, you must include special codes to identify type faces, sizes and formatting. These codes are usually entered like dot commands, but may be preceded by some other symbol, such as @ or !. It's important to contact the typesetter before you start to be sure you do this correctly. Usually the typesetter will supply you with a list of codes to use. Some of the larger typesetting machines have built-in translation facilities that allow you to make up your own easy-to-remember codes, and Kim Davis has written his own translation program. With this sort of system you could mark chapter titles with something like "!CHAPHEAD," and the typesetting machine would recognize this as an instruction to set the line in, say, 24 pt. Cheltenham bold, centered.

A special case of this kind of coding is the language PostScript, developed to control the Apple Laserwriter but now being implemented on several other brands of laser printers. With various options, PostScript will create over 40 different type fonts, in a wide range of point sizes. A program called JustText from Knowledge Engineering (G.P.O. Box 2139, New York, NY 10116, 212-473-0095), translates PostScript commands into the arcane language of points

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Bill Steele works in Ithaca, New York as a freelance writer, specializing in science, medicine and technology. He is a member of the MOR Editorial Council and also writes the Mailbox column for MOR.

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and picas, quads and ems used by professional typographers, and allows the user to lay out pages in multiple columns, with spaces for graphics. ("Graphics" doesn't always mean pictures; it can include things like column lines or boxes around sidebars.) JustText is so far available only for the Mac and the IBM PC, but you can write its codes into any CP/M file and transmit that file via modem or Uniform to someone else's computer for setting. The laser printer may soon turn typesetting into a cottage industry.

One of the typesetting services we contacted, Krishna Copy Center in Berkeley, California, uses an interface that allows PostScript commands to drive a commercial typesetting machine, the Linotronic. According to Dr. Sanjay Sakhuja, the owner, this system does the same things the Laserwriter does, but with "16 times better resolution."

It is, of course, possible to make expensive errors in coding a file for typesetting, such as entering the code to start setting in Italics and leaving out the code to stop, meaning you'd have to

pay for having reset all the text after the stopping point. Some typesetting firms will check for this sort of error and some won't; you generally get what you pay for. Some will do all the coding for you, after consulting with you on what you want your copy to look like, but the additional time they spend will also be reflected in the price.

Even when there are no errors in typesetting, many authors want to make changes after they see the galleys. Davis recommends that you make these changes in your original text file, then write the changed sections out as blocks and send those blocks to the typesetter for resetting. That way, he says, "When you go back to revise your masterpiece in two or three years, your original file will match the printed version." With computer typesetting so widely available, it seems that more and more masterpieces will be seeing print.

(Davis Graphics Services doesn't advertise nationally, but they say they'd be happy to accept work from anywhere. They're at 113 Emmons Rd., Lansing, NY 14882, 607-533-4710.) ■



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### AUTHOR OF THE BI-MONTH

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As you will guess by reading the several reviews she contributed to this issue, Georgia Babladelis is interested in software that aids the writer. Her own publications include text books and many research articles in the area of personality study. She helped establish a new division in the American Psychological Association: Division 35, The Psychology of Women, and was the first editor of the official research journal for that division.

Besides her lecturing, research and writing, she also serves as editor of the BAMDUA Newsletter. "A lot of people are surprised to learn that I do that as a volunteer," she said, "and that I have 'another' full-

time job!" Georgia is a professor of psychology at California State University at Hayward and a research consultant on doctoral dissertations at California School of Professional Psychology in Berkeley.

Asked about her interest in computers, she said: "I didn't intend to get involved with them; I was determined to just master the computer as a tool to facilitate my writing--and what has happened is that now I know quite a bit about things like dip switches and disk drives, and I like it. One of my colleagues and I refer to our involvement with computers as a 'disease.' And he uses a MacIntosh!"

"An important principle of life for me is to introduce variety within a framework of stability. My Ph.D. in psychology has enabled me to pursue a career of teaching and research. Within that framework, a variety of related activities are possible. Of course, that leads to learning new things and meeting new people. For example, some years ago I got a grant to study primate behavior. Then, with a colleague, I undertook a comparative ecological study of captive apes. That led to an invitation from AAAS (American Association for the Advancement of Science) to participate in a special symposium on that topic. It has resulted in an acquaintance with many people associated with zoos, influencing changes in zoos, a number of publications, and correspondence and meetings with scientists all over the world who are involved in such research."

"I think you can see that volunteering to edit the newsletter for BAMDUA and writing for MOR fits in with my general principles. They are activities that introduce me to new information and many wonderful people, and reflect my basic values about the discovery and free exchange of information." ■

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# DESKTOP PUBLISHING WITH A MORROW

by Charles Tart

There is much hoopla about the new feasibility of desktop publishing because of the MacIntosh and laser printers. What has been forgotten is the fact that you can do desktop publishing of very high quality and at much lower cost with a CP/M computer like a Morrow and a letter quality printer.

To get to the bottom line: a basic 2 disk drive and 512k memory MacIntosh with a good word processing program is going to cost you around \$2300+, a laser printer another \$2500 minimum at current prices. (I've seen newsletters done with a dot matrix printer connected to the MacIntosh: they are cute, not professional, and hard on the eyes.) So we are up to \$4800+. My system cost me about \$2100, including the software. Since you can pick up a good used Morrow MD3 for about \$700 today, your initial investment could be \$1600 or less.

I have been publishing a quarterly newsletter, *The Open Mind*, dealing with altered states of consciousness, parapsychology, and spiritual growth, for more than two years now on my MD3. At first I used WordStar's microjustification routine and a daisy wheel printer. But WordStar alone can't give that professional typeset appearance to your newsletter, even if you spend many hours (as I did) fooling around with patching its proportional spacing tables. You need a separate printing program.

For a year I used PropStar from Civil Computing Corp. (See the article on p. 9 and PropStar review on p. 10.) It retains the what-you-see-is-what-you-get feature of WordStar: the line you see on your screen is the line that will be proportionally spaced, retaining its identity as a line. Sometimes there is a problem, though, especially with too many capital letters in a line: the line will run past the justified right margin. You stop printing, reopen the file, add spaces in the line so reformatting with ^B will drop the last word of the line down to the next to create more space, then print all over again. This is annoying! Properly centering headings is also a fair amount of work.

*The Open Mind* is printed in a two-column format. With PropStar you can print out each column and then cut and paste the paper printouts to get two columns. It's painstaking work to get them perfectly aligned, though. I found a way (with good advice from PropStar's creator, Rus Greenlaw) to get both columns typed on a single sheet. Put a pause command (^C) at the bottom of a page and then put `..poXX`. The value of XX is the amount of offset you need to start your second column in the right place.

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Charles T. Tart is a psychologist at the Davis Campus of the University of California who studies altered states of consciousness and parapsychology. Information on *The Open Mind* is available from Box 37, El Cerrito, CA 94530.

After the pause manually roll the paper back up just the right amount before resuming printing. This works well about 60% of the time. The other 40% you don't line it up quite right, and you have to start the page all over again, which is a drag!

I am now using a much fancier proportional printing program, MagicPrint from Computer EdiType Systems. (See MagicSeries review on p. 14.) This will automatically do two (or more) columns by rolling the paper back up in the printer, and will handle centering of headings automatically. The only occasional disadvantage I find, compared to PropStar, is that what-you-see-is-not-always-quite-what-you-get! MagicPrint goes for maximum efficiency and pleasing aesthetics in getting a uniformly packed, well-spaced line, so it will sometimes borrow from the next line if there would be too much space in the line it is working on. On the other hand, a line never runs beyond the right margin because of too many capital letters: a word will automatically be moved into the next line. So a column might be a line or two longer or shorter than you expect from your screen display, although never beyond a set maximum number of lines in a column. There is a preview feature of MagicPrint that lets you check this before you print out, though. With its many other fancy features, I greatly prefer MagicPrint.

My printer is a Transtar 130, a moderate quality daisy wheel printer. The special "Modern PS" proportionally spaced wheel you need is \$20 or so. The main limitation I find with this particular printer is that I can't find an italic proportional print wheel, or any other type style in proportional spacing.

Although I'm limited to only one type size, I can get a fair range of variation. This paragraph looks somewhat like it's in a different size type, but that's because it is pitched closer than the rest of the text. If you are determined to pack as much in your newsletter as possible, you could do it all in this pitch. I use it for quotes that take up a whole paragraph. If you are really fanatic you can really squeeze! And squeeze!

## HEADINGS

Look at this subtitle. Doesn't it seem to be in a bigger type style? It's not, but increasing the pitch (as I've done in this paragraph, more in the heading) and using doublestrike, **boldface**, or **both**, gives the appearance of larger type.

So save your money for something else: you can do just fine in the desktop publishing business with your CP/M machine. The proof of the pudding is in the eating. This article is printed out on my setup using MagicPrint, then photoreduced 20% for Morrow Owners Review style. In this review, what you see is what you get. ■



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# PROPORTIONAL SPACED PRINTING WITH CP/M

by Dale Alan Clark

Ever since I acquired my first computer I have been intrigued by the possibility of producing typeset quality documents at home. Today's daisy wheel printers are a marvel of low-cost electromechanical wizardry, and one of their truly impressive features is the ability for most models to vary the horizontal movement of the print carriage in 1/120" increments under software control. It is this fact which makes possible the pleasing, uniformly spaced, right justified text we have all come to associate with a "word processed" document. Microspace justification, as implemented by most word processing systems (including WordStar and NewWord), is a technique in which the extra "white space" necessary to achieve a straight right margin is evenly spread across the page by slightly increasing the space between the letters within each word, and the space between words, in each line. While this produces a very attractive document, the resulting text is not "proportionally spaced," and does not have the polished look of typeset prose. In this article I'd like to talk about how you might achieve that look.

## What is Proportional Spacing?

Conventional typewriters and most so-called "draft" printers produce text in fixed pitch, usually either 10 or 12 characters per inch. In the case of 10 pitch type, this means that characters are printed on exact 1/10" centers, and that every letter of the alphabet (upper or lower case) is given the same amount of space on the printed line.

The microspace justification produced by WordStar and NewWord is really just a variation on the fixed-pitch theme. Different lines within a document are printed with different effective pitches (depending upon the amount of added space needed to justify each line), but within a given line the letters are still laid down at a fixed "x characters per inch."

Proportional spacing is different, and is based on the fact that not all letters are the same inherent width. Since most typing and printing is done at a fixed pitch, common typewriter fonts are designed with each letter nearly the same width. Normally skinny letters such as "i" and "l" are given a wide foot (called a serif) in order to make them fatter, and wide letters like "m" and "w" are squashed together to make them fit into the allotted space. Pick up a newspaper, magazine, or any printed material that has

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Dale Clark, an electrical engineer in Hunt Valley, Maryland, designs training and simulation systems for a living. He uses his vintage MD2 primarily for word processing, hacking around with assembly language, and collecting public domain CP/M software.

been professionally typeset, and you will notice that the type they use is different, and that each letter has been reproduced in its more-or-less "natural" width. At the same time, you will also find that the letter-to-letter spacing is not fixed, but varies depending upon the width of each individual character. This is called proportional spacing. Most people find it is easier to read, and IT has a more pleasing appearance than fixed pitch typing. Proportional spacing is what gives typeset text its polished, professional look. Luckily for us, in addition to wheels intended for use at fixed pitches of 10, 12, and 15 characters per inch, most printer manufacturers make proportional (PS) type wheels for their daisy wheel printers. This puts typeset quality printing within our grasp.

## Proportional Printing with WordStar and NewWord

One way to get your printer to do proportional spacing is to use WordStar's (undocumented) proportional printing feature. This is invoked by embedding a ^PP in your document, and works like the rest of the print toggles; typing it once turns proportional printing on, and typing it again turns the feature off. When enabled, it causes WordStar to refer to an internal proportional spacing table while printing which specifies the space to be allotted each character on the print wheel. The problem is that each printer manufacturer's PS type font is different, and for best results a custom version of the spacing table is required for each different font. Diablo metal wheels, for example, allow for a great variation in character width, while some other printers which are basically converted typewriter mechanisms permit much less. This is probably why MicroPro abandoned the idea of supporting the proportional printing feature (hence, the lack of official documentation on the subject), although the capability remains in the WordStar program. Several articles have been published on the subject of patching WordStar's table to adapt it to specific print wheels, including an excellent treatment of the subject by Dick Baker in the February 1985 issue of MOR (VOL 2, #1, p. 16). NewWord is said to have a similarly undocumented proportional printing function, but I've never seen information on patching that program.

Many people don't possess the technical skills necessary to patch their word processing software and customize it for the particular printer and type wheel they would like to use, despite the excellent "how to" articles on the subject. Still others would prefer not to "mess with" the insides of a program on which they depend so heavily day in and day out. In addition, while properly patched WordStar will vary the spacing between letters according to character

width, the result is not quite the same as typeset text. One annoying characteristic of WordStar which remains is that when justifying text it adds space between letters within words, not just between words. This tends to make words spread out, and can give your text a run together look. Happily, we haven't run out of options yet; there's another approach to proportionally printing our WordStar and NewWord files.

#### Enter PropStar

The Civil Computing Corporation of Livermore, California, markets a program called PropStar which is a stand-alone proportional printing utility for WordStar and NewWord files. Documents are created and edited using your regular (unmodified) word processing software, and then printed with PropStar. The result is proportionally spaced, justified text that approaches professionally typeset copy. I have been using PropStar for several months, and am very pleased with the results I get on my Silver-Reed printer. Since there is a review of the program by Edward Combs in this issue, I won't go into a lot of detail here, but I will relate some observations and opinions based on my own personal experiences with PropStar.

PropStar supports most of the print features provided in WordStar and NewWord (bolding, underlining, etc.), although a few crucial ones (headers and footers, for example) are missing. What I really like about PropStar-produced text, however, is the way it looks. [You're looking at some right now! See note at end of this article. --Ed.] The program achieves right justification by adding space between words, never between the letters within a word. This eliminates WordStar's tendency to run words together, and results in a much crisper, cleaner looking product.

Another area in which the program shines is the way bold text is produced. Bolding with a daisy wheel printer is done by printing a character, moving the print carriage 1/120" to one side, and printing the character again. This results in a character that is **just a little bit fatter than normal, and thus, darker**. The problem is that with most word processors this also results in crowding, since the characters are printed in the same pitch, but each is a little wider than normal. Civil Computing solves this problem by moving bolded letters slightly farther apart, keeping the white space between characters the same as for normal text. This is just one example of the kind of thought that went into producing PropStar, and the care and attention to detail put into the program really shows.

[NOTE: We have found at MOR that sometimes an entire line made up of bolded characters may not justify properly. Don't use carriage returns to try to correct this! Instead, "trick" the program by inserting enough extra spaces between words on the line in question to "force" a word or two onto the next line. You can't tell for sure what is going to happen until you see your print-out. --Ed.]

PropStar has satisfied my desire to be able to print truly professional looking, typeset quality documents at home. The software that came bundled with our Morrrows constitutes a fairly comprehensive package, and most people who are interested primarily in doing word processing on their machines probably haven't found a need to buy much else. However, at \$49.95 I feel that PropStar makes a very worthwhile addition to the basic package for those people who (like myself) do extensive amounts of "text engineering" on their Morrrows. ■

[The text you are reading in MOR is printed here in our office with PropStar on a Silver-Reed printer (MP-200), pasted up, and reduced by 20%. While a selection of special Proportional Spacing (PS) daisy wheels are available, we use a non-PS Courier 10 wheel, a typeface we prefer to the presently available PS wheels, and a custom-designed version of PropStar. For a sample of text printed with a PS wheel (and then reduced), see any issue of MOR published before October 1985. --Ed.]

### SOFTWARE REVIEW

<b>PROGRAM:</b>	<b>PropStar</b>
<b>VERSION TESTED:</b>	Version 2.0 D for CP/M (For all Morrrows)
<b>AUTHOR:</b>	Russell Greenlaw
<b>MANUFACTURER:</b>	Civil Computing Corporation 2111 Research Drive, Ste. 1 Livermore, CA 94550 (415) 455-8086
<b>DISK SPACE:</b>	26K
<b>PRICE:</b>	\$49.95 postage paid

by Ed Combs

Civil Computing Corporation has produced a program which enables most daisy wheel printers, equipped with a suitable proportionally spaced (PS) print wheel, to print handsome proportionally spaced, justified text from files created with NewWord or WordStar. Versions of the program are available for both 8 bit CP/M and 16 bit MS-DOS systems in a number of formats. This review covers the 8 bit version for Morrow computers.

The program comes pre-installed for a particular generic type of printer (e.g. Daisywriter 2000, Diablo, NEC, Qume, or Silver-Reed). Since each brand

**Edward E. Combs** is a retired professional electrical engineer who bought his first computer (a Morrow MD2) and joined BAMDUA in 1983. He currently uses an MD3 with NewWord for correspondence and technical writing, in his spare time.

of printer may be able to use more than one type of print wheel, you must specify both your printer and the wheel you intend to use in order to get an appropriately installed version of PropStar. Those of you who own Morrow printers probably know that these are the same as models sold under the Silver-Reed name.

A unique and welcome feature of PropStar is that it does not require you to patch or re-install your word processing program. In addition, PropStar supports most (but not all) of the print features available in WordStar and NewWord; e.g., **bold printing**, super/subscripts, and **underscoring**. One very nice improvement with version 2.0 D is continuous underlining. Non-continuous underlining (spaces between words are not underlined) can also be selected. The manual provided with the program contains detailed lists of the print features which are and are not supported by PropStar. At the present time, PropStar does not support the use of alternate pitch, the setting of top and bottom margins, headers and footers, or page numbering. [See note below on update. --Ed.] Despite these inconveniences, however, PropStar is a superb program.

The PropStar package consists of a floppy, a data sheet, and a 16-page Users' Manual. For CP/M systems the program name is in the form "PSxxx.COM"; the "xxx" designates the printer for which your particular version is installed. PropStar will work with any of five generic types of printers: Daisywriter 2000, Diablo, NEC, Qume, and Silver-Reed (MP-200), or any printer which can emulate any of these, whether or not it is equipped with a PS switch setting. The disk supplied for Silver-Reed (Morrow) printers, for example, contains two variations of the program; one for printers with built-in proportional spacing, and one for those without this feature. The program disk also includes two text files: PSTEST and PSAMPLE.DOC. When printed, these serve to test the operation of PropStar on your system, and to demonstrate many of the features of the program.

Initially, I encountered problems getting my printer to perform satisfactorily. I called Civil Computing Corporation and talked to Russ Greenlaw who asked me to send him copies of my printouts of the two demonstration files. With this information in hand, he was able to quickly solve my problem.

Following the instructions in the manual, I copied the PropStar program to my NewWord working disk, changing the file name to PS.COM in the process. To use PropStar you first create and save your document in the normal fashion, using your word processing program. Then, instead of using the WS/NW P command to print, you invoke PropStar either at the command level (i.e., A> PS) or by using the command to run a program from within your word processor. In either case, PropStar will begin by asking you a series of questions similar to those asked in the WS/NW print procedure. As you might expect, a simple "return" will select the default answer to each

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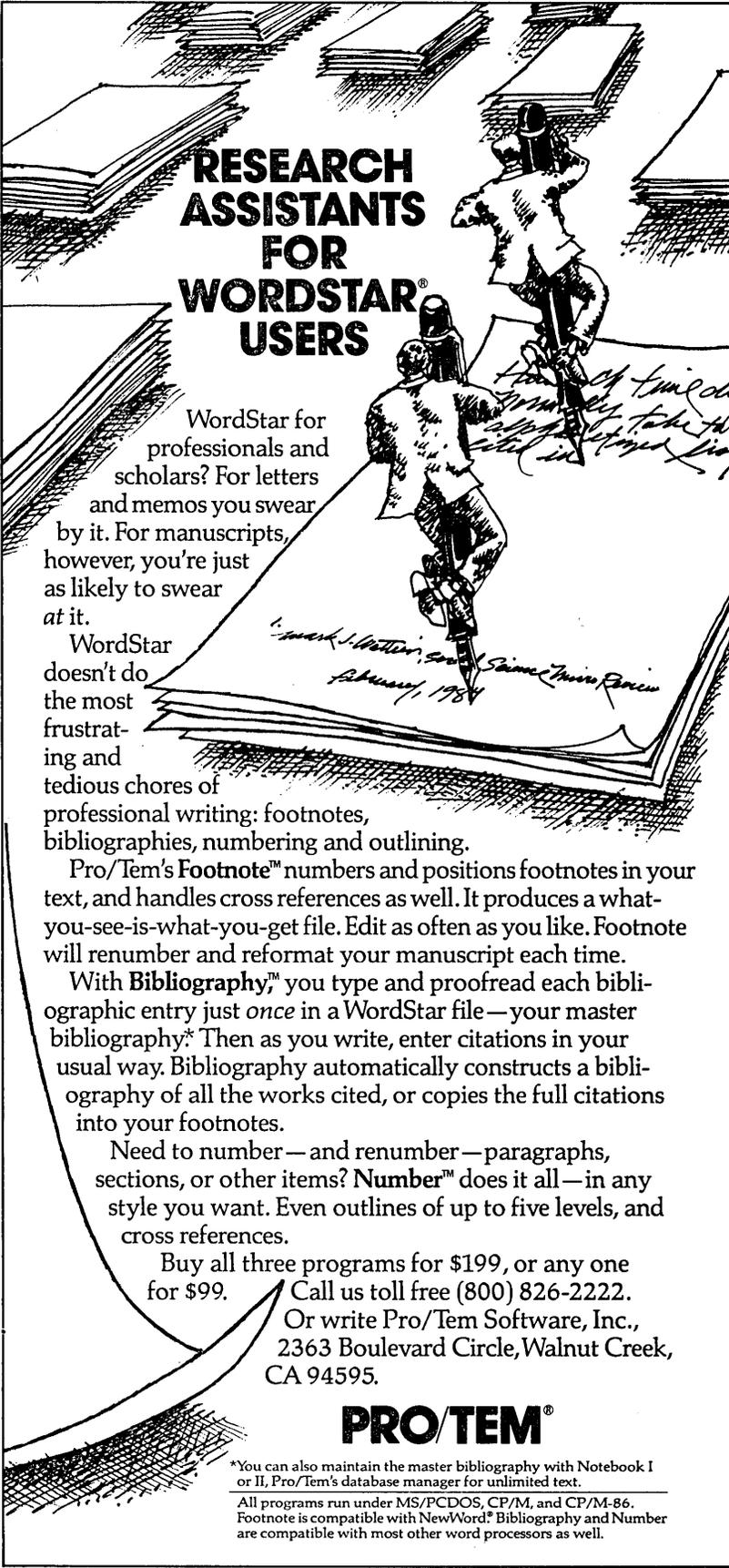
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question, or an "escape" will skip the questions and select all the default values. The program then asks you to make sure your printer is ready, and after one more "return" begins printing. After the file has been printed, you are told how many words and lines it contained (a nice touch). You are then given the option of printing the same document again, printing another document, or quitting. If you entered PropStar from within your word processor, you will end up back there when you quit.

Speaking in simple terms, PropStar may be visualized as a sort of software translator which is positioned between the file on the disk and the input to the printer. This translator modifies text from a source that provides constant width character spacing in order to drive a printer that is capable of varying the width allotted to each character. This means that very close control of horizontal spacing must be provided by PropStar, which the program does beautifully. Right justification is achieved by varying the amount of "white space" placed between words, while the space given to individual letters within words is based solely on the width of each letter. The result of all this is an extremely pleasing product which looks very much like professionally typeset printing.

The production of proportionally spaced printing, compared to uniform spacing, involves a few unique factors which must be considered during the preparation of the document to be printed. PropStar's rendition of a title centered with the WS/NW ^OC command, for example, is only approximate, and in most cases requires some on screen tweaking to look right. This is due to the fact that the spaces WordStar and NewWord insert to center the text are not the same width as the text characters themselves when printed with PropStar. Unfortunately, the Users' Guide does not go far enough in providing the explanations that would help a non-technical person get the most out of the program. I suspect that this is primarily due to cost considerations. After all, this is a low cost program.

When you begin printing, the first line of text will print where you manually set the top margin when inserting the paper. I suspect this characteristic of



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All programs run under MS/PCDOS, CP/M, and CP/M-86. Footnote is compatible with NewWord®. Bibliography and Number are compatible with most other word processors as well.

the program will be particularly annoying to people who have sheet feeders fitted to their printers. The number of lines per page is controlled by setting page length, or by using an imbedded form-feed character (^PL) or page break command (.PA). I found the inability to set conventional top and bottom margins complicated both editing and printing, particularly when working on a long document.

The fact that PropStar does not provide for automatic page numbering is more serious, since such numbering would be located either in the (unsupported) header or footer. Thus page numbers, if desired, must be inserted into your document manually. The problem worsens when subsequent revisions of the document are made, as you have to manually shuffle around the page numbers as your page breaks move about. There is a way around this problem (as described in the manual) which involves printing your document to a file using the WS/NW print feature. You then print this temporary file (which will contain WS/NW generated page numbers) with PropStar. In either case, the process is cumbersome and this lack in the present version of the program is a serious flaw.

Despite its drawbacks, I feel that PropStar represents a significant software bargain. I recommend it to people who would like the ability to do typeset-quality proportionally spaced printing at low cost without having to modify their present word processing programs. Despite its lack of certain conveniences, I think the program yields satisfying and, indeed, beautiful results. ■

[As this review was going to press, Civil Computing Corp. announced the upcoming release of a new version of PropStar which remedies many of the drawbacks pointed out in this review, particularly the lack of headers, footers, and page numbers. A new dot command will automatically center titles on the page. A customization routine will also be included to allow modifying the program's spacing table for special applications not supported by standard versions of the program.

For those interested in a more technical explanation of PropStar's capabilities, see FLOB/APR86 for more information by Ed Combs. --Ed.]

## Some Favorite PD Writing Tools

by Donald Jenner

I have a disk-full of favorite public domain tools, without which I would find all this stuff I write much harder to do to my taste. UNERASE has saved my hash a couple times, as has FBAD (FindBad, to block out bad sectors on a disk). WSDOCON and PURETEXT permit me to switch back and forth between ASCII and WordStar-type files with ease. TXT lets me write executable text files (great for help and read-me files). But WINDEX and an anonymous little program called WC (WCOUNT; FLOB/AUG85 #2) are special gems.

WINDEX permits the marking of keywords in a text file, then checks that file for all the occasions of the word or expression, and produces a file with the expressions and the pages on which they appear. Key words can also be stored in a file or entered interactively from the console. The page-offset can be set from -255 to 9999, so when indexing a series of small files--chapters, for example--the pagination will match that of the text-file. The trick seems to be to format the file with FTNOTE, to get the final pagination set, then pass the file through WINDEX to get the index. If your files are chapter-length, there are two options: to consolidate the index files thus produced (more work, but much more professional, and the nasty part has been done), or simply to

### PROPORTIONAL SPACING HINTS

By Georgia Babladelis

You can get nice looking print using PropStar with or without a PS wheel. You can get nice looking print using the WS print command if you have a PS wheel. You can use PropStar and a PS wheel for a nice print out, without setting dip switches. However, if you have dip switches and a PS wheel and PropStar, then that is the very best combination for the nicest looking, proportionally spaced result.

If you are planning to buy a PS wheel, be sure to check its character set-out first. My first Modern PS wheel is #6014 and does not produce the control character ^ . Now I have Modern PS wheel #6414, which does produce the ^ .

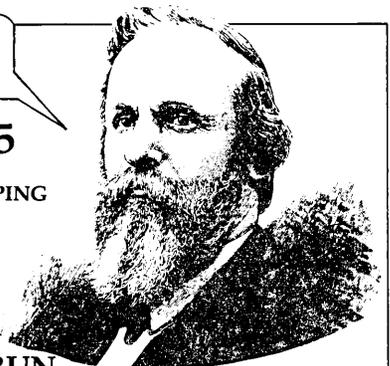
produce an index by chapter. Eric Gans, of UCLA's French department wrote this program and has done a good job of maintaining and documenting it.

WC (WCOUNT) is really nice for resolving the question of just how much has been written. It's a very simple program; the documentation is quite literally one line: "This program counts the number of words in a file." From the command line, one invokes the program followed with a series of files to be checked; wildcards are recognized. The program then reports the number of characters, words and lines in the file. Good for confounding an editor . . . .



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## SOFTWARE REVIEW

<b>PROGRAM:</b>	<b>MagicSeries: MagicPrint MagicBind MagicIndex</b>
<b>VERSION TESTED:</b>	WordStar 2.11
<b>AUTHOR:</b>	Ben O. (Optimyste) Jone
<b>REQUIREMENTS:</b>	48K, text editor, Diablo printer, (or compatible), NEC Spinwriter (HP Laser printer now available)
<b>DISK SPACE:</b>	64K (.COM files for all features)
<b>RECOMMENDED:</b>	PS printwheel
<b>MANUFACTURER:</b>	Computer EdiType Systems (CES) 509 Cathedral Parkway, #10A New York, N.Y. 10025
<b>PRICE:</b>	Total MagicSeries package: \$295 MagicPrint: \$195 MagicPrint & MagicBind: \$250

by Georgia Babladelis

MagicSeries consists of three programs: MagicPrint, MagicBind and MagicIndex. Taken all together, this package provides print formatting, file merging, and the making of indices--all of which can be printed out in proportionally spaced print with fast, bidirectional printing. That is the most succinct statement that can be made about this program--and one that does not do it justice. After trying out the programs in this series, I have concluded that it is well named; it is, indeed, a MAGIC series!

**MagicPrint** provides basic print formatting functions, including proportional spacing, footnoting, column printing and multiple-line heading and footing. **MagicBind** is a file merging program that not only does all the usual functions of any merge program (e.g., merge an address file with a letter file) but also provides automatic numbering or renumbering of chapters, paragraphs and articles, data verification and print-time record selection. It incorporates the full print formatting capabilities of MagicPrint. **MagicIndex** compiles, sorts and prints indices and tables of contents in proportional spacing.

### MagicPrint

In MagicPrint, one has a choice of four modes of printing: true proportional spacing (giving appropriate width to the different characters), justified and unjustified; and non-proportional

Georgia Babladelis, is featured as our Author of the Bi-Month (p. 6). The Magic Series was originally reviewed by her for the BAMDUA Newsletter (Vol. 3, #11, December 1985) and has been revised for MOR.

spacing (giving equal width to all characters), justified and unjustified. You can justify partial lines as well. There are too many features to describe well, but let me mention a few so that you will get a clear idea of what is available.

In addition to the expected ability to set page length, character spacing, even/odd placing of page numbers, etc., this program allows you to handle odd-size paper and also to "backline" (i.e., back up so that you can align partial lines horizontally or to achieve justified column printing). Simple commands allow you to format any page (or part of a page) in any manner you choose and to return to your default settings automatically. For example, a page may have a combination of features, such as multiple columns and full-across printing and graphics with no difficulty. Another plus is that soft hyphenation is honored during printing. Moreover, a feature called "kerning" allows you to set pitch locally so that different letters in the same word may be placed closer together as in some foreign phrases in common usage. (See samples in Figure 1, p. 15.)

You may use multiple lines in headings and footings, arrange your pages with outdenting and indenting, and underlining may be solid or broken. Different levels of headings are possible. You may use as many as 15 footnotes per page (but there is no limit on the length of individual footnotes). There are many more print formatting capabilities. All of these print formats can be set in your text, using your own word processing program, as long as you follow the conventions for MagicPrint.

These features, and many more available in MagicPrint, are notable for their application to an emerging activity called "desktop publishing." The interest in desktop publishing is large and growing--so much so that a new publication, Desktop Publishing addresses it. (Published by: User Publications, Inc. Box 5245 Redwood City, CA 94063, 415-364-0108.) Most hardware and programs presently available for this

MORROW OWNERS' REVIEW  
MORROW OWNERS' REVIEW

Made by MagicPrint

activity are MS-DOS (notably IBM and MacIntosh). MagicPrint is the only such program I know of that runs on CP/M, and it compares most favorably to the best of the MS-DOS software for page makeup reviewed thus far in Desktop Publishing. It even has some features lacking in most of those programs; e.g., kerning. Although it does not design pages on screen, MagicPrint does provide many typesetting capabilities as well as true proportional spacing. (See "Desktop Publishing with a Morrow" on p. 7 in this issue for a sample of material printed with MagicPrint.)

Computer EditType Systems provides MagicSeries for standard (ASCII-generating) word processing programs (which they list for your information) and a WordStar version (which I am assured works the same on NewWord). I have the WordStar version. In this revision (v.2.11), the commands have been made uniform which has necessitated some departure from WordStar commands. On the whole, an experienced WordStar user will have no trouble mastering these commands but be forewarned that you must pay attention and you must spend some time learning the commands and practicing them. Investment of time and effort early on will be amply rewarded by your final product.

Most WordStar commands (such as boldface, super- and sub-scripts, etc.) remain the same; the main changes occur in dot commands and learning a new set of "symbols" to accompany the dot commands. The symbols or letters for each command are logical, and a little practice will make you facile. For example, the symbol used for backlining is **b**. The dot commands, however, are different from WordStar. Whereas in WordStar you use one dot to initiate a command and two or more dots to indicate non-printable matter or comments, the reverse is true in MagicPrint. In MagicPrint it is the one-dot comments that are ignored in printing and the two-dot commands that format your printing. That means that although you can go ahead and print out files already entered in WordStar, you must re-format them to make them compatible with MagicPrint and to get the maximum use out of the formats available in MagicPrint. Otherwise, many of your old commands will be ignored, such as the page break command.

There are many features that have been updated in revision 2.11 of the program, but one in particular is so spectacular that it requires special mention: **NOW you can set up multiple columns (2, 3, or 4) of text on a page with the mere insertion of a dot command!** Yes, let me repeat that: you can achieve multiple columns printed out by using a dot command. The symbol for columns is "k" and so one uses two dots and specifies how many columns are wanted and with how much space between them. If you want three columns with 5 spaces between each one, enter `..k3 5`. The program actually makes all the calculations for page length, number of lines in each column, etc. (Of course, you must have a printer that is capable of backspacing; Diablo-compatibles all are).

As mentioned above, the formatting commands are placed in the text you create with your word processing program. Formatting commands can be given at the time of print out as well. For example, you might decide at that point to see what your text looks like in two columns! Also, now, you can interrupt printing and call up formatting to make other changes. You can produce print outs with spaces (called windows) for pictures or graphics. (See Figure 2, p. 16.) To parrot a phrase from the manual, the possibilities are limited only by your imagination and good taste!

**SOME EXAMPLES OF WHAT YOU CAN DO WITH MAGIC PRINT**

**Superscript/Subscript**

The superscript and subscript gaps can be easily adjusted with one command.

Superscript<sup>1</sup>, Subscript<sub>2</sub>  
 Superscript<sup>1</sup>, Subscript<sub>2</sub>  
 Superscript<sup>1</sup>, Subscript<sub>2</sub>

**Kerning**

Another feature available in MagicSeries is known in typography as "kerning" or local pitch setting function which enables you to merge letters in words like "hors d'œuvre" or "onomatopœia".

**MagicSeries lets you talk to your printer.**

In Version 2.11 the "yank" command enables you to give instructions to the printer directly using its available command codes. Now you can access the extra characters on printwheels, change type fonts, or use multiple-level subscripts and superscripts. You can even draw fancy math formulae and scientific symbols.

$$M(N-X) = \frac{n-m}{x-y}(y+z)^2$$

**Alignment**

Suppose you want to print three lines across the bottom (or top) of your page and you want them aligned. The backlining command, combined with commands for left, right, or center is used to place the lines properly (of course, dot commands go in the extreme left margin, not as shown here for illustration purposes):

Left line  
`..blcl` (back up 1 line, go to center)  
 Center line  
`..blr` (back up 1 line, go to right)  
 Right line Will print as:

Left line                      Center Line                      Right line

**Figure 1**

There is complete flexibility provided for titling and page numbering. Single or multiple lines are possible and the various formatting commands can be used to place those items or give other print effects. Footnotes are easy to do and can be a part of the main text when there is no need for a different format, or they can be placed in a separate paragraph and given special formatting commands. I tried doing several footnotes with a document that ran several pages and found it easy to do, and the program handled the placing of footnotes on the page very nicely.

**MagicBind**

My tests of MagicBind were less extensive than those for MagicPrint. I tried a few form letters, labels, and automatic numbering and renumbering of some paragraphs from an already existing file. Everything worked fine. MagicBind also can do print time insertion of formatting commands, automatically produce footnotes, verify the accuracy of your data,

### Automatic Column Printing

The recently introduced MagicSeries version 2.11 can print up to four columns automatically with one simple dot command. With just a few more commands it can print any number of columns in various configurations. MagicSeries also allows the user to print a segment of the text in multiple columns, or carve out a space in the middle of a paragraph for adding graphs, tables, illustrations, or photographs.

Publishers of newsletters and other connoisseurs of column printing, to whose badgering this new feature can be attributed, will recognize the savings of time and money which it represents. Just turn on the column mode at the beginning of a

MagicSeries can leave space for illustrations or photographs!

block of text, indicate the number of columns you want the text to be printed in and the number of spaces that should appear between columns. At the end of the block turn off the column mode and resume typing; MagicSeries does the rest!

The text above was printed in two columns with a 25 space gap between them - perfect for graphs, illustrations, or photos. It takes MagicSeries approximately five seconds to figure out the column layout of a full page of text. The time lag is barely noticeable from the second page on, since the calculations are done while the printer prints the last line and moves the carriage over.

Figure 2

and provide you with the type of mailing labels you specify. If my "short" trials are any indication of the program's versatility, it will be "magic" for all you writers out there.

### MagicIndex

To test the index and table of contents functions in MagicIndex, I used files of past issues of the BAMDNA Newsletter. I was delighted with the outcome. I must confess it took me a little while to figure out how to enter the commands for doing an index and for doing a title. When the manual told me to use a `^Ai` (control-Ai), for example, I did just that and nothing happened! As is explained in the manual, and as most WordStar users already know, the correct procedure is to enter `^PA`, then remove your finger from control and enter `i` (or whatever). On the screen at the place in your text where you have done this (e.g., before and after a word marked for entry into the index), you will see those characters displayed as `^Ai` before and after the word.

MagicIndex is also full of special features. For example, the index can be sorted alphabetically, or reverse index can be used (last name, first name). Index entries can be made "as is" (as the word or phrase appears in the text) or with "see also" and other additions. Entries in the index are sorted for

duplication. And you can opt to edit the index, if desired. My experience with other similar programs is limited to DocuMate, which I like, but MagicIndex is superior to it in my opinion.

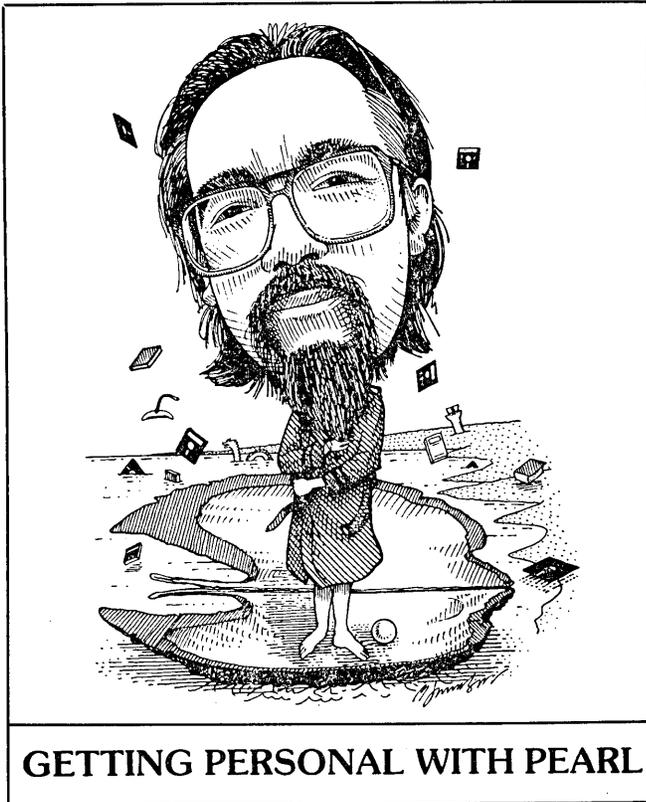
The commands for creating a table of contents are relatively quick to learn. The manual entry system is used when making a particular table of contents; otherwise, you can use the automatic numbering system where certain symbols are used to designate chapter and section numbers. When this system is used, the entries for a table of contents are extracted automatically. If you add new chapters, or modify the contents so that page numbering changes, renumbering of pages and entries in the table of contents is automatic.

### Assessment

It is not easy to describe all of the capabilities of this rich and complex series of programs, but I hope this overview gives you a good idea of them. The manual is well written and well organized. Each program is clearly described, instructions are good, and examples are provided. I would have liked a well constructed tutorial, but that is like asking for icing on your cake! Demonstrations of the various features are provided in "demo" programs on the program disk. There is a good section on the problems one might encounter and what to do. There is an excellent discussion about installing the program for your printer and clear instructions for ascertaining whether or not installation is necessary. I tried out the installation procedure after making some changes on my system that required it. (I changed the speed of transmission to my printer from 300 baud to 9600 baud). It was easy. There are also instructions for modifying the program. Furthermore, the writing in the manual reveals a sense of humor.

This is an expensive program if your use of it is limited to an occasional thank you letter. However, if you have bigger projects in mind, it is certainly competitive in price and features with other programs built to perform the same functions. In my opinion, it outstrips other programs limited to helping writers produce text complete with index and table of contents. Compared to the latter, it has the additional virtue of permitting many more formatting commands than is usually true of other programs and of producing a final product printed in proportional spacing--a truly impressive look! Not only do I think this is an excellent program for professional writers, but also I find myself about to make the rash suggestion that anyone who uses multiple columns very much should not spend another day without this program!

(NB: CES has added new features in its LaserJet version. In addition to features specific to laser jet printers (e.g., font selection, line drawing, etc.), others include typewriter mode, tabbing function, and the capacity to print odd or even numbered pages separately to facilitate two-side printing. Those latter features will be incorporated into the daisywheel version in a future release.)



## GETTING PERSONAL WITH PEARL

by Bruce Gowens

### Important Warning

DON'T USE Backfield version 1.30 on Pearl files! When this version splits a file over more than one floppy, Pearl will not be able to work with the reconstructed file. According to Tony Adams of Morrow Designs, version 1.31 of Backfield will work just fine. MOR will replace version 1.30 with version 1.31 for a \$5.00 handling charge--send your version 1.30 distribution disk and a check to MOR, Box 5487, Berkeley, CA 94705.

If you have Pearl files you can't access due to this problem, try these steps:

1. PIP the file from one drive to another and then back again. Use the file name on both sides of the equal sign, thus:

```
B:THEFILE.D00=A:THEFILE.D00[OV
```

2. Run File Maintenance # 7.

Thanks to Bill Steele for tipping us off to the problem.

### Problems on Hard Disks

As reported by Bill Steele (Mailbox, MOR, Vol, 2, #6), Pearl version 1.09 won't communicate properly with a Morrow hard disk. At press time Morrow Designs has entered Chapter 11, and the free upgrades to version 1.10 are at a standstill while the bank sorts

Bruce would like to see interesting Pearl applications, hear of problems, and know what you would like discussed in this column. Send mail c/o MOR, with SASE and phone if a reply is desired.

things out. We are attempting to arrange for MOR to do the replacements of version 1.09 with version 1.10 for those with this problem. If you send me a post card marked "1.09 to 1.10" I'll return a card to you when or if we can do this.

### Pearlsoft Update

Pearlsoft has signed an agreement with Ashton-Tate that looks good for Pearl. Pearlsoft will be a VAR (Value Added Retailer--a company that adds or combines items before sale) for Ashton-Tate's Framework. The deal also puts some cash into Pearlsoft.

Pearlsoft plans to expand their Pearl customer support, particularly for owners of Morrow and Osborne computers, since the parent companies are gone or in trouble. Details are not available at press time.

Personal Pearl will continue to be sold, and so I'm going to return to the project of writing a guide book to the program. (Is that cheering I hear?)

### Getting Rid of Excess Spaces

A frequent question: "How do I get rid of undesired spaces in a Pearl report?" There has been no easy answer, since Pearl can't do it, so I decided to solve the problem. (Also see the letter to the editor in this issue from Peter Campbell concerning using NewWord's merge-print facility.

My answer was to write the program NoSpaces. NoSpaces is in NOSPACES.LBR on FLOB/APR86 (see p. 36). Also in that library is a terminal installation program for NoSpaces (that you most likely will not need) and a hefty .DOC file.

The Pearl report is designed with { before any field that might have leading spaces (such as dollar amounts in a form letter), } after any field that might have trailing spaces (such as a first name), or a \ (back slash) for any line that should be deleted if there is nothing on it.

The report is sent to disk rather than printing directly from Pearl, then NoSpaces creates a file without the above symbols and unwanted spaces which can be printed with another program such as WordStar or even NuSweep.

NoSpaces can make a Pearl report into a neat form letter without MailMerge. Other tricks are made possible as well, such as using { and } to make otherwise identical data "different" when their field is a unique index.

I've made the documentation as complete as I could, including such tricks, so no more is needed here. In the future, NoSpaces will have print enhancements (underlining and the like) as well as direct printing while cleaning, but that version will not be public domain but will be released commercially. ☐

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## Morrow Users Disks

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New Low Price effective February 15, 1986

The following are full disks of software assembled specifically for Morrow CP/M 2.2 systems (some will not run under CP/M 3.0). Each program has a .DOC (documentation) file and many include source.

### Morrow Disk M1 Modem software

This disk is absolutely priceless if you will be using a modem to communicate with bulletin boards, other micros or mainframes.

**MMODEM:** Morrow version of MODEM 795. You can change your baud rate inside the program. Includes source and library so you can customize it if you wish.

**S.MODEM:** This is MODEM 7 setup for SMART-MODEM compatible modems. Handles autodial and autoanswer.

**SQ/USQ:** Programs to squeeze and unsqueeze files for faster transfer.

### Morrow Disk M2 Utilities

Really oodles of spiffy little (and big) programs to help you get full use of your Morrow.

**ZZSOURCE.COM:** A true Zilog format disassembler for 8080 and Z80 object (.COM) files. Now you can turn .COM files into .MAC files.

**UNERA.COM:** Simply enter "UNERA" followed by the name of the file you just erased and presto, the erased file is back! A lifesaver.

**FINDBDS4.COM:** Checks an entire disk, reports bad sectors, and then creates a special file containing those sectors. You save a bundle on disks.

**CAT2:** This is a group of programs which create and maintain a single directory of all the programs you have on all your disks. Even keeps track of which programs are backed up and which aren't.

**DUMPIX, DU-77, COMPARE, FORMFEED, DIR-DUMP, ...** and all have documentation on disk.

### Morrow Disk M3 Games

**PACMAN.COM:** Despite the Morrow's lack of graphics, this one looks and plays amazingly like the real thing! Keep it hidden.

**ZCHESS.COM:** Chess with a 1-6 level look ahead.

**OTHELLO.COM:** You learn it in minutes, master it in years.

**BIO.COM:** Generates custom graphic biorhythm.

**MM.COM:** Master Mind.

**WUMPUS.COM:** This is the famous 550 point super version of Adventure. There isn't room on one disk for this program and all the data files (the cave is huge) so the data files are on Disk M4.

### Morrow Disk M4 Adventure Data & Aliens

**ADVT.DAT:** This disk contains the data files for the 550 point Adventure (the latest, greatest, most cursed version ever devised by half-mortals). You must have both M3 and M4 to play Adventure.

**ALIENS:** This is the game that made arcades famous. Keep this one hidden from the younger set or you won't get to play Adventure.

### Morrow Disk M5 MX-80 Graphics

A complete Epson MX-80 graphics printer package including example files. Same as M6 except for MX-80 (or compatible) printers.

### Morrow Disk M6 Prowriter Graphics

This is a complete Prowriter printer graphics package written by the same Micro C subscriber who wrote the MX-80 graphics package. Plot points, lines, circles, boxes, and more. Examples, documentation, and more.

### Morrow Disk M7 Small C Version 2 Compiler

This is a greatly extended version of Ron Cain's Small C compiler. Version 2 has more expressions and larger library, true subset of Unix C. Disk contains compiler, documentation, and library — everything you need.

### Morrow Disk M8 Small C Version 2 Source

This disk contains the source (written in Small C) of the Small C version 2 compiler. Get M8 if you want to try extending the compiler. (You must have M7.)

### Morrow Disk M9 ZCPR

**ZCPR:** The big news on this disk is the self-installing version ZCPR available only from Micro C. Once you have ZCPR in your CP/M, you'll never go back to straight CP/M! For instance, ZCPR searches drive A for any program not found on drive B, so, even an empty disk in drive B appears to contain every program on A. It's great for text editors, compilers, etc. Plus many more new features to make CP/M easier to live with. In fact, Digital Research incorporated many features of ZCPR into CP/M 3.0

**EX14:** a super replacement for SUBMIT.

### Morrow Disk M10 Assemblers

We've received a lot of requests for a Z80 assembler. So Dana put in some long hours getting the Crowe Z80 assembler to run on the Morrow (and every other Z80 machine).

**CROWECPM:** This is a first class Z80 assembler. We use this assembler daily (and we included its source). Takes standard Zilog mnemonics.

**LASM:** This is a more powerful version of the ASM assembler you received with the Morrow. This will link multiple programs together at assembly time.

**PRINTPRN:** This program makes it easy to print the listing files generated by the Crowe assembler.

### Morrow Disk M11 Library & Checkbook Programs

**CHECKS:** This has been a very popular group of programs. Categorizes checks so you can keep track which are tax deductible and which get charged to which projects. Includes source and excellent example check files. Very powerful.

**LIBR:** This is a complete set of library routines which let you group files into a single file called a library. Then CP/M sees them as a single program, but with the library routines, you can list them out separately, run them separately, or divide them up again. Almost like a unix environment.

### Morrow Disk M12 Pascal Compiler

This is a real Pascal compiler. It supports only a subset of the language (no records, pointers, Booleans, reals or complex) but it generates a real .COM file. Everything is on this disk: the compiler, its source, example programs and documentations.

### Morrow Disk M13 Z80 Tools

This is for those of you who are into Z80 assembly language.

**XLATE.COM:** A very good 8080 to Z80 translation routine.

**DASM.COM:** An easier to use version of ZZSOURCE (the Z80 disassembler). This full disk includes source and documentation for both routines.

### Morrow Disk M14 Z80 Macro Assembler

This is a real Z80 macro assembler! Syntax, closely follows RMACK and MAC. Also includes pseudo ops to support conditional assembly, etc. No phase or relocatable code.

### Morrow Disk M15 Turbo Pascal Games I

We've combined eleven games on this disk using Turbo Pascal's "chain" procedure. Play BACCARAT, BLACKJACK, HORSEACE, KENO, and more without losing a penny. Source is included for all games.

### Morrow Disk M16 Turbo Pascal Games II

A variation of Yahtzee, a planetary lander game, a Wumpus hunt, a version of Life, and much more to keep you glued to your keyboard. Like M15, this disk uses the "chain" procedure of Turbo Pascal to combine the twelve games. All programs include source.

### Morrow Disk M17 Turbo Pascal Games III

If you like Turbo as much as we do and want to see more involved program examples, this is the disk for you.

**CRIBBAGE:** the time honored card game.

**DBLICK-V:** a great version of Breakout, even without graphics.

**ELIZA:** converse with your computer. Everything you need to create it's own perverse personality.

**GERMS:** two types of germs battle it out in this version of Life.

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## SOFTWARE REVIEW

**PRODUCT:** **PrintMaster**

**COMPANY:** Unison World, Inc.  
2150 Shattuck Ave.  
Berkeley, Ca. 94704

**FORMAT:** CP/M  
Others available

**REQUIRES:** 2 disk drives  
DSDD preferred  
Dot matrix printer  
(Star, Epson,  
Okidata)

**DISK SPACE:** 280K (Program  
and graphics)

**COST:** \$49.95

by Georgia Babladelis

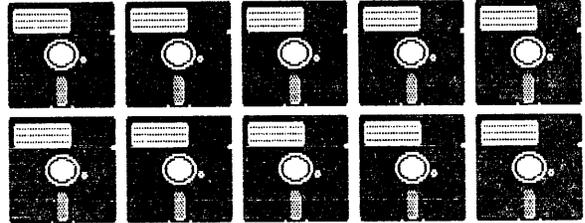
We all know that Morrow users have a reputation for being serious people using a serious computer. But does that mean we don't know how to play? Nonsense! Now Morrow owners can have a lot of fun. PrintMaster is a program that permits a great deal of playfulness--perhaps even while accomplishing serious work!



PrintMaster offers a collection of graphic images and symbols. By choosing size and arrangement, you can create your own pictorial products. You can make signs, posters, greeting cards, banners, stationery, calendars, and the like. Appropriately chosen graphics might decorate your office memo or report, or they might illustrate some important point that you are trying to get across. Since the graphics are independent of the screen, all you need is your computer and a dot matrix printer (usually any Epson, Gemini, or Okidata, and most Toshiba printers will work fine).

Georgia Babladelis is featured on page 6 of this issue as the MOR Author of the Bi-Month. PrintMaster was originally reviewed by her for the BAMDUA Newsletter and is revised here for MOR.

The full program comes to you on two disks and contains the PrintMaster command, a printing command, a set up for whichever printer you are using and an impressive collection of built in graphics and fonts. For example, there are eleven borders to choose from (see Software Review box in this article for a sample). There are 111 pre-designed graphics and eleven optional patterns for placing. You can use two different graphics in one creation if you like. (Although not available to CP/M users, there is also a Graphic Editor for PC-DOS users to create their own graphics and save them to disk.)



A compact, 62-page User's Guide introduces you to the program, describes how to make your own working copy, and how to do the set up for your printer. This material is followed by a simple tutorial that plunges you right into printing your own designs. The entire program is menu-driven, so that you make your selections each step of the way. The tutorial takes you through the steps, teaching you how to save and/or to print your design.

First, you decide what you want to do (e.g., a sign, card, or whatever) and then you are presented with the choices pertinent to that decision. If you use graphics, you can select the size and layout desired as well as the font (a choice of eight fonts is available) for your message. Since CP/M users cannot see the designs and fonts on screen, they are pictured in the manual for you to see and make your choices. Although the manual says to use your arrow keys to move the cursor to your choice, you may have to make an adaptation. I have the MDT20 terminal, so I used ^J, ^K, and ^L to move around.



That's all there is to it! Once all your selections are completed, you are ready to print out your design. Choose the print option from the menu (be sure your printer is on) and wait. A message on the screen tells you that PrintMaster is "thinking." After a minute or so, it tells you it is printing. The time it takes to print depends on the complexity of your design and the speed of your printer.

(continued)



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Frills are available. For an extra \$39.95, you can buy the Art Gallery Graphics Disk, an additional 150 built-in graphics. Colored paper and colored

ribbon are available. If you want some help, or just simply some tips, for creating "good" designs, you can get The Creative Printmaster by Kendra Bonnet (International Publishing and Computer Services, Inc., Berkeley, CA, 1985) for \$13.95. The book contains over 200 illustrations which show you the way various combinations of fonts and/or decisions about graphics placement will affect your final product.



All in all, PrintMaster is inexpensive, easy to use, and just plain fun! ■

# Software for the Morrow!!

## Alist \$39.95

A simple, easy to use database for generating and maintaining alphabetical lists. You can have up to 10 fields per record, with 254 characters per field. Alist is Wordstar-Mailmerge compatible and can sort on 1 to 64 different AND-OR conditions.

## Alist plus \$49.95

An enhanced version of ALIST, which allow arithmetic functioning on any fields. It has up to 40 data fields per record, and can sort in ascending or descending order. You are allowed greater flexibility in producing print—outs and reports.

## Math Fury - \$24.95

This program was written by Michael Roberts, a 10 year old computer whiz, to assist his sister in her mathematics drills. You are given addition, subtraction, multiplication and division problems within a 60 second period. The more problems you get right, the higher your score. This one is a must for any school aged kids.

## Game Disk \$49.95

You get the following games on one disk: Cribbage the pegged board game, Klondike solitaire, Pdice (poker dice), Dpoker (draw poker), Matcha matching game and VerTTT (Vertical tic-tac-toe).

## CalPlan \$29.95

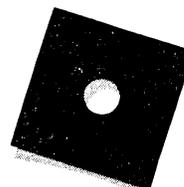
A calendar generator. Birthdays, anniversaries and special holidays can be included in the calendars along with the standard National, Christian and Jewish holidays. With CalPlan, you can design your own weekly schedule and create a daily planner to fit your needs.

## LabelMaster \$24.95

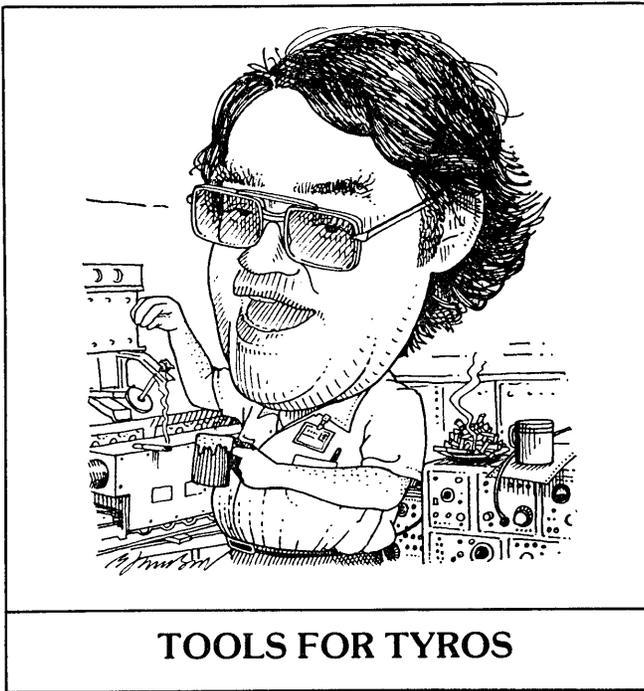
LabelMaster generates creative labels using all the fancy features of the EPSON printer. Mix high resolution graphics and text in your customized labels or forms. LabelMaster can even serialize your labels.

**Irata - Alist**  
**2562 E. Glade**  
**Mesa, Az. 85204**  
**(602) 892-0015**

Price includes disk, manual and shipping via UPS ground. Terms: Company or personal checks accepted, COD add \$2.50. Sorry no Visa or Mastercharge. Az. residents add 6%. Satisfaction guaranteed.



ALIST PLUS is also available in MS-DOS format.



## TOOLS FOR TYROS

by Mike Allen

Welcome to this first installment of a new column for beginners. This first column won't have much "meat" in it, since I'm going to give you my ideas on what should be in a column like this and see if it's what you want. If it ain't, I'll change it! I'm here to help you.

It seems that most of us run into the problem of just hooking up our shiny new computer and installing the software. That sentence just demonstrated another problem that many of us have; what does "installing the software" mean? Computer terminology can be cryptic and frustrating.

What I will try to do is lead you through your computer. We'll get it running, figure out what RAM, ROM and MODEM mean and try to avoid the common mistakes that almost everyone makes when starting out in computers. I'll attempt to explain all the parts that make up your computer system one at a time and then how they all tie together.

"Why," I hear someone saying, "should I listen to this clown?" A reasonable question. I am NOT a computer professional. I am, by vocation, an electrical engineer. I use computers in my job, but this is not my primary recommendation. The reason that I think I can help is that I've been there myself! When I first started "playing" with personal computers, there were not too many "helping hands" around so I made most of the mistakes that can be made. I remember most of them!

Soon after I started out, there was an article in Kilobaud Microcomputing (long since defunct) where the question was "But what can you do with it?" and the answer was "Do you ask a model railroader what he can do with his model trains?" Well, personal computers have come a long way since then. The answer nowadays is "Damn near anything you can imagine!" The thing to

remember is that the computer is a tool. It is there to be used. It is probably the most general-purpose, useful tool since the Swiss Army Knife. It's a typewriter and then some, a calculator, a file clerk, a scientific aide and many other things. Use your imagination. Just remember that a computer is stupid. It tries to do exactly what it is told to do. It cannot "think." It is not alive. (There are times when you might be tempted to think that it is possessed of evil spirits!)

Some of you are probably wondering if you've purchased an obsolete machine. The answer is yes and no. The newer 16-bit (another buzz word!) machines are certainly more powerful than our poor MDs. The point to consider is that 95% of us will never need or use that extra power. For what we want to do, the MDs are just fine and cost one hell of a lot less! Don't be fooled by the "Big Blue" hype.

There are many places you can try to get help. I'll try to list them and give you my opinion on how much luck you'll have. Obviously there will be exceptions.

**DEALERS:** There are really two types of dealers--mail order and walk-in. If you purchased from a mail order outfit, you probably did it for price. The reason these places are cheap is that they deal in high volume and have low overhead. Low overhead means minimal staff. Don't count on much help from these places. You might have better luck from a walk-in type store with a show room. I wouldn't count on it. It has been my experience that most of the people working in these places are rejected used car salesmen!

**SUPPLIERS:** These are the people who actually built your machine or produced your software. With computer manufacturers there seems to be a catch-22. They'll tell you to see your dealer. I've told you what I think about dealers! The software people seem to be a little better. Perhaps it is because the software is always evolving and they have an interest in knowing what's going on. Still, you'll get a lot of "see your dealer" answers.

**BOOKS AND MAGAZINES:** A good source of information although you'll probably have to do a bunch of looking to find what you want on the level you want. MOR is a good source of information for Morrow users. Other magazines run the gamut from kindergarten to professional. Buy a few different issues. BYTE is big and thick, has lots of ads and does lots of product reviews. It is getting bit by the "Big Blue" bug. It's worth an issue to see if you want to go up or down from there. Books are a different matter. You'll probably have to spend several hours at the local book store to find what you want. Don't let them sell you something you don't need. Computer books are not cheap.

**USERS' GROUPS AND CLUBS:** Probably your best source of help. The problem may be finding one. Check the bulletin boards at the local computer stores. Ask the

salespeople. Quite often a local store will sponsor a club or users' group. Many users' groups will also have a newsletter that can have lots of good information in it.

"GURUS:" The term "guru" has been adapted by the computer community to mean a guy who knows about all there is to know about some facet of computing. They can normally be found at users' groups, clubs, computer stores and universities (and often high schools). Just be sure that you've got an honest-to-goodness guru and not just someone who thinks he is one!

ME: Well, I don't fall into the guru category, but I'll do my best. If I don't know the answer, I'll try to find it. My promise to you is no bull. I have no problem saying "I don't know!" If you have a question, just write me. (1016A Charing Martin Ct., Baltimore, MD 21229) I do ask that you enclose a Self-Addressed, Stamped Envelope (SASE) with your questions. If your question is one of particular interest, I'll include it in a column.

Next issue we'll start up for real. We'll figure out what the different parts and pieces are that we have, how to hook them up and then turn it on for the first time. Hopefully, I'll have some good questions to answer, so write!

Question: What is a "distribution diskette" and what is so special about it?

Answer: A distribution diskette is a disk that was supplied by either the hardware or software manufacturer. It'll probably have some nice label on it. Don't use your distribution diskette for day-to-day use. It's your master copy of whatever was supplied on it. If it gets erased, you may be out a program that you really wanted! Before you even put it in the machine to copy, write protect it. If you look in your MicroDecision User's Guide (Paragraph 2.8, page 14 in the issue I have), it will tell you how to write protect a disk.

Hint of the Bi-Month: The best way to learn about your computer is to "play" with it. This can even be a family activity. It's almost impossible to damage the machine itself and as long as you don't use your distribution diskettes, the worst that can happen is that you scramble up a disk. So play with copies! One warning: Don't let yourself get frustrated. If you feel like you're losing control, stop. Go drink a beer, watch television, make love to someone or read a (non-computer) book. If you let yourself get frustrated, you'll end up hating the computer. Then you'll have wasted your investment and won't get the benefits and fun a computer can bring. ■

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## SOFTWARE REVIEW

<b>PACKAGE:</b>	<b>WordFinder</b> (Synonym Finder)
<b>VERSION TESTED:</b>	WordStar CP/M version
<b>NOTE:</b>	Word Finder does <u>not</u> work with NewWord
<b>AUTHOR:</b>	Writing Consultants
<b>MANUFACTURER:</b>	Writing Consultants, 300 Main Street East Rochester, NY 14445 (716) 377-0130
<b>DISK SPACE:</b>	WS.Com increased to 24K Synonym file 90K or 154K
<b>PRICE:</b>	\$79.95 + \$2.50 S & H Discounts available for Users Groups and volume buyers

by Jesse F. Adams

Fascinated by words, though not so good at "language," and convinced by the word processor that I am--or might be--a writer, I was interested in thesaurus programs. The Random House thesaurus from Digital Marketing requires more disk space than available on a SSDD system. [It also doesn't seem to work on Morrrows, according to one of our reviewers.]

Word Finder seemed to offer an alternative. The price was not unreasonable, and availability for WordStar in Morrow made it impossible to resist. (Word Finder does not work with NewWord, although it is configured for a number of other word processing programs.)

The product came promptly and consisted of a six-page set of easy to follow instructions and two SSDD disks. One disk contained the patch program for WordStar and a 90K thesaurus. The other contained a 154K thesaurus, the difference being whether you wish to put the smaller thesaurus on the same disk as WordStar or use it separately, as with Correct-It, on another drive. According to the documentation, the 90K condensation contains about 70% of the synonyms in the 154K version. By making a new disk containing only WS.COM (or WSSF.COM), and the two overlays needed to run WordStar, there is room on a SSDD disk for the shorter word list. A DSDD system would have space for WordStar plus the longer thesaurus. You are given the choice of drive to hold the thesaurus; my own preference is to keep CORRECT-IT with WordStar on drive A, the 154K thesaurus on virtual drive C, and my text file disks on drive B.

Jesse Adams, retired Navy surgeon, uses an MD3. WordStar is his most used program. Sailing and ham radio afford relief from the frustration of trying to learn programming languages and the steady arrival of rejection slips in response to attempts at fiction.

The initiating command, WS.COM, is changed by the patch program to WSSF.COM (or anything else you prefer). All other WordStar options remain and, unless you want the Word Finder function, you never know it's there. In composing or editing your opus, when you wonder what options there may be to "happy" or "glad," simply place the cursor at the word for which you want a synonym, press the ESC key twice and you can choose from "happy, glad, joyous, cheerful, cheery," etc. displayed at the top of the screen. Place the cursor under the synonym selected and press RETURN and the new word is substituted in your text. If none of the offered synonyms strikes your fancy, press ESC once more and you are returned to your place in the text being edited.

In the event you have elected to use the 154K version on virtual Drive C, upon pressing ESC twice, you will be directed to change disks and press RETURN to see the choice of synonyms. Since the WordStar editor remains in memory, pressing ESC once to leave the thesaurus returns you to WordStar editing without the need for changing disks and the thesaurus remains in the virtual drive for subsequent call-up. If you wish to switch text around or save your text file with WordStar's control-K operations, Drive A will be reasserted and you'll be directed to exchange disks again.

If you fool around too much, changing margins and such, or using the R command to run other programs from WordStar for example, you may find that upon returning to WordStar, the Word Finder program isn't available and you'll have to save your text, exit WordStar, and then reinitialize using WSSF.COM to get back to it.

Aside from the above kinks, Word Finder has some limitations: Only the first few letters of the word for which you want a substitute are used to select the alternative. This results in irrelevancy if your word isn't included among the 9,000 of the synonym program. The choice of what words to include, apparently, was left to a couple of academicians whose preference may not coincide with yours and who were concerned that this is a "family-type" program; no anatomical words seem to have been included. Despite the obvious necessity for compromise in reducing the choice from hundreds of thousands--maybe millions--of words to what can be put on a single disk, the program is fairly successful. Writing Consultants solicits additional words for a later edition.

I do not know what language is used for compilation of the program. It isn't stored in ASCII and additions in an auxiliary file, as you're accustomed to in Correct-It, aren't possible for the end-user.

As with Roget's thesaurus, many so-called synonyms are not the exact equivalent of a given word, and if your vocabulary is extensive, you may find yourself making only infrequent use of either the program or Roget. Still, for those times we all know when, under stress, the mind goes temporarily blank, this program can be most useful. ☐



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MENDOCINO SOFTWARE		
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MICROSOFT		
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MICROSOLUTIONS		
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## Supplies

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Dysan DSDD MD3, 5, 11 disks	10/box	\$ 37.00
Screen Smarts, Tamer's Guide		\$ 15.95 \$ 9.95

Prices, specifications, and offers subject to change without notice.

# Do You Wish Writing Were Easier?

If you need to write, or want to write clearly, your Morrow and the software program **Punctuation and Style** can help you get there faster. It improves, clarifies, and enriches your writing by identifying sentences with misused, redundant, faulty, cliched, or erroneous phrases, and shows you how to improve them. It helps you rewrite and check your work by quickly marking and annotating your files for easy correction. In addition to computer-fast identification of awkward, muddled, pompous, and wordy sentence structure, it also finds missing or improper punctuation, unbalanced quotes, wrong abbreviations, faulty capitalizations, and much more. **Punctuation and Style** actually improves your writing by mercilessly pointing out grammatical errors. After a few weeks with Oasis System's **Punctuation and Style** your writing is bound to become more dynamic, expressive, and honest. In time, you'll stop worrying about grammar and work on projecting ideas instead. After all, that's what writing is about.

**Punctuation and Style** makes writing and rewriting much easier. The list price of **Punctuation and Style** is \$125. Central's price is \$95. Experience the power of this valuable "Punctuation Checking and Writing Improvement Software" yourself. Order today to get this program fast.

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## SmartKey II Plus Combo

— Includes SmartPrint II Plus and Screen Smarts  
Get ready for real computing power! **SmartKey II Plus** saves you thousands of keystrokes. This powerful utility was chosen by Morrow to be bundled with its computers. Why? Simple. It's the best product of its kind. It doesn't interfere with the regular function of your keyboard. Once you've tried it, computing will never be the same. Lets you save complex command codes, boilerplate paragraphs, inventory numbers, or whatever, and inject any of them into your work with one keystroke. In a review of **SmartKey II**, Stan Ahalt, MOR critic states, "This is probably the most useful software I have ever seen." Tens of thousands agree.

Central's super low priced \$49 pak includes a free copy of **SmartPrint**, a program that enhances the operation of dot matrix printers, and a free copy of Paul Golding's \$15.95 book, **Screen Smarts, The Computer Tamer's Guide**. This book tells how you can use **SmartKey II Plus** to turn your computer into a supercharged mean machine. Please don't delay, this offer may not be repeated. Save time and money. Order today to get this hard hitting software & book combination for \$49.

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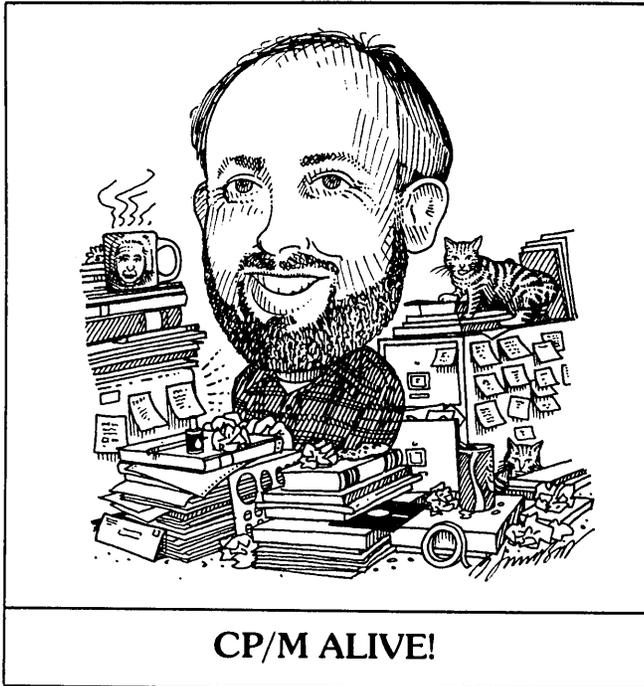
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by Ken Grymala

I'm very pleased to be writing a regular column for the Morrow Owners. In our small office we have an MD2 and an MD11 that are used for everything from engineering predictions and wordprocessing, to printing cable labels and jamming all the TVs in the house. We've learned a lot about computers from our Morrows, and I hope to share some of it with you.

In the months to come I hope to have columns on a broad range of topics relating to CP/M 2.2, CP/M 3.0, new CP/M products, old CP/M products, maintenance, simple but useful theory, and general tips and techniques. I'll try to cover things in this column that don't seem to get printed anywhere else.

I welcome questions, comments, and criticisms that may be topics for future columns. You may write to me at P.O. Box 2540, Manassas, VA 22110. (Unfortunately, my schedule will not permit me to personally answer your questions. And please, no phone calls.)

This month I'll be telling you how to use dBase II with other databases that you may have or need.

#### Teaching dBase II to read foreign files!

From calls and letters I've received in my business, I know that a lot of Morrow owners have adopted dBase II as their main data base program. Many of these same users started out using a different database, such as Personal Pearl, and must still rely on it for certain functions because they don't know how to convert the old database files into dBase II files. If you're one of these people, read on. It's simple to make the conversion.

There are several types of data structures used with databases other than dBase II. One of the most

common structures is one that allocates a fixed number of spaces for each field (title), and then ends each record with a line feed or a carriage return and a line feed. Many common databases, such as the public domain database PC File use this structure. Personal Pearl can produce a data structure like this.

Mailmerge, and many BASIC database programs use a "delimited" structure. That is, the fields are "delimited" with a comma and/or with single quotation marks.

To determine what type of data structure you are working with, use the non-document mode of NewWord or WordStar to view the database.

If the data falls in neat vertical columns then it is a fixed data file, or as dBase calls it, a System Data File.

If each of the data fields is separated with a comma, and/or quotation marks, you have a delimited database.

If all you see is garbage on the screen, you will have to do one more step of conversion before dBase II can work with it. Personal Pearl falls into this category.

Personal Pearl data bases are not directly transferrable into a dBase II file. If you want to transfer a Personal Pearl database file into a dBase II file, make sure you used Pearl Design Report (PEARLDR) to design a "list" type report that will provide all of the necessary fields that you need. Load the Pearl Produce Reports (PEARLPR) program and when it asks you for the FILE NAME, enter the disk drive you wish to write to, the name of your new file, and the extension ".DAT." An example would be B:NAME.DAT. This will produce a file that can be read with Wordstar or NewWord. For more information on this subject refer to "Print Details" and "Disk File Output" in your Pearl General Reference manual.

Using NewWord or WordStar in the non-document mode (N), edit out the header and any footer information that Pearl may have included in your report. Then carefully count and write down the number of spaces devoted to each field. This counting should include the blanks between fields. Close the file and you are ready to convert it to a dBase II file.

If you started with a PC File database or other database that was already in a fixed format, all you need to do is get into dBase II and "create" a data base structure that matches the data you are about to import. Enter dBase II and carefully create a dBase II database structure that has exactly as many fields and spaces as the database you are about to import. If, as in the case of a Pearl Report, you have lots of space between fields, you can import the spaces by naming them as groups of blanks such as "BLANK1," "BLANK2," etc. These may then be later eliminated in dBase II.

Once you have defined the structure, and dBase asks you if you "Want to Enter Data Now?", answer "N" for no.

If you started with a "delimited" data base, i.e., the information in your data base file is separated by commas or single quotation marks, the procedure for converting it will be similar to the one described above. If you have Mailmerge files, or if you have been using one of the public domain disk cataloging programs such as YANC, your database will be of this type. Begin by "creating" a dBase II structure with as many fields (titles) as your database has. Make each field the same width as the ones you are planning on importing.

Now if you had a fixed type database, enter:

```
append B:NAME.DAT sdf
```

If you had a delimited type database that used commas and/or quotation marks, enter:

```
append from B:NAME.DAT delimited
```

In either case, dBase II will read the data from the file "NAME.DAT" on disk B. The "SDF" tells dBase II that the database is in a fixed format, and the "delimited" tells dBase II that the data base is separated by commas and/or quotation marks, and that either case should be converted to dBase II format. As dBase II imports and converts the data, it will tell you how many records it has loaded, and it will tell you when it is done. Now all you have to do is check it. The easiest way to check it is to use the "Edit" function. Using Edit, ensure that the data fits into each field as it should. If it doesn't, use the "Modify Structure" command to change the size of the affected fields.

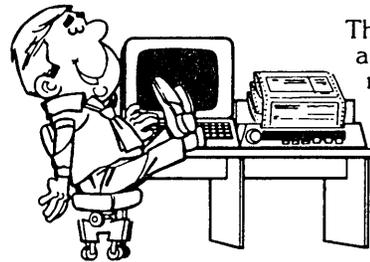
You can also use the reverse procedure to produce fixed databases or delimited databases from dBase II files. Just substitute the "append" command with a "copy" command. Unfortunately, most other databases use a variety of indexing or other special formatting that does not allow the easy importation of data. PC File can import data, but it's a complex process. I've never found a way to get foreign data into Personal Pearl.

Happy Computing. ■

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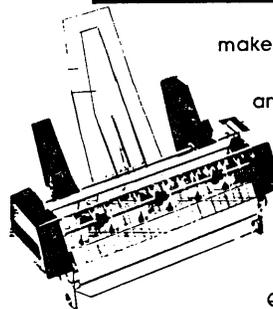
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## SOFTWARE REVIEW

**PACKAGE:**

### Writer's Pack Footnote Bibliography Number

**AUTHOR:**

Pro/Tem Software, Inc.

**MANUFACTURER:**Pro/Tem Software, Inc.  
814 Tolman Drive  
Stanford, CA 94305  
(415) 947-1000  
1-800-826-2222  
(415) 938-0115 (In Calif.)**PRICE:**\$199 for the package;  
\$99 for individual programs**PROGRAM:**

### Footnote

**VERSION TESTED:**

4.1

**DISK SPACE:**FN.COM -- 42K  
OPTIONS.FN -- 2K  
PAIR.COM -- 24K

by Donald Jenner

When I got my MD2 a few years ago, I knew I'd be doing academic writing among other things. I wanted WordStar, as I expected that to be a more comfortable word processing program for paper-oriented (as opposed to screen-oriented) text. But I envied the Final Word and Perfect Writer users their ability to enter and manipulate footnotes. Doing this with WS meant buying an add-on program from a third party, for more money than I could readily afford for fripperies. The program, FOOTNOTE, is still on the market, and now for something like 40% of the past price.

### Program Description

FOOTNOTE proper is intended to accomplish two chores for the writer of serious non-fiction prose. It allows for the preparation of foot- or endnotes either in a separate note file or within the text as one goes along, and it formats the final product, merging numbered notes into a WS document file at page- bottoms, appropriately marked so that the file is ready to print.

PAIR, a utility included with FOOTNOTE, checks to see that quotes, parentheses, brackets and commands for underlining and bolding are properly terminated. This is especially useful if you're working on WordStar rather than NewWord--and if you have short-term memory loss.

Don Jenner is a university teacher of philosophy in the Greater New York area, an avid computerist who occasionally consults on the use of microcomputers in small business and not-for-profit organizations, and does applications programming for MIS.

FOOTNOTE uses WS dot and embedded control characters ("Px" sequences) to effect its procedures. This can present problems, as we shall see; at the same time, it does mean that the resulting file can be edited in usual WS fashion, then reprocessed--a convenience if being finished with a project does not preclude major revisions.

FOOTNOTE is simple to use. You enter your text as usual, adding a @ where a footnote should occur. At the end of a paragraph or some other natural spot, insert a line and ^R, then write in the notes, each also beginning with a @. At the end of the notes, enter another line and then .pa, the WS dot command for page break. In the event a cross-reference to another note is required, simply enter ^PW at the appropriate spot in the note, and FOOTNOTE will insert the right number during the formatting process.

Since FOOTNOTE uses .pa and is also sensitive to the conditional page break command, .cp, enter ..pa and ..cp respectively to get their usual WS function. FOOTNOTE will correctly interpret these "commented out" dot commands when it formats the text file. FOOTNOTE also correctly interprets spacing between lines controlled with the ^OS sequence, or accomplished with the .lh command.

An option is available with FOOTNOTE for preparing a separate file of notes to be inserted into a text file. However, I didn't check this--and for a simple enough reason. No one in his right mind would want to do such a thing, except perhaps to "retrofit" an old text. You want to enter footnotes as you go along, to be sure you don't omit a note--which inevitably happens in the use of a separate file. (This was the problem with footnoting on typewriters--the list of notes on the yellow pad never quite matched.) FOOTNOTE allows the preferred procedure of entering notes as you go along.

Having created your text, you invoke FOOTNOTE, either from within WS (the R [Run] a program option from the No-File menu) or from the CP/M prompt. The program is menu-driven and allows easy selection of the program's steps. Step 1 substitutes numbers for the @'s; step 2 then formats the file, putting the notes at page-bottom, inserting superscript codes, and otherwise marking the text for correct printing. The program executes with acceptable speed, sufficiently so that my own test passage of a couple pages was successfully processed in a couple minutes.

### Some Problems with FOOTNOTE

FOOTNOTE uses several WS commands--notably the ribbon-color control (^PY) and three of the four user-installable controls (^PR, ^PW, and ^PE), as well as the dot-commands noted above. This can prove troublesome, if you have installed these commands to control printer functions, as I have. (I have a Toshiba P1340 and a Gemini 10X; I have very complex WS installations for these dot-matrix printers, using the ribbon-control toggle to control underlining, and the user areas to send other print-enhancement controls.)

FOOTNOTE has a menu option for changing the control characters to be embedded, but you have to be careful in making these changes. For example, if you elect to substitute ^PJ or ^PL for one of the standard items, the embedded ^J and ^L will be interpreted by WS as a linefeed and a paging command, respectively.

Similarly, the more natural line-spacing control for WS users having Mailmerge is the .ls command; this permits the input of single-spaced text which is then printed out double-spaced. FOOTNOTE permits the same result through the use of the .lh command, but to use this instruction, the FOOTNOTE default page-length parameter has to be altered accordingly. Another Mailmerge command useful in writing is the .fi command, which permits a writer to merge into a single printing routine a series of text chunks kept short for manageability. This would appear to be beyond FOOTNOTE's capability; formatting would be hopelessly screwed up.

### Conclusions

FOOTNOTE appears to be as advertised, a reasonably easy-to-use, robust program for processing footnotes and endnotes in WS-type document files. It is clearly documented, with numerous illustrations and a tutorial which should make it fairly easy for even a tyro to get to the point of easily producing polished papers and books with footnotes. Care has been taken to document common--and even special--problems, and to provide procedures for circumventing them; that is a good sign of solid software design. ■

PROGRAM:	<b>Bibliography</b>
VERSION TESTED:	1.62
DISK SPACE:	84K

by Susan Parks

The manual for BIBLIOGRAPHY calls it a "research and writing assistant for the scholar and professional." While this is certainly true, BIBLIOGRAPHY is also an important program for anyone who writes and/or researches. If you need to compile bibliographies, this program is for you.

Even though we've had BIBLIOGRAPHY for a very short time, it has already been used with several "projects" on our MD3. My eleven year old son used it, with some prompting the first time through, for a school paper. (Better that we try it first on his paper than my dissertation!) I have set up two library files for the family genealogy project--to be

Susan Parks, an elementary school principal in Simi Valley, California uses her MD3 for working on her dissertation--when she's not getting sidetracked by all the other uses she puts it to: family medical/insurance records, recipes, genealogy, paying bills and the kids' allowance tab, writing newsletters, correspondence, journal articles, etc.

## FTNOTE: THE PD ALTERNATIVE

by Donald Jenner

After comparing the commercial program FOOTNOTE with FTNOTE, the public domain program by Eric Meyer, I think I end up preferring FTNOTE. It is smaller (18k as opposed to 42K + 2K), which means I can put it on the same SSDD disk as my two WS installations and all my other writing tools. It produces a nicely formatted file. It has some nifty little options not available in the commercial program. Most important, it doesn't interfere with my highly personalized WS installation.

FTNOTE (which I have renamed FTN.COM on my working disk) allows the input of markers and notes in the text as one goes along, as well as the creation of a separate note file. Markers are delimited with any pair of characters of the user's choice--the natural one being the WS superscript code--and consist of two or three pound signs (#). At the end of the paragraph, after a hard carriage return, one enters one's notes, preceded by another set of delimited pound signs--I use a blank and a period as delimiters here. When finished with the file, I run FTN from the NO MENU run option, first extracting the notes, then formatting the file with the notes either numbered as endnotes or inserted and numbered as footnotes.

FTNOTE will correctly split even very long notes (not a strength of FOOTNOTE), carrying over the remainder to the next page. It will also print footnotes in an alternative type face (text in pica, notes in elite, e. g.). The formatted result is an ASCII file, not a WS-type doc file, but it is a simple matter to have FTNOTE reinsert the notes in the doc file, and have a standard WS file for purposes of revision.

FTNOTE also provides some useful Mailmerge-type commands. It independently recognizes the .fi command, and will take the .DOC and .NOT files from a series of smaller text chunks and produce a formatted version of the whole. The Mailmerge command .ls is also recognized and implemented (independent of having Mailmerge) by FTNOTE at formatting time. Other dot commands, including .pl, .pa and .cp, all work per WS specification. A couple of FTNOTE-specific dot commands are also included, the most useful of which allows the allocation of space for a figure adjacent to the relevant text--a boon for all those social scientists who insist on sticking in a graph here and there.

FTNOTE documentation is quite adequate, clear and easy to understand. The program is fast and not complex, and admits of limited modification. It does the same job as does FOOTNOTE; in fact, for my uses, it does it better.

used when sending information containing citations to relatives and other correspondents. And my dissertation, currently in progress, now has an updated library file with a "perfect" bibliography.

BIBLIOGRAPHY is designed to be used with most word processors and comes ready-to-run with WordStar. The program compares citations in a text with entries in one or more master library files that you create. Any number of entries can be stored in one library.

To prepare a bibliography, you must do three things--build a library, prepare the text citations, and run the program.

### Building a Library

In order to construct a bibliography, you first build a "library" of the materials used during your research. Each entry in the library is constructed of "fields" which store the required information. You can construct your own library according to your own requirements. The following example is one set of fields shown in the manual:

```
%Key:
%Author:
%Title:
%Publisher:
%Annotation:
%
```

Every library entry must begin with **%Key:** and end with **%**. **%Key** is matched with the citations you've indicated in your manuscript to generate the entry in the bibliography. You may determine the names and order of the other fields, for a total of nine fields.

For example, it might be helpful to have a field labeled **%Location:** to record where this reference can be found should you need it again. I also use a field labeled **%Call:** in which I list the library call number of the references used. For family tree research, I have included a field for **%Surnames:**. Then, by using the **^QF** (find) command in WordStar, I can find and retrieve material related to a particular surname.

The manual gives a suggestion well-worth taking. Create a template file (TEMPLATE.LIB) of blanks of your required fields. Then when you want to create a library, open a file and use **^KR** to read the template file into the library file. Mine are as follows:

SCHOOL PROJECT	DISSERTATION	FAMILY TREE
%Key:	%Key	%Key:
%Author:	%Author:	%Author:
%Title:	%Title:	%Title:
%Publisher:	%Publisher:	%Publisher:
%Copyright:	%Location:	%Location:
%Type:	%Call:	%Surnames:
%	%Annotation:	%Annotation:
	%	%

In constructing a final bibliography, you may include or omit any of the fields in the final output. This allows you to use the information stored in the library while allowing the creation of a final bibliography that meets exacting specifications.

A library can have as many entries as disk space allows. The only limit to the program is that one of the functions, SORTLIB, can only alphabetize 900 entries in one library in a 64K system; with a 128K system, a maximum of 1200 entries can be sorted in one library.

It is best to add to the library as you work and to add the entries in the style that is required for your bibliography. For example, most universities require use of a particular style manual. In my case, titles must be underlined so my **%Title:** entries in the library file are enclosed with **^PS** (underline).

```
%Title:^SComputer Keyboarding^S
```

When printed, my bibliography is underlined exactly where required. The boldface command, **^PB** may be used, also.

### Preparing Text Citations

The second stage is preparation of the citations in your text, e.g., (%Dunn, 1982). The manual gives good instructions and clear examples. Each citation is preceded by a **%** and ended by one of these four characters: **%) : ; .** If your text is already drafted, you will need to go through it and add the proper characters. If you miss one, BIBLIOGRAPHY will put it in a CANTFIND.BIB file for review. The simplest method is to flag each citation as you write.

### Running BIBLIOGRAPHY

When you run BIBLIOGRAPHY, it first displays the current settings. Nine types of settings are displayed. Press a number and the options for that setting appear. For example, setting #2 is **Bib:**, with options:

- 1: Do not construct bibliography file
- 2: Author, Title, etc. on separate lines
3. Bib entry concatenated: remove LF's
4. Bib entry concatenated: LF's->spaces

My son used option #2 for the bibliography in his school report; my dissertation requires the #3 concatenated format. (All settings and options are clearly illustrated in the manual.) For example, I have a library entry which I have customized for my own purposes:

```
%Key:Rolle, 1963
%Author:Rolle, Andrew F.
%Book:California, A History
%Publ:New York: Thomas Crowell Company. 1963
%Annot:Good source for other ref. materials(125)
%Surname:Carrillo, Anastasio; T. Robbins and his
ship; de la Guerra, Castro;
%Loc:home
%
```

Omitting several fields and using option 2 gives me the bibliographical format, listing the fields on separate lines:

Rolle, Andrew F.  
California, A History  
New York: Thomas Crowell Company. 1963

(The %Key name is omitted automatically unless you change the default.) Using option 3 would give me the concatenated form:

Rolle, Andrew F. California, A History. New York: Thomas Crowell Company. 1963.

One of the strengths of BIBLIOGRAPHY is the flexibility allowed in preparing a bibliography. The % can automatically be removed from the text, the text citations can be replaced with a reference number, the bibliography can be arranged alphabetically or in the order the cites appear. Fields can be omitted from the bibliography (annotations are often omitted), the author's name can be written as it appears in your library or with the last name capitalized.

Based on my review of several style manuals, BIBLIOGRAPHY appears to allow well for different style requirements. This is an important feature, as one master library can then serve for different manuscripts. For example, a dissertation requires one style; an article written from that work might require a different format, depending on the journal.

#### Program Set-Up

The manual recommends putting all of the program files onto your word processing disk, space permitting. After experimenting, I ended up making a special word processing disk, without Correct-It and other utilities, for WordStar and Bibliography together. I use my full word processing disk when editing text, then switch system disks when it's time to compile a bibliography.

#### Additional Features

In addition to the basic program features, the MERGEBIB program allows the merging of up to three bibliographies at a time. This feature allows for references at the end of each chapter and the compiling of an overall bibliography for the end of the manuscript. For more than three bibliographies, you can combine in groups of three and then combine the newly created bibliographies. One drawback is that if a reference was listed in more than one library, it is possible to have duplicate entries which you must delete yourself.

LISTKEYS enables the user to create a list of key names with dates, providing a quick review of sources. SORTLIB alphabetizes a library file. The library files can be left in the order originally entered or stored in alphabetical order using SORTLIB.

Overall, I would recommend BIBLIOGRAPHY for writers at all levels. The user's manual is outstanding for its clarity, the program both for its versatility and the easy-to-use menus and prompts. A beginner can use BIBLIOGRAPHY from the menus; a more advanced user can work through system commands. ■

<b>PROGRAM:</b>	<b>Number</b>
<b>VERSION TESTED:</b>	2.01
<b>DISK SPACE:</b>	48K

by Susan Parks

NUMBER is a nifty program that does just what it says it does--it numbers! It does so easily, quickly and with versatility. NUMBER numbers paragraphs, lines or other items in a text file. You, as the writer, flag or mark where you want something numbered; upon running the program, the markers are replaced with consecutive numbers.

NUMBER allows a variety of number and punctuation options. It numbers in seven styles: Arabic numerals, letters, Roman numerals, cardinal numbers, ordinal numbers, outline style and a multi-decimal style. Letters, cardinal and ordinal numbers have upper case and lower case options, as well. NUMBER will number arabic numerals up to 500, roman numerals up to CCCXCIX (399), cardinal and ordinal numbers up to 99, and letters up to the fifth set ("aaaaa, bbbbbb"). This gives the outline and multi-decimal styles tremendous range.

Numbering can be enclosed in parentheses or brackets or ended with a period, colon or close parenthesis. No punctuation is also an option. This creates a wide variety of possibilities. You should be able to find a format that will meet your requirements.

This program comes "ready-to-use" with word processor programs such as WordStar, a plus for Morrow owners. The program can be run through the self-explanatory options menu or directly from the text file whereby numbering and punctuation options can be placed in the text on non-printing lines. This is a handy feature as you will always be able to review your selections as you review the text.

NUMBER has several other features that enhance the program, one is particularly worth mentioning--the cross-referencing function. In documents and other kinds of text, it is common for reference to be made to a preceding or following section. For example, "Refer to section 2.1.3" or "See paragraph 6 below." These references to numbered sections can be flagged with a character that enables the program to change those numbers as the text is re-numbered during editing.

You might ask, who needs NUMBER? Let me give you two real-life examples, one personal and one professional. I am currently working on my doctoral

## HINTS FOR NUMBER USERS

by Susan Parks

1. Run the program from the R option in WordStar (run a program). Then you won't have to change the logged drive or leave WordStar to run the program.
2. Remember to leave at least one space after the flag for the number. This is important when it is time to final edit your draft. Removing the control characters is easy, but if there is no space between that character and the next word, the word is removed along with it.
3. NUMBER is good for lists. Don't number as you go, use the control character. That way you can change your order, deleting or adding items. Use NUMBER to number it; save yourself the trouble of numbering and re-numbering.
4. NUMBER allows special print features such as bold face and underline to be included in the options for printing the numbers.
5. You can place the commands for number style and punctuation right in the text. You will need to use the Options Menu first. Option C tells NUMBER to either get the settings from the textfile or from the options menu.
6. If you have the settings in the textfile and Option C is set to get them from textfile, you can give the command from the A> and bypass the menu. Just give the command A>NUMBER, and it will ask for the file to be checked. You can use the virtual drive (C:), but you would usually have the textfile in the B:drive.
7. Cross-references in the text must be preceded with an asterisk \*. If \*'s are needed for use in your text, a menu option allows you to reset the number symbol, replace symbol, and reference symbol.
8. NUMBER gives you the option of starting with any number needed, except with the outline option. This is most useful when you have a long document broken into sections in separate textfiles.
9. When using the outline feature, you must do your own indenting. However, the program will tell you when you have an error in level.
10. When the program is run, the new numbered file assumes the name of your original file; the original file becomes the .BAK file. If you want to save the original file, change its name now.
11. Above all, remember to make back-ups of all original text, before running any program, including NUMBER.

dissertation. Because I live a distance from the university and also have a full-time occupation (in addition to a family), I either drop-off or mail copies of my drafts to the university. NUMBER allows my committee to send me their comments on paper, referencing a specific number. This saves postage (mine) and time in mailing a bulky draft back and forth. In addition, it makes phone consultations a breeze. I have used the multi-decimal system for this purpose. The first number is the chapter number, the second number is used to number sections in the chapter, the third number for paragraphs. The number 2.2.6 means second chapter, second section, sixth paragraph. Too bad I didn't have this program from the start of my work!

Professionally, our school district could use this program. School Board policies and regulations are numbered in the multi-decimal form. When changes are made, the changes must be made in both the numbering and the references. NUMBER would save considerable time and effort for those responsible for the on-going policy and regulation updates. I imagine that many entities have regulations, procedures, policies, or documents for which NUMBER would be a useful program.

The manual that comes with NUMBER is one of the best I have read. Altogether, between home and work, I have read many guides and manuals. Some of those are worthless and are particularly confusing to the beginning user. This guide is written with organization and clarity, beginning with a good overview of the program itself--how it operates and what its main features are. Each user option is thoroughly explained. The manual also gives a help-line address and phone number for anyone having problems in either installation or running of the program. I encountered no trouble at all. ■

## ERRATA CUM ERRATUM

In the article "Functional Comparisons of Database Software" by P. Kurt Schmidt (MOR, Vol. 3, #1, Feb 1986), an error was made in listing the price for MAG/base2 from Rocky Mountain Software. The list price is now \$195, rather than \$495 as reported in that article.

\* \* \*

We published a Letter to the Editor from Daniel J. Payne (in MOR, Vol. 2, #6) "correcting" an article by Derek Lee Beatty (in MOR, Vol. 2, #1). Recently Beatty wrote to MOR: "The letter from Daniel J. Payne is in error. My original article is correct. Mr. Payne's suggestion disables the "virtual drive" feature of the Micro Decision. This feature is retained in my original procedure. Attempting to use the virtual drive feature after making Mr. Payne's suggested modification will confuse CP/M, possibly to the point of corrupting data on the disk in drive C: or E:."

## SOFTWARE REVIEW

**PROGRAM:** wsNOTE

**VERSION TESTED:** 1.20 FOR CP/M

**MANUFACTURER:** PaceTek  
1405 Brook Court  
Ellensburg, WA 98926  
(509) 925-3011

**AUTHOR:** E. Meyer, Apteryx Software

**DISK SPACE:** WSNOTE.COM 12K  
CONFIG.COM 8K

**PRICE:** \$ 25.00

by Bob Algate

wsNOTE is a neat footnoting program that permits the footnotes to be typed in the body of the text while using WordStar or NewWord. You stick ## or ### in where the number would be, surrounded by delimiting symbols such as the brackets used here: [1]. Somewhere below the paragraph you place the note itself. Then you run wsNOTE [2] and a new file is created with the notes, numbered by wsNOTE, on the bottom of each page or at the end of the document [3]. If desired, a separate file of notes can be made, and wsNOTE will incorporate them in the same way. Notes can be numbered to 999 before starting over at 1.

wsNOTE can also be used to number items on a list, such as a bibliography. Handy when you are creating a list that has to be in order, such as a set of instructions, and you keep sticking in intermediate steps. Numbering can be started over where desired, such as for each chapter, or continued over several files.

Two MailMerge dot commands, .LS (line spacing) and .FI (file include), will be used by wsNOTE for double spacing or merging two files. Two special dot commands are added [4]. .FB (figure block) will make space on the following page for tables and keep them intact. .NN sets the note number in the same way that the dot command .PN sets page number.

Included with wsNOTE is a configuration program that sets wsNOTE to your choice of delimiters, formatting of the notes, printing codes to print the notes in another type [5], right justified or not, and so forth. This is quick and easy to use so that a quick change is no effort.

wsNOTE cannot nest its numbering, so that footnotes within a table that is held together by the

Bob Algate, who lives in Oakland, CA, hopes to soon publish his study of superstitions and popular delusions. His MD2 has been, he says, a real workhorse in organizing and writing the material, although the rows of floppies have reached a second shelf.

figure block (.FB) dot command do not number properly. Should a table have internal footnotes, make a separate file for it, run wsNOTE for that file, then read it into place in your main document with ^PR and run wsNOTE for the entire document. It is easy to change wsNOTE so that different symbols can be used by wsNOTE for each set of footnotes so the internal table ones do not trigger a change of numbering.

The manual is clear, and by reading it through and then playing with the included sample file, you'll have no problem using wsNOTE. If you need foot- or end-notes, wsNOTE does a really nice job, it can be handy for list making or numbering, and the price is right.

----- [6]

1. I've used "[ ]" here, but it could be ^T to print the number as a superscript if your printer will do that.

2. You can use "R" of WordStar's no file menu.

3. As you prefer.

4. Which WordStar will ignore.

5. Such as condensed.

6. This line is generated by wsNOTE. It can be eliminated, its length changed or the character changed (such as "\_\_\_\_\_", "....." or "+++++++").

### Get what you've always wanted- Get the Proportional Printing Program which REALLY WORKS!

**PropStar** gives type-set quality true proportional spaced printing from ordinary NewWord and WordStar document files. Prints on daisy-wheel printers with ps type-wheels (and certain matrix & laser printers), including Diablo, Qume, NEC, Brother, C-Itch, Juki, Silver-Reed, Canon, Fujitsu & others.

**PropStar** is a stand-alone program, not a patch, gives higher quality print than modified WordStar. **PropStar** follows the rules for typesetting, maintains spacing between letters, never crowds text, offers continuous underline, increases letter spacing in "bold" text to avoid run-together letters. **PropStar** doesn't move text, so you get what you see on your w.p. screen, supports most W.S. print features.

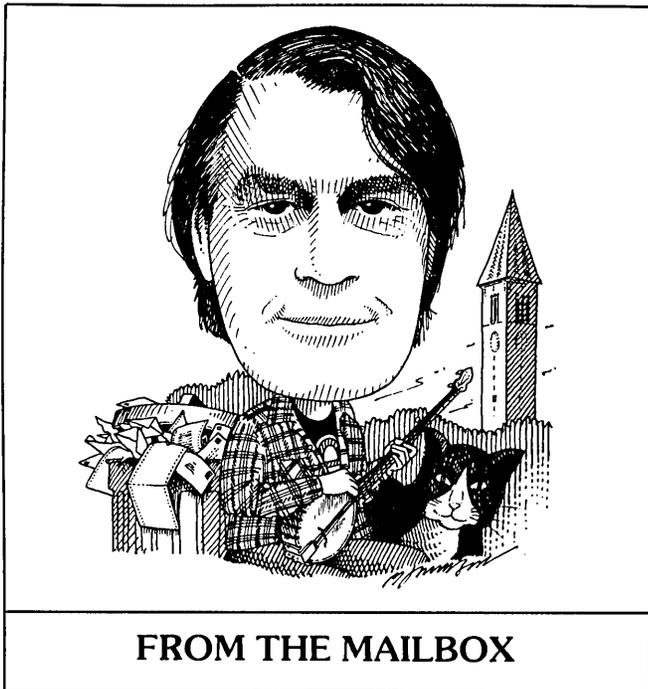
Available on more than 40 CP/M formats including MD-2/3/11. MS-DOS version also available. Only \$ 49.95, Visa & M/C accepted, or send check with order and we pay postage. Comes fully pre-installed so please specify computer and printer models.



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LIVERMORE, CALIFORNIA 94550

(415) 455-8086



## FROM THE MAILBOX

by Bill Steele

Ray H. Dees of Tucker, GA has sent us an assembly language listing for what seems to be a universal patch to the CP/M BIOS--good for all ROM revisions--for adding additional DS or QD drives to the MD2. Untested, but I'll send a copy to anyone who needs it for the usual fee: an SASE and 30 cents to feed the copy machine. It requires the public domain utility MLOAD.

I'm happy to report I was wrong when I said there was no way to convert NorthStar disk files to a form readable on a Morrow. David Del Biondo says his Decision I can read and write NorthStar 10-sector format as well as MD2 or MD3, and even 8-inch CP/M format. He's willing to convert disks for anyone, as a favor to other Morrowers. Bravo! Send him your NorthStar disk and a blank soft-sector disk, and tell him what format you want. His address is P.O. Box 187, New Britain, CT 06050. Business phone 203-225-3565. He also reminded me to point out that NorthStar BASIC programs should run without change under Bazic.

Julian L. Ashe of Fresno, CA has problems with his MP-100 printer: it runs out one blank page after the end of text in both WS and Smart Checkbook, and prints bi-directionally in WS but not in Pearl or Check. When printing a WS file in which some text has accidentally been left off to the right of the screen, the printer will print all "e's" to the end of the carriage and mess up the text. That last one reminds me of the old joke: "Doctor, it hurts when I do this." "Well, don't do that."

His most serious problem is that when he corrects with either the Delete key or ^G, the text looks okay on

---

Send your questions and (hopefully) answers to Bill Steele, Box 782, Ithaca, NY 14851, 607-273-2132, MCI: WSTEELE, 254-5833.

---

screen but runs letters together on printout, sortoflikethis, mostly in the first sentence of a paragraph. It doesn't happen if the line is retyped without correction. If reinstalling from the distribution disk onto a brand new diskette doesn't cure that, I'd suggest sending the distribution disk back to MicroPro and asking for a new one. One more: how can the bell be made to sound at the end of a line in WS? (It does in NW, with word wrap off.)

Molly McKinney in Tucson, AZ finds that WS drops a couple of characters while doing word wrap when she types fast. Is there a way to fix this, or is she just too fast a typist?

M. Jon Koerner of St. Paul, MN is having trouble programming the numeric keypad keys of his MT-70 with KEY.COM, after toggling them into function key mode. He has an MD11/MT-70 setup on which these keys work fine, but on his MD1-E/MT-70, "Only numeric keys 0 and 1 will take assignments from KEY.COM. The problem is not that I'm exceeding KEY.COM's limit. I rewrote the translation table, putting the numeric keypad function keys' translations first in the file. That way, if it ran out of memory, it would at least have those first few definitions in there. The keys did not work when I did it that way, either. But, I recently found that when I deleted one of the definitions I'd had in the table for the numeric keys, two more keys began working." That's the kind of problem we like; really original.

Alan H. Donn of Stonington, CT discovered that the lettered function keys on his MT-70 seem to be miswired so that what you program in for Control-FA works with straight FA instead, and vice versa. That's a problem that sort of fixes itself, like switching the handles on the hot and cold water faucets. The question is, are all MT-70's like that, or is Mr. Donn's terminal weird? Or is he doing something wrong?

Jay Glaser of Fairfield, IA writes "I've always had difficulty getting the arrow keys as well as the rest of the function keys with high bit set to work on my MD2 with MDT-60. I think SKPATCH.COM needs either an address of an input routine in the monitor/prom which does not reset bit 7, or the address of an input port." Sounds like you're using the "Special Input Provision" of the function key programming option in SmartKey II. The Special Input Provision is useful on some terminals where, for example, the numeric keypad keys send eight-bit codes that are different from the codes sent by the number keys across the top of the keyboard. But that's not how the function keys on the MDT-60 work; they send bursts of two characters which SmartKey is set to recognize. Try the function key option straight and see what happens.

Mary Ann Campbell of Berkeley, CA finds that when she writes a long definition with SmartKey II, not all of it gets executed. What's probably happening is that SmartKey is sending characters to the program faster than it can accept them. Although it's not

## UPCOMING THEMES

mentioned in the SmartKey manual (at least not in mine) you can add a delay with SKPATCH; Select option "E" from the menu and follow the instructions.

Both Roberto Villarreal of Cambridge, MA, and Judith Whitenack of Reno, NV want Spanish language daisy wheels for the MP-100 printer. You can order these and other wheels direct from Silver Reed America, 19600 S. Vermont Ave., Torrance, CA 90502, ATTN: Supply, or call 800-421-4191. Phone them and ask for the literature department and they'll send you a brochure with typestyles. The price of a wheel is \$17.50, I think postpaid. Mr. Villarreal is also looking for a Spanish-language spelling correction program, an econometrics program for the MD3 and a graphics program for the MP-100 (e.g., to do bar charts or line graphs using asterisks).

From Lois Brown, Spencer, WV: "Is anyone out there filing Medicare forms or #1500 medical insurance forms with an MD3? Where can I obtain the necessary software?" All I can offer is that you can use MailMerge or Pearl to fill out forms. It will take some cut-and-try to get everything in the right places on the page, but one advantage is that if they change the forms on you, you don't have to buy new software.

Jay R. Kingery of Greenwich, CT would like to know if there's any way to require a password before getting to the main menu on his MD5. If you don't have to fool anybody very sophisticated, you could insert a Match statement in the Pilot program that runs the menu, sending the program into an endless loop on a mismatch. Escape would have to be disabled.

Dr. E. T. Schmeisser of Kirby, TX writes that he solved the problem he had with his Gemini 10X and NewWord. The printer was changing the left margin, and sometimes offsetting the first line of a paragraph, after he changed character width with ^PA. The solution was to reissue the page offset (.PO) command after each character width change, a fix suggested in MOR for WordStar which also seems to work with NewWord.

Ted Whitmore of Kalamazoo, MI ("Yes, there really is a Kalamazoo!") was also having modem problems, until he found out his MD2 serial port was feeding the printer at 9600 baud while the modem operated at 1200 baud. Now he has to take the cover off the MD2 and change two dip switches every time he wants to use the modem. This one is easy (I trust): there's a program on your CP/M distribution disk called SETBAUD (SETUP on the MD3) which will let you change the baud rate from the keyboard, or configure a CP/M disk permanently with the new baud rate. Moral: when you hook up a new piece of equipment or modify a piece of software, it pays to check through the manual again. And once in a while, just take the manuals out and browse through them, especially all the fine print in the back; what was Greek the first time you looked at it may by now have become merely French! The same goes for rereading old MOR's! ☺

The contents noted here are not articles already written--they are suggestions we hope you will take as inspiration to write. Of course, material of general interest is also always welcome.

### JUN/JULY86 Upgrades and Enhancements

An issue dedicated to commercially available and homemade enhancements for your Morrow workhorse to make it more powerful--hard disk add-on's for floppy and hard disk MD's, co-processors, RAM disks, networks, extra serial ports.... Have you custom-designed software to enhance your Morrow?

### AUG/SEP86 Repairs and Maintenance

A vital concern for Morrow owners nowadays. Write and let us know where you go for repairs. Where do you get spare parts? How to do simple repairs and maintenance yourself. How to make good use of the MOR Manuals. How to deal with consultants. All proposals for this issue are needed by May 7.

### OCT/NOV86 Educational Software

Programming languages to write your own, instructional programs for toddlers to techies, the role of computers in education.... If you know about them, write about them. Know of any good CP/M educational software you'd like to review?

### DEC/JAN87 Desktop Publishing and Graphics

With the arrival of more reasonably priced laser printers and new software, desktop publishing for CP/M machines is becoming a reality. The Graphics capability of our Morrow terminals is negligible, but graphics software for printers is great. What programs are you familiar with? How are you using desktop publishing?

**ALL WRITERS NOTE:** If you are interested in writing for MOR, submit a proposal of one to two paragraphs, indicating how you will approach your topic, and your related experience.

If you are interested in reviewing software, indicate the need or concept addressed by the program and how you will approach assessing how the program meets that objective. If available, please include a sample of your (published or unpublished) writing. Direct your correspondence about articles Attn: Managing Editor. Published ms. of 1000-word minimum earn the author a one-year subscription to MOR. For all submissions, please follow the Writers' Guidelines on page 1.

EVERYONE is most welcome to contribute programs to the Floppy of the Bi-Month (FLOB) for all these issues. One cannot live by the printed word alone! Send Attn: Editor.

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For FLOB diskette directories see previous issues or ask for MOR-PD Directory by mail (include SASE). Please send me the following MOR-PD diskettes:

- |                                 |                                 |
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| <input type="checkbox"/> Disk 2 | <input type="checkbox"/> Disk 2 |
|                                 | <input type="checkbox"/> Disk 3 |
| FLOB/OCT85                      | <input type="checkbox"/> Disk 4 |
| <input type="checkbox"/> Disk 1 | <input type="checkbox"/> Disk 5 |
| <input type="checkbox"/> Disk 2 | <input type="checkbox"/> Disk 6 |
|                                 |                                 |
| FLOB/DEC85                      | FLOB/APR86                      |
| <input type="checkbox"/> Disk 1 | <input type="checkbox"/> Disk 1 |
| <input type="checkbox"/> Disk 2 | <input type="checkbox"/> Disk 2 |

I enclose a check or money order for a total of \$ \_\_\_\_\_ (U.S.) for \_\_\_\_\_ disks at \$8.00 each. US: First Class postage paid. Outside US surface postage paid; ad \$1.50 for Air Mail.

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- Please send me the MOR Manual sections circled below.

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To: MOR, PO Box 5487, Berkeley, CA 94705, Attn: MANUAL

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**FLOB/APR86: TOOLS FOR WRITERS**

-----FLOB/APR86 DISK #1-----

- |              |     |                                   |
|--------------|-----|-----------------------------------|
| ADDLAB .LBR  | 44k | Label utility                     |
| CHOP .LBR    | 12k | Breaks up files                   |
| EPRINT .LBR  | 16k | Epson printer utility             |
| IDRAGON2.LBR | 8k  | Video arcade-style game           |
| MAGE31NW.LBR | 12k | Recovers text from memory to file |
| PROPTEC      | 28k | PropStar technical info           |
| PROPRULE     | 4k  | PropStar article ruler            |
| PSET12 .LBR  | 16k | Dot Matrix Printer utility        |
| QWIKFONT.LBR | 20k | Font set-up program               |

-----FLOB/APR86 DISK #2-----

- |              |      |                       |
|--------------|------|-----------------------|
| FONTSY .LBR  | 124k | Banner-making program |
| NOSPACES.LBR | 60k  | Pearl file formatter  |

**MOR MANUALS: DIRECTORY AND PRICE LIST**

- Micro Decision Service Guide.....52 pp  
 Schematics 11X15:  
     MD Rev. 1.1                                   1 pp  
     MD Rev. 2.0 KOREA Board               3 pp  
     MD Rev. 2.0 KOHJINSHA Board       3 pp  
     MD Rev 2.0 Technical Informa-  
     tion Supplement                       11 pp           \$25.00
- Diagnostic II User's Manual,  
 SuperSoft.....46 pp   \$25.00
- Hard Disk MD Service Guide  
 (schematics).....52 pp   \$25.00
- SA 200 Shugart Mini Floppy Drive  
 Service Manual.....40 pp   \$15.00
- SA 455/465 Shugart Mini Floppy Drive.....68 pp  
 Serv. Mnl., including  
     SA 455/465 11X15 schematics   2 pp           \$15.00
- MDT20 Terminal Reference Guide.....56 pp   \$10.00
- MDT50 Video Terminal Service Manual.....44 pp   \$10.00
- MDT60 Video Terminal Service Manual.....60 pp  
 with MDT70 Video Terminal Drawings  
 Supplement                               8 pp           \$15.00
- David Block's MD Q & A book,  
 unrevised.....61 pp   \$ 6.00

The complete set of MOR Manuals can be purchased for \$80.00. Note: The Diagnostic programs by SuperSoft mentioned in section 2 are not included with the MOR Manuals but need to be ordered separately.

**MOR MANUAL ALERT**

There was an error in the first batch of manuals sent out: the section for the ADM-20 terminal was left out, and was not listed in the Table of Contents. We will be sending out a new Table of Contents and the missing section for those orders.

On January 21, we sent out a letter to all those who already ordered, informing them that in fact SuperSoft had not given the necessary rights to Morrow for free distribution of the diagnostic diskettes. They must now be ordered separately (at a much discounted price). If you'd like a copy of that letter, please send an SASE to MOR, Attn: Diagnostics.

Border by PrintMaster. See review on p. 19.

## NOTES ON FLOB/APR86

by Steve Wartofsky

**ADDLAB** - a program to batch print a number of labels; will allow 26 separate 4-line labels, will print out as many of each as specified on the command line. Works only on MD-floppy-based machines, and on B: drive of hard-disk series.

**CHOP** - A utility written in Turbo Pascal which will chop a large file into a bunch of numbered smaller files; useful for manipulating large files on smaller floppy-disk systems.

**EPRINT** - Will print multiple files on Epson printers. Responds to embedded control-codes for all sorts of Epson printer capacities (different fonts, print formats, etc.).

**FONTSY** - A banner-making program for dot matrix printers, includes a number of fonts; fonts can be created with a text editor.

**PSET12** - Utility to pre-set printer codes on Epson printers; setup remains until printer is reset (or is changed by software).

**QWIKFONT** - Another utility for setting up printer font and type settings on dot matrix printers.

**NOSPACES** - A utility to eliminate unwanted spaces and lines from Personal Pearl reports good for labels, form letters, etc.

**PROPTEC, PROPRULE** - Technical information for PropStar users; ruler included in FLOB order.

**IDRAGON2** - An arcade-style video game.

**MAGE31NW** - Recovers text files from memory to disk file; for when your word processor glitches.



**NOTE #1:** If a file has a filetype with a 'Q' in it, it is a squeezed file; use NSweep to unsqueeze it. The file maintenance program NSweep is available on FLOB/AUG85 disk #1 (NSWP207.COM and NSWP206.DOC).

**NOTE #2:** If the filetype is .LBR, use a library utility like NULU to extract files from the library. NULU (New Library Utility) is available on FLOB/OCT85 disk #1 (NULU11.COM, NULU11.DOC, etc.).

[Other PD tools for writers are available on previous FLOBs. To obtain a directory of what's available, send a self-addressed, stamped envelope (SASE) to MOR, attn: MOR-PD.]

## IMPORTANT ANNOUNCEMENTS

### MOR at the newsstands.

There are lots of CP/M users out there who could benefit from MOR but have never heard of us. We'd like them to find out about MOR through selected newsstands. We need your help in locating those magazine retailers in your city. Good prospects are newsstands and bookstores that already sell a large variety of computer publications.

You don't have to do a sales job yourself--just send MOR their name, address and phone number, and if possible the name of a contact person.

### New MOR staff members.

Bruce Gowens, one of our long-time Editorial Council volunteers, has now joined the MOR staff as Business Manager and Layout person.

Gregory Smith recently joined the MOR staff as Administrative Assistant. He serves in the same function for BAMDUA. When you call MOR or BAMDUA, Greg will most likely answer your call. Steven Wartofsky has also joined the MOR staff, working one day a week on the FLOBs, the MOR Manuals and on the development of future service projects.

MOR is still in the process of hiring a new Managing Editor. Luckily Shoshana Tembeck was able to stay on a little longer in that position in order to complete this issue before she moves on to other pursuits.

### Submitting MOR articles via the BAMDUA MBBS.

For the most elegant and efficient submission of articles to the editor, please upload them to the BAMDUA MBBS (415) 654-3882. If you are not a full-featured MBBS registrant, then call Greg Smith at (415) 644-2638 to get instructions for CP/M access. Upload to the private upload area, using "KMD RP filename.ext". You also MUST leave a message on the MBBS for GREG SMITH, which includes the filename and to whom the article should be routed.

### Cliff Henthorne is alive and well

Several people wondered where Cliff was after his announcement (MOR Vol. 2, #5, p. 32) offering to be a clearinghouse for Morrow BBS-related information. Well, he was in Wyoming for a spell, and now he's back again. You can write him at PO Box 75841, Oklahoma City, OK 73147, or catch him at (405) 627-1113, a mobile phone.

All information you may discover about Morrow oriented BBS's (Bulletin Board Systems) should be forwarded directly to the MOR office, PO Box 5487, Berkeley, CA 94705.

## SOFTWARE REVIEW

PRODUCT:	<b>Grammatik</b>
AUTHOR:	© 1981 Wang Electronic Publishing, Inc
VERSION TESTED:	1.18, Morrow MD2
DISTRIBUTOR:	Digital Marketing Software, 2363 Boulevard Circle, Walnut Creek, CA 94595 (415) 947-1000 1-800-826-2222
DISK SPACE:	68K
PRICE:	\$99

by Jim Kahnweiler

My high school composition teacher had left a university professorship in disgust, exasperated by the poor writing skills of college freshmen. He was a demanding instructor and etched our carefully crafted masterpieces with deep red pencil marks, circling errors and crossing out whole paragraphs. He scribbled in the margins comments such as "Trite and Hackneyed," "Awkward," "Vague" or "Wordy." He showed no mercy and tolerated only compelling logic conveyed by succinct and cogent usage and organized in a rigid, unvarying plan. Spelling, typographical errors, and originality were not tolerated. I sweated a "B." By the end of the year, I still hated his guts . . . but I knew how to write.

When MOR asked me to sample GRAMMATIK, a grammar and syntax analyst, I thought, Fabulous! This could be my high school teacher again--in electronic form! When the program arrived, I eagerly perused the screen menu and skimmed through the 27-page instruction booklet to discover what GRAMMATIK could do. The program finds common punctuation errors, points out some informal, awkward, trite and wordy phrases or usages, catches typos and marks commonly misused words and expressions. And that's it. The program follows a few of the suggestions from the little classic, Strunk and White's The Elements of Style, and the bibliography credits five college-level composition texts.

GRAMMATIK is an "interactive program." It scrolls quickly through the document to be checked, comparing phrases and words with 500 usages in its dictionary. Scrolling stops when a problem is encountered. The

---

Trained in composition and creative writing, **Jim Kahnweiler**, along with his partner Joanne M. Johnson, is a freelance photojournalist in Basalt, Colorado. Besides exercising their professional writing skills on their MD3, they also use it for correspondence and light bookkeeping.

---

error is displayed along with a possible correction. (See sample in Sidebar.) The operator can ignore the error or flag it. One option flags all errors directly on disk, without waiting for terminal display. Each error is flagged with a # sign. This enables the operator to use global search and replace commands during editing.

To store the flagged text, GRAMMATIK creates a new file and names it Filename.ERR. The operator can also specify a name. Disk space equal to the original text must be present to prevent overflow. The instruction manual mentions this. To check a long document the operator would have to divide it into several files, each of which when doubled could not exceed available disk space. I never had a problem, but it may be cumbersome with book-length material or a disk crowded with several files.

When the routine is completed, the program displays a statistical analysis of the document. (See Sidebar.) The writer can now edit the .ERR file, noting the symbols that indicate the kind of error detected.

GRAMMATIK has a routine, called PROFILE, that lists all the words used in the document. It will display the least used words first and the most used words last. A hard copy can also be generated. The documentation suggests that "words that appear only once are most likely to be misspelled," which could be helpful if no spelling checker were used. This option would be useful to help detect over used, high-impact words.

As with Correct-It, the user can create custom dictionaries. Using the WordStar/NewWord non-document mode, special phrases, jargon and technical or legal terms can be entered. A sort program included with the basic program can aid editing custom dictionaries. The size of a dictionary cannot exceed RAM.

The program worked flawlessly with the sample document provided with the program, stopping at wordy phrases, double words and capital letters appearing within a word. But with a magazine article I had recently completed and my partner Joanne had edited, scrolling stopped infrequently. I did not expect it to stop at "typos" or punctuation errors. There were none. We have a word processor to create error-free manuscripts and correspondence. We are terrible typists, but the word processor allows us to fix mistakes and make extensive revisions without re-typing an entire document.

What usages would cause GRAMMATIK to stop, I wondered? In my text, it paused only in direct quotes and for usages that turned out to be correct if taken in context. For instance, it stopped when it detected "very," flagging it as a vague adverb, when, in fact, it was used as an adjective.

I checked two short stories that Joanne wrote, with similar results. In a business letter thanking a vintner for a complimentary bottle of wine, the

program failed to detect the wordy "...we had the pleasure to enjoy..." Joanne caught the error and changed it to "...we enjoyed...."

I found the statistical analysis the most intriguing feature. I never thought good writing could have numerical values. Our writing used a few short sentences, a few long sentences, about 10 percent prepositions and only a few "to be"s. What was GRAMMATIK trying to tell us?

Effective writing uses active verbs. The number of to be's in relation to the total number of words and sentences would indicate the relative use of the passive versus active voice. Too many am's, are's, be's, been's, being's, is's, and were's result in a simple, pedestrian style that is boring to read.

Of course, too many long sentences make a ponderous, run-on style that can put readers to sleep. Too many short sentences create a style that fails to maintain the reader's interest. Too many prepositions mean a highly subordinate style which may confuse. My high school English teacher never tolerated these usages. He wrote snide remarks in the margin about my ability to think for attempting to write a sentence such as this one which GRAMMATIK failed to detect or flag when I ran it, other than to count it as a sentence over 30 words in the summary.

I would suggest the manufacturer add a count of subordinate conjunctions (if, then, that, which, who, etc.) to the summary. Too many conjunctions is another way to detect run-on sentences or wordy style. The program offers seven categories which the user can select. I programmed a few subordinate conjunctions; I would have preferred more.

In summary, I would have to call GRAMMATIK a "primitive" editing tool. The program does not check for the expression of parallel ideas in a similar form, dangling modifiers, or any other of a dozen or more grammatical and stylistic errors. It does not check for correct verb tense. It cannot find ambiguous references. For my own purposes as a professional writer, with the luxury of my own editor, I found it unnecessary. While it could be useful in proofreading for those working alone, the grammatical errors GRAMMATIK flags seem so basic that a good writer may never make them or have already corrected them during revision. Perhaps it's a sad commentary on our education system that this program needs to exist at all. But if you didn't have a "tough" composition teacher in high school, GRAMMATIK might be for you.

Perhaps the greatest potential of GRAMMATIK would be in a classroom where word processing and writing skills were taught. There seems to be no better way to learn computer skills than to use the machines in an actual work situation--in this case writing English compositions. The student could learn word processing while learning to write better.

GRAMMATIK would permit the student to detect most common errors before the manuscript was

submitted for grading. Perhaps the instructor could add an auxiliary dictionary of slang or dialect that should be absent in formal writing. The statistical analysis would reveal style problems. The instructor could concentrate on the complexities of composition, rather than basic editing.

Eventually I can imagine hardware and data storage capabilities that would permit the detection of complex errors--an electronic editor that could work at light speed to compare the user's text with thousands of phrases or even entire novel-length documents. It would function like a silicon English professor, and would display a detailed critique. Yet, I wonder if even that could ever be as effective as a stern old professor marking papers with red pencil. ■

The following are excerpts from a report produced by GRAMMATIK, Grammar and Syntax Analyst, for file B:GMK.COP. The author programmed the user category to produce totals for the following subjective conjunctions:

#3=that #4=which #5=if #6=then #7=who  
#8=what #9=but

----->

\* At sentence 20 - 'P' - Punctuation error  
\* Suggestion: .,?, or ! before "

----->

\* At sentence 42 - 'P' - Punctuation error  
\* Suggestion: needs separator

-----> very

\* At sentence 71 - 'V' - Vague adverb

----->

\* At sentence 73 - 'M' - Commonly misused word  
\* Suggestion: complementary;-i=praise, free

-----> in this case

\* At sentence 105 - 'W' - Wordy phrase  
\* Suggestion: here

-----> rather

\* At sentence 111 - 'V' - Vague adverb

-----  
Summary for B:GMK.COP / Problems detected: 9

# sent: 117 ; # words 1650  
avg sent len: 15.0 ; avg word len: 4.8  
# questions: 3 ; # imperatives: 2  
short sent (< 14 wds): 68;  
long sent (> 30 wds): 2  
longest 49 wds at sent # 82 ;  
shortest 1 wds at # 6  
to be's: 46 ; prepositions: 162  
User category totals:  
#3: 15 #4: 7 #5: 4 #6: 1 #7: 1 #8: 2 #9: 5

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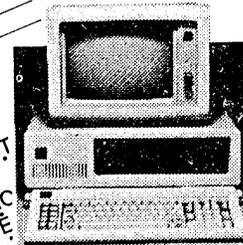
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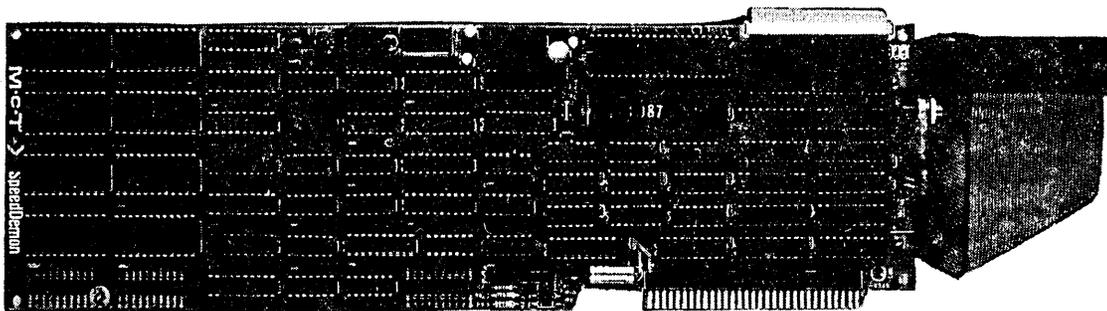
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## SOFTWARE REVIEW

<b>PROGRAM:</b>	<b>DataPlotter</b>
<b>AUTHOR:</b>	Leah Larkey, Ph.D.
<b>MANUFACTURER:</b>	Lark Software, Inc. 131 N. Leverett Road Leverett, MA 01054 (413) 367-9392
<b>REQUIREMENTS:</b>	At least 48K, CP/M 80 (2.2 or 3) Dot matrix printer (many listed)
<b>DISK SPACE:</b>	136K disk space (all .COM files)
<b>COST:</b>	\$99 (\$3 S&H)

by Georgia Babladelis

Some time ago, Morrow, Inc. did a survey of Morrow owners and discovered that most were professional people with advanced education degrees. Very likely, then, a great deal of writing, including business and scientific reports as well as book manuscripts, is being done on Morrrows. In the past, CP/M programs for adding graphics to such reports were scarce and costly; now, with DataPlotter, Morrow writers can turn out beautiful graphs and charts to accompany their manuscripts.

### Overview

DataPlotter lets you plot your data in a variety of ways: Line Graphs (single or multiple functions); Scatterplots (points are not connected by lines); Bar Graphs (grouped and ungrouped bars); and Pie Charts (with or without a segment "pulled out" for emphasis).

A dot matrix printer is required for printing. A large number of printers are listed, so it is unlikely that you will not find yours among them. You must specify your printer and computer disk format when ordering so that the correct program can be installed.

To the relief of Morrow owners, DataPlotter is independent of screen graphics. No graphics terminal is required since you do not see a graph displayed on the screen. (However, if you do happen to have a graphics terminal, its resolution will not limit that of your printed graph.) Instead, you answer a series of questions which allow you to design your own graph with your own parameters. In this interaction with the main program, the questions asked and your answers to them do appear on the screen. No programming skills are needed. The examples provided in the manual are so clear and so specific, that you will have no trouble understanding how to enter answers in a way that will result in the graph or chart that you

Georgia Babladelis is featured as the MOR Author of the Bi-Month (see p. 6). A version of this review of DataPlotter originally appeared in Vol. 3, #6, June 1985 of the BAMDUA newsletter.

want. The answers given to the questions can be stored in an "answer" file so that the user does not have to type the same answers repeatedly in order to prepare similar graphs.

Among the many features of DataPlotter, the following are listed:

- Unlimited number of functions on one graph
- Unlimited number of labels placed anywhere on page
- Hundreds of data points permitted in each function
- Discontinuous functions permitted
- Uneven spacing of points permitted on either axis
- Choice of graph dimensions from tiny to full page
- Choice of automatic or manual scaling
- Choice of numbers and/or words as labels on axis
- Rotatable characters for sideways y-axis label
- Wide variety of symbols for points on line graphs
- Choice of size of symbols
- Attractive fillings for bar graphs and pie charts
- Attractive font type for titles
- A program (TRANSF) to manipulate other data files so they can be used by DataPlotter

### How Does It Work?

DataPlotter plots data from a file you create in an ASCII text file. Most text editors will do that. SuperCalc and dBaseII programs provide ways to put data into ASCII text files, so you can use DataPlotter to plot data from those programs if you like. All data must be integers (whole numbers) which can be positive, negative, or zero. No decimal points or fractions are permitted. That turns out not to be a problem, however, since you can plot floating point data by using the TRANSF program (see below) to convert to integers and then convert back again to the precision you want when you label your coordinates.

It was a pleasure to discover that the format of the data can be in free form or column format. Column format is an even matrix of data similar to numbers on a spread sheet. Free form is less restrictive so that more complicated kinds of data can be read. Moreover, the columns of data can be arranged either horizontally or vertically, and they do not have to be aligned! Data entered in free form can be as alternating x and y values, or all the x values then all the y values, or y coordinates only. There are a number of restrictions that apply to column format and not to free form format (e.g., ascending order of points). Under CP/M 80, a data file can contain up to 300 points (i.e., 300 x-coordinates and 300 y-coordinates); under CP/M 86 or MS-DOS, it can contain up to 2000 points.

On my first trial, I used the non-document mode of WordStar and entered my data in two columns. No column labels are needed at the time the data is entered. I was glad that I did not have to align numbers so that it had to look like this:

```
1 100 Instead, it could look like this: 1 100
2 90                                     2 90
3 75                                     3 75
```

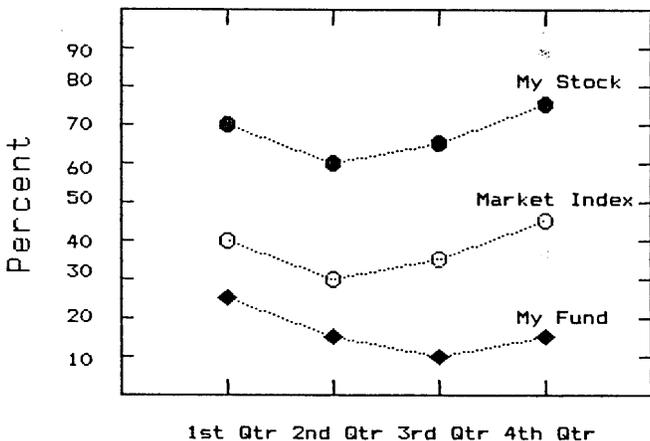
For our examples, let us suppose that I am a person interested in technology and have decided to invest in "high tech" stocks. I bought that all-time high flying favorite called My Tech Stock but then worried about it so I hedged my bets (oops, I mean my investments) by also buying into a high tech mutual fund called My Tech Fund. Not only did I keep track of the performance of those investments, but also I compared their performance to the general performance of the stock market. Using the non-document mode in WordStar, I entered the data for the four quarters of the year for the three comparisons (My Stock, My Fund, and Market Index) in three columns. For example:

1	70	40	25	or:	1	2	3	4	
2	60	30	15			70	60	65	75
3	65	35	10			40	30	35	45
4	75	45	15			25	15	10	15

(These data are fictitious, as are the names of the companies. An attempt has been made to align the numbers for ease in reading; it is not necessary.)

### Using the Line Graph

The first column of entries represents values or labels for the "x" axis and the other entries represent values (in this case, percent change) for the "y" axis. Rather than call the x-axis by any particular name at this time (such as "First Quarter" or whatever), I used numbers which can later be assigned any labels I wish. When the data is plotted, I will, in fact, decide to label the x-axis according to "quarters" of the year. Next, I saved the file and then used DataPlotter to plot it. Figure 1 is an example of a line graph of the investments we are comparing.



Performance Comparisons  
Figure 1: Example of Line Graph.

That flexibility in use of labels (i.e., you can call them anything you want and change what you call them at will) applies to both the x and the y

coordinates. Moreover, there are numerous opportunities to include additional labels, either on the graph itself and/or as a title for the graph. The program even provides a nice type font for the main title, which makes it look rather impressive.

You can plot one function or several functions (as I have done in this example). You may place labels anywhere you wish on the graph or have the labels spill over the margin of the graph if you like that. You have a choice of which graphic symbols to use to represent each function (e.g., circles, diamonds, squares, etc.), a choice that varies each of the symbol choices in three ways (e.g., empty or filled or thick), and a choice that enables you to vary the size of the symbol used (large, medium, small are obvious examples, but would you believe "enormous"?). You may choose if you want regular lines or dotted lines to connect the symbols. And, of course, you may choose the size of the graph itself (its length and width), limited only by the limitations of your printer in handling different sizes of paper. In Figure 1 you see empty circles, filled circles, and filled diamonds, connected by dotted lines, and the labels placed within the graph borders.

### Using the Bar Graph

You may prefer to plot your data in a bar graph rather than as a line graph. Using a command to do just that, simply respond to the questions asked. In this example of plotting a bar graph, the same data file already created for the line graph can be used. Only the visual presentation of the data is changed. There are a number of distinctive fillings available for bar graphs. You have the option to select each filling for each bar, leave each bar clear, or let the program assign fillings to bars. In addition, you can elect to have a legend which explains what each type of bar stands for. And as in line graphs, you may have ungrouped bars (analogous to single function line graphs) or grouped bars (analogous to multiple function line graphs). Since my example data represents multiple functions, the bar graph will present grouped bars, as shown in Figure 2.

The original data file can be used repeatedly for any number of different plots desired. Suppose you want a giant size graph or a tiny graph or different symbols in different sizes. The first time you prepare the plot, store the answers in an "answer file." That saves you from repeatedly having to enter information. Instead, you merely edit the answer file (with your text editor program) for any change you wish to make. You can use the answer file repeatedly.

### Using Pie Charts

Pie charts can be told to show the percentage consumed by each slice, or the actual amount (e.g., in thousands of dollars), or just what each slice is, with no figures; you can even "pull out" a slice for dramatic effect. (See Figure 3.)

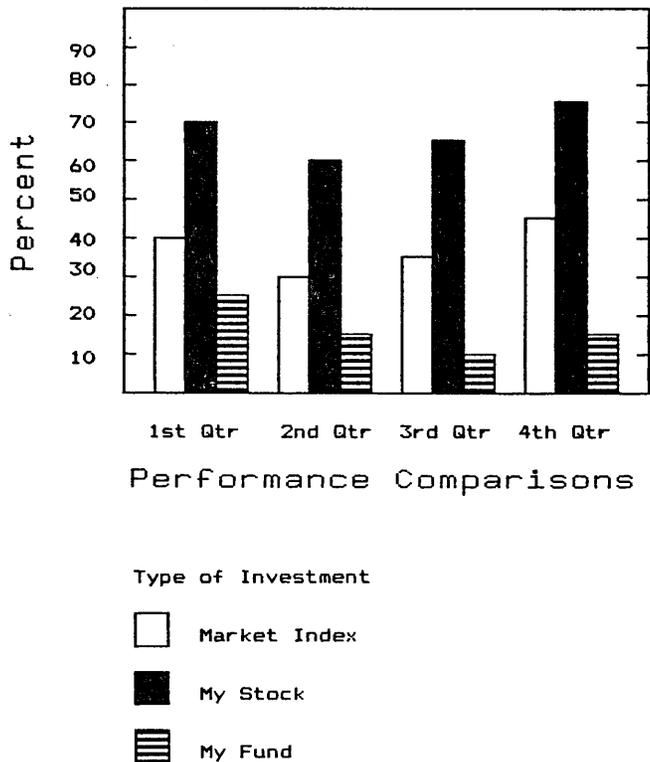


Figure 2: Example of Bar Graph

### The TRANSF Program

Included with DataPlotter is a program called TRANSF which allows you to (1) modify existing data files; e.g., when you want to multiply by a constant; (2) select columns from a column data file to use in some other file; e.g., one column of data in a file is to be used as part of some larger file; (3) convert column data to freeform data in order to add some special data points to a graph. TRANSF, too, can be used interactively by typing in your answers to questions, or the program can take your answers from an answer file.

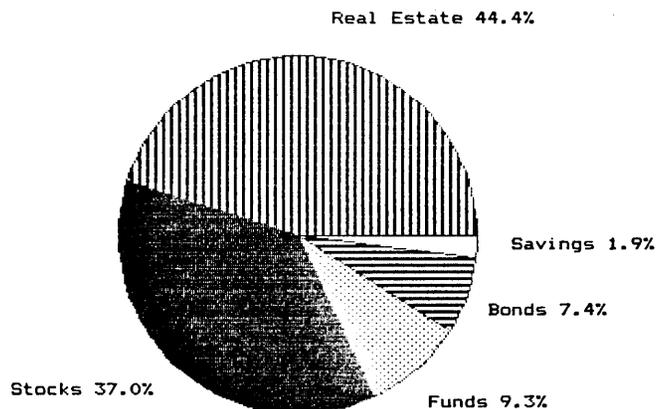


Figure 3: Example of Pie Chart

### Plotting the Data

It is convenient to have a machine with two drives when using DataPlotter. Then all you have to do is put the program disk in drive A and your data disk in drive B, and instruct the program to preplot the data on the B drive and to put the results of that activity there also. For example:

```
preplot b:trial.dat b:trial.plt
```

It is during PREPLOT that you specify the parameters of your graph (e.g., the x and y coordinates, the size, etc.). The PLOT program reads the plot files created during PREPLOT and translates them into commands for your printer, which then prints the graph. PLOT has double density options built into the program for certain printers, and instructions for getting print in double density for printers not listed as having the built in option. My Gemini 10X was among those with the built in double density printing feature. There is a bit of a wait for the graph to actually start printing; a message on your screen prepares you for that wait so you won't think something has gone wrong. For almost all of my trial graphs I waited between 45 seconds to a minute for the print to start and another 4-5 minutes for the total graph to be printed. The waiting period compares favorably with other graphics programs I have read about. At first I was so entranced with watching it produce a beautiful graph that I didn't notice the time!

### Assessment

The major questions are: "Does it work well?" and "Is it easy to use?" The answer is YES to both. DataPlotter is a well-planned program accompanied by a manual that is clearly written in a logical sequence with clear, relevant examples for practice. I learned to use DataPlotter very quickly. I did read through the manual first, to get an idea of things. Then I made a working disk, and followed through the examples in the manual, substituting my own data.

The appendix in the manual provides a trouble shooting guide which I found very useful. On the program disk are included two sample graphs that you can try out right away to see if your printer is performing properly. Then if not, you can check the simple, clear guide to locate the nature of your problem and use your printer manual to make any adjustment that is required. I had a problem when I printed out the sample graphs and located the problem not in my printer but in my converter/buffer, which links the serial port of my computer to the parallel port of my printer.

I do have a couple of quibbles with the program. It is impossible to correct an error in an entry during interactive answering of questions once "return" is entered, so it behooves you to get into the habit of making an "answer" file which is easy to edit. The program cannot be incorporated into a WordStar file, although you can exit WordStar and run DataPlotter. It is far more convenient at present to create graphs and charts on pages separate from text (or to "paste in").

(continued)

The charts and graphs produced by DataPlotter would, in my opinion, be acceptable by most publishers as "camera-ready" material. You researchers out there who need a way to depict your findings for inclusion in your research reports, this program is for you. Persons who like to plot financial data will find that this program does the job elegantly. I plan to plot the individual and class performances for my students in various classes. In short, this is a superb program accompanied by an exceptionally clear manual at a reasonable cost.

(NB: Other programs capable of producing graphs and pie charts for CP/M and which do not depend on screen graphics have been reviewed by Mike Rinaldi in MOR, Vol.1, #3, August 1984, p. 18 and by James Galvin in the BAMDUA Newsletter, Vol. 2, #10, November 1984, p. 20. I do not know how they compare with DataPlotter. My own enthusiasm for the program is shared by others; e.g., the reader might want to read an equally enthusiastic review of DataPlotter by Bruce Gale, published in Profiles, (Vol. 2, #8, April, 1985, p. 72-78). ■

## SOFTWARE REVIEW

<b>PROGRAM:</b>	<b>Index</b> For WordStar
<b>VERSION TESTED:</b>	1.5 for Morrow MD2
<b>AUTHOR:</b>	Orthocode Corporation, © 1981
<b>MANUFACTURER:</b>	Digital Marketing Corporation 2363 Boulevard Circle Walnut Creek, CA 94595 (415) 947-1000 1-800-826-2222
<b>DISK SPACE:</b>	26K
<b>PRICE:</b>	\$99

by Carolyn Shaffer

Anyone who has ever tried to index a book knows how monstrous this seemingly simple task can become. Entries proliferate like rabbits in a warren and the job of tracking each entry and subentry through hundreds of pages of manuscript becomes equivalent to that of counting the baby bunnies produced by all the rabbits in the world. I took on an indexing job once, years before the personal computer revolution, and swore never to do it again. Now I find myself writing a 300-page, nonfiction book that I will want to index when it's finished. I jumped at the chance to test and review INDEX for MOR. I wanted to find out whether using such a program on my MD2 would help me overcome my fear of indexing. I also hoped to get a head start on an onerous part of the publishing process. What I ended up with is a good idea of what purposes INDEX can actually serve, as well as its limitations.

INDEX doesn't take all the pain out of indexing. You still must provide the brains behind the operation, choosing which items to include in the index and how to organize them into entries and subentries. You also must methodically work through

**Carolyn Shaffer** writes and edits business newsletters and news releases to pay the grocery bills. To feed her spirit, she researches and writes about women, spirituality and power. For both, she finds her MD2 a most helpful tool.

the document, inserting commands for each entry. Then INDEX pulls the entries out of your WordStar file into an index file, sorts them alphabetically, arranges them in index format, according to your commands, and assigns them proper page numbers. The imbedded indexing commands show up on the screen in your WordStar files but never in print. Because each command is on a separate line and preceded by a string of three periods (...), WordStar recognizes it as a comment not a print line.

Besides enabling you to create an index from one or more WordStar document files, INDEX also helps you generate a table of contents. The program writes the table of contents and the index to separate files which you can edit with WordStar, if necessary, and print. INDEX is ideal for creating a table of contents and an index for a document you plan to print directly from your computer disk. You can use it not only for books, manuals and dissertations but also for cross-referencing files containing correspondence, copy for product brochures and catalogs, legal papers and other valuable documents.

A drawback for my own uses is the fact that INDEX is not so useful for indexing documents that will be typeset. The page numbers of the typeset document will not match those of your WordStar files. For this reason I cannot use INDEX for the final indexing of my 300-page book, although I may use it for a draft version, if that proves helpful to the publisher.

Following the well-organized, clearly written users' manual, I found INDEX easy to install and use. The biggest problem I faced was one of storage space. I use single-sided floppies with my MD2. After copying WordStar, related utilities and the INDEX program to one of these floppies, as suggested in the manual, I discovered I did not have much space left for the index and table of contents files I planned to create.

To get help with this problem, I gave Digital Marketing Corp. a call. The helpful person at the other end of the line suggested I transfer INDEX to a diskette of its own. Having WordStar on a separate disk meant juggling floppies whenever I wanted to edit or print the files on either my document or INDEX disk, but it also freed up a significant amount of storage space. I still foresee running out of file space before completing the index for my 300-page book.

## SOFTWARE REVIEW

If you use an MD3 and double-sided diskettes, you'll have twice as much space and fewer problems with long documents. Those of you with a hard-disk computer should be able to index the Encyclopedia Britannica with ease.

My book will sprawl across a dozen or more diskettes by the time it's completed. How would INDEX handle this, I wondered. With something it calls an "intermediate file facility," it turns out. This facility creates a single index for a document spread across any number of files and diskettes. It uses intermediate index files and a WordStar-generated control file. The only limiting factor is the amount of space you have on the disk on which you are storing and merging your intermediate files.

Knowing how tedious manual indexing can be, with its sorting of hundreds of index cards, I watched with glee as my printer spat out columns of page-referenced entries for my work-in-progress. I also noticed a few problems. Proper book indexes, as described in the book editors' bible, University of Chicago's A Manual of Style, refer not only to the page on which information on a certain subject begins but also to that on which it ends. INDEX refers only to the initial page. The style manual also indicates that the most common format for indexes is the run-in style in which subentries follow one another with no breaks between. INDEX's format is the indented style. Each subentry begins a new line, indented from the left. The only variable in this format is the number of spaces the subentries are indented.

I also encountered problems with the formatting for INDEX's table of contents program. The default version is a most uncommon one. It lists page numbers to the left rather than the right of section titles. Modifying this to a righthand listing, however, is easy. I found myself mainly frustrated trying to list headings and subheadings that ran onto more than one line. The commands inserted into the WordStar document apply only to the single line of text following them. To include more than one line in a single heading, I had to edit the table of contents file considerably.

One of my minor gripes about INDEX concerned the user's manual. I wish it gave specific instructions and tips to those of us using multiple diskettes. The manual never mentions diskettes or disk drives. I had to figure out how to translate its general instructions to my machine by trial and error. I didn't have much trouble doing this, but a total novice might get stuck.

In general, INDEX is short, sweet and easy to use. If you want a useful table of contents and index for documents you print directly from your computer disk and you have enough disk space and aren't fussy about style, INDEX can fill the bill nicely. If, like me, you have an MD2 and limited disk space and you plan to index a good-sized book destined for the typesetter, INDEX has limited usefulness. ■

<b>PROGRAM:</b>	<b>Electra·Find</b>
<b>Version Tested:</b>	3.2
<b>AUTHOR:</b>	Dennis V. O'Neill
<b>MANUFACTURER:</b>	O'Neill Software P.O. Box 26111 San Francisco, CA 94126 (415) 398-2255
<b>DISK SPACE:</b>	EF.COM -- 40K EF.HLP -- 12K
<b>PRICE:</b>	\$49; Site license, \$299 (Group rate permitting unlimited copies to local members)

by Frank Oechsli

Electra·Find is a kind of free-form data retrieval system. It will allow you to find and copy into a file (or to screen or to printer) pieces of text ("strings") from one or multiple pre-existing files. You may copy the string by itself or, more usefully, the string and its surrounding "context." A "context" might be a sentence, a paragraph, or some other section of a file which you may, within limits, define. The strings you search for may be single or combinations of strings related by "AND," "OR" and/or "NOT" according to the rules of a quasi-Boolean (logical) algebra.

Why would you want to use such a thing? There are many possibilities, largely limited by your imagination. You might want to query your accounting records to assemble a list of all the checks you have written to John Doe in the months of November and December, you might want to find all the times you had used a particular cliché you are prone to use in your writing or you might want to pull out all the lines of a BASIC program that contained a GOTO or a GOSUB. I edit a newsletter and I have used the program to find all references in previous issues to a given subject to help me figure out how to (or if to) use a particular item.

The program is well put together and well described in a professional-looking and -reading 50-page User's Manual. (There are some revisions in relation to Boolean selection that had not been incorporated in the manual O'Neill sent me. They should be incorporated by now.) Since the manual is so well done, I will organize this review around it.

(continued)

Frank Oechsli, an academic at the University of California, Berkeley, has been using computers in his work since the mid-1960's and microcomputers in his play since 1980. He would rather squander his time and money on computers than any other material object he can think of, at least for the present.

---

After two chapters of introduction, there is a long Chapter 3 on "How to Search with Electra-Find" that covers the more usual uses of the program. Briefly, you need to tell the program: a) what to look for, (a "search string"), b) where to look (in which files) and c) what to do with what is found (display it, save it in a file, print it). In order to do that, the program presents you with a menu screen that allows you to make those three choices. In most instances, you may accept the program's options by merely pressing "Return."

At any stage you may call up help screens that explain in fair detail a complex set of options. You can almost run the program without reading the manual at all by accepting the defaults, but the options allow a very complex set of choices. Chapter 4 has a general discussion of options and how to use the various option screens that the program offers. There is also an explanation of how to change the program's default options to tailor-make a program for your usual kind of use.

Chapter 5, "Search Options" details the kinds of searches you can make. These are listed as "Boolean," "Wildcard," "Phonetic," "Exclusion" or "Case-sensitive" searches. You may choose any combination of these types of searches or "None of the above" (which is called a "Common" search).

Chapter 6, "Input Options" details how one may choose which files to search. Here again, the options are complex but basically one may search anything from one individual file to all files on one or more disks, with partial inclusion and exclusion options that become incredibly rich. Moreover, one may make a selection from the directory of files to search.

Chapter 7, entitled "Output Options" primarily explains how one might vary the content and format of output files. Output may include the file name, line numbers (before or after the lines) and several different kinds of (limited) formatting options.

Chapter 8, entitled "Context Options" expands a bit on a subject closely related to both search and output options. The unit of search and of output is defined by a "context." You may define the context in a standard way as individual words, sentences or as paragraphs. However, you are offered the option of defining your own beginning and ending delimiters (which may include control characters) so that you can tailor-make your own contexts for a specific purpose.

I won't do more than mention the final chapter, "General Options." There is also an appendix that lists some 16 different specific suggestions as to kinds of situations in which one might use the program.

The program is generally menu-directed, meaning that you must answer some questions (if only to press "Return" to select the default option). However, you

can call up the program with the basic commands as arguments so that the program may be command-driven as well. For example, you might type in: "ef search.lst B:\* B:found.lst" to call up Electra-Find, search for text (as a Boolean list) in the file "search.lst" in all the non-.COM files on the B: drive disk and append the text to a file named "found.lst" also on B: drive.

At almost any stage of the proceedings you may ask for a help screen to advise you. I tried the program both before and after I read the manual and never found any hangups or irreversible errors. For most purposes you could run Electra-Find without ever referring to the manual--although I don't recommend this.

At one point the manual refers to Electra-Find as slow. I tried searching through a manuscript made up of 109 files, aggregating over 1 megabyte on four different disks. It took only 15 minutes, which doesn't seem overly slow to me. The length of time such a search takes depends partly on the amount of output being accumulated--in this case, about 14K.

I have two reservations about Electra-Find. First, for all but the simplest search for a single string, you must go into your word processor to create a file to define the text for which you are going to search, which I find awkward. Second, there are some problems with the Boolean (logical) algebra involved in setting up searches for anything more complex than a single string.

I'll elaborate on the latter point briefly. A "Boolean" algebra describes the truth-falsity of simple or complex statements. (Complex statements are simple statements connected by the "operators" AND, OR, NOT.) There are some standard rules that most people should have learned in school on how to use these operators, but since AND, OR and NOT are also part of ordinary English, almost all of us find it easy to use these terms in contradictory ways, even though their use in a mathematical sense is quite rigorously defined. Thus, one must be extremely careful in using them. In the present case, the Boolean operators are not used in the standard ways. I haven't analyzed it in detail, but O'Neill has apparently defined "AND NOT" and "OR NOT" as separate operators. ("NOT," in Boolean terms, is supposed to be a unary operator that does nothing but negate the following statement.)

Even though his use of these operators is non-standard, O'Neill does give good illustrations of their use in the descriptive material (which has not yet been incorporated in the manual). One can, therefore, use them. However, I would carefully try out a complex Boolean statement on a test file to be sure it is working as intended.

To sum up, subject to the qualifications I mention, I would strongly recommend the program. It is a good value for the money if you need such a tool. The program is well thought out and both the manual and help screens are well done. ■

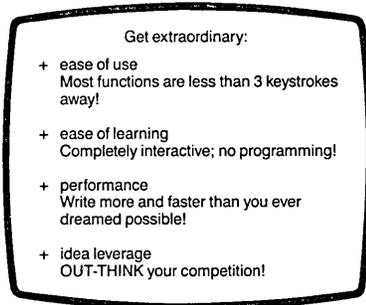
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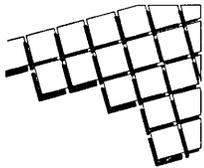
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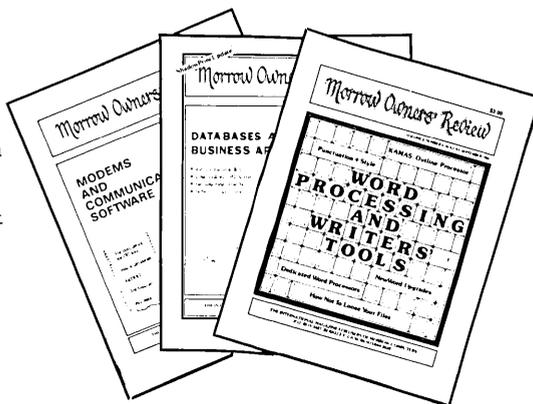
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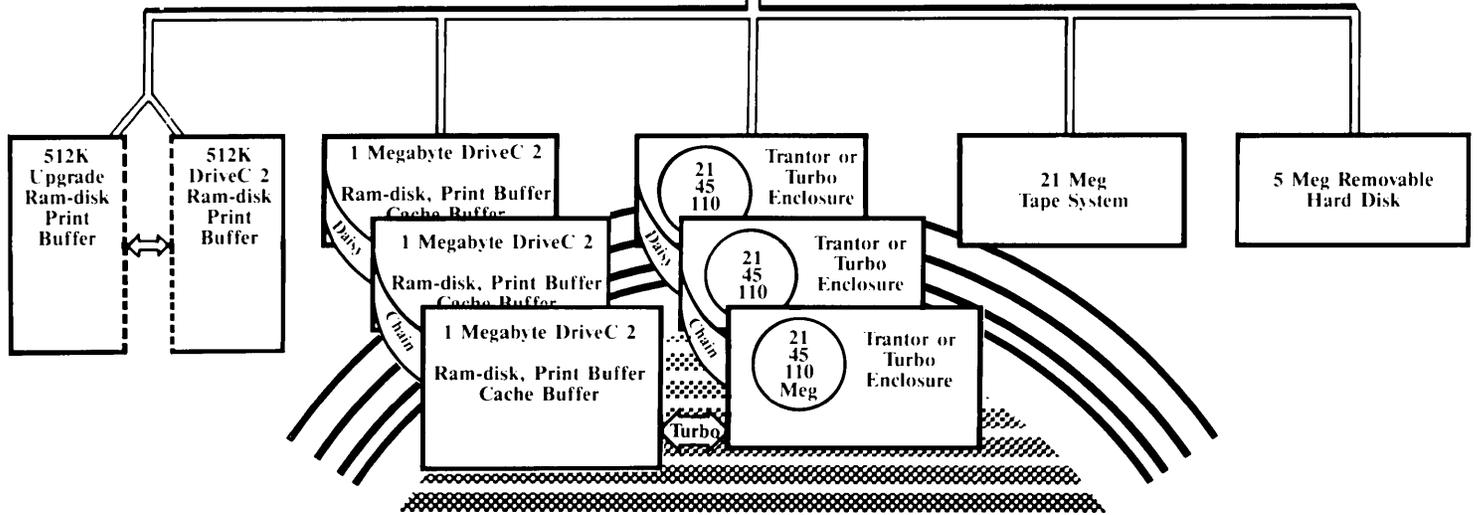
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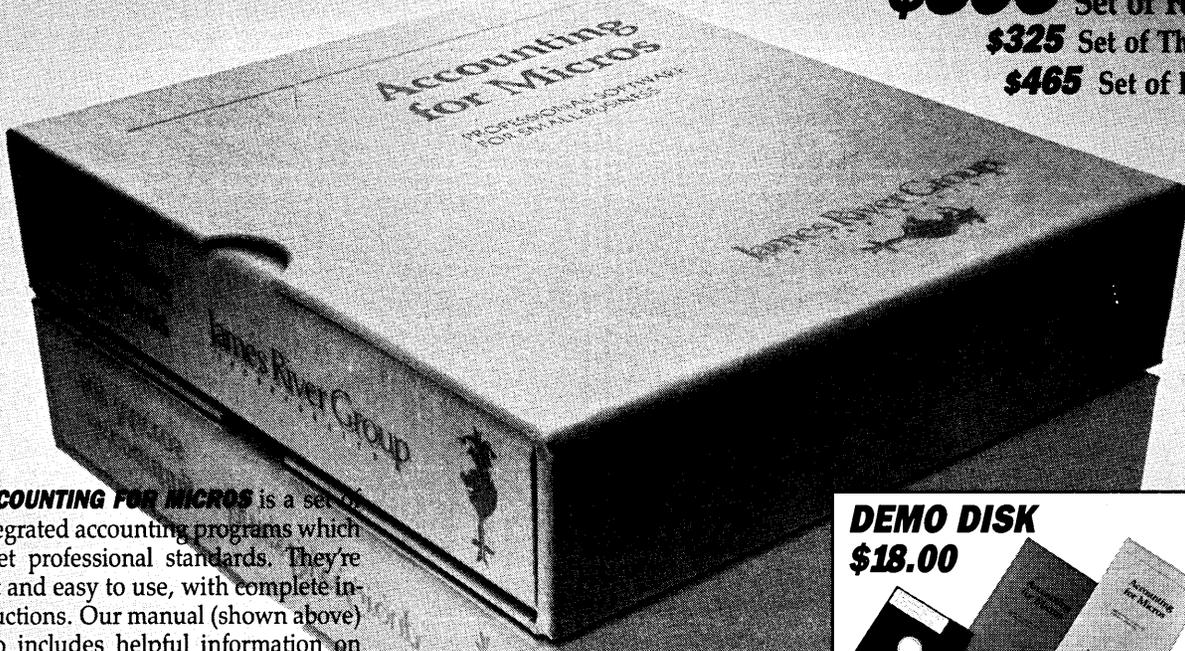
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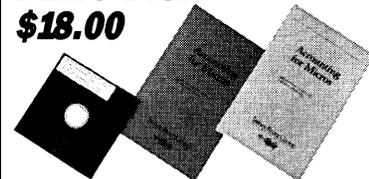
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