WORD PROCESSING REVISITED

A *review of five new versions of familiar* WP *packages for the* IBM PC—*WordStar, Word, pfs:Write, MultiMate, and FinalWord*

BY JANET CAMERON

Just a few years ago, we wordsmiths were satisfied with a word processor that would print out our text neatly. Today, though, our standards are considerably higher, and software manufacturers are responding with increasingly complex programs.

Part of the complexity of "installing" word-processing programs could be our own fault. Almost everyone who uses a word processor is spoiled. With our increasingly sophisticated palates, we have come to expect our word processor to be at least as good as a new and improved R2D2.

Some of them are. Some of them even do windows.

We demand an extremely high level of performance from word processors. We pay for this with increased difficulty in learning and operation. New packages with varying degrees of user-friendliness are flooding the market; currently there are some 150 to 200 word processors available for the IBM PC alone.

Updates, too, are flying out of software manufacturers' doors faster than you can push Escape. Some programs offer significant improvements; some are simply gimmicky add-ons or "holding patterns," i.e., devices to keep users from switching their loyalties.

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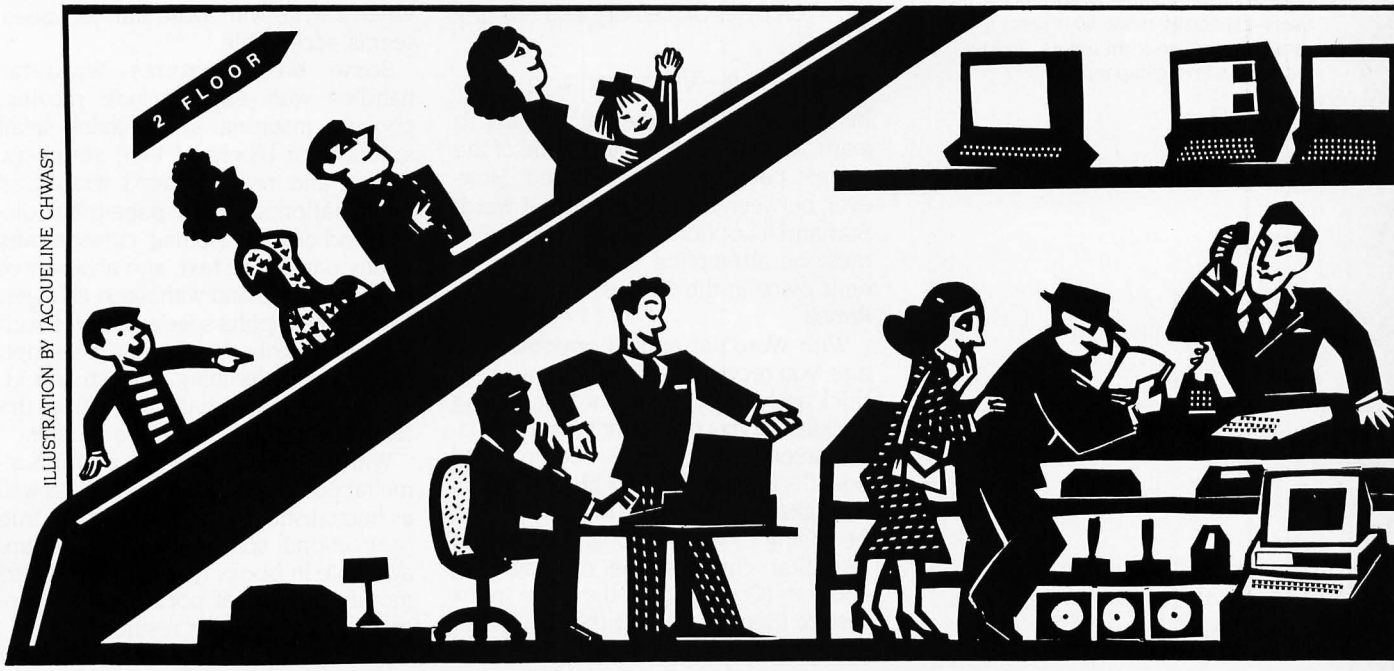

ILLUSTRATION BY JACQUELINE CHWAST

AT A GLANCE

Name
WordStar 3.32

Type
Word-processing program

Manufacturer
MicroPro International Corp.
33 San Pablo Ave.
San Rafael, CA 94903
(415) 499-1200

Price
$495; options package, $345; both, $695

Format
One 5¼-inch floppy disk; three additional disks for extended lesson tutorials; two additional disks required for optional speller/indexing programs

Language
Translation from 8080 machine language to 8086/8088 machine language (listing provided for some sections that may be customized by the user)

Computer
IBM Personal Computer (as reviewed)

Documentation
475-page loose-leaf manual including an installation, training, and reference guide; three disks with extended lessons; reference folder; key labels

Audience
Basic to sophisticated word-processing users, especially those who need to merge programs, create form letters, and use spelling and indexing capabilities

WordStar, Microsoft Word, pfs:Write, MultiMate, and FinalWord all are out with recent updates of their updates. Each of them has put in a few or many new bells and whistles. Each of them has deleted a few or many old bugs and gremlins. It seems that instead of trying to approach some sort of "standardization" in the way we operate word-processing software, the new wave of word-processing developers proceeds on the theory that whoever can achieve the ultimate in esoteric will achieve the ultimate in financial rewards.

I am a writer. I definitely am not a mathematical whiz-bang kid. Along with millions of others, then, I expect two things of a word processor: I want it to do a lot and I want it to be fairly easy to learn and operate. So far, although I've thoroughly tested more than two-dozen packages, I haven't found any such critter.

In researching this article, I used knowledge of and experience with these five packages, information from my anonymous calls to the manufacturers, opinions from friends who use these programs, and a recently published paperback, *The Ratings Book* (Wynnewood, PA: Software Digest, 1984), that features overviews of some 30 word-processing programs. I put the programs, in their updated forms, through some pretty strenuous paces on my machine, an IBM PC with DOS 1.1, 320K bytes of memory, and two disk drives.

WordStar—Version 3.32

In spite of its reputation as hard to learn, MicroPro's WordStar is one of the easiest packages to get started. However, between the new version of WordStar and its options package, MicroPro must be attempting to earn a permanent place in the *Guinness Book of World Records*.

With WordStar and its options package, you receive six disks and two very thick and erudite manuals. Just making backups of this monumental mass of information costs a fortune. The increased benefits provided by this library of floppy disks is worth a lot, but users must be willing to wade through the newest WordStar changes, the new spelling checker (CorrectStar), the new index system (StarIndex), and the handy but involved WordStar tutorial.

WordStar's Capabilities

There's not much you can't do with WordStar. Commands are initiated mostly with the Control key plus one to several keystrokes coupled with commands from one of the seven WordStar menus.

Beginning with the opening menu, a WordStar user can go to any of the program's seven help screens, open a file for editing, execute one of four file commands (print, rename, copy, or delete a file), see the file directory, set his level of help (from 0 to 3), or run either MailMerge or CorrectStar.

Besides the opening and help menus, WordStar users can access the editing and formatting screens and the print menu (which, strangely enough, is for special effects on the text and print defaults rather than for printing). Each screen is fairly self-explanatory. WordStar supports most of the best-selling printers on the market today.

All that is required to run WordStar is 64K bytes and one disk drive, but CorrectStar takes a major upgrade to 192K bytes of system memory and two disk drives. On my benchmark tests of all five packages (see table 1 on page 180), WordStar came out with medium-range times on all four criteria: loading and saving the document, searching for the final word *End*, and scrolling from the beginning of the file to the last line. When I write with WordStar, its speed seems acceptable.

Some basic features WordStar handles with ease include moving, copying, inserting, and deleting small amounts or blocks of text; automatic search and replace, word wrap, and hyphenation; dynamic page-break display and default resetting; cursor moves to any part of the text; and a variety of format settings and within-text changes. WordStar supports special features such as double strike, boldface, superscript, subscript, underlining, and strike out. The program automatically justifies the text unless you change the default.

With WordStar, you can perform simultaneous editing and printing, as well as microjustification. Directions for true proportional spacing on WordStar are available in books that explain how to modify the format portion of the program to achieve this result.

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AT A GLANCE

Name
Microsoft Word 1.1/2.0

Type
Word-processing program

Manufacturer
Microsoft Corp.
10700 Northup Way
Bellevue, WA 98004
(206) 828-8080

Price
$375 without mouse; $475 with mouse

Format
Without mouse, two 5¼-inch floppy disks; mouse-driven system requires a third 5¼-inch floppy "mouse" disk and a mouse card

Language
C (user-configurable for typesetter interface but cannot be customized)

Computer
IBM Personal Computer (as reviewed)

Documentation
400-page loose-leaf manual, 120-page mouse installation guide, graphics mouse guide, mouse operations guide, reference folder, and key labels

Audience
Basic to sophisticated users; mouse-driven program appeals especially to users who want speedier operation and less typewriter orientation

MicroPro representatives say they are "working on" a toll-free telephone number for end-user support. Updates of WordStar and the add-on packages are available for fees varying from $25 to $85, depending on the program. WordStar is not copy-protected, enabling users to make backup copies for their own use.

Users of the MicroPro family will find they can merge not only information from other "Star" packages into WordStar, but also that this pioneering word-processing package can often handle the integration of other vendors' programs into its system. WordStar handily deals with the creation and manipulation of columnar text and figures.

Sophisticated .DOT commands enable the user to utilize microjustification, conditional page breaks, headers and footers, top and bottom margins, page numbers, margin offsets, line height and paper length, bidirectional printing commands, and a variety of other advanced formatting options.

File merging, support of a host of printers, an on-disk tutorial, column manipulation, and decimal tabbing are additional features appreciated by confirmed WordStar users. Although WordStar has been added to, subtracted from, and revamped as much as its own cut-and-paste feature, the latest version is a clean package that performs superbly.

Among the improvements of version 3.32 over 3.0 are more clearly written documentation (the new pictures are a big help), user-definable function keys (and they aren't too difficult to program), simpler installation, support for multicolor on color monitors, redesigned menus, and faster screen updating. The best of these features is the improved manual, although there are still voids and complexities that could have been eliminated by almost any beginning WordStar user. As with every package, there are problems and limitations.

WordStar's Liabilities

A sure way to be marked and deleted is to badmouth the American flag, Mom, apple pie, or the sacred cow of word processing, WordStar. The program has its liabilities, and they are as peculiarly confusing as MicroPro's continuing utilization of non-mnemonic commands.

The six-lesson tutorial, though quite time-consuming, is helpful in learning this heavy-duty program. But the documentation is difficult and puzzling to get through. I especially have difficulty trying to find the index.

With most of the other word-processing programs I use, there is an S command for the Search function. Not so with WordStar. It uses a command called Find. Even though WordStar practically invented word processing and set the defaults for many programs, I still find this difference irritating.

When I am totally immersed in the writing process, I find it almost impossible to return to WordStar's opening menu. The way WordStar is set up, most of its commands work off the opening menu; when I have a problem accessing it, I have a problem producing my document. In fact, getting back and forth between WordStar's menus is a real pain. There are several ways to get back and forth, including the CTRL-K commands, but they are awkward and frustrating.

Still, WordStar is a clean, satisfying, in-depth program. Writers, office workers with serious word-processing needs, and people who spend a lot of time preparing nonstandard reports, papers, articles, etc., will probably consider WordStar the respectable giant of word processing. And in spite of the huge amount of competing programs, MicroPro still has a winner.

Microsoft Word—Versions 1.1 and 2.0 (with and without mouse)

It sure will help when Microsoft gets a toll-free telephone number for Word users and writes some half-way decent documentation. New users of the clever little mouse especially will benefit from these improvements.

There's almost a consensus in informed circles that mice are the wave of the future. I'm not sure I'm happy about this trend. If you're accustomed to keyboards, operating the mouse takes some adjustment.

In my case, Microsoft Word's 122-page so-called "installation and operation manual" is a complete farce. A fine tutorial is really needed. In the newest version, the addition of a small folder about using the mouse doesn't help a

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great deal. Clearer prose would help new users to get into the program with less than a lifetime of frustration.

Generally speaking, Word (with or without the mouse) is clever, put together well, and performs some extraordinary feats. Its highly touted windows are well worth the high touting. It's command structure is relatively easy to learn, and Word can fully utilize all the special characters (listed in its extensive help menu), hexadecimal codes, and up to 64 different type fonts.

Word's formatting and style-sheet capabilities are complete and more than satisfactory, though I found them hard to use fully while operating with the mouse. The biggest problem I have with Word is its many built-in redundancies, including having to use two disks to get into and out of the program; the multiple commands; confusing labels (Alpha, Gallery, Transfer, Division, etc.); and the use of the right, left, and both-together mouse buttons. Word's system disk contains copy-protected material and thus cannot be cloned. The program disk can be copied.

Instead of working to make the program more flexible in the context of current word-processing programs, Word's developers seem to be trying to completely reinvent word processing. At this time, I care not to start over from scratch. Those users who are just discovering the wonders of word processing may feel differently about Word.

Major enhancements in this revision include a built-in merge for customized form letters, built-in support for the Hercules graphics card, a mouse utility program that provides mouse support for several external programs, optional compatible spelling checkers, and the support of other computers and printers.

Now, without shuffling disks, Word's users can produce form letters; merge data from other Word documents, ASCII (American National Standard Code for Information Interchange) files, or from the keyboard; use direct output from other programs, such as dBASE II; and use English-like instructions with no restrictions on the contents or lengths of text fields to be inserted.

The utility program (called Mouse Menus) that comes with the new version of Word furnishes support for Multiplan, Lotus 1-2-3, WordStar, and VisiCalc. Word's developers say users may create menus to use with other programs.

Two spelling checkers are now available (at additional cost) to Word users. Microsoft's package can run on more computers and is compatible with more printers than before. According to the manufacturer, with this current revision, Word has the capability to support virtually every dot-matrix and daisy-wheel printer without requiring a special program. Only a printer-descriptor file (described in the manual) is required.

Microsoft Word's Capabilities

Power and flexibility mark Word as a

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AT A GLANCE

Name
pfs:Write 1.1

Type
Word-processing program

Manufacturer
Software Publishing Corp.
1901 Landings Dr.
Mountain View, CA 94043
(415) 962-8910

Price
$140

Format
One 5¼-inch floppy program disk, one 5¼-inch floppy "sampler" disk

Language
Pascal and assembly

Computer
IBM Personal Computer (as reviewed)

Documentation
70-page manual, on-disk "sampler" tutorial

Audience
Basic word-processing users and those who want form-letter capabilities

multifaceted program that's worth checking out. But there are hundreds of new things to learn if you choose this package for your own, especially if you opt for the mouse.

For those of you who aren't familiar with this little gadget, the Microsoft mouse is a hand-held device with buttons used either separately or in tandem to carry out commands. The underside of the mouse has a rolling ball that positions the mouse's cursor on the screen. By utilizing short directional moves and pressing one or both mouse buttons, the user points to and carries out Word's commands and functions. Essentially, the left button chooses the option you desire; the right button executes the command and puts you into the following level of command. Pushing them both simultaneously negates the previous order.

Some of the features programmed into Word include compatibility with hard disks; an "undo" facility with a scrap buffer; and highlighting of characters, words, sentences, and paragraphs for use with various modes (such as Move, Copy, Insert, and Delete). This program lets the user make the most of standard and advanced formatting with an ease up to this time unknown in the word-processing game.

Entering the program requires first inserting the Word system disk; then, when Word prompts it, the program disk. Backing out of the program requires the same hassle in reverse.

One thing Microsoft did right: it made the mouse very easy to install. You position and secure the printed circuit board that comes with the mouse into an expansion slot. Then simply attach the mouse's plug to the I/O (input/output) port and you're in business.

After you get into the program, things start to happen fast. A screen with a double border appears. One is a selector rectangle, the other is the movable mouse cursor. A visible ruler outlines the top of the screen; Word's menu, command, status, message, and information lines take up the bottom four lines. The working portion of the screen (19 lines) is a bit short, but the space seems adequate for my needs.

With the mouse-driven version, complete words prompt the user to choose Alpha (for entering or editing text copy), Delete, Format, Gallery (an alternative command/style process), Help, Insert, Jump (go to), Library (set aside for future features), and Options (sets measurements, turns on and off the alarm and overtyping modes).

The Print command sets the parameters for hard copy. Transfer is used for loading and saving documents from a data disk. Undo and Window round out the first level of commands. And that's just the primer.

In my benchmark tests, Word, along with WordStar, came out just about average in speed of saving, searching, and scrolling to the end of the document. In loading the document, Word was slightly ahead of the other four.

Word handles all routine chores with ease and dispatch. Some of its more advanced features include glossary options (an abbreviated way to delete or copy repetitive words, strings, or blocks of text) and windows (up to eight horizontal and/or vertical divisions of the screen for cutting and pasting, viewing and editing text, documents, footnotes, and so forth). Word also automatically reformats copy as you are working and displays a rainbow of colors when used with an RGB (red-green-blue) monitor.

You can use the mouse to create and handle windows by pointing to an area in the double border (the window bar) and clicking the button, or point to the lower right-hand corner of the screen and turn the cursor into a four-headed arrow. You can also create and manipulate windows with Word commands when the mouse is not being used.

Besides the standard word-processing functions, ASCII-based Microsoft Word has the capability to handle footnotes, multiple columns, the transfer of WordStar files, horizontal scrolling, and special features such as italics, sub- and superscript characters, small caps, underlining, boldface print, and combinations of these features. Integration with laser printers will be available as this type of printer becomes more commonly obtainable.

In the works, according to Microsoft, is badly needed revised documentation, a toll-free user support number, and an indexing capability.

WORD'S LIABILITIES

I have many friends who like this program a lot. For me, however, this program, especially when operated with

the mouse, has many more limitations than benefits. I'd like to mention a few.

Generally speaking, this package (even without the mouse) is extremely frustrating to learn and operate efficiently. With the advanced Word features, the user has to go to several different places and utilize more than one command level to get results. In order to operate the program with the mouse, you need some more-than-basic manual skills or a course in remedial pointing. It's very frustrating to miss the mark with the mouse's selector and destroy what has taken a good bit of time and effort to achieve, or to continually run the mouse headlong into the keyboard and risk ruining the keyboard or the mouse module itself.

Memory requirement for the program is 128K bytes and one disk drive, but my experience with Word leads me to believe 192K bytes and two disk drives are almost essential. An item most of us find extremely irritating is Microsoft's policy of copy protection. Yes, the *program* disk can be copied for your own use, but the *system* disk, necessary to boot and quit from the program, cannot be copied.

In order to tap into the mouse system, you have to read between the lines in the mouse non-manual and read the minds of the developers. Every now and again, when you hit a dead end, the only way to move ahead is to insert DOS (disk operating system) and utilize its capabilities. I could not find this situation mentioned in the documentation.

Word often moves text off the screen while it is in its operating mode. This is terrifying to those who need security blankets to keep their equilibrium while producing long or complex documents. Inadvertently wiping out text you intended to be permanent is frightening.

With Word, deleting is a two-stroke process. With many, many packages, deleting is safely accomplished with one stroke and response to a safety-valve question. Saving is even more disconcerting and time-consuming. Not only does Word require three or four steps to save material, but after you have executed these commands, it pauses more than 10 seconds before putting the message on screen that it actually is saving the material. This will be a long and awkward delay for most users.

PFS:WRITE—VERSION 1.1

Pfs:Write continues to plug along as an elementary program for users who don't have enough time to major in word processing or who have basic needs and aren't into the one-upmanship game. This revised program has some major deficiencies, though, including its inability to justify text except line by line, its insecure nature, and its extremely complex deletion mode.

PFS:WRITE'S CAPABILITIES

The benefits of pfs:Write are many. The main advantage is its overall ease of operation. I get the feeling the developers set out to make the package as simple to use as possible. (What a novel approach.) For instance, this program's main menu really is self-explanatory; it offers six choices: Type/Edit, Define Page, Print, Get/Save/Remove, Clear, and Exit. Pfs:Write's Define Page menu lets users make formatting changes other than the default values. With this selector, you can set the margins (top, bottom, right, left), specify page length, put in headers and footers (up to two lines each), and have Write automatically insert the page numbers for you. There are some tradeoffs, however, such as the program's assuming that any number found in a footer is a page number. If you need to have the footer act as a footnote, you're out of luck.

Pfs:Write does a good job of automatically reformatting text when you change parameters through its Define Page feature. You can decide you want your material to be squashed down to a narrow column instead of given the space of a full-width page. With the Print menu you can set print parameters; cause the program to merge other documents, such as VisiCalc (as long as they have been printed to a disk file); and create a text file by printing to a disk. The Print function also enables you to add graphs from pfs:Write's fellow program, pfs:Report, if the material has been saved as a picture file. You can print an entire document, one or many pages, space your material, print envelopes from the addresses in your letters, change the position of your text on the paper, and print the document to almost any printer that you can con-

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nect to your machine.

With the Print function, you can print more than one copy of your material. To take advantage of any of these features, or those from any other of this program's menus, however, you have to reprogram your thinking to use the Tab and F10 keys instead of the cursor and Enter keys.

More pluses for pfs:Write's Print mode include the ability to insert a command for special characters (such as italics or any others your printer will support), utilize more than one printer, pause between pages, and stop the print function at any stage simply by pressing the space bar (supposedly). When I tried this clever little "stop print" feature, however, my printer kept on humming along.

Appending is exceptionally easy. Simply enter the command at the location in your working copy where the joined document is to appear, and pfs:Write makes it happen when you print it out.

The Get command works approximately the same way as the Save feature. Pfs:Write makes a working copy of your document so changes affect the backup instead of the original. The Remove command provides an exceptionally easy way to permanently erase a document or other on-disk file. But there is no going back, no undoing, no changing your mind. If you don't have a backup copy and you command the program to erase your copy, you'd better have some Valium or a stiff drink handy.

When I crank up pfs:Write, I like what I see on my screen. At the bottom, I see a ruler with decimal and text tabs, line and page numbers, amount of memory space left, cursor position, places for special editing functions, error messages, and special enhancements, such as Insert or Label. The program also tells me when I am in "working copy" mode and how to get to the help screen (F1).

The package's Insert function is fundamental and acceptable. The program's developers should get an award for the uncomplicated "labeling" method of changing, deleting, moving, removing, and copying blocks of text. Function keys are used for moving around in the text when you label (highlight) the areas you want to change. The Search function works only in forward gear, but the Search/Replace function (either manually or automatically) is almost sinfully simple.

The program creates standard ASCII files, supports a hard disk, several new machines (the IBM XT for one), DOS 2.0, and shows on-screen the location of page breaks (with cursor move only, not with page-up or page-down moves). A minimum of one disk drive and 128K bytes is necessary to run pfs:Write.

PFS:WRITE'S LIABILITIES

Even though the program is inexpensive and the manufacturer provides one backup, the fact that pfs:Write is copy-protected is inexcusable.

Although the documentation summaries are good, the documentation itself (including the on-screen tutorials) leaves much to be desired. Yes, you can make a copy of "Sample," the on-screen tutorial, but who wants to? The tutorial teaches you about price lists before it even mentions cursor moves, and pfs:Write cursor moves aren't all that easy. In the book, the program's features are arranged from advanced to easy. Why? I found the material about form letters especially confusing. What should be elementary explanations are not. But the biggest problem I have with this pleasantly small, handy (not dandy) guide is that when I am searching for something, anything, the pages continually manage to get out of the spiral binding. Reinserting them is next to impossible. Thus I have a desk full of individual manual pages for this program.

To move the cursor more than one character at a time, it helps to have memorized the function keys. To move the cursor within a menu requires the use of the Tab key. The manufacturer provides a cheap cardboard template; when I tried to apply it over my function keys, it immediately tore.

The Get and Save portions of pfs: Write's Get/Save/Remove function aren't all they're cracked up to be. For a program with lots of built-in comfort, pfs: Write could excel here, but it doesn't.

Having to return to the main menu, push #4, type in the name of the document you're working on, and then press F10 is not only a huge waste of time but a sure exercise in how to forget what you were working on before you started into this process in futility. Then you have to reverse the procedure to get back into your document, consuming another few plodding minutes.

Pfs:Write's multiple-step Save procedure includes a sentence, "document about to be overwritten," each time you write the material to disk. "Press Escape to abandon this operation or F10 to continue." Sounds safe, eh? Wrong. To find out how safe it is, I pressed F10 in a couple of instances and instantly lost two hours' worth of data. After working with this problem, I concluded that the use of the term "overwritten" is questionable. Evidently, for some reason, the program doesn't always save newly entered material.

I got an additional dose of insecurity when I twice lost some copy after pressing F10 to continue in the printing operation (instead of pressing Escape to "abandon this operation") and the program trashed my prose.

Since I have a penchant for doing funky things to formatting defaults, I found it extremely frustrating not to be able to permanently change them in pfs:Write. And the program operates in Strikeover mode when my personal preference is Insert, but since this program's Insert mode is simple to get into and out of, I adjusted fairly quickly.

Deleting is not easy with pfs:Write, especially in Command mode. There *is* a destructive backspace, but you have to remember to go past the last character to activate it. And deleting forward is jerky and sporadic. Right justification, boldface print, and underlining can be done after the fact—one line or word at a time. With the Shift and a function key, these enhancements eventually do happen. But not without effort.

Although pfs:Write came out in my benchmarks about average in all four tests, I found you can add another year or two to your life during the time it takes to save material.

Several other "couldn'ts" include not being able to get pfs:Write to append files from other ASCII programs (it's supposed to do this); alternate the placement of page numbers or headers and footers; copy columns (it's supposed to be able to do this); save large deletions in order to move them; change formats within a document; and keep the original format of the file being appended to or merged with the pfs:Write file.

Updates are available for less than the package's original price, but at this writing, a toll-free user hotline is not in operation.

Nevertheless, in spite of (or maybe because of) pfs:Write's developers' persistence in retaining its KISS (keep it sim-

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AT A GLANCE

Name
MultiMate 3.20

Type
Word-processing program

Manufacturer
MultiMate International Corp.
52 Oakland Ave. North
East Hartford, CT 06108
(800) 243-4646

Price
$495

Format
Three 5¼-inch floppy disks: boot/system, utility, and speller/dictionary

Language
Assembly

Computer
IBM Personal Computer (as reviewed)

Documentation
469-page padded manual, reference card, templates, and key labels

Audience
Sophisticated word-processing users who want a Wang-like package with spelling-checker capability

ple, stupid) policy, this firm has assured itself a permanent and unique place in the word-processing marathon. When Software Publishing or another company fixes this program's faults while keeping its assets, we'll really have something.

MultiMate—Version 3.20

MultiMate International Corporation's efforts to "modernize" its program have resulted in a good news/bad news effect. Now MultiMate is safer—the safest package of the five I compared; but it's also klunky—the klunkiest package of the five I tested. Would that the company had concentrated on reducing the number of steps required to use each of the program's handy features instead of providing so many safety backups of safety backups.

The consensus is that this Wang-like program has a multitude of benefits and a multitude of sins to contend with. And my investigation bears out this opinion. Wangs are known for their heavy use of dedicated keys for cutting and pasting, canceling, entering, etc.; MultiMate seems to have patterned part of its program around this concept.

MultiMate's Capabilities

MultiMate's documentation actually starts with what you need to begin; this marks a beatific trend I hope catches on. As soon as I got over the shock of it all, I realized it takes 192K bytes (256K bytes with DOS 2.0 or 2.1) to begin. So I went to the memory store and hiked up my memory past what MultiMate says is necessary.

It takes three disks—the DOS/boot/system disk, the utility disk, and the speller/dictionary disk—to do all of what MultiMate provides. Essentially, the DOS disk gets things up and running and does the major portion of the tasking. The utility disk handles the responsibilities of converting to standard ASCII files and recovering lost data or missing format lines. The speller/dictionary (accessed from the main menu) is self-explanatory and works satisfactorily.

The program is easy to install; the documentation has good basic directions. And typing *wp* to boot the system is a grand way to enter. Would that we could start them all this easily.

This package has good walk-through screens—many of them. My impression of MultiMate's numerous help screens is that they are too numerous, and even with a chart in the manual, confusion reigns. It would have been easy and wonderfully clear had the developer simply put the key or keystroke combinations in boldface type followed by the explanation for each. For some reason, quick reference charts are few and far between. Why? Because MultiMate didn't do this, I did my own and found that within 15 minutes I had the most-used functions down pat. A template that does this is available from the company for $6.95.

MultiMate's status line displays the document name, page, line, and column number. Its format line indicates the current line length, line spacing, and tab settings. It also puts an on/off sign on-screen to remind the user of the status of the Shift and Numlock. I had problems with the page-length parameter. This program sets a limit of 150 lines per page, but just try to get it to actualize this promise.

Defaults are easy to change. And the information this program's documentation offers the user is helpful and appreciated. Novices, however, might find the going a bit tough at first since the jargon in the manual is pretty intense and assumes everyone is familiar with word processing.

MultiMate has several points in its favor. Besides being very safe, it lets you customize the program both with its standard utility and its easy-to-use PAT (printer action table) functions. MultiMate is politely sparse with its error messages, too, and hurls them at you only when you've done a no-no.

MultiMate's ability to work with vertical and horizontal columns (including calculations) is a bonus. Unfortunately, moving the vertical columns doesn't always turn out new, perfectly aligned material.

This program handles formatting chores as if it were made to serve. Centering, underlining, boldfacing, justification, spooling, continuous automatic reformatting, visual page breaks, and getting back and forth between menus all are easily dealt with. Tabs, margins, hyphens (hard and soft), and line spacing are simple.

MultiMate has a vehicle (its library) that enables the user to create macros

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for often-used words, phrases, strings, and other information the operator desires to call up at the press of a key. Although the program's speed has suffered since its developers reinforced its safety level, it came out as fastest in my save-document benchmark test.

At this writing, MultiMate International is shipping an update, version 3.3. Because of deadlines, I was unable to review this latest revision. According to the company, 3.3 incorporates faster screen refreshing, microjustification, an on-disk tutorial with an instruction booklet, and the optional capacity for the user to utilize ellipses for visible spaces when desired.

MultiMate handles moving, deleting, and copying with highlighting; headers and automatic page numbers are supported with little problem. There are some deficiencies in this area, however, and they will be noted under the section on liabilities.

The package supports a host of printers and is hard-disk compatible. The program is not copy-protected, and free updates are available for six months. Thereafter, they can be obtained for a reduced price.

The biggest bonus MultiMate has is its pool of knowledgeable, polite, and patient support people at the far end of a toll-free number (800-243-4646). It may take you a year or two to get through the busy signals, though, and even when you do manage to break into the hotline, you may end up on hold for another decade or two.

MultiMate's Liabilities

MultiMate's many hitches and glitches all combine to make it the most awkward package of all I tested. Now I can really relate to the theory that the sum of the parts equals more than the whole. Just naming a document with MultiMate is a chore if you take the manual's reserved character list as gospel. The symbol #, for instance, can't be used in the naming process, although I couldn't find information anywhere that mentioned that.

In the benchmarks, MultiMate came out last in speed of both searching and scrolling to the end of the document. Searching and highlighting can be done only in the forward mode.

Shortly after entering the program, my disappointment level rising, I comprehended that MultiMate's documentation had neglected to mention adjusting the contrast in order to see the highlighting so necessary to operation. Additionally, the manual takes up the subject of merging before it teaches basic editing functions.

Cursor control is difficult with MultiMate. Often the keystroke combinations designated to move the cursor around chunk by chunk don't do so. Sometimes Cntrl+End put me at the end of the text, sometimes at the end of the line.

The destructive backspace is slow, shaky, and tenuous, as if it doesn't intend to obey. If you want to change the default and permanently operate in the Insert mode, select another word-processing package. And don't try to tab over if you already have text on-screen.

When changing MultiMate files to ASCII and back again, I saw my copy turned into gibberish. During my investigation, I discovered that although this package lets users insert as many formatting changes as desired into a document, operators can "undent" (indent each line below the first paragraph line) or enumerate paragraphs (automatically number each succeeding section) only by doing it manually. With a package this powerful, why?

Although I understand MultiMate is coming out with an improvement, the spelling checker that came with my version had inherent in it so many gremlins, I never could get it to do anything worthwhile. It caused me nothing but problems.

The manual promotes MultiMate's shadow print, boldfaced, and draft print, but I had problems with these enhancements until a kind voice in the 800 nether-nether land explained that the program has an IBM bug in this area. He gave me detailed instructions as to how to subvert this and eventually I did manage. MultiMate does not do footnotes.

I started out with high hopes for MultiMate, but its disadvantages outweighed its great benefits. Too bad. The program has incredible potential.

FinalWord—Version 1.16

Until recently, FinalWord was almost alone in its ability to index documents. Now there are others that have this capability, including PeachText, Samna,

(*continued*)

AT A GLANCE

Name
FinalWord 1.16

Type
Word-processing program

Manufacturer
Mark of the Unicorn
222 Third St.
Cambridge, MA 02142
(617) 576-2760

Price
$300

Format
Two 5¼-inch floppy disks

Language
C (user-configurable but cannot be customized)

Computer
IBM Personal Computer (as reviewed)

Documentation
Hard-cover manual, approximately 300 pages (manual not completed at time of this writing)

Audience
Basic to advanced word-processing users, especially those who need sophisticated features such as the ability to create long documents, tables of contents, and indexes

Edix, and WordStar's StarIndex.

I have used FinalWord for well over a year now, but I haven't even touched its full range of features. Because I use it and rely on it, I have a strong love/hate relationship with it. For my purposes, its talents are exceptional and well worth the massive effort it took to learn it and get through its dozens of eccentricities.

The most recent revision of FinalWord consists of improved documentation, badly needed and a long time coming. Version 1.16's upgrades include the ability to wrap footnotes, produce unlimited end notes, support the new DEC (Digital Equipment Corporation) printers, and create foreign characters on the IBM PC. I prefer less bureaucracy in this program's handling of its swap file and buffer functions.

It's hard to believe, but the operation of this extremely powerful, sophisticated program requires only 64K bytes with DOS 1.1 and 128K bytes with DOS 2.0. FinalWord's capabilities are comparable to or greater than those of the other programs I tested, and the program uses less memory than most of them unless you use its indexing skills, which means you'll have to upgrade in a serious way.

This program's developers promote its safety with a swap file you can put data into and take out of with abandon, and buffers that hold editing changes like little pockets you can stuff with goodies. But because of some flaws in these functions, my experience with FinalWord hasn't been reassuring.

Mark of the Unicorn says it has repaired these irregularities. But since I can't go back and use the "nix fix" in the situation where I lost four days' worth of text (and FinalWord duplicated the tragedy on the backup disk), I can't swear to the perfection of the revised edition or the efficiency of the debug program.

Nevertheless, because of FinalWord's advanced (by an order of magnitude) formatting talents, I rate it extraordinarily high in performance for users who need to be able to do esoteric formatting chores. I also recommend it for people who produce extremely long and complex documents and need to be able to create indexes and tables of contents.

FinalWord's Capabilities

There are many, but I'll start with its versatility in letting users move the cursor from place to place with the Cntrl and arrow keys. I give FinalWord a solid A here. Moving, copying, and deleting blocks of text are tasks this package performs with speed and efficiency.

To its credit, this program isn't copy-protected. Generally speaking, Mark of the Unicorn offers free updates and fairly comprehensive documentation—especially in version 1.16.

It's possible FinalWord was a pioneer with advanced features, such as its Default Insert mode, windows, highlighting, replace functions, and mnemonic commands. Its abilities, too, in the areas of footnoting; headers and footers; "state-save"; use of the IBM function keys; text movement from one file to another while displaying both documents on-screen; and numbering system for pages, blocks of copy, footnotes, and chapters, are greatly appreciated by those who have used them.

Creation of ASCII files, spooling, user-definable keys, optional help screens, and microjustification and proportional spacing on printers that support these features all are important. But its advanced formatting capabilities are the hub around which FinalWord's reputation has been built.

Suppose you want to write poetry or produce a document (or part of one) with automatically numbered paragraphs. Suppose you want to change the formatting style numerous times within your text. Suppose you want to do some wondrous, aesthetic things with your material. FinalWord provides these and dozens of other advanced formatting functions.

The program lets you automatically underline words and spaces or just text; utilize sub- and superscript characters or boldfaced print; center, double-space, or justify text; set line length and bottom and top margins; alternate page numbers or headers and footers; and cross-reference material. There isn't much in the way of enhanced formatting or printing that FinalWord can't carry out for you.

FinalWord's Liabilities

There are, however, some basic and elementary tasks that FinalWord's developers have either overlooked or deemed low-priority items.

From my office, Mark of the Unicorn's support number is a local telephone call—fortunately. During my learning curve, I literally spent hours on the phone with the company's technical people. At that time, they were neither knowledgeable nor patient. That situation has improved, but a toll-free number has yet to be instituted.

FinalWord cannot handle columnar material (either text or numbers), horizontal scrolling, automatic hyphenation, or continuous reformatting tasks. Although the program came out ahead in the "scroll to end of document" benchmark, it is terminally slow in its preprinting sequential-paging mode.

You don't see what you get with FinalWord except with its View Screen command, which whips by so fast it's almost worthless. Because this package performs so many advanced functions, not being able to see what you have done (or want to do) is a serious drawback.

FinalWord's most frustrating characteristic is its habit of beeping and putting up error messages at the press of a key. A great deal of the time, too, the machine totally hangs up, either from an incorrect combination of keystrokes or just plain orneriness. Literally hundreds of times, in order to get FinalWord to accomplish a task, I have had to switch off my system, turn to another job, then return later and begin all over again.

FinalWord is a very powerful package,

(continued)

Table 1: *Benchmark results for the word-processing programs reviewed. All times are in seconds.*

	FinalWord	WordStar	Word	pfs:Write	MultiMate
Load document	11.9	9.9	8.9	9.6	9.3
Save document	71.0	31.66	42.6	20.1	3.9
Search document	10.4	12.43	15.1	13.5	42.1
Scroll to end of document	45.8	30.76	39.0	65.0	104.0

Table 2: *An evaluation of features and performance.*

Name	FinalWord (Version 1.16)	pfs:Write (Version 1.1)	WordStar (Version 3.32)	MultiMate (Version 3.20)	Word (Version 1.1/2.0)
Price	$300	$140	$495	$495	$375; $475 with mouse
Hardware Configuration	64K, two 5¼-inch single-sided floppy-disk drives or 300K capability and printer	128K, one single-sided drive	64K minimum, two floppy-disk drives recommended, but one drive is practicable if WordStar is already installed	192K with one double-sided drive (DOS 1.1); 256K with two double-sided drives (DOS 2.0/2.1)	128K, one double-sided disk drive (mouse optional)
Maximum Number of Characters Directly Manipulable	varies according to disk size and user-set size of swap file	largest document, 32,000 characters	files up to 8 megabytes, depending on storage capacity	128K in document; each page 6K long	varies according to disk size
Command Structure	control keystrokes organized by three-level menus, user-definable function-key support	menu-driven with function keys	command-driven, but uses function keys	mainly menu-driven with a few keystroke commands	command mode, line-structure oriented
On-line Help?	yes; optional command menus at top of screen accessed by keystroke commands	yes; through function keys and info screens	yes; four levels of help from no help to maximum help (user can specify level)	yes; while editing, hit Shift and F1, and from main menu	yes; 50-page text on-screen Help screens
Longest Line Length	65,535 characters (no horizontal scrolling)	79 columns	256 characters	156 characters	22 inches horizontally and vertically
Use of IBM PC Function Keys	optional; use of Alt, Shift, Cntrl, and assignable keys	extensive	yes; mainly as user-definable macros for WordStar functions	strong use of function keys; combinations of Cntrl, Alt, and Shift (40 options)	minimal; used specifically to jump from window to window and for selection of text
Insertion of Nonprinting ASCII Control Characters?	yes	yes	yes, i.e., phantom spacing	no	yes
Formatting Scheme	both on-screen and embedded command formatting possible	mostly through Define Page and through Type/Edit	through Cntrl commands, formats on screen	mainly format lines placed in document page (text)	on-screen and through style sheets
Print While Editing?	yes	product spools through printer card but not via product itself except file by file	yes	yes; background capabilities	yes; has queuing capability
Change Default Parameters? How?	yes; through menu-driven configuration program	no	yes; through its install program	yes; through menus	yes; via various menus or special key codes
Automatic Formatting Capabilities?	extensive and complex capabilities through embedded commands	yes; in Type/Edit	some; user can change margins	yes; some	alternating headers and footers
Change from Single- to Double-Spacing?	yes; through formatting "style" function	yes; at print time	yes; .DOT commands	yes; by search and replace of format lines	yes; via command menu or Alt key code
Can Text Be Searched for Printing Attributes?	yes	yes	yes	yes	no
Features of Disk-File Format	in 1.16, users have option to use full 8-bit characters covering entire PC character set, or users can stick to 7-bit characters and use the eighth bit for on-screen highlighting	DOS to format disk	n.a.	nonstandard file format with conversion utility to create standard ASCII files	can automatically save files in ASCII format
Reviewer's Assessment	I like this program's features slightly more than I dislike its limitations	I like this program slightly more than I dislike it	I like this program much more than I dislike it	I dislike this program slightly more than I like it	I dislike this program's features more than I like its benefits

but it's extremely hard to learn and operate. However, your hefty investment in time and frustration will pay off handsomely, and you'll enjoy its sophisticated subtleties and considerable capabilities.

A Roundup

These five programs appear to balance out in basic benefits and disadvantages. I wouldn't rate any of them unacceptable. Nor would I rate any of them way above the rest.

Particular features I like in WordStar are its compatibility with other programs, its capability to do just about anything you need a word processor to do, and the inherent integrity its developers adhere to in delivering on its promises to the user.

Advantages I appreciate most in pfs: Write include its built-in simplicity and its utility as a basic word-processing program.

Microsoft Word garners some favor because it is paving the way in flexibility. Microsoft's pioneering efforts may be the beginning of a whole different way for people to use word processors. MultiMate rates high in the areas of security and user support (through its toll-free user hotline).

Advanced formatting capabilities distinguish FinalWord. Even with all the recent enhancements to other word-processing programs, FinalWord still ranks high as one of the most able handlers of text-processing tasks.

Certainly, how much an individual likes or dislikes any word processor depends on the application for which it is used. At the moment, there is no ideal or near-ideal word-processing program to be had. As there is no camera that suits the majority of photographers, there probably never will be any software that fills most people's word-processing needs.

Along with many other word-processor users, I believe that some firm could make a serious financial killing were it to delete the disadvantages of these five programs and combine the benefits. My kudos will go to the developer who creates a word processor that has the ease of pfs:Write, the safety of MultiMate, the formatting capabilities of FinalWord, the flexibility of Microsoft Word, and the compatibility of WordStar. ■