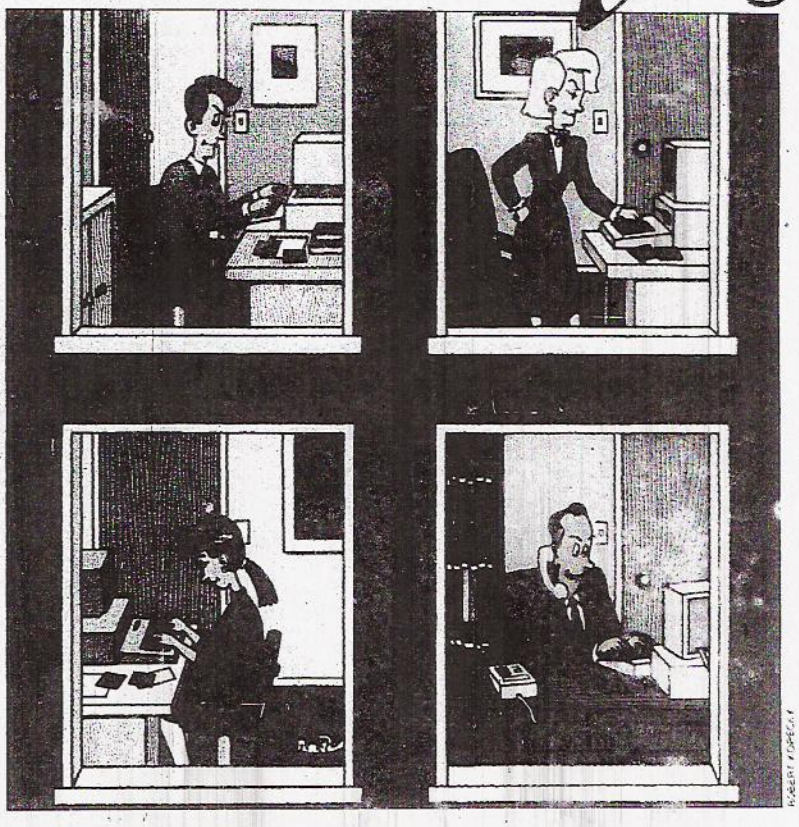
Product Comparison

Word Processing

For Professionals and Offices

By John Lombardi, Review Board



No other microcomputer software application has the universality of word processing, for virtually everyone with a keyboard and screen wants to process words. The heavy-hitting market campaigns and feature races have given us products that are bigger, better, and easier to use, but individual users can seldom sort out the value of their competing claims.

In this product comparison, we look at 12 high-end office and professional word processors, generally the most powerful packages available. If your only need is to generate memos, you'd be better off with an *executive* word processor, like PFS Write or Q&A Write. The packages compared here are so powerful that using one only for simple tasks is like buying an 18-wheeler to haul your weekend groceries.

However, for those responsible for producing the final copies of large, complex documents, form letters, extensive mailing-list projects, or technical materials, the capabilities of the products in this review are essential. Even so, it's hard to evaluate the performance and capabilities of word processing systems as complex and varied as these. While two products may, for example, handle multiline formulas (as found in technical papers) with equal facility, each will do it in a different way. Others claiming special features such as graphics may have significantly different capabilities and approaches.

The recognized market leader in this field is still Word Perfect, but its leadership is closely challenged by Microsoft Word and, more recently, Wordstar 2000. Other challengers, further back in the race, include: Displaywrite 4, Big Blue's self-imitation of a dedicated word processing system; Lanier's Deskworks, a translation of the vendor's dedicated word processing system; Mass-11, a recasting of a DEC minicomputer word processor; Multimate II, that venerable imitator of Wang word processing, which has slipped from leadership with the decline in the installed base of dedicated Wang systems; Office Writer, another Wang workalike; Samna IV, a Lanier carryover; Xywrite III Plus, an infinitely customizable editing engine; and Lotus Manuscript, a niche product that is gaining a wider audi-

InfoWorld Looks at 12 Powerful Programs

ence among those who create complex, highly structured documents.

Because the market for word processing software is so large and diverse, the kind of market dominance once enjoyed by Wordstar Professional is currently out of reach. Indeed, Version 4.0 really isn't competitive in the field Wordstar once dominated. Instead, several of the major products divide the responsibility for setting the standards, while a sizeable number of competitors gain sufficient market share to introduce vigorous competition and force continual product improvement.

As the fight for the minds and hearts of users grows ever more intense, the products become increasingly complex and powerful. Each wave of revision and improvement demands more from both the hardware and the user, and most developers attempt to deliver one major update yearly.

A COMPLEX ISSUE. To take full advantage of the products in this review you need a hard disk. Without it, there is little point in spending money for the software which either requires it or works less effectively without it. You would also benefit from a full 640K of memory and possibly an AT-class machine.

Using these feature-rich, complex packages can often demand a lot from the user. For example, creating a newsletter involves mastering font selection, page layout, and printer interface, not to mention drop-in graphics. These kinds of demands on the user create similar demands for expertise on the part of the vendor's technical support staff, to whom they turn with increasing frequency for help. But even the manufacturers have a hard time explaining things to perplexed users who call a support line. While most support lines have helpful technicians, they rarely can handle truly complicated questions.

In our discussions with word processing supervisors, skilled users, and trainers, we find a universal recognition that most users end up with a very good command of a relatively limited subset of a word processing system's functions. Very few can do it all, and fewer still can teach others what they know.

This heavy investment in training, combined with the fact that each manufacturer works hard to make its system unique, means that large organizations hate to change word processing systems once their people are trained.

CHANGES IN THE MARKET. Most of the current competition in word processing focuses on two related but quite separate areas. First are document processing tools. The ubiquitous mailing list and form letter represent the fundamental applications, but the category includes tools for assembling complicated documents from standard text (boilerplate) and various systems for managing preprinted forms or standardized forms printed by the word processor. Even more sophisticated systems include quite powerful flat-file database management systems. While not exactly word processing in our traditional understanding of that term, the professional products compete fiercely in this domain.

The second related area is document appearance tools. Originally, when we discussed document appearance we meant justified text, boldfacing, underlining, and perhaps the capability to change typeface or print wheel. But with the advent of the popularly priced laser printer, our expectations have changed. We now expect the word processor to handle proportionally spaced fonts in multiple sizes and styles, justified and printed to any printer. Graphics capabilities, both to import graphics and to create lines and boxes, are also much in demand.

Other significant capabilities include footnoting, tables of contents, indexes, math, sorting, dictionary hyphenation, spelling checkers, thesauri, and tables of authorities.

Word processing systems must cope with an immense number of choices and combinations. For example, the HP Laserjet, the best-selling laser printer, offers a proliferation of font cartridges and other add-ons that make standardization by a word processing vendor

How the Word Processors Were Reviewed

To evaluate products of this complexity and sophistication, we first identified and listed the features included in each package; the *InfoWorld* Test Center then tested those features to see that they do what they are supposed to do; and finally, we evaluated how well they accomplished the intended task.

For this product comparison, we have redefined our standards for word processors based on a recent survey of *InfoWorld* readers who buy them. As word processing packages have improved, standards have risen. In adjusting our scorecard to reflect these changing standards, we find that many word processors in this product comparison earn different scores, often lower, than they earned in earlier reviews.

Much of a word processor's score is based on its capability to produce specific types of documents, combined with the availability and variety of certain features. To arrive at a final score, we have come up with a weighting scheme based upon the "average" user's needs. You may want to adjust the weightings to reflect your use of such products.

In addition to identifying the capabilities and performance characteristics of these products through testing and benchmarks, we closely examine their ease of learning and ease of use. We make a careful distinction between ease of learning and ease of use, for we find many products that are somewhat difficult to learn may well be very easy to use. Conversely, many products are very easy to learn but turn out to be clumsy for experienced users.

Small differences in the evaluations may be of little importance to any individual user. For example, we have found that preferences for the style and appearance of the screen and user interface are often as important to users as incremental variations in speed or power. We also know the cost of retraining is so high that most people give up considerable power and effectiveness to maintain a familiar working environment.

Most of these products are quite good and provide a satisfactory solution to office and professional word processing needs. Still, there is no substitute for an expert individual evaluation of products within your own specific operating environment.

PERFORMANCE

Correspondence: To earn a satisfactory score requires basic cut and paste, search and replace, a full range of cursor movement, tabs, and a status line that includes the current page number. A good adds a variety of redefinable tabs, search and replace that maintains capitalization, and the capability to insert the current date and time. A very good score reflects a redefinable date function or the capability to center text vertically on the page. An excellent combines all these features and is clearly a top performer.

Spelling Checker and Thesaurus: A satisfactory score requires inclusion of a spelling checker and thesaurus that offer you a selection of alternative words. A good score calls for a spelling checker and thesaurus that are very easy to use, offer ample choices, and have both discretionary and global replace features. Cross-referencing and an optional list of choices warrant a very good rating. An excellent score is given to products that combine all of these features.

Mail Merge: Mail merge provides the capability to merge data from document files to form-letter files. A satisfactory includes error checking for the proper number of fields per record and automatic reformatting. A good includes simple templates and tabular formats. A very good merges user-prompted information and offers conditionals. An excellent mail merge adds a variety of flexible templates.

Outlining: A satisfactory outliner allows text to be printed in outline form, and it automatically renumbers edited sections. A product scoring good must include widow and orphan control and allow the user to switch between the outliner and the document file. A very good product includes the capability to extract an outline from text. An excellent product combines all of these features to facilitate easy outlining.

Table of Contents and Indexing: To score a satisfactory, the program must be able to prepare a table of contents with proper page numbers, and the index feature must include at least one subtopic. A good score requires automatic updating of page numbers if the text is edited and the capability to generate a table from an outline. The index feature can be applied through multiple documents, and it must have several subtopics. A highly automated table of contents is very good, and the index includes cross-referencing and compound numbers. Once again, an excellent score demands top performance in all of these features and their functions.

Footnotes: Satisfactory footnotes include superscripting, automatic renumbering, and space preservation. A good score requires end notes, automatic paragraph indentation, and widow/orphan control. A very good footnote feature provides a choice of markers and allows the user to jump between the footnote and its reference. Excellence in footnoting allows the user to create footnotes quickly and efficiently, and offers all of the features listed above.

Document Tracking: A satisfactory score requires visible redlining and strikeout. The document file history must include more than a summary comment (e.g., revision date). A good score includes additional information in the document history. A very good requires extensive document history and redlin-

INFOWORLD READER SURVEY RESPONSES

We conducted a survey of 1,000 randomly selected InfoWorld readers to determine which aspects of word processing are the most important to them. The chart below shows (in percentages) the responses to our question about features — which features are required, and how important is each one?

Feature	Required	Not Very Important	Somewhat Important	Very Important
Auto Reformat	70.9	10.9	25.7	63.4
Document History	20.1	47.0	35.6	17.5
File Transfers				
ASCII	73.9	8.8	22.6	68.6
DCA	23.2	43.0	36.4	20.7
Other	34.7	24.1	45.1	30.8
Footnotes	45.6	25.2	47.2	27.6
Graphics Integration	45.6	18.3	52.7	29.0
Indexing	40.9	21.3	55.0	23.8
Laser Support	73.5	12.1	18.5	69.4
Macros	40.1	24.7	42.9	32.5
Mail Merge	61.8	22.4	44.7	32.9
Mouse Support	31.0	40.9	31.5	27.5
Outlining	33.0	23.9	50.3	25.8
Spelling Checking	78.4	5.9	25.2	69.0
Style Sheets	35.3	26.0	45.5	28.6
Table of Contents	44.1	22.3	56.6	21.1
Text Retrieval	57.4	15.0	35.6	49.4
Thesaurus	51.5	23.8	45.1	31.1

We Test Word Processors the Way You Would

Jeff Angus

The *InfoWorld* Test Center has just completed a product comparison of 12 office/professional word processors, and we're delivering what we think is the most significant advance in testing usefulness ever. The products were tested not only quantitatively, but also for their various qualitative weaknesses and strengths.

The testing for this comparison, like the report cards, was shaped by a survey of *InfoWorld* readers who run sites where word processors are used intensively. They told us what they use their word processors to do, which helped us design test documents. They told us what they are looking for in their next package — and a lot of them are looking for a change — and that told us what features we should test for. They told us *how* they would test for the strengths of these features, and we implemented the strongest of the suggestions.

This truly was testing word processors the way the readers could if they had a sophisticated test center and extraordinary technicians at their command.

A MATTER OF TASTE. Qualitative testing is one of the most valuable — and touchy — areas for testing word processing. Word processors are like underwear — preferences among them are a matter of taste and very personal. So while qualitative analysis of word processing is an absolute necessity for any kind of meaningful evaluation, it's also a mine field for testers.

To neutralize the taste factor as much as we could, we first divided the products among several testers (to gain perspective). But we also made sure that all testers tested certain products in common to serve as reference points. The testers then negotiated a definition for satisfactory performance for each feature and compared notes frequently.

The testers designed sample documents to cover each of the nine document types, from simple memos and correspondence to lengthy documents with version-control information. We tested each product against each kind of document it was capable of handling, then we analyzed the product for coherence, ease of use, and capability.

At the end, the testers produced a consensus in the form of a written analysis of each product based on functionality with each kind of document. The result is a product comparison based on actual users' actual needs.

Notes From the Test Center

INFO WORLD TEST CENTER

By Jeff Angus ■ Test Center Director

and Tested for This Product Comparison

ing that is complemented by hidden text. An excellent score requires redlining and document tracking features that extensively describe how and when the document was changed, by whom, and when. This must be created and accessed easily and quickly.

Fonts and Style Sheets: A satisfactory is given to programs that have the capability to change fonts within a document, store rulers, and name and recall single styles (macros can be substituted). A good offers prepared or user-created files and stores files in libraries. A very good score reflects ease of use and a large glossary of styles, and an excellent program will allow a large number of styles to be recalled easily at numerous points anywhere in the document, including all of the features listed above.

Graphics Integration: A satisfactory score is given to programs that incorporate graphics (PIC, PCX, TIP). A good score includes the capability to view graphics while editing, print preview, and a program that supports several graphics formats. A very good program alters graphic size and image or offers Postscript support. An excellent means the program offers substantial graphics support and includes a great variety of manipulative functions in addition to the capabilities already enumerated.

Speed: Our speed scores are based upon the results of a series of benchmark tests on all word processing packages. We have listed the actual times (in seconds) that it took the products to achieve the various tasks. The field of tests was divided broadly into three types: translating or converting files from one format to another; saving and loading files; and editing files (e.g., search and replace).

Scores represent a compilation of how each product behaved in all tests and how its results compared with other products of its type. To achieve a satisfactory score, the product had to perform quickly and efficiently in the majority of tests. For a good score, the word processor had to perform all tests quickly and generally exceed the mean time. For a very good, it had to exceed the mean time in all cases, and for an excellent it had to be significantly better than its mates in a majority of categories.

Compatibility: Word processors store, in addition to a document's text, all formatting commands associated with the text. Unfortunately, each stores this information in its own unique file format. While ASCII is adequate for transferring text between incompatible word processors, it does not provide for transferring a document's formatting commands. DCA (Document Control Architecture) format also allows the transfer of the most commonly used format commands (boldface, center, headers, footers, footnotes, line spacing, and others). Many vendors rely on DCA as a "standard" format for transferring documents between incompatible word processors.

A satisfactory score in compatibility requires the capability to import and export ASCII and DCA format files. A good program lets the user import and export ASCII, DCA, and at least one other character-oriented format file. A very good includes at least two additional formats. An excellent in compatibility includes at least three additional file formats.

DOCUMENTATION

In word processing documentation we look for clarity, good examples, a thorough index, and easily accessible information. A satisfactory score in documentation also requires complete explanations of all aspects of the product combined with an adequate table of contents and index. A good score includes the same, but adds better examples describing the product's features. A very good score demands additional special documentation, such as startup booklets, installation and printer driver booklets, and the like. Excellent documentation is, of course, the most complete of all, requiring flawless explanations and an exceptional level of completeness.

EASE OF LEARNING

Ease of learning is a function of clarity and the intuitive nature of the user interface and the command structure. Generally, we look for complete written guides and instructions as well as on-line help and tutorials (on-line or written).

Good error messages, while judged separately under error handling, support ease of learning as well. To gain a satisfactory, the word processor must have reasonable on-line help, a booklet tutorial, sample document files, and a "getting started" booklet. A good score calls for an on-line tutorial and an all-around better help system. Very good includes a more elaborate on-line tutorial with added features combined with a comprehensive help system. To earn an excellent, the product must include a superb on-line help system with full descriptions, almost to the point of making the manual obsolete. The full on-line tutorial should show each special feature. Special features such as the capability to access the tutorial from the screen help system can boost the score.

EASE OF USE

A better score in ease of use typically reflects features such as customization of the user interface and the capability to turn off learner aids. Macro capabilities and the complexity of special features are also considerations. For a satisfactory score, the product should operate as it claims it can with no surprises, with the user interface arranged in a graceful, efficient, manageable manner. For a good score, you should be able to choose to use command keys instead of the menu. Turning off the help function is another expected option.

For a very good rating, the word processor must have reasonable macro capabilities and some customization features. An excellent program combines all these features plus is flexible in default arrangements and has a highly consistent command structure. The macro capabilities for this score should be extensive.

ERROR HANDLING

Data Integrity: A satisfactory in data integrity means the program handles errors and mistaken user entries without data loss or an unexpected exit from the system. A good score requires the provision of options to back up files automatically combined with a reasonable Undo command. A very good sports a multilevel Undo command and the loss of no more than one page of data in the event of a system crash due to a power failure. An excellent score requires all of these features combined with no data loss in the event of a power failure.

Error Messages: To score a satisfactory in this category requires fully documented error messages in the manual and basic accuracy and readability of on-screen messages. A good score is awarded for short but informative on-line messages, and a very good is given for error messages that suggest solutions. An excellent score demands that the messages suggest solutions combined with a complete description of alternatives. In all cases, the manual should include clear and accurate error messages.

SUPPORT

Technical Support: A satisfactory score requires an accessible support number with support personnel who know the product and can answer questions adequately. A good requires the same, but the support staff should be helpful. For a very good, technical staffers should know the product and offer technical hints or other additional helpful advice. An excellent requires technical personnel to go above and beyond the call of duty. Bonuses are awarded for toll-free numbers and on-line support, and points are subtracted when the user must leave a message and be called back.

Support Policies: Support policies are calculated by awarding bonuses to the basic policy for product usability warranties, money-back guarantees, and corporate extended support. We subtract points for limited support periods or no cost-free support. Points are also subtracted for copy protection.

VALUE

Value is always a trade-off among performance, features, ease of learning and use, and, of course, price. Within a competitive range, value is judged by determining how well a program scored in other categories compared to its own and other products' pricing. The better the performance/price mix, the better the value. An excellent score requires top performance at a reasonable price. It should be noted that a product that does not perform well but is inexpensive could not rate an excellent. It must have, within reason, the best of both worlds.

difficult. We expect our word processors to handle this type of problem, and we want it done simply and automatically. Seldom do we get what we want as easily as we want it.

DESKWORKS
Version 3.A1

Derived from dedicated word processing, Lanier's Deskworks represents a big, reasonably powerful, but not quite competitive product. Deskworks capably handles large documents, does indexing (without subtopics), section/paragraph numbering, footnotes and tables of authorities, mail merge, and forms processing. Its table of contents feature allows for seven levels in its format.

Conversely, it does not handle newspaper columns very well, cannot support more than a few printers, accepts only the oldest HP Laserjet, does not handle any soft fonts, has a search and replace feature that does not mimic capitalization, and offers no way for users to modify character tables or printer definitions. The program does not support graphics. The indexing feature does not support subtopics and only allows 220 entries per index. We rate the table of contents and indexing section poor.

Although this program comes with a thick, intractable manual and a quick-reference handbook, the documentation forces the user to search and search for instructions. Even when found, the absence of sufficient examples or screen displays makes the instructions and options hard to decipher. This product rates satisfactory in documentation.

Further complicating the use of this program, Deskworks expects at least 11 function keys, preferably along the top of the keyboard. Users with the standard 10 function keys have to establish command keys to match the expanded function-key setup of machines with 12 keys. The program isn't good enough to be worth the trouble. We must rate ease of learning and ease of use only satisfactory.

These inconveniences might be endurable if the program did an outstanding job in any category of word processing, but we found it either satisfactory or not as good as the competition. Samna IV generally has superior performance and features.

Deskworks will print, repage, and perform a variety of other functions in background, freeing the system for additional editing. However, the menu structure is confusing, on-line help is virtually nonexistent except for cryptic one- or two-line comments and a reference number, and error messages are often incomprehensible or wrong, earning the program a poor rating for error messages.

Deskworks is supported by a decentralized staff, which is clearly spread too thin. Technical support personnel were helpful but did not seem to have a deep knowledge of the product. Support policies for this product meet industry standards, and we rate support policies and technical support satisfactory.

Despite its impressive number of features, we do not recommend this product except for offices in which Harris-Lanier dedicated word processing systems must coexist with PC-based workstations. The advantage of similar command structures could possibly outweigh the ordinary performance and ease of use of this product, but we doubt it. With better products available in all categories, we do not recommend Deskworks, and we rate it a poor value.

PRODUCT SUMMARY

DESKWORKS
Version 3.A1

Company: Lanier Business Systems, a division of Harris Corp., 1700 Chantilly Drive N.E., Atlanta, GA 30324; (404) 329-8000.
List Price: $495.
Requires: IBM PC or compatible, 640K, monochrome or color monitor. Hard disk recommended.
Pros: Performs many functions in background, including printing and repagination; good features list including indexing, section numbering, footnoting, tables of authority, mail merge, and forms processing.
Cons: Expects 11 function keys, preferably along the top of the keyboard; poor printer support; clumsy operation; substandard error messages; ordinary performance.
Summary: A big, reasonably powerful, but not quite competitive product. Recommended only for Harris-Lanier dedicated installations.

DISPLAYWRITE 4
Version 1.0

IBM's heavyweight, derived from its dedicated word processing systems, is powerful, ponderous, and effective. It provides a quick, variable search and replace feature and a footnote library for storage of frequently used footnotes. It also includes a "paper clip" feature that can be used to return to the last cursor position before end/save was performed.

However, Displaywrite is still not a graceful product. It requires users to

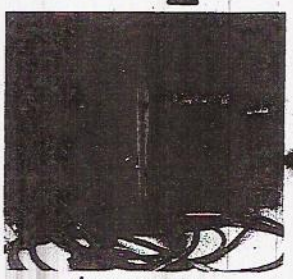
PRODUCT SUMMARY

DISPLAYWRITE 4
Version 1.0

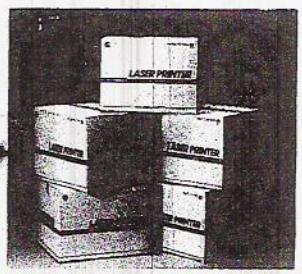
Company: IBM Corp., Old Orchard Road, Armonk, NY 10504; (800) 447-4700 (for dealer information).
List Price: $495.
Requires: IBM PC or compatible; 384K; DOS 2.1, 3.2, or 3.3. Hard disk recommended.
Pros: Good with large documents; strong mail list and document assembly.
Cons: Poor technical support; supports few printers; has fewer features than competitors.
Summary: Not difficult to learn and use, but still not competitive with the best. Most suitable for all-IBM shop with large systems integration and in-house tech support.

What's the most logical way to connect everyone to a laser printer?

$695



$6,950



$16,950

Most offices have only one laser printer. So user access can be a real pain. But a Local Area Network can cost twice as much as the printer. And buying a laser for each user is out of the question.

That's why The Logical Connection makes everyone happy. *You,* because the cost is low, *your employees,* because they each get a laser virtually at their fingertips.

With The Logical Connection you can put the printer in a central location. Users access it in seconds from their own terminals with the new, simple and convenient, memory-resident, "Pop-Up," switching menu. Then, The Logical Connection takes over. If the printer is occupied, it holds each job until its current work is finished, automatically printing each new job in turn.

PC MAGAZINE EDITOR'S CHOICE

No wonder *PC MAGAZINE* has *twice* named The Logical Connection its Editor's Choice. In fact, they called it, "... more than logical—maybe inspired."

Everybody's happy with the Logical Connection.

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SALES OFFICE: 1322 Bell Avenue, Suite 1A, Tustin, CA 92680
(800) 225-2775 (714) 259-0541
The Logical Connection is a trademark of Fifth Generation Systems, Inc.
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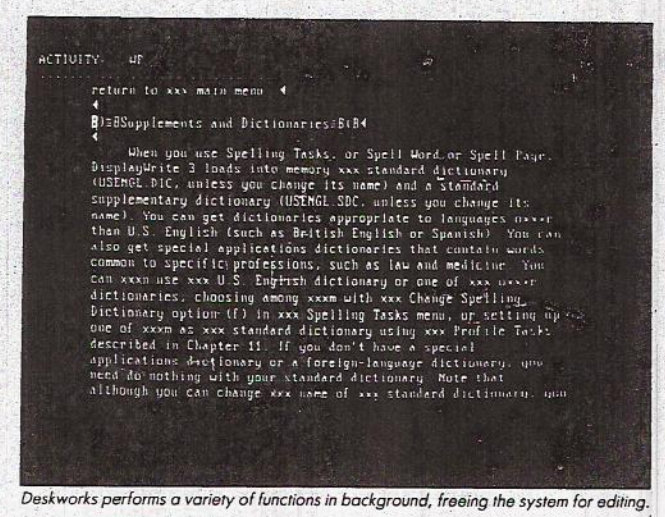
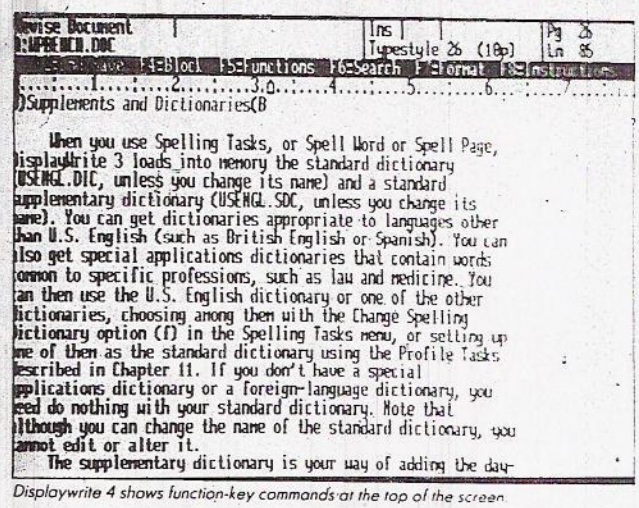
From Fifth Generation Systems
The makers of FASTBACK and FASTBACK PLUS



Deskworks performs a variety of functions in background, freeing the system for editing.



Displaywrite 4 shows function-key commands at the top of the screen.

conform to its somewhat quirky use of editing keys. Moreover, the program will not reverse-wrap the cursor from a subsequent line to a previous line with the arrow keys; there is no document history feature; the speller is merely competent; there is no thesaurus; and control codes can only be deleted with the Del key, not the backspace.

Displaywrite 4 can do a good job of managing complicated document assembly tasks or mailing list operations. Table of contents, indexing, and table of authorities capabilities are available in an optional $125 package called IBM Displaywrite Index Support. However, even the improvements of Displaywrite 4 do not bring it into contention for the championship of page-oriented word processing systems.

Documentation is exceptionally clear, with good examples. We rate it good.

IBM's printer support is among the worst in the business. This product supports only IBM-brand printers, although it is possible for experts to prepare printer drivers for other products. Support for non-IBM laser printers is available separately through dealers at no extra cost. IBM provides no support to individual users, presumably expecting corporate support staffs to handle it, earning this otherwise satisfactory product an unacceptable rating for technical support and a poor for support policies.

We do not recommend this product except for offices with strong support staffs, a major commitment to IBM hardware and software, and many workers already familiar with IBM word processing products. For these offices, Displaywrite's capability to support IBM systems is strong. While holding its own in some areas, Displaywrite 4 is not as competitive in power, ease of use, ease of learning, or performance. We rate Displaywrite a satisfactory value.

LOTUS MANUSCRIPT
Version 1.0

Lotus' Manuscript is a phenomenon. Although this product appears to be a powerful word processor, it is actually what a spreadsheet fanatic would think a word processor should be. This program is *structured*. Everything has its place, the places are labeled and marked, and the program works with the contents of these spaces.

Manuscript is a good performer, handling complex documents such as technical reports, proposals, and similar highly organized materials with headings, subheadings, tables, graphs, charts, sections, and the like. We can imagine few more effective tools for assembling and constructing a document than Lotus' Manuscript. It handles complex multilevel formulas with aplomb, and it inserts Lotus .PIC files directly into the text with

OFFICE/PROFESSIONAL WORD PROCESSING SOFTWARE • FEATURES CHECKLIST

■ Feature
□ No Feature

	Deskworks 3.A1	Displaywrite 4 1.00	Manuscript 1.0	Mass-11 7B	Microsoft Word 4.0	Multimate Advantage II 1.0	Office Writer 5.0	Samna Word IV 1.1	Word Perfect 4.2	Wordstar Professional 4.0	Wordstar 2000 Plus 3.0	Xywrite III Plus 1.5
Auto Reformatting	■[1]	■[1]	■	■[1]	■	■	■	■	■[1]	□	■	■
File Transfer												
ASCII	■	■	■	■	■	■	■	■	■	■	■	■
DCA	■	■	■	■	■	■	■	■	■	Optional	■	■
Other	□	□	Thinktank	■	□	■[6]	■[6]	■[7]	■[10]	□	■[2]	
Footnotes	■	■	■	■	■	■	■	■	■	□	■	■
Graphics Integration	□	□	■	■	■	Optional	Optional	■	□	□	■	
Indexing	■	Optional	■	■	■	□	■	■	■	■	■	■
Laser Printer Support	■[11]	■[6]	■	■	■	■	■[11]	■	■	■	■	■
Macros	■	■	□	■	■	■	■	■	■	■	■	■
Mail Merge	■	■	■	■	■	■	■	■	■	■	■	■
Mouse Support	□	■	□	□	■	□	□	□	□	□	[3]	[3]
Outlining	■	■	■	■	■	□	■	■	■	□	■	■
Document Tracking												
Document History	□	□	■	■	■	■	■	■	■	□	■	□
Redlining	□	■	■	■	■	□	□	■	■	□	□	■
Spell Check	■	■	■	■	■	■	■	■	■	■	■	■
Style Sheets	□	□	□	■	■	■	□	□	□	□	■	■
Table of Authorities	■	Optional	□	■	□	□	□	□	■	□	□	□
Table of Contents	■	Optional	■	■	■	■	■	■	■	■	■	■
Text Retrieval	Optional	□	□	■	■	□	■	□	■	□	■	■
Thesaurus	■	□	□	□	■	■	■	□	■	■	■	■

[1] Automatically reformats a paragraph as cursor moves through it.
[2] Translates Wordstar Professional, Multimate, Displaywrite 2 or 3, Word Perfect, Microsoft Word, and optionally Navy DIF formats.
[3] Although the mouse can be used for drawing boxes, etc., the mouse is not supported while word processing.
[4] It is possible to include graphics in a document; however, only "printer ready" files can be integrated.
[5] Only supports linear cursor movement.
[6] Displaywrite includes laser support only for IBM printers; support for non-IBM lasers is available through dealers at no extra cost.
[7] Translates DIF and Navy DIF.
[8] Translates 1-2-3, DIF, Visicalc, Wang PC, Wang OIS/VS, Wordstar Professional, Navy DIF, Honeywell, and Just Write formats.
[9] Translates Multimate, Wordstar, and Wang PC formats.
[10] Translates DIF, Navy DIF, Wordstar, and Multimate formats.
[11] Does not support Apple Laserwriter.

options to resize, rescale, and otherwise manage the picture element.

Manuscript has a good speller but no thesaurus. Also, the user cannot interactively check or edit spelling. It has effective indexing, table of contents, and figure list capabilities. Manuscript doesn't compete with the very best in this group on word processing performance. It does, however, have a superior print preview feature, which shows how text elements will look when printed.

The program has all the standard word processing features, such as mail merge, case change, centering, print enhancements (bold, underline, italics), and justification, but it lacks such refinements as conditional form-letter mail merge, forms management, hyphenation, and sorting. It does not include a page-number display on the status line. Although the program has a gallery feature, it does not offer style sheets or macros that could mimic them.

Although the program does a fine job configuring printers, its Laserjet support does not include any soft fonts. A call to the technical support line, however, provided the information that additional laser printer support — including the soft-font support we wanted — is available free on request.

The documentation is exceptional. It offers plenty of extras and is flawlessly accurate. We rate it excellent.

Manuscript's error log enhances its error messages feature. This file shows a listing of errors that occurred during your work. We rate error messages excellent.

Data integrity is achieved, in part, by an automatic backup file that is created every time you save. We rate data integrity very good.

The program has its peculiarities, however. Formulas are entered in a code that involves special words to represent the elements, and the program reconfigures these into the correct formula or equation using the right symbols. Picture elements or graphs are inserted via similar backslash commands that put the 1-2-3 graph file into the document at print time properly scaled to size. The print preview will show how the graph will look when it's printed.

Technical support was accessible and

A Survey of Grammar/Style Checkers and Reference Tools

Language experts agree that clutter is the disease of American writing. William Zinnser, a former Yale University writing teacher, editor, and critic, warned, "We are a society strangling in unnecessary words, circular constructions, pompous frills, and meaningless jargon." To fight this clutter and produce effective writing requires three components: clear thinking, a working knowledge of the English language, and serious rewriting.

Software grammar and style checkers can help with the rewriting process. Used extensively now by technical writers (particularly in aerospace), these electronic editors should have wide appeal as they improve grammatically and become easier to use. None of these products promises to transform the user into a literary genius, and all assume the writer has basic English skills. Common sense is vital because none of the editors can check syntax (the way in which words are put together to form sentences). We haven't seen that product yet.

We ran seven style checkers and style reference guides through their paces to see what they could accomplish. Each digested two types of documents: a verbose, convoluted technical paper and a rough draft of a historical discussion.

ELECTRIC WEBSTER

Electric Webster is basically a spelling checker that also includes a grammar and style checker which lets you make immediate corrections in your document without returning to the word processor. This is a real plus for quick, minor changes, and you still have the option of marking the error for later editing, leaving the phrase "as is," or electing to skip checking the phrase through the rest of your text. The entire category can be eliminated if a particular writing problem is one you don't have, and the phrase dictionary is customizable.

Electric Webster looks for 22 types of grammatical problems, including passive voice, imprecise words, awkward constructions, and long phrases. The problems it marks are sometimes a bit bizarre. For example, in the phrase "Nazi party," it suggested "person" instead of "party" because "party=legal use only."

The package is speedy but requires you to work through the spelling checker before you can use the grammar checker. You can, however, use the built-in 50,000-word dictionary and skip the style and grammar checking altogether.

Cornucopia Software Inc., P.O. Box 6111, Albany, CA 94706; (415) 524-8098. Version 2.0g, $129.95. Requires 64K, PC/MS-DOS 1.0 or later, two floppy drives. Works with standard ASCII files and many popular word processor file formats.

GRAMMATIK II

Grammatik II is our overall favorite grammar and style checker. It is a comprehensive and flexible analyzer that proofreads for 22 types of stylistic and grammatical errors, such as clumsy, illiterate, trite, pretentious, redundant, or wordy phrases. Its 1,000-word/phrase dictionary can be customized, and the wide variety of options in problem selection, marking, level of strictness, etc., provides a smorgasbord of services you can sample until you determine exactly what you need.

The package generates a readability analysis and statistical summary that can be enhanced with optional features. Grammatik offers five screens of comparative graphs, each ranking your writing with (a) a life insurance policy (very heavy reading), (b) the Gettysburg Address, and (c) a Hemingway novel. The easy-to-follow manual says these graphs are meant to "stir your competitive spirit." Certainly Hemingway's style — concise sentences, strong action verbs, and limited use of passive voice — is a good model for weak writers.

Grammatik isn't perfect, however. Deleting the numerous marks and suggestions in the document is a tedious process, at best. The package missed some passive-voice constructions. We strongly disagree with the manual's statement that a low percentage of imperatives suggests a lack of sentence variety.

Reference Software, 330 Townsend St., Suite 123, San Francisco, CA 94107; (415) 541-0222. Version 1.32, $89. Requires 128K, DOS 2.0 or later, two floppy drives. Works with standard ASCII and many popular word processor file formats.

KEY NOTES ASSOCIATED PRESS STYLEBOOK

The AP Stylebook is a diskette-based version of the trusty guide beloved by journalists and business writers. On two diskettes, this reference program (it does *not* analyze style or grammar) offers additional sections on computer terms, sports guidelines and style, and business guidelines and style.

The AP Stylebook is memory-resident and activates when you hit the designated hot keys. It comes up as a window on your screen, and a series of menus guides you to the entry. A search mode automatically moves you to the appropriate section.

The question is this: Can you hit the hot keys, bring up the right menu, and locate the entry as quickly as you can whip through your well-thumbed *AP Stylebook* in *book* form? We couldn't, but it's probably a harbinger of the "paperless" office of the future.

Digital Learning Systems Inc., 4 Century Drive, Parsippany, NJ 07054; (201) 538-6640. $59.95. Requires 128K, DOS 2.0 or later, hard disk.

KEY NOTES WRITER'S HANDBOOK

This is another reference program that does not analyze style or grammar. Writer's Handbook is divided into a section of rules and an information bank; while the information bank is useful, we found some of the rules simplistic. (It is difficult to believe that anyone would not know that the pronoun *I* always requires capitalization.) The NYMS file — acronyms, antonyms, homonyms, pseudonyms, and synonyms — is excellent, but pacing yourself through the menus can be tedious.

The Foreign Phrases file is particularly good. The sections on abbreviations, calendars and holidays, computerese, signs and symbols, etc., could be helpful from time to time, but they are far from complete.

Digital Learning Systems Inc., 4 Century Drive, Parsippany, NJ 07054; (201) 538-6640. $39.95. Requires 128K, DOS 2.0 or later, two floppy drives.

PC-STYLE

PC-Style is a speedy little analyzer of readability based on the occurrence of action verbs, long words, and long sentences. It requires your file to be in ASCII or Wordstar format, which means converting from your word processor file format. PC-Style gave an honest profile of our test document. The complete yet very brief manual is on the disk. All you get is its scale of measurement and your scores on readability, personal tone, and action. That may be enough.

Buttonware Inc., P.O. Box 5786, Bellevue, WA 98006; (206) 454-0479. $29.95. Version 1.0; requires 40K, PC/MS-DOS 2.0 or later, one floppy drive. Runs with standard ASCII and Wordstar file formats.

READABILITY

Readability does just what its title suggests — it calculates a "readability index" of your writing style. The Readability manual (which is a snap to work through) offers one of the best explanations on basic readability concepts we have seen. Its "bricks and mortar" ratio approach to sentence structure is easy to grasp. "Mortar" refers to the 400 most frequently used words in the English language, and "bricks" are the words conveying factual data.

Scandinavian PC Systems of Sweden originally developed Readability in Swedish. Since the product works only with words and does not concern itself with grammatical constructions per se, translating Readability into English and other languages was relatively simple.

Once you place your writing into one of nine patterns of readability ranging from normal through young people's books to technical manuals and government reports, the program automatically analyzes and then tags as "deviant" each sentence that falls outside the teardrop outline in the selected pattern. Sixteen graphics give you a picture of your writing style.

Quick, it's not, and the manual only briefly mentions the overuse of passive voice. In addition, Readability doesn't claim to work with any popular word processors. This means you must convert a word processing file to ASCII format in order to check it.

Scandinavian PC Systems Inc., 51 Monroe St., Suite 707A, Rockville, MD 20850; (800) 628-2828, Ext. 982. Version 1.0, $59.95. Requires 256K, PC/MS-DOS 2.0 or later, one floppy drive. Runs with standard ASCII files.

RIGHT WRITER

Right Writer's most outstanding virtues are ease of learning and use. You have only one command to learn, and messages are inserted directly into your text. After editing on the word processor, you run the document back through Right Writer, and one command zaps out marks and editorial comments. This makes rewriting less painful.

The manual is very good, particularly Chapter 4, which gives a good grammar review in its examples of the 44 categories of problems it flags. The summary critique evaluates readability, strength of delivery, use of descriptive words, use of jargon, and overall sentence structure. The package builds a dictionary for each document and produces a list of words that are misspelled, jargon, slang, etc.

Not perfect, Right Writer sometimes missed passive-voice construction, and the "unusual capitalization" comment, which pops up constantly for proper nouns, is bothersome. Right Writer is a good choice for the writer who is not interested in acquiring extensive computer skills.

Rightsoft Inc., 2033 Wood St., Suite 218, Sarasota, FL 33577; (813) 952-9211. Version 2.1, $95. Requires 256K, PC/MS-DOS 2.0 or later, two floppy drives. Works with standard ASCII and many popular word processor file formats.

— *Gloria Morris*

Gloria Morris is a professor of journalism at a major Southwestern university.

PRODUCT SUMMARY

LOTUS MANUSCRIPT

Version 1.0

Company: Lotus Development Corp., 55 Cambridge Parkway, Cambridge, MA 02142; (617) 577-8500.
List Price: $495.
Requires: IBM PC or compatible, 640K, DOS 2.0 or later, hard disk.
Pros: Formula processor; outliner; superior print preview feature shows how text elements will look when printed.
Cons: Lacks such refinements as conditional form letter mail merge, forms management, hyphenation, macros, and sorting.
Summary: A solid performer aimed specifically at complex documents such as technical reports, proposals, and similar highly organized materials. (Version 2.0 is scheduled for release as this review goes to press.)

knowledgeable. We rate it very good. Support policies are good, and an extended support plan is available.

In short, Manuscript is an outstanding product for a specialized market. If you do lots of complex multisection proposals with mixed elements of text, outline, graph, and formulas, few systems will work as well as this one. A new version is due out with significantly improved features, but until it's ready for inspection we must rate Manuscript a good niche product but not for general office or professional word processing. Manuscript is a good value.

MASS-11

Version 7B

Originally designed to serve as the word processor of choice for Digital Equipment Corp. (DEC) micro/mini computers (the PDP-11 and then the VAX series), Mass-11 has evolved into a sophisticated and powerful professional/scientific word processing system for IBM-compatible personal computers as well.

The product is organized much like the other menu-driven and page-oriented systems such as Multimate, Office Writer, Deskworks, and Displaywrite. Mass-11 has reasonably good graphics inclusion, outstanding laser printer support, good mail-merge features, and a seamless integration into an environment standardized on DEC computers.

Targeted at corporations, scientific establishments, and universities where complex word processing tasks — including scientific formula entry, graphics, and line/box drawing — are important, Mass-11 adds an excellent math capability, columns (both newspaper and parallel), and all the usual footnoting, tables of authorities, keyboard macros, spelling checker (no thesaurus), and sorting capabilities.

The flexibility and power of this package requires considerable user attention. If you are not an expert, you'll need professional help. While the manual is comprehensive and thorough, it is often much more technical and assumes much more knowledge than normal office users generally have. Consequently, Mass-11 requires a system administrator to set up and configure the system and a considerable amount of training to acquaint users with how to use its options with supported printers.

However, the extensive on-line help system, easily accessible through a good index, offers information on most standard functions. While the documentation is technical, we rate it very good due to its clear, well-organized, and complete coverage.

Among its more interesting features is an extensive graphics facility that permits the preparation of standard graphic formats such as Lotus PIC files for inclusion in a Mass-11 file at print time. This feature includes a special module that prepares the source graph file for inclusion in the document by allowing it to be cropped, rotated, or reduced. Next, an embedded code is placed in the source document to leave space for the graph, and the graph is printed with the page. This system works well, but it is somewhat less satisfactory than the system in Wordstar 2000, which permits a preview of the printed page with graphics. Unlike Wordstar 2000, however, this program provides true, non-resolution-specific Postscript support.

While Mass-11 protects the user from most common errors, it has a serious problem when printing to an HP Laserjet II. If the printer runs out of memory, which might easily happen when including a graphic or printing a complex page using soft fonts, the program can't handle the error. It offers the DOS prompt indicating (incorrectly) a paper-out error and then dumps the user out of Mass-11 into the operating system without a cursor. Obviously, the process currently running is lost, although the text remains intact. Programs as sophisticated as this

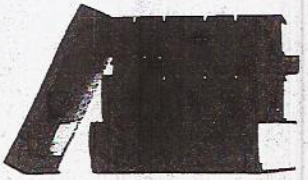
PRODUCT SUMMARY

MASS-11

Version 7B

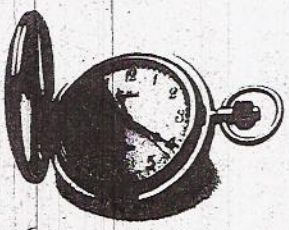
Company: Microsystems Engineering Corp., 2400 W. Hassell Road, Suite 400, Hoffman Estates, IL 60195; (312) 882-0111.
List Price: $395.
Requires: IBM PC or compatible, 384K, DOS 3.1 or later. Hard disk recommended.
Pros: Scientific formula entry; graphics; line and box drawing; excellent math capability; columns (both newspaper and parallel); mail merge; DEC VAX version available.
Cons: Requires an expert to set up and configure and a considerable amount of training for users; less effective error handling.
Summary: A sophisticated and powerful professional and scientific word processor, Mass-11 performs reasonably but suffers from poor error messages. Recommended mainly for VAX installations; not recommended for users without substantial computer experience.

75 Reasons Why Samna Word IV is a Legal Precedent.



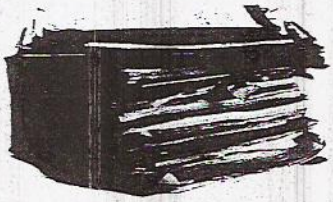
1. By marking the citations in a legal brief, you can automatically generate a Table of Authorities.

5. Forms Processing makes it a breeze to fill out and print any preprinted form.

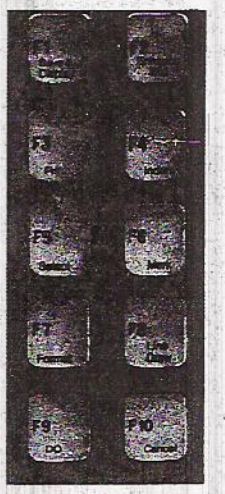


6. Keep track of edit time, number of keystrokes and pages printed. You can even transfer the data automatically to spread-sheet, database or time and billing systems.

2. Samna Word IV is the first word processor to pass the strict guidelines set by the country's toughest jury: The American Bar Association.



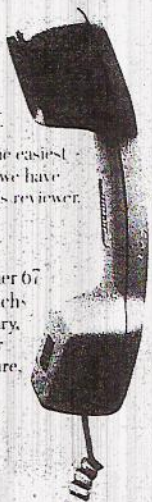
3. Would you like to search and retrieve text from a disk full of documents? That's just one of the powerful options available.



4. Context-sensitive help screens, intuitive commands and computer-based training make Samna Word IV a piece of cake to learn and use.

7. Who in a law office needs Samna? Anyone who produces documents. From a one-page memo to the most demanding legal brief.

8. "Samna has one of the easiest command structures we have ever seen..." said Datapro's reviewer. That means new users are productive sooner.



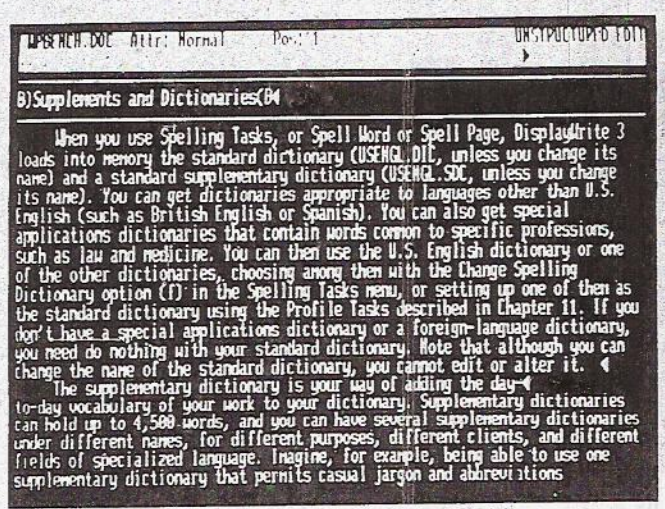
9.-75. For the other 67 reasons, such as an optional legal dictionary, watch upcoming ads. Better yet, call for our free brochure, "75 Reasons to Use Samna." Phone (800) 831-9679 or (404) 851-0007. Ask for Extension 12.

All in all, there's one big reason to put Samna in charge of word processing. Quite simply, its combination of power, ease of use and productivity is unrivaled in the law profession.

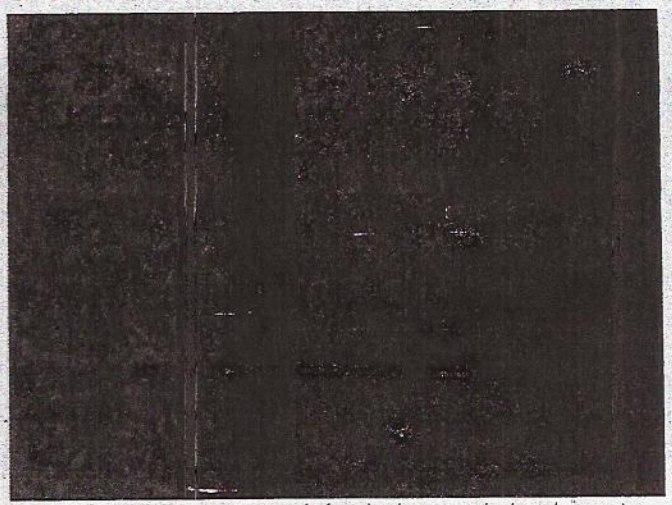
Samna Word IV. All the word processing power your law office will ever need.

SAMNA

Samna Corp., Glenridge Centre, 5600 Glenridge Dr., Atlanta, GA 30342



Lotus Manuscript is focused on generating complex and technical documents.



Mass-11's strengths are more in scientific formulas than in standard word processing.

one should do better. We give error messages a poor rating. As no text was lost and since Mass-11 offers an automatic backup feature, we assigned a good rating to Mass-11's data integrity.

The technical support staff is helpful but slow. This may be due in part to a limited experience with IBM PC products. Support policies are acceptable and rate satisfactory, as does technical support.

For offices with a strong commitment to VAX minicomputers running Mass-11, the ability to transfer to Mass-11 on the IBM PC without retraining will make this the package of choice. Balancing its strong performance and documentation against its generally satisfactory ratings in other categories, we think this product is a satisfactory value. We do not, however, recommend this package for users without substantial computer experience.

MICROSOFT WORD

Version 4.0

Microsoft Word has always sported superb formatting, capable of producing the best output on any printer. Through style sheets, with an elaborate set of formatting specifications, a complete description of a document can be developed and saved. On subsequent projects, these preserved style sheets can be attached to a new document and all the specifications reused.

Derived from a typesetting model rather than a dedicated word processor, typewriter, or computer editor model, Word has always seen its text through the typesetter's eye, focusing on precise control of the printed page. The disadvantages come in the form of unfamiliar terminology, complex commands, and clumsy operation when compared to competitive products.

Word's list of features is impressive. A nice thesaurus and an improved spelling program enhance a group of writer's tools that continues to include automatic hyphenation. Document revision marking and line numbering on output are welcome features. Word's redlining feature can be complemented by hidden text. Powerful mail-merge, form-letter, and special form-processing commands make this product well-adapted to business use.

The formatting capabilities of Word are superb, and style sheets are created from the format of existing text. You can use the regular Word commands to boldface, indent, and change margins for your current document. Then, when you are done, you can ask Word to record that format into a style sheet to be reused later on with other documents. You can also search and replace hidden formatting marks, making changes much easier to achieve.

Spreadsheets stored in Lotus 1-2-3, Excel, or Multiplan formats can be imported directly into a Word document. Further, they are imported in such a way that the source file name is preserved.

Vendors Offer a Multitude of Word Processing Packages at a Variety of Prices

UNDER $100

Bank Street Writer Plus, *$79.95, Broderbund Software Inc., 17 Paul Drive, San Rafael, CA 94903; (415) 492-3500.*

Dac Easy Word II, *$49.95, Version 2.0, Dac Software, 4801 Spring Valley Road, Building 110B, Dallas, TX 75244; (800) 992-7779.*

Easy Extra, *$99, Version 1.5, Micropro International Corp., 33 San Pablo Ave., San Rafael, CA 94903; (800) 227-5609.*

Einstein Writer, *$75, Version 8.0, Perceptronics Inc., 6271 Variel Ave., Woodland Hills, CA 91367; (818) 712-0472.*

Executive Writer/Paperback Writer, *$69.95/$39.95, both Version 1.0, Paperback Software International, 2830 Ninth St., Berkeley, CA 94710; (800) 255-3242.*

Friendly Ware, *$49.95, Version 3.2, Friendly Soft Inc., 3638 West Pioneer Parkway, Arlington, TX 76013; (800) 527-6530.*

Galaxy, *49.95, Version 2.30, Omniverse, P.O. Box 2974, Renton, WA 98056; (206) 228-7627.*

Mind Reader, *$49.95, Version 2.0, Brown Bag Software, 2155 S. Bascom Ave., Suite 114, Campbell, CA 95008; (800) 523-0764, (800) 323-5335 in CA.*

My Word, *$49, Version 2.1, TNT Software, 34069 Hainesville Road, Round Lake, IL 60073; (312) 223-8595.*

New York Word, *$45, Version 2.21, Magma Software Systems, 300 Grand St., No. 419, Hoboken, NJ 07030; (201) 792-3954.*

PC-Type Plus, *$69.95, Version 1.0, Buttonware Inc., P.O. Box 5786, Bellevue, WA 98005; (800) J-BUTTON.*

PC-Write, *$16, Version 2.71, Quicksoft Inc., 219 First N., No. 224, Seattle, WA 98109; (800) 888-8088.*

Personal Qwerty, *$99, Version 6A, HFK Software, 68 Wells Road, Lincoln, MA 01773; (617) 259-0059.*

Practiword, *$99.95, Version 1.09, Practicorp International, P.O. Box 308, Newton Upper Falls, MA 02161; (617) 965-9870.*

Textra, *$69.95, Version 5, Ann Arbor Software, 345 S. Division, Ann Arbor, MI 48104; (313) 769-9088.*

Typist, *$45, Version 1.16, Airus Inc., 10200 Nimbus Ave., Suite G-5, Portland, OR 97223; (503) 620-7000.*

Varsity Scripsit, *$99.95, Version 1.0, Tandy Corp., 1 Tandy Center, Fort Worth, TX 76102; (817) 390-3700.*

Volkswriter Deluxe Plus, *$99, Version 1.0, Lifetree Software Inc., 411 Pacific St., Monterey, CA 93940; (408) 373-4718.*

Webster's New World Writer I, *$99.95, Version 1.08, Simon & Schuster Software, 1 Gulf+ Western Plaza, New York, NY 10023; (800) 624-0023.*

Zen Word, *$39.95, Version 2.17, Knowledge Engineering Inc., 1439 Circle Ridge, Austin, TX 78746; (800) 634-9808.*

$100 to $300

Command Writer, *$150, Version 1.27, Command Software Corp., P.O. Box 5575, Berkeley, CA 94705; (415) 944-9434.*

Displaywrite Assistant, *$195, Version 1.0, IBM, 1133 Westchester Ave., White Plains, NY 10604; (800) 447-4700 (dealer information).*

The Executive Secretary, *$159.95, Version 6, John Risken & Associates, P.O. Box 24045, Minneapolis, MN 55424; (612) 920-7235.*

Final Draft, *$195, Cyma/McGraw-Hill, 1400 E. Southern, Tempe, AZ 85282, (800) 292-2962.*

GEM First Word Plus, *$199, Version 2.0, Digital Research, P.O. Box DRI, Monterey, CA 93942; (800) 443-4200.*

Harmony, *$149, Version 2.03, Open Systems Inc., 6477 City West Parkway, Minneapolis, MN 55344; (800) 328-2276.*

Leading Edge Word Processing, *$195, Version 1.5, Leading Edge Products, , 225 Turnpike St., Canton, MA 02021; (617) 828-8150.*

PFS Professional Write, *$199, Version 1.0, Software Publishing, , 1901 Landings Drive, Mountain View, CA 94043; (415) 962-8910.*

Q&A Write, *$199, Version 1.01, Symantec Corp., 10201 Torre Ave., Cupertino, CA 95014; (408) 253-9600.*

Vantex Word, *119.99, Version 2.0, Vantex Data Systems, P.O. Box 507, Chatham, NJ 07928; (201) 635-5686.*

Volkswriter 3, *$295, Version 1.0, Lifetree Software Inc., 411 Pacific St., Monterey, CA 93940; (408) 373-4718.*

WPS-PC, *$275, Version 2.0, Exceptional Business Solutions Inc., 10811 Washington Blvd., No. 240, Culver City, CA 90230; (213) 558-3435.*

Wintext, *$195, Version 1.0, Palantir Software, 12777 Jones Road, Suite 100, Houston, TX 77070; (713) 955-8880.*

Write Now, *$150, Version 1.61, Airus Inc., 10200 S.W. Nimbus Ave., Suite G-5, Portland, OR 97223; (503) 620-7000.*

Write 'n Spell, *$79.95, Version 1.01, Professional Software Inc., 51 Fremont St., Needham, MA 02194; (800) 343-4074.*

OVER $300

Advance Write, *$695, Hewlett-Packard Co., 3000 Hanover St., Palo Alto, CA 94304; (800) 894-2000.*

Allegory, *$395, Version 2.21, Foresight Software, P.O. Box 424, Truckee, CA 95734; (800) 227-8086.*

CEO Write, *$450, Version 2.01, Data General Corp., 50 Maple St., Milford, MA 01757; (617) 366-8911.*

Crystal Writer Plus, *$495, Syntactics Corp., 4655 Old Ironsides Drive, Suite 400, Santa Clara, CA 95054; (408) 727-6400.*

Data 3500, *$1,000, Version 2.3, Tom Software Inc., 127 S.W. 156th St., P.O. Box 66596, Seattle, WA 98166; (206) 246-7022.*

Easy Writer II System, *$395, Computer Associates International, Systems Products Division, 711 Stewart Ave., Garden City, NY 11530; (516) 227-3300.*

Final Word II, *$395, Version 2.2, FW Corp., P.O. Box 443, Cambridge, MA 02142, (617) 489-5078.*

Interword, *$495, Computers Anyware, 8200 Greensboro Drive, Suite 304, McLean, VA 22102; (703) 442-7910.*

Latitude, *$595, Version 3.9, Laticorp Inc., 185 Berry St., Suite 6200, San Francisco, CA 94107; (415) 543-1199.*

Lex, *$395, Version 9B, Trajectory Software Inc., 555 Goffle Road, Ridgewood, NJ 07450; (201) 447-5656.*

Lexitype Plus II, *$495, Version 714.15, Lexitronics Inc., 101 E. Holly Ave., No. 14, Sterling, VA 22170; (703) 450-5000.*

Meta Base, *$495, Version 3.0, Dragonfly Software, 285 Broadway, No. 500, New York, NY 10013; (212) 334-0445.*

The next time you load the Word document, the source spreadsheet is reimported with any changes. A relatively limited capability for importing graphics files automatically into a Word document is also included.

Word uses macros prepared either by recording keystrokes or by writing a sequence of commands, saving them, and recalling them as a macro. Macros can be used as named files or assigned to control-key combinations. The power of this facility is as great as in any of the separate keyboard macro programs.

Word requires explicit repagination to get page breaks right. When changing and editing text, it does not automatically adjust page breaks, and you must invoke a repaginate command to redo the entire document to review where the breaks occur. Newspaper columns do not appear side by side on the screen.

Documentation is clear and complete. It includes several extra documents such as a large printer information booklet, a starter document, a "road map," and a pocket guide. It has a thorough table of contents, index, and error message section. Documentation rates excellent.

Word's windowing is good, with eight possible windows, and it is capable of doing complex indexes (single document only) and lists as well as footnotes. It also has a fine math facility. A table of contents can be generated from an outline. These features make Word a superior product. Its only serious performance drawback, the lack of automatic pagination, may be of only minor concern to many users.

Word is quite easy to learn, and experienced users will find its ease of use excellent thanks to speed keys, extensive macros, and other tools. We rate ease of learning good and ease of use very good.

Data integrity is enhanced by a useful Undo command. Error messages were helpful. We rate data integrity very good and error messages good.

Technical support, when we were able to get through, was acceptable. Although we have rated it good in the past, the numerous busy signals make us downgrade it to satisfactory. Support policies are good, although only a 90-day replacement warranty for defective media is offered. We rate support policies good.

Given its strength in performance and ease of use and its generally good evaluations in other areas, we rate Microsoft Word an excellent value.

PRODUCT SUMMARY

MICROSOFT WORD
Version 4.0

Company: Microsoft Corp., 16011 N.E. 36th Way, Redmond, WA 98052; (206) 882-8080.
List Price: $450.
Requires: IBM PC or compatible, 320K, DOS 2.0 or later. Hard disk recommended.
Pros: Superb formatting; powerful macro facility; excellent editing; lengthy feature list; speedy operation.
Cons: Manual repagination; easier to use than to learn; considerable complexity.
Summary: A superior performer and a major competitor, Word 4 ranks among the best of the high-power word processors.

Palantir Word Processor, $395, Palantir Software, Version 3.01, 12777 Jones Road, Suite 100, Houston, TX 77070; (800) 368-3797.

Perspective, $495, Harris/Lanier, 1700 Chantilly Drive N.E., Atlanta, GA 30324; (404) 329-8000.

Professional Writer's Package, $490, Version 1.10, Emerging Technology Consultants Inc., 3405 Penrose Place, Suite 105, Boulder, CO 80301; (303) 447-9495.

R Word Plus, $495, Version 4.0, R Systems Inc., 10310 Markison Road, Dallas, TX 75238; (800) 527-7610.

R/Writer, $370, Version 3.0, QSR Systems, P.O. Box 6609, West Palm Beach, FL 33416; (305) 798-2213.

Scenic Writer/HP, $695, Version 5.3, Scenicsoft Inc., 100 Second Ave. S., Suite 250, Edmonds, WA 98020; (800) 422-2994.

The Smart Word Processor, $395, Version 3.10, Informix Software Inc., 9875 Widmer Road, Lenexa, KS 66215; (800) GETSMART, (913) 492-3900 in KS.

Statistical Word Processing, $445, Version 1.06, Mishwa Management Services, 23600 N. Milwaukee Ave., Mundelein, IL 60060; (312) 634-3700.

Super Vue, $450, Version 3.0, Provue Development, 222 22nd St., Huntington Beach, CA 92648; (714) 969-2431.

Vectra Office, $695, Hewlett-Packard Inc., 3000 Hanover St., Palo Alto, CA 94304; (800) 624-2000.

Wordstar, $495, Version 5.2, Cooperative Office Systems, 207 Holly Road, Edgewater, MD 21037; (301) 956-4263.

Word Designer, $495, Concept Omega Corp., 102 Old Claridon Road, P.O. Box 1025, Somerville, NJ 08876; (800) 524-0432.

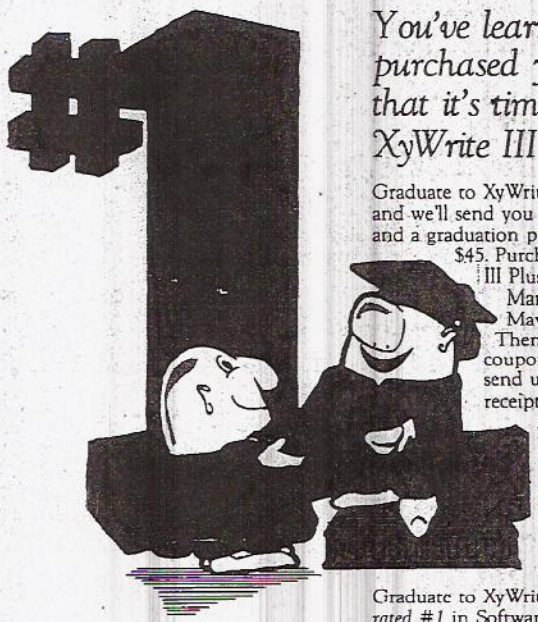
MULTIMATE ADVANTAGE II
Version 1.0

This powerful package includes most features expected in a major office product. Its greatest strength is in list processing, or the combining of elements from a list into a standard letter or form. Multimate has both a template form for entering lists into the word processing system as well as a card file system that permits rather interesting and elaborate arrangements of the kind of data that fit on a 3-by-5 card. In addition, it has a strong set of standard features, including math, newspaper columns, side-by-side columns, footnotes, outline numbering, and discretionary or global search and replace. Graphics integration is available as an option.

Multimate does not have redlining (it does have strikeout). It's outlining feature, which fails to meet our minimum requirements, can only be printed as a table of contents. We give outlining a poor rating.

Graduate to XyWrite III Plus

You've learned so much since you purchased your first word processor that it's time you graduated to #1, XyWrite III Plus.



Graduate to XyWrite III Plus and we'll send you a diploma and a graduation present of $45. Purchase XyWrite III Plus between March 1 and May 31, 1988.* Then fill out the coupon below, send us your sales receipt and the master diskette from your *current* word processing program† and you're a graduate!

Graduate to XyWrite III Plus, *rated #1* in Software Digest's January 1988 Ratings Report on Advanced Word Processing Programs. Hailed as the fastest, XyWrite III Plus makes an ordinary PC fly.

Graduate to XyWrite III Plus for time-saving features like instant reformatting, automatic hyphenation and a spelling checker that checks while you type *and* automatically expands abbreviations! Hidden Notes, File Compare and Redlining let you juggle different versions. And nine windows let you move and copy text between multiple files.

Graduate to XyWrite III Plus for the power to do what you need and the flexibility to do it in your own style. Maximize your productivity with a remappable keyboard, extensive macro capabilities, a built-in programming language and unlimited printer support.

Graduate to XyWrite III Plus — Today. For more information and the name of a dealer near you, call (617) 671-0888.

XYQUEST
44 Manning Road
Billerica, MA 01821

*Offer not valid for XyWrite III Plus purchased under educational discounts, corporate site licenses or volume pricing agreements.

†Word processing programs eligible for trade-in are any version of WordPerfect®, Microsoft® Word, MultiMate®, WordStar®, DisplayWrite®, Samna® Word, OfficeWriter® and Volkswriter® III. All other programs are specifically excluded from this offer.

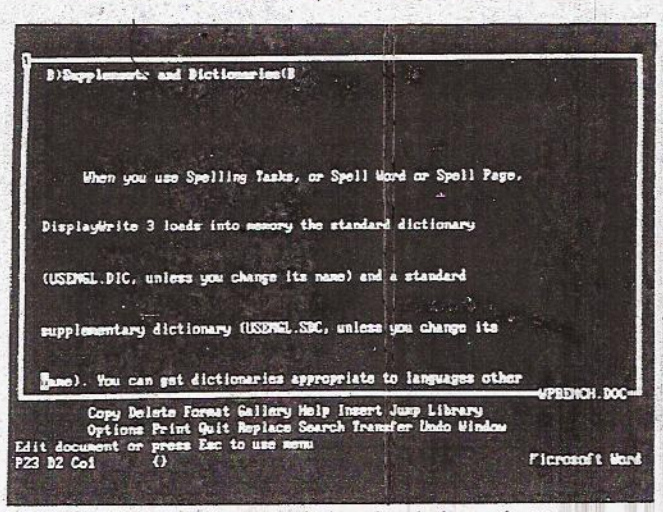
Trademarks are the sole property of their respective owners.

☐ YES I want to graduate to XyWrite III Plus!
Enclosed is the original sales receipt from the purchase of XyWrite III Plus and the program master from my current word processing program. Send me my diploma and $45.

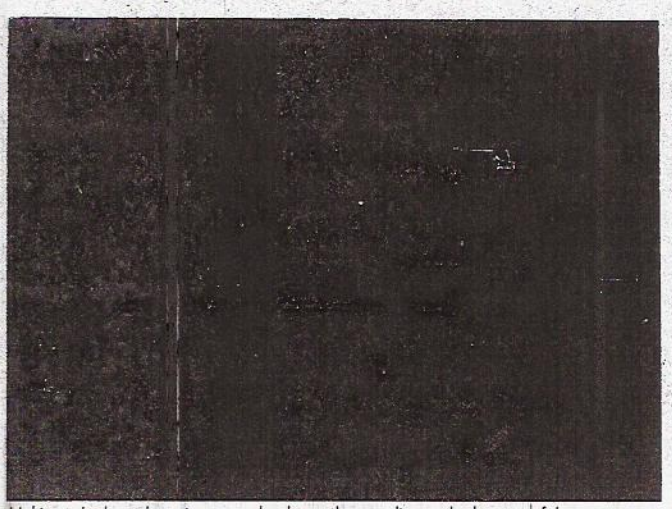
Graduate to XyWrite III Plus
P.O. Box 3392, Dept. D, Wallingford, CT 06494

Serial number of your new XyWrite III Plus? _____
Word processor you are graduating from? _____
Name _____
Company _____
Street _____
City _____ State _____ Zip _____

Coupon (or facsimile) must be filled out completely and postmarked no later than June 30th, 1988. Allow 4-6 weeks processing time.



Microsoft Word, Version 4.0 creates style sheets from the format of existing text.



Multimate's drop-down insert mode places the next line at the bottom of the screen.

While keeping the same keystroke commands that mimic the old Wang system, Multimate Advantage II has added pull-down menus and an improved help system. The program also permits the old-style drop-down insert mode, in which text can be inserted by entering a special mode that clears the screen and puts the next line of text at the bottom of the screen. The much better "push ahead" insert simply allows text to be inserted in the middle of existing text, pushing the old text ahead of the new text and reformatting the paragraph as it goes along. Multimate Advantage II also has a document mode that allows users to ignore page boundaries and automatically places page breaks. The original page-oriented operation is also still available.

Multimate Advantage II is a much-improved product over its predecessors. However, it can only handle documents up to 128K, or typically about 40 to 50 text pages. In offices using a program only for correspondence and short reports, this limit may not matter. In businesses that routinely turn out lengthy reports and other documents of considerable size, however, the 128K limit is a real annoyance. We therefore rate speed poor.

GUIDE TO REPORT CARD SCORES

InfoWorld gives ratings only to finished, production versions of products, never to beta test versions.

All products receive ratings ranging from unacceptable to excellent. Scores are derived by multiplying the weighting (in parentheses) of each criterion by its rating, where:

Excellent = 1.0
Very Good = 0.75
Good = 0.625
Satisfactory = 0.5
Poor = 0.25
Unacceptable or **N/A** = 0.0

Scores are summed, divided by 100, and rounded down to one decimal place to yield the total score out of a maximum possible score of 10 (plus bonus). Final scores should be judged as follows:

9 - 10 Excellent: *Tops in its class.*
7 - 8.9 Very Good: *Meets all essential criteria and offers significant advantages.*
6 - 6.9 Good: *Meets essential criteria and includes some special features.*
5 - 5.9 Satisfactory: *Meets essential criteria.*
3 - 4.9 Poor: *Falls short in essential areas.*
0 - 2.9 Unacceptable: *Fails to meet minimum standards.*

PRODUCT SUMMARY

MULTIMATE ADVANTAGE II

Version 1.0

Company: Ashton-Tate, 20101 Hamilton Ave., Torrance, CA 90502; (213) 329-8000.
List Price: $565 (5¼-inch version); $595 (5¼-inch and 3½-inch together).
Requires: IBM PC or compatible, 384K, DOS 2.0 or later. Hard disk recommended.
Pros: Full-featured; Wang emulation; data file management; form letter and mail list management; relatively easy to learn; fine documentation.
Cons: Clumsy pagination; no indexing; documents limited to 128K; no window onto second document; poor error messages.
Summary: Originally the definitive corporate word processor, Multimate is still most suitable for repetitive correspondence work.

The documentation for this product is extensive and packaged in eight different booklets. We rate documentation very good.

Overall, Multimate Advantage operates intuitively and simply, supported by its pull-down menus and on-line help. Ease of learning earns a good and ease of use receives a very good.

The program's error handling is generally satisfactory, but several error messages related to the use of the sort and math facilities proved remarkably unhelpful and required a call to technical support to decipher the problem. Consequently, we rate error messages poor. Data integrity was preserved at a satisfactory level.

Overall, given its strong showing in mail merge, documentation, ease of learning, and ease of use, balanced by the document size limitation, performance, and problematic error messages, we rate Multimate Advantage II a satisfactory value within this group.

OFFICE WRITER

Version 5.0

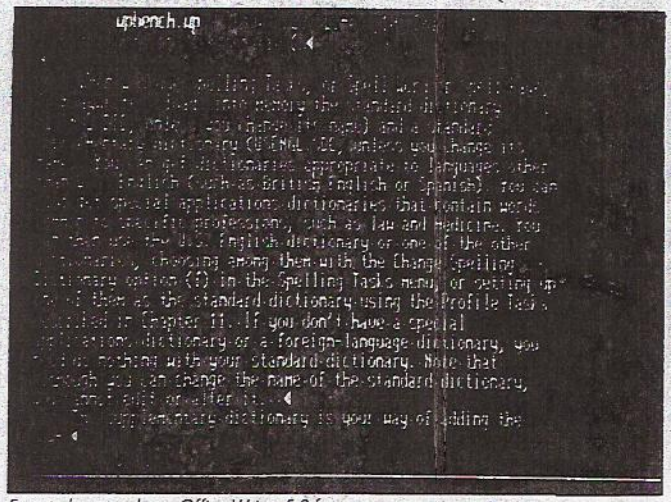
In this category of first-rate word processing systems, Office Writer and Multimate have for years been locked in competition for the title of most effective Wang imitator. Generally, Office Writer's features are somewhat fewer and its capability to handle very complex forms and document assembly or mail list tasks is more limited, but it is overall a much more graceful package.

Although originally page-oriented, Office Writer 5, like Multimate, now has automatic pagination and handles insertions and deletions as easily as most document-oriented systems. Very fast in editing, Office Writer 5 can hold a document considerably larger than Multimate (444K). Office Writer also has

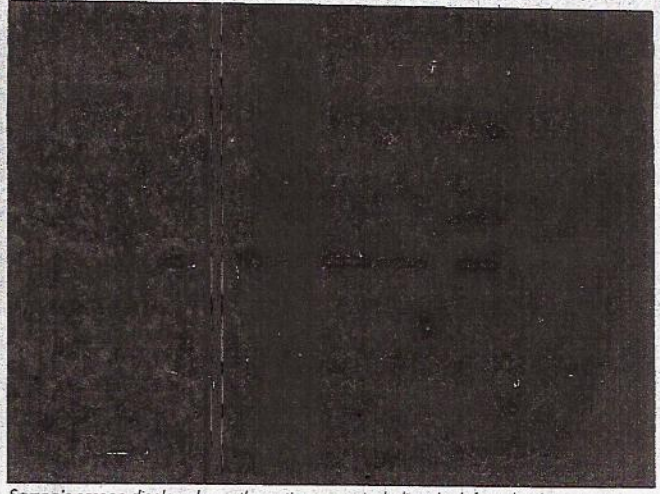
INFO WORLD THE PC NEWS WEEKLY

OFFICE/PROFESSIONAL WORD PROCESSING SOFTWARE • REPORT CARD

		Deskworks	Displaywrite 4	Lotus Manuscript	Mass-11	Microsoft Word 4	Multimate Advantage II
Performance							
Correspondence	(40)	Satisfactory	Good	Good	Good	Very Good	Good
Speller and Thesaurus	(40)	Satisfactory	Poor	Poor	Poor	Very Good	Satisfactory
Mail Merge	(30)	Satisfactory	Good	Good	Good	Very Good	Very Good
Outlining	(25)	Satisfactory	Satisfactory	Very Good	Satisfactory	Very Good	Poor
Table of Contents and Indexing	(20)	Poor	N/A	Very Good	Satisfactory	Good	Poor
Footnotes	(25)	Satisfactory	Good	Good	Good	Very Good	Satisfactory
Document Tracking	(15)	Poor	Satisfactory	Satisfactory	Satisfactory	Very Good	Poor
Fonts and Style Sheets	(25)	Satisfactory	Satisfactory	Poor	Satisfactory	Very Good	Good
Graphics Integration	(25)	N/A	N/A	Good	Very Good	Good	N/A
Speed	(125)	Poor	Satisfactory	Good	Good	Good	Poor
Compatibility	(30)	Satisfactory	Satisfactory	Good	Good	Satisfactory	Excellent
Documentation	(100)	Satisfactory	Good	Excellent	Very Good	Excellent	Very Good
Ease of Learning	(125)	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Good	Good
Ease of Use	(150)	Satisfactory	Satisfactory	Good	Satisfactory	Very Good	Very Good
Error Handling							
Data Integrity	(50)	Satisfactory	Satisfactory	Very Good	Good	Very Good	Satisfactory
Error Messages	(25)	Poor	Satisfactory	Excellent	Poor	Good	Poor
Support							
Technical Support	(25)	Satisfactory	Unacceptable	Very Good	Satisfactory	Satisfactory	Satisfactory
Support Policies	(25)	Satisfactory	Poor	Good	Satisfactory	Good	Satisfactory
Value	(100)	Poor	Satisfactory	Good	Satisfactory	Excellent	Satisfactory
Final Scores		4.1	4.7	6.4	5.5	7.4	5.4



Easy to learn and use, Office Writer 5.0 features automatic pagination.



Samna's screen display shows the entire page, including the left and right margins.

an optional program that integrates graphics (not reviewed) into text, although it does not have a data file management program such as the one available with Multimate Advantage II.

The product contains better-than-average documentation, and we rate it good.

For the office word processing user, Office Writer's primary attractions will be its ease of learning and use. It operates logically and predictably, providing a comfortable environment in which to produce documents. We rate ease of use and ease of learning very good.

Data integrity is enhanced by auto-save and limited undelete functions. We rate it very good. Error messages were helpful and rate a good. Technical support was prompt, correct, and responsible and is consistent with what we have received from this company in the past. We received solid and satisfactory answers to not-too-difficult questions, and we rate technical support good and support policies satisfactory.

In short, Office Writer 5.0 is quick and effective. Its spelling checker and thesaurus are very good, and it supports a substantial number of printers. The footnote feature includes a footnote window. Office Writer's menu system is less effective than Multimate's pull-down menus, and its document management facilities for assembly, list processing, and other complex tasks are less powerful. It also does not have a redlining feature. Its good documentation, very good ease of learning and use, and overall good error handling, however, make Office Writer 5.0 a good value for offices with less technical support and standard correspondence, report writing, and mailing-list management requirements.

PRODUCT SUMMARY

OFFICE WRITER
Version 5.0

Company: Office Solutions Inc., 2802 Coho St., Madison, WI 53713; (800) 228-0747, (608) 274-5047.
List Price: $495.
Requires: IBM PC or compatible, 256K, DOS 2.0 or later, hard disk.
Pros: Handles large documents well; has fast editing capability.
Cons: Fewer features than competing products; not as good with large, complex documents.
Summary: An adequate performer with very good ease of use and learning, Office Writer is a good value for the office in transition from a Wang system.

SAMNA WORD IV
Version 1.1

Samna Word IV is another dedicated word processing spin-off, placing heavy emphasis on specialized control keys and page orientation. Its screen display shows the entire page, including the text area and the left and right margins.

Quick and effective in editing, Samna has somewhat fewer cursor and editing commands than its competitors in this class and handles pagination in a much less effective way. The program has a preview feature that provides a miniature picture of the printed page, helping clarify page breaks. But even this is no substitute for automatic pagination.

A table of contents can be created with three sublevels, and footnotes are easily edited through footnote windows. Document tracking provides on-screen display and allows for printing with marked revisions. The user, however, must insert desired text, then go back and mark text as redline. The program provides a complete document history screen.

The great strength of this program, however, is in its text management capabilities. Samna Word IV has some of the most complete facilities for handling forms, form letters, selective mailing-list applications, and complex document assembly that we have seen. Sorting, selecting, and managing data files are covered with an impressive range of capabilities.

As is the case with most of the programs in its class, Samna Word IV has extensive printer support. It handles proportionally spaced text with style and offers a variety of features to indicate

PRODUCT SUMMARY

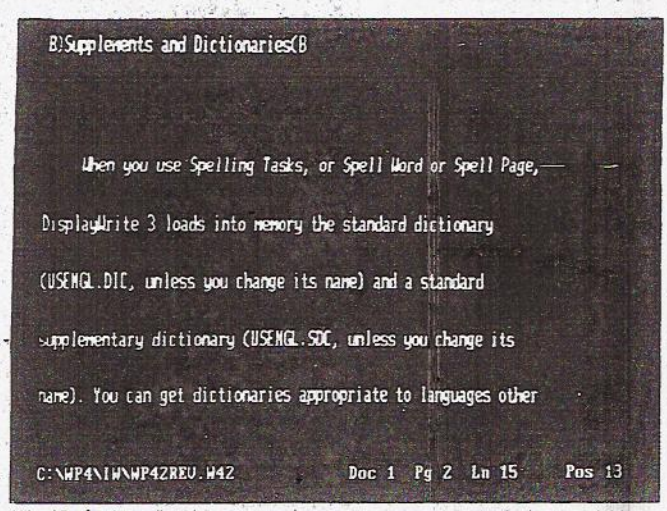
SAMNA WORD IV
Version 1.1

Company: Samna Corp., 5600 Glenridge Drive, Atlanta, GA 30342; (800) 831-9679, (404) 851-0007.
List Price: $695.
Requires: IBM PC or compatible, 512K, DOS 2.0 or later. Hard disk recommended.
Pros: Feature rich; strong forms and mail-merge features; strong boilerplate capabilities; comprehensive editing capabilities.
Cons: Clumsy pagination; no thesaurus; some slowness in large editing and reformatting tasks.
Summary: Strong forms and mail-merge processing make Samna IV the package of choice for heavy loads of forms work, form letters, mass mailings, and repetitive proposals. It is less effective for large editing jobs.

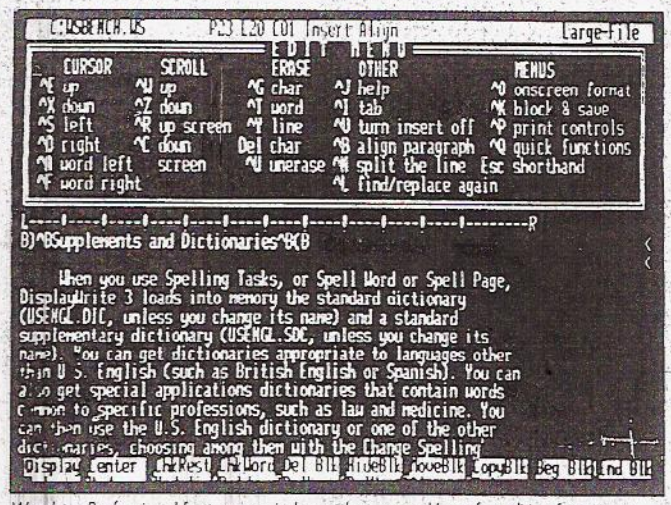
INFO WORLD THE PC NEWS WEEKLY

OFFICE/PROFESSIONAL WORD PROCESSING SOFTWARE • REPORT CARD

		Office Writer	Samna Word IV	Word Perfect	Wordstar Professional	Wordstar 2000 Plus	Xywrite III Plus
Performance							
Correspondence	(40)	Satisfactory	Good	Very Good	Satisfactory	Very Good	Good
Speller and Thesaurus	(40)	Very Good	Poor	Very Good	Very Good	Very Good	Very Good
Mail Merge	(30)	Satisfactory	Very Good	Good	Satisfactory	Excellent	Satisfactory
Outlining	(25)	Satisfactory	Satisfactory	Good	N/A	Very Good	Satisfactory
Table of Contents and Indexing	(20)	Satisfactory	Good	Very Good	Good	Very Good	Satisfactory
Footnotes	(25)	Good	Very Good	Good	N/A	Good	Very Good
Document Tracking	(15)	Poor	Good	Poor	N/A	Good	Satisfactory
Fonts and Style Sheets	(25)	Satisfactory	Satisfactory	Satisfactory	Poor	Very Good	Satisfactory
Graphics Integration	(25)	N/A	Satisfactory	N/A	N/A	Very Good	Poor
Speed	(125)	Good	Poor	Good	Good	Good	Very Good
Compatibility	(30)	Excellent	Good	Very Good	Satisfactory	Excellent	Satisfactory
Documentation	(100)	Good	Good	Excellent	Good	Excellent	Good
Ease of Learning	(125)	Very Good	Satisfactory	Very Good	Good	Good	Good
Ease of Use	(150)	Very Good	Good	Very Good	Good	Very Good	Very Good
Error Handling							
Data Integrity	(50)	Very Good	Good	Very Good	Satisfactory	Good	Satisfactory
Error Messages	(25)	Good	Poor	Good	Good	Very Good	Satisfactory
Support							
Technical Support	(25)	Good	Good	Good	Unacceptable	Excellent	Excellent
Support Policies	(25)	Satisfactory	Satisfactory	Good	Satisfactory	Excellent	Satisfactory
Value	(100)	Good	Satisfactory	Excellent	Satisfactory	Excellent	Excellent
Final Scores		**6.4**	**5.2**	**7.3**	**5.1**	**7.8**	**6.7**



Word Perfect's speller, thesaurus, and printer support are among the best available.



Wordstar Professional features a window with command keys for editing functions.

when changed fonts in proportionally spaced text may produce unexpectedly long lines.

Although its speller is only adequate, Samna IV supports dictionary hyphenation. There is no thesaurus, which limits the spelling/thesaurus rating to poor. The product is acceptably quick, although its search function is slower than its competitors'. Although Samna IV can handle newspaper columns at print time, it cannot show them on-screen for editing.

Samna's documentation is rather thin on examples, but its extra introductory booklet, an on-line tutorial, and a detailed table of contents help. Documentation receives a good. At the same time, the on-line help is no more than adequate and is less effective than that in competing products such as Word Perfect or Wordstar 2000. Ease of learning is satisfactory. After learning Samna, it is a comfortable package to use. We rate ease of use good.

Error messages are less than satisfactory, not providing sufficient or clear information about the problem. This category rates poor. Data integrity includes a backup feature, and we rate it good.

Technical support staffers were well-informed and gave accurate information, although at one point we were put on hold for a solid five minutes. Overall, however, we rate technical support good and support policies satisfactory.

Samna IV is a product appropriate for institutional environments with strong support and training staffs. It is particularly well-suited for offices with heavy forms management and list or mail processing tasks. Samna's good performance on most of its features and its good ease of use balance the product to a satisfactory value.

WORD PERFECT
Version 4.2

Overall, Word Perfect 4.2 remains the market leader, but it is no longer the power or features champion. Word Perfect's high market share is principally due to two related characteristics: First, it is one of the easiest products to learn and use; and second, its feature list has been the longest until the recent revisions of Wordstar 2000 and Word appeared. Although some tasks can be done better with another one of the products reviewed in this comparison, only a few match or exceed the comprehensiveness of Word Perfect.

This program has a fine help system and quick, effective editing with an abundance of commands to fit most preferences. It can handle two documents at once, although not two windows on the same document. Its formatting and printing capabilities equal all but Wordstar 2000's and Microsoft Word's, but its method of handling proportionally spaced text is less effective than Multimate or Word. Even though the math mode is rather clumsy and the forms management is less powerful than Samna's, Word Perfect's capabilities in these areas are more than adequate for most tasks.

Word Perfect's documentation is comprehensive, well-laid out, and includes excellent on-line help. Several extras enhance the documentation suite, and the detailed index makes it a snap to find anything in the manual. We rate documentation excellent.

Its speller and thesaurus are among the best in the business, and its printer support is complete and customizable, although soft font support is less effective than in such programs as Samna IV. Redlining is not readily apparent on the

PRODUCT SUMMARY

WORD PERFECT
Version 4.2

Company: Word Perfect Corp., 1555 N. Technology Way, Orem, UT 84057; (801) 225-5000.
List Price: $495.
Requires: IBM PC or compatible, 256K, DOS 2.0 or later. Hard disk recommended.
Pros: Power and flexibility combined with ease of use and strong support.
Cons: Sensitive to some memory-resident utilities; considerably complex.
Summary: Best-selling word processor and a top-of-the-line package for professional office work. Strong on features and flexibility. Word Perfect is a good all-around word processing choice. Version 5.0 is due to appear at any time.

Word Processing and Graphics

It had to happen. Combine the growing popularity of graphics in all fields with the appearance of inexpensive laser printers and the lure of desktop publishing, and suddenly graphics capability becomes the hot new competitive edge offered by PC word processing vendors.

Growth has been slowed, however, by the fundamental character orientation of IBM systems, making the incorporation of graphics into text files a difficult process.

Early on, Microsoft Word pushed the idea of a graphical user interface on the IBM PC world with the capability to show large and small caps, italics, and boldfacing on the PC screen. But inadequacies in the PC hardware made Word's first attempt slow and ugly. Thanks to the acceptance of the AT-class machine as the standard for professional workstations, graphic solutions have become much more workable. The new Word 4.0 is quick and effective, demonstrating that graphic interfaces work. But Word doesn't bring generalized graphic images inside the text preparation process, having only a basic capability to include a graphics print file in a completed document at print time.

The most attention has been paid to placing a graphic image in a text page. The easiest way to do this is to place a code in the text, leave enough blank space, and then combine text and image at print time. This primitive approach appears in Xywrite III and Samna IV. More advanced systems — such as Wordstar 2000, Lotus Manuscript, and Mass-11 — permit the inclusion of the graphic image and automatically create the white space to contain it.

Most good systems at least offer a preview mode that shows how the graphic element will look before printing. More sophisticated environments not only take the image from a disk file but will allow you to resize it, rotate it, crop it, or otherwise edit it before including it in a printed document. Wordstar 2000 Plus, Release 3 and Officewriter 5.0, for example, include a special add-on program — in both cases based on Inset, a memory-resident graphics screen capture and editing program — that allows the editing of images directly on a graphics screen before including them in the document and that will even flow text around the inserted image. In almost every case, however, the graphics function works clumsily, though effectively.

Because none of these programs has been designed with the task of managing graphic images as a central component, they seldom effectively integrate text and graphics functions. Compared with a program such as Ventura Publisher, designed to handle graphic elements, none of these products can be considered competitive. But neither word processing nor desktop publishing vendors claim to offer replacements for each other's products, in tools or in effectiveness.

Graphics capabilities aside, every program is a prisoner of its attached printer. It is no easy task for a word processor to send a complex graphics and text image to one of a long list of mutually incompatible graphics printers. Even highly standardized printers work under configuration and memory limitations and can deal out unexpected results that crash the whole system without explanation.

Consequently, the industry is currently in what must be regarded as a very experimental stage for the inclusion of graphic images in word processing documents. If you need it now, we recommend Wordstar 2000 Plus, Release 3 because it does the best job of merging text and graphics. Lotus Manuscript does a good job with .PIC files but does not capture screen images and does not have the sophisticated editing features of Wordstar's Inset. Mass-11 also has good graphics capabilities, and Officewriter 5.0's graphics add-on is an Inset work-alike.

In every case, read the specifications carefully and try to experiment with the graphics capabilities before purchasing any program. Some arrangements may be entirely satisfactory, while others may omit a feature absolutely essential to your needs. Other programs, such as Samna IV and Mass-11, have separately available graphics editing and preparation packages that produce files compatible with the word processing file.

We expect to see dramatic improvements in graphics capabilities in these high-end word processing packages within the next two years or so, particularly as we see word processing in graphics-oriented operating systems. This is one area where significant differentiation between packages exists, and the frontier extends way beyond the horizon.

screen, and the program does not show the last revision date on the document summary screen. Because the program is easy to learn and use, it does not require the level of technical support that characterizes a Displaywrite 4 or Microsoft Word office. Although lacking the telecommunications module of Wordstar 2000 or a way to redefine keys, Word Perfect's indexing, footnoting, table of contents, and table of authorities capabilities provide a remarkably powerful combination. Word Perfect, Version 4.2, reviewed here, does not support graphics.

Word Perfect's strength, of course, is its flexibility. The program serves the needs of secretaries, mail-list managers, scholars, editors, report writers, and casual memo writers equally well. Its user interface allows novices and experts to be at home and effective within the same system, making the document and task exchange of documents among a wide range of staff simple and effective. We rate Word Perfect very good in ease of learning and use.

Error messages are clear and well-documented; we rate them good. Data integrity is maintained through a multilevel undelete command and an auto backup feature. Unfortunately, Word Perfect seems to be rather sensitive to memory-resident utilities. We rate data integrity very good.

Technical support has been better when we called Word Perfect for earlier reviews. The staff was knowledgeable, but the answers we received about Laserjet soft fonts were not terrific or entirely correct. We rate technical support and support policies good.

Thanks to its performance and ease of learning and use, we continue to rate Word Perfect an excellent value.

WORDSTAR PROFESSIONAL
Version 4.0

Long the standard of microcomputer word processing, Wordstar Professional (not to be confused with Wordstar 2000) occupies a special place in the hearts, minds, and neurons of veterans of the CP/M and early PC-DOS worlds. At one time the ubiquitous word processor, Wordstar's classic characteristics continue to inform many competitive products. Some attribute Word Perfect's success to its uncanny capability to capture the spirit without the peculiarities of Wordstar.

Whatever its pedigree, Wordstar offers the high-powered word processing market too little, too late.

While the product has three-line headers and footers, some laser printer support, a built-in speller and very good thesaurus, integrated indexing (with exclusion list), table of contents, macros, a good math module, conditional mail merge, and subdirectory support, these are not enough to make it a contender. No footnotes, automatic hyphenation, newspaper columns, forms management, outline or paragraph numbering, redlining, sorting, style sheets, table of authorities, widow/orphan control, or split screen/windows add up to a less than competitive high-end product. Wordstar only offers an optional file conversion utility that imports Word Perfect or IBM DCA/RFT format files.

With this features list and the limitations on performance they indicate, we must rate Wordstar Professional a poor performer within this group.

Wordstar's good documentation and on-screen tutorial earn the program a good rating in ease of learning. Its help screens, while less extensive than in many competitors, balance against a very nice self-patcher that permits a wide range of customization; this earns it a good rating for ease of use.

The program can be run from floppy disks with some disk swapping, but even the new edition does not have automatic paragraph reformatting. While the old Ctl-B remains, there is a new command to reformat the entire document, which simply automates the paragraph-by-paragraph reformatting on-screen. There is also an option to reformat at print time.

Error messages are clear, well-documented, and comprehensive. It gives easy-to-understand and accurate messages. We rate it good in this category.

Its technical support is handled differently from the Micropro flagship product, Wordstar 2000. There is a different line, and after 15 calls to a busy line over several days and being put on hold for more than half an hour, technical support could only be described as unacceptable.

In short, this product no longer competes at the top of the market. Only because so many people have its user interface ingrained in their fingertips do we rate Wordstar Professional a satisfactory value.

PRODUCT SUMMARY

WORDSTAR PROFESSIONAL
Version 4.0

Company: Micropro International Corp., 33 San Pablo Ave., San Rafael, CA 94903; (800) 227-5609.
List Price: $495.
Requires: IBM PC or compatible, 256K, DOS 2.0 or later. Hard disk recommended.
Pros: Very good speller and thesaurus; integrated indexing; good math module; good documentation and tutorial.
Cons: No footnotes, automatic hyphenation, newspaper columns, forms management, outline or paragraph numbering, preview of printed document, or sorting.
Summary: The classic Wordstar, Wordstar 4.0 returns to the high-powered word processing market with too little, too late. Best where familiarity outweighs features.

WORDSTAR 2000 PLUS
Version 3.0

Over the years, Wordstar 2000 has grown from a clumsy, slow program

into a graceful, fast competitor in the professional word processing category. Within this highly competitive context, the packages grow bigger, faster, more powerful, and much more complex, and Wordstar 2000 Plus raises the ante in this contest with Release 3. Our top scorer, it offers an awesome features list, great performance, excellent documentation, and superior support.

The program has three parts: a main program that does the word processing; a set of supplementary features that handle mailing lists, form letters, indexing, telecommunications, and file conversions; and a collection of programs that manages graphics (Inset II), produces page-sized text displays (Show Text), handles outlines (PC-Outline), and permits the use of preprinted forms (Fill-A-Form). In addition, the package includes Hpfont and Psfont for managing Laserjet and Postscript fonts. These elements vary from the complete integration of mailing list and telecommunications functions to the virtual stand-alone operation of Fill-A-Form. Taken together, they constitute one of the most powerful word processing tools currently available.

Although it operates much like its predecessor, Release 3 has been significantly enhanced. The great increase in speed represents a new feature for a program long known for its sluggish operation. Cursor operations, locating text, reformatting, and general operations all zip along as fast or faster than any competitive product that is on the market.

Release 3 includes a long list of new features, including enhanced laser printer support with special emphasis on HP Laserjet printers and Postscript printers; and Inset II, a major graphics program, can be called from within Wordstar 2000 to capture any screen image and insert it into a text document.

The program can do graphic editing that allows expansion, rotation, clipping, adding, copying, and moving of a captured image. Further, an inserted graphic can have text flow around the image. This is much superior, for example, to the graphics system included with Microsoft Word 4.

The fixed-field mail list program has longer fields and adds a second phone number and a post-honorific title such as MD or Jr. In addition, Mail List includes an alternative fixed-format form for inventory management as well as the capability to automatically print Rolodex cards.

The Telmerge program supports an expanded set of commands for building automated scripts for calling data services and now supports the Xmodem protocol.

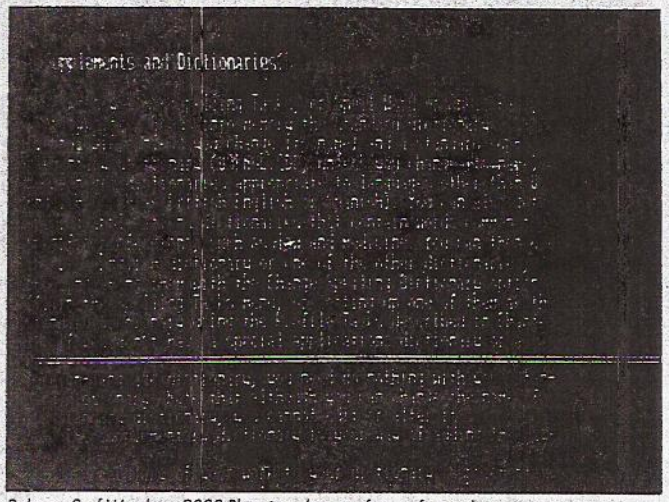
Fill-A-Form allows the user to fill in a screen form and then have that information correctly printed on a preprinted form. The program also keeps a file of client names and addresses. PC-Outline is a stand-alone outliner with good capabilities but only modest interaction with Wordstar 2000. Show-Text, a program to create page-size visuals using text of different sizes, colors, and type styles, is a useful tool. The index feature includes cross-referencing, subtopics, and compound numbers. The document history is very thorough. The user must use a highlight or italics feature, however, as a substitute for redlining. Finally, Wordstar 2000 includes a very good thesaurus.

Documentation is excellent, with plenty of extras and organization. We rate it excellent. Technical support via a toll-free number is also excellent, with a knowledgeable staff that is eager to help. There's a lot of support for special printers and other odd items, and our

PRODUCT SUMMARY

WORDSTAR 2000 PLUS
Release 3

Company: Micropro International Corp., 33 San Pablo Ave., San Rafael, CA 94903; (800) 227-5609.
List Price: $495, Personal Edition; $595, Legal Edition.
Requires: IBM PC or compatible, 512K, DOS 2.0 or later, hard disk, monochrome or color.
Pros: Particularly strong in form letter and mail list management, complex formatting, and long documents.
Cons: Complexity and use of separate support programs makes learning more difficult.
Summary: A high-powered, full-featured office product, Wordstar 2000 offers strong editing, superior formatting, great printer support, and a wide range of companion programs for graphics, telecommunications, and outlining. One of the top packages.



Release 3 of Wordstar 2000 Plus zips along as fast or faster than any competitor.

OFFICE/PROFESSIONAL WORD PROCESSING SOFTWARE • INFOWORLD BENCHMARKS

The following descriptions correspond to our benchmark chart listing the time, in seconds, that it took the word processors to perform a variety of functions. Our tests were conducted using a 50K file that included a variety of formatting commands (boldface, underscore, headers, footers, and line spacing). We divided the document into three principal sections, each with a slightly different ruler.

File

Load—*Time required to load the 50K test document.*

Save—*Time required to save the same 50K file.*

Import ASCII—*Time required to import an ASCII version (48K) of the test document. (This file contained no formatting commands.) Some programs, like Wordstar 4.0, show great speed in this test simply because they accept the ASCII file directly without converting, for example, hard line endings to soft line endings.*

Export ASCII—*Time required to export (write to disk) the 50K test file to an ASCII file.*

Import DCA—*Time required to import the test file from Revisable-DCA format. (This file contained all of our formatting commands.) This tests the efficiency of the vendor's DCA conversion routine.*

Cursor Movement

Top to Bottom—*Time required to jump from the top to the bottom of the document and then back three screens. (Backing up three screens put the cursor on the page preceding the last page.) The backwards scroll is intended to offset programs that are optimized to jump to the last line of the document only.*

Manual Scroll—*Time required to scroll through the document one line at a time (with the down-arrow key held down).*

Reformat

Time required to reformat and repaginate the test document after reducing the text's width by 12 characters (or one inch). Since our test document contained three different sections, each with a unique ruler, some word processors required that each section be reformatted individually. Some word processors reformat automatically; the timing given in such cases is to repaginate (establish page breaks).

Search

Last Word—*Time required to search for the last word in the test document.*

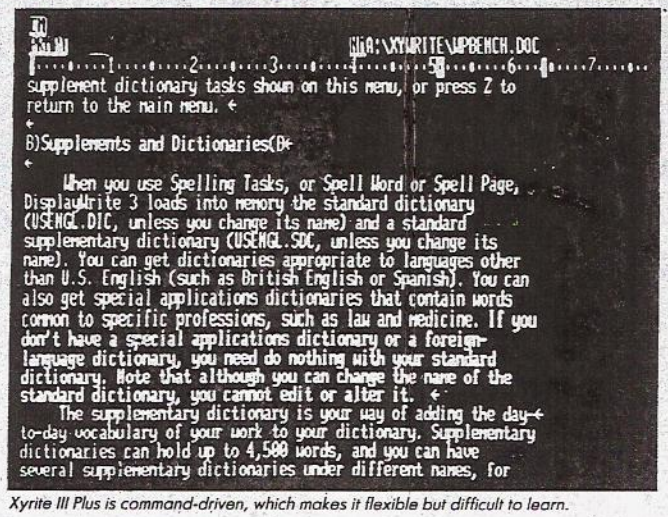
Replace—*Time required to replace a three-character string that appeared 774 times in the test document with another three-character string.*

Append Document

Time required to append a 10K file to the end of our test document. The append file was formatted similarly to the test document.

	Deskworks 3.A1	Displaywrite 4 1.00	Lotus Manuscript 1.0	Mass-11 7B	Microsoft Word 4.0	Multimate Advantage II 1.0	Office Writer 5.0	Samna Word IV 1.1	Word Perfect 4.2	Wordstar Professional 4.0	Wordstar 2000 Plus 3.0	Xywrite III Plus 3.52
File												
Load	1.1	6.7	7.7	3.2	1.4	1.6	2.6	2.6	1.5	0.8	2.1	1.7
Save and Continue	1.4	7.3	2.7	N/A[1]	4.1	Varies	1.3	Varies	5.6	11.9	2.8	2.3
Import ASCII	146.7	15.1	10.7	50.2	1.1	147.1	9.1	271.6	18.3	1.0	174.4	1.2
Export ASCII	27.8	31.7	5.5	33.5	55.3	53.1	17.9	46.7	22.5	12.2	84.7	38.2
Import DCA	143.0	9.2	15.5	25.6	58.7	143.2	14.8	59.4	20.9	N/A[4]	100.6	9.6
Cursor Movement												
Top to Bottom	2.1	1.7	0.5	0.7	0.5	1.4	0.7	0.5	2.9	1.7	Varies	0.7
Manual Scroll	100.6	110.4	75.4	105.2[2]	94.1	205.7	103.3	100.6	97.7	93.6	36.0	96.7
Reformat	218.9	30.6	N/A[3]	N/A[3]	10.8	51.6	39.0	92.5	25.9[5]	53.7	38.3[5]	40.3[5]
Search												
Last Word	6.8	6.0	1.9	3.0	2.2	21.0	2.4	84.9	2.7	8.3	4.6	0.9
Replace	1069.0	44.5	21.9	16.2	14.4	11.1	31.0	121.5	5.5	13.3	12.9	1.3
Append Document	23.9	5.0	3.8	2.6	0.7	8.2	4.1	14.2	0.8	1.6	1.7	1.0

Times in seconds.
[1]Automatically backs up document every 100 keystrokes; consequently, no save and continue feature is provided.
[2]Has "fast scroll" function (top to bottom in 34 seconds).
[3]Does not automatically paginate while editing.
[4]Cannot translate DCA files.
[5]Could not globally alter all rulers. Chart indicates the total time to alter each ruler manually.



Xyrite III Plus is command-driven, which makes it flexible but difficult to learn.

calls were answered quickly by technicians who weren't stumped by even our most messy system error questions. Support policies are also excellent, with the best telephone support policy available anywhere. It includes unlimited, toll-free support for the life of the release plus six months.

The program includes an undo function, and we rate data integrity good. Error messages include suggested solutions and good descriptions; we rate it very good.

While the main program and its supporting auxiliary programs make a very effective combination, their ease of learning is limited to good because of the varying user interfaces. For experienced users, the programs are very good to excellent in ease of use; this combined with good ease of use for less experienced users averages to a very good in ease of use. Fortunately the documentation is excellent and the technical support is among the best in the business, and we rate its value excellent.

XYWRITE III PLUS

Version 3.52

Over the years Xywrite has earned an impressive reputation as the sleekest and fastest text editor available. In the classy current incarnation, Xywrite III remains fast and effective and boasts a host of word processing functions added to its traditionally extensive editing capabilities.

This program is the sports car of word processors: fast, quick, lean, and unforgiving. Unlike products such as Samna IV or Multimate that use a lot of menus, Xywrite is command-driven. That means you must enter semi-cryptic commands or issue function- and control-key combinations to accomplish your tasks. Although Xywrite has superior on-line help screens, which are accessed from a menu, this is not a word processor for the weak. Either you like free-form, unstructured editors, or you don't like them. If you do, Xywrite is absolutely superb; if you don't, the program is an ease-of-learning and ease-of-use disaster.

In the features race, Xywrite III comes in about at the middle of the pack, more robust than programs such as Deskworks or Displaywrite 4 and somewhat less full-featured than Word or Wordstar 2000. For example, Xywrite's graphics commands for integrating graphics are primitive compared to those of Wordstar 2000. It has no function to produce tables of authorities needed for some legal work, and it does not handle equations. It has a footnote feature that includes endnotes, widow/orphan control, and automatic paragraph indent. (Footnotes are also very complicated to do.) There is no document history, but the program supplies an easy-to-use redlining feature.

Xywrite has superior printer support and is very effective with proportionally spaced fonts. The program handles many newspaper columns, not displayed on-screen, and excellent side-by-side columns. A fine sort facility permits different sort sequences, and the math capability is excellent. Xywrite does forms and mail merge, but it doesn't handle selective mail merge with criteria. The speller is superior, and the thesaurus is a joy to use. Multiple windows that can be split vertically or horizontally increase the program's usefulness.

Xywrite has a print preview function that shows a screen version of the printed text with page breaks, headers/footers, and similar page formatting characteristics. While the editor shows all formatting commands, and you can find the page breaks, pages do not show on the screen. This is consistent with the text editor model which sees the text as an unbroken flow of characters, but the absence of page breaks on the screen may irritate some users.

Documentation includes several tutorials and extra booklets. While the function key template is poorly designed, overall documentation is good.

Infinitely flexible and customizable, this program lets users do almost anything in any way that pleases them, but only if they like solving complex puzzles — Xywrite's customization routines are suitably enigmatic to the uninitiated. Incredibly complex macros are possible and every key and command can be rearranged to work with a different keystroke or combination. Many printers come predefined, and laser printer support is superior. The program's command-line orientation and complexity inhibit ease of learning but these problems are offset by the tutorial. The program requires dedicated involvement by the user or at least a system administrator. With informative help screens and other on-line help features, the program earns a good rating for ease of learning, limited primarily by the complexity of its many options and capabilities.

Xywrite's ease of use, however, is very good as a result of the great effectiveness that can be achieved by tailoring the program to your specific needs and preferences. If you don't understand ASCII, you'll have a hard time with Xywrite; everything appears in an editable file (printer definitions, default parameters, special keyboard definitions, and the text plus all its attributes). Files and data from Xywrite go anywhere in the ASCII-compatible world.

Xyquest offers first-rate technical support. The technicians call back promptly, the answering service does not leave you on hold, and answers are technically correct and completely informed. We rate technical support excellent. Support policies earn a satisfactory.

Best for those who write a lot, especially long documents where page layouts vary little, Xywrite III belongs near the top of its class for power and flexibility but just off of the mainstream of corporate word processing. Combining these factors with its price, we rate Xywrite III an excellent value.

PRODUCT SUMMARY

XYWRITE III PLUS

Version 3.52

Company: Xyquest Inc., 44 Manning Road, Billerica, MA 01821; (617) 671-0888.
List Price: $445.
Requires: IBM PC or compatible, 384K, DOS 2.1 or later.
Pros: Superb editor; totally customizable; excellent printer support including proportionally spaced fonts; supports newspaper columns; includes fine sort and math capabilities.
Cons: Mail-merge without selective criteria; command driven; high level of user expertise required.
Summary: Fast and powerful, but expects you to show it who's boss. Excellent if you like free-form, unstructured editors or have a taste for programming.

RELATED REVIEWS

WORD PROCESSORS

Xywrite III Plus, Version 3.51, January 25, 1988
Wordstar 2000 Plus, Version 3.0, January 11, 1988
Microsoft Word 4.0, November 16, 1987
Samna IV, Version 1.0, September 14, 1987
Multimate Advantage II, Version 1.0, July 13, 1987
Wordstar Professional 4.0, April 13, 1987
Lotus Manuscript 1.0, March 16, 1987
Displaywrite 4, March 9, 1987
Word Perfect 4.2, February 2, 1987
Office Writer 5.0, January 26, 1987
Product Comparison: DOS Executive Word Processors, October 12, 1987:
Dac Easy Word II
Easy Extra 1.50
Einstein Writer 7.6
PFS Professional Write 1.0
Q&A Write 1.0
Textra 4.0
Volkswriter 3
Webster's New World Writer 1.05
Product Comparison: DOS Office Word Processors, July 13, 1987:
Displaywrite 4
Microsoft Word 3.11
Multimate Advantage II
Office Writer 5
Word Perfect 4.2
Wordstar 2000 Plus, Version 2
Product Comparison: DOS Professional Word Processors, April 13, 1987:
Lotus Manuscript 1.0
Microsoft Word 3.1
PC-Write 2.71
Word Perfect 4.2
Wordstar Professional 4.0
Xywrite III, Version 3.15

Executive Summary

Three word processors take the lead in the professional/executive category — Word Perfect, Wordstar 2000, and Microsoft Word. These products offer fast, effective, and feature-rich performance with a variety of options and capabilities. For the vast majority of mainstream office and professional word processing, any of these products is an excellent choice.

Lanier Deskworks, brought to life for personal computers from dedicated word processing, enters the market as a strong contender still in need of some features and fine-tuning. It handles large documents well and is a natural choice only for offices using the Harris-Lanier dedicated word processing system.

IBM's Displaywrite 4 is a new and enhanced product compared to earlier releases, but it still suffers from Big Blue's lack of support for its constituency. It offers superior mail-merge capabilities and is well-suited to large document assembly and list processing tasks.

Lotus Manuscript performs well, handling large, complex documents like a champ. It also offers fine documentation and help screens and is a good choice for technical document production. Another niche product, Xywrite III Plus, offers broad editing and customization features but demands a high degree of user sophistication.

Mass-11 was adapted from the minicomputer world for micros. This product is good for scientific word processing, offering math, formula, and graphics capabilities. Unfortunately, it is tedious to configure and learn. The office already using DEC minicomputers will benefit from an easy learning curve on this newcomer.

Yet another crossover product, Multimate Advantage, provides full-featured Wang emulation. It has many fine, powerful features, including strong data file management and mail-list and form-letter processing. It isn't recommended for large documents, with a file size limitation of 128K. Office Writer, while not matching the power of some of its competitors, is a good editor and handles large documents admirably. It is easy to learn and use.

One of the field's powerhouse packages, Samna IV is a great performer especially when it comes time to crunch form letters and mail lists. Not so much suited for minor word processing or lengthy editing tasks, it does not include a thesaurus. If you demand complex mailing tasks, however, this may be your answer.

Wordstar Professional, while its commands are embedded in the fingers of myriad users, isn't keeping up with the rest of the pack. It performs poorly with too few features and is better for users with simpler word processing needs than those of the average office.

Lotus Manuscript, Office Writer, Samna, and Word Perfect have fallen behind in revisions. All three will offer major upgrades this spring.