PRODUCT COMPARISON

Making a Splash

InfoWorld judges the performance of six graphical word processors from three platforms.

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INFOWORLD TEST CENTER

Graphical interfaces have invaded a wider array of software applications, starting with obvious tasks such as desktop publishing and illustration, and lately invading to characters-based ones such as spreadsheets, databases, and word processors. A crop of new graphical word processors has joined the Macintosh standbys such as Microsoft Word, now that Windows 3.0 has provided a widely accepted, reasonably graphical user interface for MS-DOS PCs.

But do you need a graphical interface for an inherently textual application?

The answer is maybe. Word processing and text editing are inherently textual. Graphics can slow down performance and detract from the contents of your material by overwhelming its form. But graphics can also let you focus on form while you’ve finished with the content — and form is an important part of presentation. It takes both good content and good packaging to make a truly effective proposal, report, or statement. No one wants to read gray or ugly copy, no matter how insightful, just as no one wants to read good-looking copy that is devoid of content.

This means a truly useful graphical word processor must offer two distinct features: a strong word processor and a strong presentation package. The word processor must support the features typical of a character-based package such as Word Perfect 5.1 or Word for Windows 3.0 on the PC — including macros and keyboard macros. It also must support the presentation of these documents in the WYSIWYG, dynamic approach popularized by the Macintosh — including accurate fonts and graphical placement.

In this comparison, we introduce a revised test plan, from the January 29 comparison. We examine six graphical word processors from three platforms: Ami Professional 1.2 and Word for Windows 3.0 under Windows 3.0 on the PC; Microsoft Word 4.0, Word Perfect 1.04, and FullWrite Professional 1.1 on the Macintosh and describe 1.1 on Presentation Manager under OS/2 1.3. With the apparent industry-wide agreement that graphical interfaces are in, the differences between environments will tend to disappear. It is clear, however, that differences between products will remain.

Windows will remain dominant, with some improvements like mouse click and drag import/export formats, a new on-line, context-specific help system, and new documentation.

If you are a graphical word processor user — by working in a text (or “draft”) mode during content editing and then using its graphics features during layout and presentation — it can be a great boon to creating effective documents.

If printing eye-catching documents is not what you do, you don’t need graphical word processors, because a conventional word processor usually has sufficient formatting and layout features for most documents. If desktop publishing is what you do, you need either a graphical word processor or specialized word processing features such as indexing, as your desktop publishing program will handle your presentation formatting and do your indices, tables of contents, and the like.

Some users, of course, will try to use graphical word processors for desktop publishing, but there is a fundamental difference between the two applications that prevents you from doing much more than rudimentary publishing in a word processor. Usually publishing involves the integration of multiple, independent documents that thread throughout a publication, while printing straight-ahead reports typically involves formatting only one major thread supplemented with a title page. Even a simple newsletter usually has several elements that will requirePOINT word processors. However, a graphical word processor can often outperform the combination of multiple word processors and low-end desktop publishing, as the low-end DTP products often focus on formatting issues rather than publishing ones.

Graphical word processors satisfy two large markets: the budget-conscious user who needs sophisticated presentation capabilities but can’t afford a desktop publishing system, and the document staff in a corporate environment that produces a variety of reports based on a boilerplate but customizes them for individual clients.

An example of a budget-conscious use is a small-batch printer who needs to produce camera-ready papers for journals, or a partner in a small legal firm who needs to produce properly formatted legal briefs but cannot hand control of the...
### Product Comparison

#### Executive Summary

Intuit, the maker of Quicken, has introduced a new product called Quicken Deluxe. This product is designed to help users manage their finances more effectively. Quicken Deluxe offers a range of features that are not available in the previous versions, making it a more comprehensive tool for personal financial management.

### Graphical Word Processors

<table>
<thead>
<tr>
<th></th>
<th>Windows (Word for Windows Version 1.0)</th>
<th>OS/2 (FeatureWrite Professional Version 1.1)</th>
<th>Macintosh (Microsoft Word Version 4.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>$499</td>
<td>$335</td>
<td>$395</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
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</tr>
<tr>
<td>Basic editing</td>
<td>Excellent (65)</td>
<td>Good (61)</td>
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<tr>
<td>Spelling checking/</td>
<td></td>
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<tr>
<td>Thesaurus</td>
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<td>Satisfactory (60)</td>
<td>Good</td>
</tr>
<tr>
<td>Layout</td>
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<tr>
<td>Graphics</td>
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<tr>
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</tr>
<tr>
<td>Final score</td>
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<td>Satisfactory (8.0)</td>
<td>7.6</td>
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</tbody>
</table>

**Use your own weightings to calculate your score.**

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**REPORT CARD**

**INFO WORLD**

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**Poor = 0.00 — Failure to meet minimum standards or lacks this feature.**

**Scores are summed, divided by 100, and rounded down to one decimal place to yield the final score out of a maximum possible score of 10 (plus bonus). Products rated 0.0 and 0.5 are untestable.**

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**INFO WORLD reviews only finished, production versions of products, never beta test versions.**

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**PRODUCTS REVIEWED**

- **Ami Professional 1.1**
- **FeatureWrite Professional 1.1**
- **Microsoft Word 4.0**

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**G mayoría de los usuarios consideran que la versión 1.1 de Ami Professional es la mejor opción.**
Ami Professional offers the most graphics features of the Windows-based graphical word processors, and it is specially adept at mixing text and graphics. It has included a leading-edge product in this market, helping to define what distinguishes graphical word processing and regular word processing. A less feature at version 1.2, Ami is also available for more basic needs.

**Performance: Basic Editing**

Word for Windows offers the expected editing features for an office program, including supplantation search and replace, full-feature tabs, table editor, keyboard shortcuts for almost all formatting, automatic hyphenation (if selected), full justification options, and date and time stamping. All are executed well. Score: Excellent.

The program offers a more-than-adequate spelling checker. While it is incapable of moving back through previous work until you tell it to, the spelling checker lets you examine suggested spellings and other times simply be typed. The thesaurus is equally helpful, offering a hyperlinked list that reviews searches with spellings for lookup. Score: Very Good.

Ami Professional lets you create form letters and mailing labels from data files in Ami formats or in any format for which you can provide a description of the database arrangement. This lets you use predefined text files created by database or spreadsheet programs. You can even merge from a table in your document. Ami Professional's merge facilities include conditional evaluation of records, including And, Or, and other Boolean logic. Score: Excellent.

The layout of secondary material in Describe is straightforward. You create frames (the program calls them "objects") to hold graphics or text and specify how (or if) text should wrap. Formatting main text is likewise simple. Use your style sheets and page-break characters to determine where text flows and how it looks. Score: Very Good.

Ami Professional treats graphics like a desktop publisher. You import a file into a frame and then size and crop it. The program supports many common formats, more than other programs, and does not require use of the clipboard. It also offers a full-feature graphics/drawing editor, as well as rotation capabilities and gray-scale manipulation. Another utility offers full-feature charting and Harvard Graphics within Ami Professional and Windows applications, such as Excel. Score: Excellent.

Word for Windows can import TIFF files directly, and it will import other files via the clipboard. To crop or import graphics, or to import other formats, you can use the Windows clipboard. This is both inconvenient and can lead to out-of-sync errors, as it did in our test. To position graphics, you apply a style tag with the appropriate attributes, such as centered or flush left. There are no editing or drawing tools. Score: Good.

Describe offers a full suite of formatting options for text including tracking, expansion/compression, hyphenation, and tabbing and more. However, it offers no draft mode to simplify editing and has very few shortcut keys. Describe lets you merge multiple files via import. Score: Very Good.

Word for Windows offers a full-featured spell-checker for the DOS version does not yet show that spelling checker has all its mistakes ignored or changed incorrectly. Also, you cannot do spell checking with a global language. The thesaurus offers both synonyms and explanations of words, although we found the synonyms offered are limited. Score: Good.

Like the other versions of Word, Word for Windows offers powerful mail-merge features including conditional formatting, the capability to insert macros, and the capability to insert macros. These features make possible such tasks as form processing. Score: Excellent.

Describe offers a selection of dictionaries, including those with special technical and professional terms. The spelling checker is superior, including hyphenation and definitions. All it lacks is the capability to spell through words previously checked in a session so you can review the earlier decisions. The thesaurus is superior to any other, offering antonyms as well as synonyms. Score: Very Good.

Ami Professional fails short in handling mixed-column documents. Although you can have multicolored text below page layout text, you must create a separate frame for each column of text that differs from your basic layout. If, for example, your format is page-wide but you have a long three-column list that starts half way down one page and continues on to the next page, you must create two sides — one on each page — and place the correct amount of text in each frame. But Ami Professional does offer several options to anchor sidebars and graphics to text and several wrap styles for placing text around graphics. Its table editor is one of the best available. Ami Professional also has a formula editor that allows you to do simple spreadsheet operations. Score: Very Good.

With Describe's basic mail-merge features, you can print form letters and mailing labels with as many as 10 fields. It offers no conditional fields or programming capabilities, but you can use the macro facility's programming language to handle query users and to handle conditional expressions. Bad records throw off the merge because Describe can't skip them. Score: Satisfactory.

Because of its section feature, which lets you have multiple layouts on one page, Word for Windows lets you create sophisticated pages. This makes it easy to format documents on the same page as full-page text. You can edit under WYSIWYG or draft mode, as well as hide or display graphics. In draft mode, various symbols indicate page breaks and the like. Word's WYSIWYG table editor is highly functional, enabling the capability to create tables and import selected images from Microsoft Excel spreadsheets. It will even create the required number of cells during the import of a spreadsheet or database. Word for Windows also has a formula editor, which allows you to perform simple spreadsheet operations. The page preview shows sufficient detail. Other options include headers/footers and equation building. Score: Very Good.
**Fullwrite Professional**

*Version 1.1*

Fullwrite Professional offers a solid set of word processing capabilities. Although it has few sophisticated production features, it is a good all-around office word processor.

Although it excels in the area of editing features, there are some improvements that could be made. Fullwrite offers the capability to search for and replace formatting such as justification, spacing, and text. It also includes the standard text search and replace option. Automatic keystroke hyphenation and smart quotes (replacing keyboard quotes with their typographic equivalents) are also available. With Fullwrite, you can edit documents in several windows. Score: Good.

**Microsoft Word**

*Version 4.0*

The first true graphical word processor, Microsoft Word for the Macintosh, is a good example of how a word processing feature can enhance productivity. Fundamentally the same in functionality as its DOS and Windows versions, Word for the Macintosh offers word processing features that extend beyond basic text manipulation. This includes extensions of word processing, such as connections to desktop publishing.

Word offers the editing features you’d expect in an office program: sophisticated search and replace, full-featured keyboard shortcuts for almost all formatting, full justification options, and dates and time stamping. And it creates documents as well. There are only two significant drawbacks: its Smart Quotes feature, which translates keyboard quotes into their typographic equivalents, does not work on imported ASCII text, and hyphenation is an option you must apply as a separate utility, like spelling checking. Overall, the spelling checker is decent, covering the basic features you’d expect. It offers an option to ignore all caps (under the assumption these are acronyms), as well as to create user dictionaries. But it does not let you move back to previously checked words to correct them, or spell-checking to let you change your mind. The Thesaurus uses hyperlinks, allowing you to refine a search by clicking on a word in each subsequent set of synonyms until you find the one you want. Score: Good.

**Word Perfect**

*Version 1.04*

Word Perfect offers strong features but lacks important ones. Its strengths include the capability to merge files (so there’s no need to use the clipboard as a temporary buffer), merge multiple tables of contents (handy for books), insert special characters from a palette of symbols (no need to remember lots of codes), and override one character onto another (handy for foreign languages and scientific notation). But its paragraph formatting options are limited (too few line indent, for example) and its tab-stop-based indentation approach is cumbersome. A Show Commands option lets you see the special characters Word Perfect uses to format your text. Overall, the spelling checker is capable, but it lacks ease-of-use features such as letting you move to a previously checked word (so you can change your correction), and ignoring all-caps words. It offers suggestions based on separate lists of phonetic and typographical suggestions. Although this seems handy at first, it means you have to look at two lists for the potentially correct word. The Thesaurus, on the other hand, offers the sophisticated capability to let you follow a word’s synonyms and close cousin through several levels in parallel, which helps you refine your search across several variations of meaning at once. Score: Good.

**Performance: Spelling Checker/*Thesaurus**

Mail merge in Fullwrite is basic but capable. You can specify field names in which Fullwrite will substitute text from one data file with text from other data files. In addition to text data files, Fullwrite can also substitute text from files on Mac Disk files. Fullwrite mail merge features include user-defined capabilities as conditional use of records or prompts for user input, but it does not let you insert the date, page number, chapter length, and other such variables. Score: Good.

**Performance: Mail Merge**

Word’s mail-merge features cover formatting. If then, and the capability for you to fill in for particular pages or dates, or for each page of these features, the capability to include other Word files lets you create customized customized forms, instead of just form letters and mailing labels. Score: Very Good.

**Performance: Layout**

In Word Perfect, the page layout is straight-forward, once you get the hang of creating different sections, sometimes on the same page, to mix the numbers of columns (as columns when you have a three-column list of names under a page-wide, single-column heading). You can call under: WYSIWYG or draft mode, as well as hide or display graphics. In draft mode, various symbols indicate information such as page breaks. Word Perfect does not take advantage of such features as re-centering cells. However, it will not create the required number of columns for American style text. The page preview shows sufficient detail. More options include headers and footers and equation numbering. Overall, the page view is more than satisfactory. Score: Very Good.

**Performance: Graphics**

Microsoft Word’s graphics are considered to be paragraphs, so it is hard to have graphics that remain static while the text around them moves, because a graphic is treated as a paragraph, it moves with the surrounding text. Once placed, you can resize and crop your graphics. But cropping is limited to the right and bottom of the image. Graphics can be any width, and text will wrap around them. This is true for sharing of scores, Satisfactory.
**Product Comparison**

**Ami Professional**
- Spelling checker allows you to globally replace a misspelled word.
- Offers numbering capabilities with which you can create outlines. But there are not the same as the sophisticated electronic outline sheet's structure if you use style tags such as "heading 1" to tell it each headline's level. Score: Excellent.
- Offers serviceable table of contents and index generation. Tables of contents are limited to three levels, but the way you create them — by telling the program which style tags represent which levels — is fast and efficient. Index generation is less efficient. You can mark primary index references in the document, but secondary references must be in a separate index page at the end. You cannot simply mark secondary index entries in text as you edit. You also must be in layout mode to define index references. Unlike many programs, Ami Professional will add the page number for every occurrence of the index entry. Score: Good.
- Has sophisticated style-sheet options, including drop-down with next, break page, turn on hyphenation, and set tracking. Style sheets are easy to create and modify, and you can use style sheets from other documents. The program comes with several predefined tags for footnotes, headlines, and the like, which you can modify. You can also assign commonly used style tags to function keys. The only drawback is that the style tag list is not alphabetical, making it hard to find your tag if there are many. Score: Excellent.
- Supports all fonts supported by Windows, including downloadable fonts. However, the program substitutes Times Roman on-screen for our downloadable Palatino typeface, which left awkward on-screen spacing because of the differences in the typefaces' character widths. Although the pull-down menu lists only selected point sizes, you can enter any size you want from the Font or Define Styles dialog boxes (provided you have available fonts). You can apply font changes in selected text or to paragraphs, either directly or through style sheets. Score: Very Good.
- The program lets you use footnotes or endnotes, but not both. In a document. Entering and numbering is easy and effective, and styles can be applied to footnotes. Ami Professional provides some customization options, such as indent and length of line separating the footnote from the body text. Score: Very Good.

**Word for Windows**
- Offers outlining feature lets you expand and collapse text and gives you full editing control over levels. It can also automatically generate outlines based on your use style tags such as "heading 1" to tell it each headline's level. Score: Excellent.
- Offers choice of using your document's outline or embedded entries to create tables of contents. In addition to the table of contents, you can create other tables, such as a table of authorities, with embedded entries. Indexing is also powerful, including full formatting options and the capability to cross-reference within the index. Score: Very Good.
- Supports detailed style sheets that include options such as keep with next paragraph, insert page break before, and set tracking, in addition to the typical settings for typeface, size, and justification. You can also merge style sheets from other documents. Word for Windows provides several automatic styles, which you can alter, for references, footers, headings, and tables of contents. Score: Excellent.
- Supports all fonts supported by Windows, including downloadable fonts, with good on-screen accuracy. Word for Windows supports Adobe fonts; however, due to a bug in Adobe's fonts, we could not get the program to recognize the fonts, even though our other Windows programs did and Windows showed them as installed. Although the pull-down menu lists only selected point sizes, you can enter any size you want from the Font or Define Styles dialog boxes (provided you have available fonts). You can apply font changes to selected text or to paragraphs, either directly or through style sheets. Score: Excellent.
- Offers both footnotes and endnotes, which you can mix in a document, as well as full formatting control over positioning and style, including the option to specify continued lines for footnotes that break across pages. Score: Excellent.

**Describe**
- Does not support outlining. Score: N/A.
- Offers indexing and table of contents generation. You can have multiple indexes and tables of contents. For indexes, the program offers full control over page number formatting, cross-references, and text entries. For contents, it lets you specify as many as four levels. Score: Very Good.
- Offers just about everything you'd expect, including tracking, tab settings, and automatic initial or drop caps. Although easy to create, style sheets are awkward to apply, because you must highlight all the text affected text, rather than simply placing your cursor on the affected paragraph. Also, if you apply a new tag to text, all local formatting is lost. A feature that is missing from Describe is a break above the current paragraph. You can simulate this somewhat with the conditional depth option. Score: Good.
- Supports fonts specified in the OS/2 printer driver selected, which essentially limits output to Postscript devices. However, Describe handles the available fonts well, both on-screen and in what attributes it can set for them. Score: Excellent.
- Does not support formatting except as manually entered text. Score: N/A.
Fullwrite Professional’s spelling checker offers a wide variety of alternate spellings.

Microsoft Word for the Macintosh allows you to create user dictionaries.

WordPerfect’s spelling checker can have corrections based on both phonetic and typographic suggestions.

**Performance: Outlining**

Fullwrite lets you specify multiple outline levels with the option to collapse or expand text and number sections. It has full editing capabilities, offers several standard outline formats, and has the capability to let you create your own. You can also have multiple outlines in one document or use one outline across multiple documents. The only omission is the capability to hide style-sheet tags to outline levels (you must manually tag each paragraph). Score: Very Good.

Word offers multiple levels of outlining, including the option to collapse or expand text and number sections. You can have the program associate style-sheet tags automatically with each outline level, which greatly speeds formatting. Because when you define the style sheet, all your headlines are already marked and ready for their formatting to be defined. The only drawback is that you cannot assign your own style-sheet tag names to these headings; you must use Word’s names. But this is a minor omission. Score: Very Good.

WordPerfect’s outlining feature is rudimentary. It automatically numbers paragraphs and supports up to seven levels, but you cannot have an outline intermixed in your document for display when needed. There are no other sophisticated outlining features, such as collapsing/ expanding text or shuffling outline elements. You can rearrange categories in your outline. Score: Satisfactory.

**Performance: TOC and Indexing**

Fullwrite lets you create tables of contents based on your outline or from notes embedded in your document (as hidden text). You may have one table per document, and you can format this table as you would any other text. Fullwrite’s indexing also relies on embedded notes and is likewise limited to one per document. Again, you format the index as a normal document. You can also specify hierarchical index entries as you enter index information. Score: Good.

Indexing and table of contents generation is simple in Word. For indexing, you can enter the indexing code and type in the entry (as hidden text), or you can highlight the text you want to appear and click the Index menu option. You have full control over formatting, such as whether the index page number appears in bold or shows inclusive pages. For tables of contents, you insert a contents entry before the text you want to appear in the table of contents. Or you can create a table of contents based on your outline. In both indexes and contents, you can have several levels of text in the contents and seven in the index. Score: Very Good.

With its indexing, table of contents, and lists features, WordPerfect offers what most users would expect in an office word processor. It will generate up to one index, one table of contents (with up to five levels), and five lists per document. WordPerfect does not offer sophisticated features like cross-references in an index, but it does give you a choice of formatting schemes for numbers in your index, contents, or lists. However, it is limited to dot leaders as the separator between text and page numbers. To create an index, contents, or list, you can highlight the text to be included or type it in a dialog box. Score: Satisfactory.

**Performance: Style Sheets**

Style sheets in Fullwrite are limited to basic formatting such as typeface, size, and justification. You cannot specify attributes such as indentation, left or right margin, line spacing, and bullets. The program does allow you to preview the styles that you are defining. Score: Good.

Creating and applying style sheets is simple, although the process may not be intuitive to users of desktop publishing programs. Rather than using the normal menu options to define your style sheet tags, you have a set of options within the Define Styles dialog box. (Performing operations outside the current dialog box may change to most graphical interfaces’ style.) You can easily modify and create style tags on the fly, as well as change style sheets from other documents. However, you cannot delete old or unwanted tags. Score: Good.

WordPerfect does not support style sheets. Score: N/A.

**Performance: Font Support**

Fullwrite supports all fonts supported by the Macintosh, including downloadable fonts, with good one-screen accuracy. Although the pull-down menu lists only selected point sizes, you can enter any size you want from the Other Size dialog box. You can apply font changes to selected text or to paragraphs, either directly or through style sheets. Score: Excellent.

Word supports all fonts supported by the Macintosh, including downloadable fonts, with good one-screen accuracy. Although the pull-down menu lists only selected point sizes, you can enter any size you want from the Character Formatting dialog. You can apply font changes to selected text or to paragraphs, either directly or through style sheets. Score: Excellent.

WordPerfect supports all fonts supported by the Macintosh, including downloadable fonts, with good one-screen accuracy. Score: Excellent.

**Performance: Footnoting**

One of Fullwrite’s best-recognized features is its footnoting. It offers footnotes, endnotes, and bibliographic formatting options (the last is used frequently by academicians in research papers). Its formatting capabilities are standard ones such as determining position and a numbering scheme. Score: Excellent.

Word’s footnoting is superb. You can specify almost every aspect, from where footnotes print — in the columns where they were invoked, across the bottom of the page, across more than one page if a large footnote, at the end of the current section (endnotes), at the end of some other section, or at the end of the document — to how they are spaced and how they appear by changing their style tag. Score: Excellent.

The program supports both footnotes and endnotes, offering strong formatting options, including a choice of up to five user-defined note characters, control over footnote position and appearance, and control over the numbering. Score: Very Good.

Fullwrite Professional, Continued on Page 69

Word for Macintosh, Continued on Page 66
<table>
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<tr>
<th>PERFORMANCE: MACROS</th>
<th>PERFORMANCE: PRINTER SUPPORT</th>
<th>PERFORMANCE: COMPATIBILITY</th>
<th>PERFORMANCE: SPEED</th>
<th>DOCUMENTATION</th>
<th>EASE OF LEARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ami Professional offers sophisticated macro features that go beyond the standard keystroke recording to include full programmability. The manual, although free, must be ordered separately. Score: Excellent.</td>
<td>Word for Windows supports the standard Windows printers, including Postscript, Hewlett-Packard, and several desktop printers. The program also comes with additional drivers. Score: Excellent.</td>
<td>You can import text files in ASCII, DOS Word, Word Perfect, WordStar, Multimate, DCA/RTF, and Macintosh RTF format. Word for Windows also imports RTF files directly and lets you paste any graphics format supported by the Windows clipboard, such as PCX. You can also import Microsoft Excel spreadsheets for use in tables and establish DDE links to them. You cannot import database files. Score: Very Good.</td>
<td>Word for Windows generally runs at a relatively fast pace in both draft and WYSIWYG modes. The most notable exception is the spelling checker. To speed things up, you can turn off the graphics display; if you don’t turn off the display, the program waits until you pause before trying to redisplay graphics. Score: Good.</td>
<td>Describe supports the most formats, both graphical and textual, of any product in this comparison. It covers every popular DOS, WYSIWYG, and WYSIWYG file format and all but EPS in graphics. It supports popular spreadsheet formats. It supports DDE links, but only in a one-way fashion, so you cannot edit linked graphics or spreadsheets. However, it has no support for Mac formats, except the RTF format Microsoft developed for use on both Macs and PCs. Score: Excellent.</td>
<td>Ami Professional is easy to learn, thanks to well-designed dialog boxes and logically arranged pull-down menus. Although packed full of features, the program is not overwhelming for a novice user, as you can explore advanced features after learning the basics. Users with desktop publishing experience will be helped by Ami Professional’s DTP-like implementation of text wrap, graphics handling, and style sheets. The program’s intuitiveness goes a long way to overcoming the sparse documentation. Score: Very Good.</td>
</tr>
<tr>
<td>Ami Professional</td>
<td>Word for Windows</td>
<td>Describe</td>
<td>Word for Windows</td>
<td>Describe</td>
<td>Ami Professional</td>
</tr>
<tr>
<td>With Ami Professional's layout capabilities, you can preview two facing pages at the same time.</td>
<td>Word for Windows allows you to create sophisticated pages, which you can preview at a glance.</td>
<td>Describe can split your screen both vertically and horizontally.</td>
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<td>Ami Professional supports the standard Windows printers, including Postscript, Hewlett-Packard, and several desktop printers. Score: Very Good.</td>
<td>The only supported printers are Postscript, HP Laserjet, and IBM. Score: Satisfactory.</td>
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<td>In addition to ASCII, you can import text files in 16 text formats, including DOS Microsoft Word, Word for Windows, Word Perfect, WordStar, Multimate, DCA/RTF, and Macintosh RTF format. Ami Professional also imports TIFF, PCX, EPS, Lotus PIC, Windows metafile graphics, DBase database files, Excel, Lotus 1-2-3, and Microsoft spreadsheet files. Database and spreadsheet files imported into frames are automatically translated into tabular form. Score: Excellent.</td>
<td>You can import text files in ASCII, DOS Word, Word Perfect, WordStar, Multimate, DCA/RTF, and Macintosh RTF format. Word for Windows also imports RTF files directly and lets you paste any graphics format supported by the Windows clipboard, such as PCX. You can also import Microsoft Excel spreadsheets for use in tables and establish DDE links to them. You cannot import database files. Score: Very Good.</td>
<td>In addition to ASCII, you can import text files in 16 text formats, including DOS Microsoft Word, Word for Windows, Word Perfect, WordStar, Multimate, DCA/RTF, and Macintosh RTF format. Ami Professional also imports TIFF, PCX, EPS, Lotus PIC, Windows metafile graphics, DBase database files, Excel, Lotus 1-2-3, and Microsoft spreadsheet files. Database and spreadsheet files imported into frames are automatically translated into tabular form. Score: Excellent.</td>
<td>Describe supports the most formats, both graphical and textual, of any product in this comparison. It covers every popular DOS, WYSIWYG, and WYSIWYG file format and all but EPS in graphics. It supports popular spreadsheet formats. It supports DDE links, but only in a one-way fashion, so you cannot edit linked graphics or spreadsheets. However, it has no support for Mac formats, except the RTF format Microsoft developed for use on both Macs and PCs. Score: Excellent.</td>
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<tr>
<td>Samuels's documentation for Ami Professional is divided into a user's guide and a reference manual. Both are large, and some topics are annoyingly covered in only one of the manuals (such as indexing, which is only in the user's guide). The manuals would benefit from more screen shots in some sections. The on-line help is generally good. Score: Good.</td>
<td>Microsoft provides an alphabetically arranged reference manual, a quick-reference guide, and a group of user's manuals for other programs. Both cover their bases well, although the layout in the reference manual makes it hard to find major sections (the little light-blue triangles aren't distinguishable enough). The documentation set lacks a manual that explains the functions by logical grouping, which forces you to skip around the reference manual. Extras include a pocket guide (which is bigger than most pocketbooks) and a printer guide. A macro programming guide is available on request at no charge. The on-line help offers both indexed sections and context-sensitive help. Score: Very Good.</td>
<td>Describe's documentation covers a lot of ground, but the text often gets bunched. The reference section's alphabetical organization works this by spreading information across several entries. The lack of subject words on each page also hinders the section's usefulness, as the subject headings are hard to distinguish from lower level headings. The macro section covers the macro programming language well enough for experienced programmers and for most novices. The &quot;Creating with Describe&quot; section offers good contextual background on basics such as fonts and typography that is sure to help the new user understand what Describe can do. The on-line help is context-sensitive but usually very brief. Score: Good.</td>
<td>Under the new version for Windows 3.0, Ami Professional has become a fast operator for formerly slow tasks such as spelling checking. Score: Very Good.</td>
<td>Describe generally runs smoothly. Exceptions include when it is adding index entries and redisplaying bit-mapped graphics, but you can speed up slow display caused by graphics redisplay by hiding pictures. Score: Good.</td>
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See Ami Professional, Page 68
See Word for Windows, Page 68
See Describe, Page 68
Like the other two Macintosh products, FullWrite allows you to preview your document before printing. Microsoft Word's print preview shows you what your document will look like before you print. Using Word Perfect's print preview, you can catch your mistakes before you print.

**Performance: Macros**

FullWrite does not support macros, although it has a glossary feature that lets you store text strings and then have them typed in for you by selecting the appropriate glossary name for that string. Score: Poor.

Word does not support macros. Score: N/A.

Word Perfect offers strong macro features, including the capability to pause a macro, nest other macros in a macro, chain to other macros, and invoke dialog boxes for user input. The macro creation process is simple. Score: Excellent.

**Performance: Printer Support**

FullWrite supports the standard Mac printers, including Imagewriter and Postscript devices. Score: Very Good.

Word supports the standard Mac printers, including Imagewriter and Postscript devices. Score: Very Good.

Word Perfect supports the standard Mac printers, including Imagewriter and Postscript devices. Score: Very Good.

**Performance: Compatibility**

FullWrite supports a basic set of file formats for export: its own format, ASCII, Mac Write, Microsoft Word 3.0, and DOS Multimate. For import, it also supports early versions of Word. For graphics, it supports any format that may be placed on the Mac clipboard, including PICT, TIFF, and EPS. The only supported database format is Dbase Mac. Score: Good.

Word opens Mac Paint format files directly. Also, if you use Word 4.0 with Multifinder, you can maintain a link between the inserted material and the original file. Word supports the basic Mac format: Word (including earlier versions), ASCII, Mac Write, and RTF, as well as DOS Word. For graphics, it supports any file that can be saved to the clipboard, including Mac Paint, EPS, and TIFF files. Score: Very Good.

Word Perfect supports the basic Mac formats: Word (including earlier versions), ASCII, Mac Write, and RTF, as well as DOS Word Perfect. For graphics, it supports any file that can be saved to the clipboard, including Mac Paint, EPS, and TIFF files. It does not support database formats. Score: Good.

**Performance: Speed**

FullWrite runs smoothly and quickly, with no noticeable delays. Score: Very Good.

Word performs quickly, even on operations such as search and replace and spell-checking. Reformattting and editing in graphics mode are also speedy. Score: Very Good.

Word Perfect is a bit sluggish but not annoyingly so. Score: Satisfactory.

**Documentation**

The FullWrite documentation is broken into a reference guide, organized by pull-down menus, and a learning guide that covers essentially the same information, organized by task. In both manuals, the explanations are often terse, but the basic information is available. The indexes are solid. The on-line help provides a good basic information for new users and experienced users seeking a quick reminder. Score: Very Good.

Microsoft's documentation is generally complete and well-indexed. However, the main reference is now organized alphabetically, which is handy for experienced users trying to refresh themselves about a feature but difficult for new users who want to understand the context that a manual organized by function would give them. The on-line help is terrific, including hypertext links to help you pursue a topic. Score: Very Good.

Word Perfect's documentation contains a basic reference manual and tutorial. The manual is clear, concise, and well-written. While not flashy or very detailed, it is adequate. But as with Word for the Mac, the context is missing in this documentation approach. The Learning chapter is especially helpful and well-illustrated. Score: Very Good.

**Ease of Learning**

FullWrite benefits from the common Mac interface. This commonality helps remove some of the difficulties in learning the program. For example, the Move zone has functions as diverse as search and replace, cross-referencing (which it calls classification and citation), showing outlines (but the other outline commands are in the File menu), and managing documents in multiple windows. Finding these features is essentially a hunt-and-peck operation. Fortunately, the on-line help is well-organized and found Mac users would expect, so once you find the appropriate option, you can use it easily. Score: Satisfactory.

Most of Word's icons are intuitive (the only notable exceptions are some of the formatting icons for paragraphs and their menus are logically arranged, which makes it easy to find features when you need to use them. The tutorial does a good job of introducing the program. Users experienced with other versions of Word (DOS or Windows) will find that this version's use of the same fundamental approach makes it easy to learn once the interface differences are absorbed. Score: Very Good.

The manual, code-intensive nature of the program makes Word Perfect hard to learn. DOS Word Perfect users will also have a hard time, since the function keys that are so integral to their version of the program don't exist on the Mac, though the formatting codes are the same. The manual helps, but the biggest aid is the command screen, which shows the codes so you can see what the commands will actually perform. Score: Instructive.
EASE OF USE

The program is easy to use for the same reasons it is easy to learn. The only drawbacks are the awkward handling of mixed-column layouts and the strange requirement that you must press Enter after selecting a frame before you can edit text (you should be able to edit the text inside). Features that clean up style sheets and display information on other documents help manage your entire word-processing environment, but not the current document. Other helpful features are the user-selectable fonts and the capability to display text in expanded size in draft mode. Score: Very Good.

Word for Windows' organization, extensive use of keyboard shortcuts, and well-designed menus all contribute to its ease of use. The graphics handling technique is awkward, but everything else is designed to let you concentrate on the task at hand, rather than on the steps to achieve it. Depending on how you import your TIFF files, it may or may not be as WYSIWYG mode. Thoughtful touches include user-defined measuring system and a choice of long or short pull-down menus. The draft mode lets you see your text in a readable size, no matter what its actual size. Score: Excellent.

ERROR HANDLING

As you would expect, Ami Professional checks to see if you've saved changes before letting you quit. It also offers automatic saving. Ami Professional offers four levels of undo, although the default setting is one level. There is a bug in image rotation that lets you spin the page 90 degrees. Trying to print again results in a false-out-of-memory error. You must remove your image, bring it in again, and rotate it a second time. Score: Very Good.

Word for Windows has the standard capability to check if you've saved changes before letting you quit. It offers an auto-save feature, but you can set it to prompt you at regular intervals to save. It does warn you when it's running out of memory. The program offers single-click undo and redo. Score: Good.

SUPPORT POLICIES

Sanna offers free technical support to registered users for an unlimited period, although through a toll number. There is a 30-day usability warranty. Sanna also offers fax and BBS support. Corporate plans are available. Support hours are Monday through Friday 8 a.m. to 7 p.m., Eastern time. Score: Very Good.

Microsoft supplies free technical support for registered users for an unlimited period, via a toll call. There is a 30-day unconditional money-back guarantee. Microsoft also offers a warranty covering defects in the media or program within 90 days. Support hours are Monday through Friday 8 a.m. to 6 p.m., Pacific time. Score: Very Good.

TECHNICAL SUPPORT

The technician we spoke with was the same one who answered all of our calls. He was knowledgeable about the product, its limits, and its strengths. He provided workarounds when possible and checked with colleagues to follow up on apparent bugs. Score: Very Good.

The technician we spoke with was straightforward and helpful, although they seemed hurried (we typically had to wait five minutes before having our calls answered). We did not experience this with the other products reviewed in this comparison). They identified known bugs we had encountered and tried hard to resolve a printing problem. Score: Very Good.

VALUE

At $495, Ami Professional is fine in the competition, and packs a lot of features especially in graphics capabilities. It is an exceptional graphical office professional word processor. Score: Excellent.

At $495, Word for Windows costs the same as Ami Professional, its Windows competition. Word for Windows is less sophisticated as a layout tool or graphics editor than Ami Professional, but a strong word processing program overall. Score: Excellent.

At $395, Describe costs $100 more than its Windows counterparts and $200 more than its Mac counterparts. However, it does not offer the functionality of most of its competitors, so the price seems high for the capabilities offered. Score: Satisfactory.
### PRODUCT COMPARISON

<table>
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<tr>
<th>Fullwrite Professional</th>
<th>Microsoft Word</th>
<th>Word Perfect</th>
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<tr>
<td><strong>EASE OF USE</strong></td>
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<tr>
<td>Fullwrite is easy to use, once you know where its features are. Keyboard shortcuts, combined with a natural Mac interface implementation, make the program intuitive for regular Mac users. The capability to specify measurement units for most dialog boxes makes users can employ the units they are most comfortable with. The only major omission is the capability to zoom in or enlarge text sizes in draft mode (like PageMaker 4.0's Story Editor). WYSIWYG small text, even at 10 points, can be difficult to read and edit. <strong>Score: Very Good.</strong></td>
<td>Word's organization, extensive use of keyboard shortcuts, and well-designed menus all contribute to its ease of use. The graphical handling technique is awkward, but everything else is designed to let you concentrate on the task at hand, rather than on the steps to achieve it. Thoughtful touches include a user-defined measuring system and the ability to choose long or short pull-down menus. The only major omission is the capability to zoom in or enlarge text size in draft mode (PageMaker 4.0's Story Editor) lets you do this. WYSIWYG small text, even at 10 points, can be hand to read and edit. <strong>Score: Very Good.</strong></td>
<td>Word Perfect is hard to use due to its intensive use of codes and the lack of style sheets (which would normally handle all the coding for you automatically). The interface itself is implemented decently, working as you would expect in a Mac program. <strong>Score: Satisfactory.</strong></td>
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| **ERROR HANDLING** | | |
| Fullwrite prompts you to save if you try to quit without saving, and it offers safety features such as incremental saves at user-defined intervals and automatic backup at each print stage. It offers a single-level undo. **Score: Very Good.** | Word prompts you to save if you try to quit without saving, but it offers no safety features such as incremental saves or automatic saving at user-defined intervals. It offers single-level undo, as well as redo for copying and formatting. **Score: Satisfactory.** | Word Perfect prompts you to save if you try to quit without saving. In addition to keeping a backup file of your work, Word Perfect also offers a timed backup feature that saves the current document at user-defined intervals. It offers single-level undo. **Score: Very Good.** |

| **SUPPORT POLICIES** | | |
| Ashton-Tate offers free support for an unlimited period through a toll-free number to registered users. Help is also available via fax and bulletin boards on CompuServe and Genie, as well as Ashton-Tate's own bulletin board. Extended support plans, which include newsletters and a toll-free number, are available for $150 to $595, depending on the plan. There is no usability warranty. Support hours are Monday through Friday from 8 a.m. to 4:30 p.m. Pacific time. **Score: Good.** | Microsoft supplies unlimited free technical support for registered users, although it is a toll call. There is a 90-day product usability warranty and a 30-day, unconditional, money-back guarantee. Support hours are Monday through Friday, 6 a.m. to 6 p.m. Pacific time. **Score: Very Good.** | Word Perfect Corp. offers no usability warranty. Toll-free support is available Monday through Friday, 7 a.m. to 6 p.m. Mountain time. Word Perfect Corp. also provides after-hours support, available Sunday through Friday night, via a toll call. There is a corporate support plan available, as well as fax support. **Score: Very Good.** |

| **TECHNICAL SUPPORT** | | |
| The technician who answered all our calls was not familiar with layout basics or features such as "beautelines" but made an effort to understand and offer solutions and workarounds. He also offered a free book on advanced techniques. While generally familiar with the product, he lacked detailed knowledge of the graphics and stylesheet capabilities. **Score: Satisfactory.** | Microsoft support technicians answered questions easily, displaying a knowledge of the product and how to use it effectively. **Score: Very Good.** | The technicians seemed only generally knowledgeable about the program. One we spoke with was not familiar with basic layout terms such as "creeping." In all our calls, the technicians made an effort to seek workarounds to our problems once they understood them. **Score: Satisfactory.** |

| **VALUE** | | |
| Fullwrite Professional is a solid product with some bells and whistles, but it also lacks some features. At $395, it costs the same as its competitors. Microsoft Word offers more, and Word Perfect offers less. **Score: Very Good.** | Word offers the best Mac package of those reviewed here, with more features than its competitors and a smooth implementation. It costs the same as the Mac competitors: $395. **Score: Excellent.** | Like the other Mac products, Word Perfect costs $395. But it offers the least features and has the most cumbersome implementation. **Score: Satisfactory.** |

### PRODUCT SUMMARY

#### Fullwrite Professional
**VERSION 1.0**
Company: Ashton-Tate, 3500 Sunnyside Drive, Torrance, CA 90505; (213) 329-6000.
List Price: $395.
Requires: Macintosh Plus, SE, II, IIi, System 4, or later; Finder 5.5 or later; Multifinder 1.0 or later; Laserwriter driver 5.0 or later; and Font/DA Mover 3.5 or later; 1 megabyte of RAM (2 megabytes recommended); one floppy drive; hard disk required.
Print: Good drawing capabilities; solid outlining and in-line drawing; 32 fonts and 16 special effects; excellent positioning options; flexible floating.
User interface: Limited stylesheets; mixed-column layouts are difficult.
Summary: A good all-around word processor for Mac users.

#### Microsoft Word
**VERSION 4.0**
Company: Microsoft Corp., 1 Microsoft Way, Redmond, WA 98052; (206) 622-8000.
List Price: $395.
Requires: Macintosh 512K, Plus, SE, or II; two 512K and Plus SYSTEMS: System 3.2 or later and Finder Version 3.5 or later; and MacPaint, System 2.1 or later and Finder Version 3.2 or later and Finder Version 3.5 or later and Finder 4.0. Multifinder is required for using Link commands to create files from other programs.
Print: Strong formatting and micro features; capability to merge documents.
Cost: Manual layout orientation; code-intensive format; listing limit; character set not fully implemented; limited characters not implemented.
Summary: The most versatile graphical word processor on the Mac. Windows well as in an office environment in a single user.

#### Word Perfect
**VERSION 1.04**
List Price: $395.
Requires: Macintosh Plus, SE, or II; System 4.1 or later; Finder 4.0 or later; 1 megabyte of RAM (2 megabytes recommended); one floppy drive.
Print: Strong formatting and micro features; capability to merge documents.
Cost: Manual layout orientation; code-intensive format; listing limit; character set not fully implemented.
Summary: Word Perfect has a way to go in terms of offering the graphical ease of use that Mac users expect, its code-intensive approach limits its potential.
Graphical Professional Word Processors Stand Up to the Test

For this product comparison we implemented a revised test plan from our last review of word processors, which appeared January 29 (Page 89). For the above reasons, some of the scores were revised from the last product comparison. With the new breed of graphical word processors becoming common, scoring considerations between graphical and character-based products, such as WYSIWYG front-end handling, have been thrown into relief.

Much of the criteria, as well as the products chosen for review, are the result of an InfoWorld survey of readers involved with the use or purchase of graphical word processors. These surveys helped us determine the weightings used in the report card.

Our tests for Windows- and OS/2-based products were performed on a Compaq Deskpro 386/25 with a megabyte of RAM, a 3.5-inch floppy disk drive, and an on-board VGA. For the Windows products we used Compaq DOS 3.21 and Windows 3.0.386 enhanced mode. For our OS/2 product we used IBM OS/2 1.2 running under Presentation Manager. The Macintosh products were tested on a Macintosh Iie running System 6.0.4, with 5 megabytes of RAM, a 40-megabyte hard drive, and a 386-color Apple video card.

Performance:
This category is divided into 14 sections.

To earn a satisfactory score in basic editing, a product must provide readable tabs, a competent search-and-replace utility that can globally change a word to master how it is punctuated (but maintain the appropriate capitalization when replacing it), the usual selections of paragraph justification including fully justified (both left and right edges), and normally some method of hyphenating text, and be capable of combining documents. We award higher scores for more sophisticated implementation of these features, such as wild cards in search strings, and tab leader characters. Products can also earn bonuses with features such as opening multiple documents and time/date stamping.

Spelling checking/thesaurus scores reflect these tools as well as grammar checkers and similar utilities. To earn a satisfactory score, we expect products to allow the user to backtrack through his corrections, provide user dictionaries, and make a thesaurus available while editing. If repeated words (“the the”), or unusual punctuation and capitalization are flagged, bonuses were awarded. We also awarded bonuses for products that offer suggestions grouped by part of speech or even with complete definitions. Under mail merge, we primarily evaluate how the product handles data. Can it read from popular database or spreadsheet formats, does it skip over an incomplete or improper record in an ASCII data file, and does it provide a flat file manager front end to allow the user to sort or select a subset of the database? We also consider additional features such as conditional (where text can be included or altered if a certain type of data is present), say, the user’s account is past due) and helpful templates such as address labels.

To earn a satisfactory score in layout, a product must support multiple columns on the same page, different margins for the inside and outside of a double-sided layout, some sort of WYSIWYG preview, and landscape printing for laser printers. Products earn bonuses for additional layout tools such as widow/orphan control, controlling a paragraphs vertical positioning on the page (such as centering a paragraph vertically on the page), formulas and table editors, and the capability to anchor objects to a particular position on the page.

A product’s graphics score reflects what graphics formats it supports, what it can do with these graphics, and its capability to draw objects with native tools (which many desktop publishing package have). Macintosh products must be capable of placing images from the clipboard (from Excel) as well as graphics packages like PixelPaint. Other products should read both Zool’s FCM and Lomn’s PIC files. The user should be able to crop and scale these images as well as preview them. We also expect products to draw simple lines. More advanced drawing tools, image manipulation, and the capability to support other popular graphics formats raise the score.

Outlining, for a satisfactory score we expect the product to number and remember entries automatically (including subtopics, attach body text to entries, and rearrange entries. In order to earn a score of good, the product must permit collapsing and expanding of the outline at See Now We Test, Page 72.
How We Test

Continued From Page 70

differing entry levels. Products that support an unusual variety of numbering schemes, and particularly products that support outline highlighting feature documents, earn higher scores.

To earn a satisfactory score in table of contents and indexing, we look for support for at least one sublevel in both the index and table as well as the capability to define separate fonts and ruler formats for the two levels of entries. Products that support multiple tables in a document (e.g., a table of figures in addition to a table of contents) indexing across several documents, and "see also" entries earn higher scores.

To earn a satisfactory score in style sheets, a product must be capable of creating ruler settings, including indent, content and font information, and applying this "style" to other paragraphs. Products that store and retrieve styles by name, record styles from examples already in a document, have automatic styles, and preview a style before applying it earn higher scores.

Font support scores reflect how well a product supports the font capabilities of a variety of printers. For a satisfactory score, a product must let the user access all the fonts resident in the HP LaserJet Series II and Apple Laserwriter 4/4. In the case of Postscript printers, this must include support for scalable fonts. Regardless of the printer, a product must provide bold, underline, and super/subscript. Features that make working with fonts easier, such as WYSIWYG editing, as well as additional flexibility in using fonts, such as support for roman-alphanumerals fonts (such as dingbats), additional styles (such as shadowed or outlined faces), and different typographical control (kerning, tracking, etc.) earn products higher scores.

To earn a satisfactory score in footnotes, a product must let the user enter footnotes at any point in a document and print them at the bottom of the page or at the end of the document. Additional features, such as automatic indenting and alignment, nonblank lines between footnotes, and automatic cross-referencing, also bring the product closer to the maximum score.

Graphical Word Processors

Continued From Page 66

the story editor in the new PageMaker 4.0 is a better model. You choose the size and font for draft mode.

Another welcome area that Ami and Describe have already improved is the capability to import graphics directly into your document (whether you make your a clipboard, and to place them in movable, scalable frames rather than treat them as paragraphs).

Having both features would improve ease of use and allow the programs to better serve their graphical requirements.

While a graphical word processor costs about the same as its text counterpart, the overall cost of graphical word processing is much higher. While a mouse costs less than $100, the extra memory, larger hard drive (40 megabytes is fast becoming a minimum configuration), and faster processor (a 12 MHz is also becoming a minimum) can add up quickly. A high-powered text word processor such as Microsoft Word 5.0 runs fine on a 4.77 MHz PC XT with 640K of RAM. Its graphical version, Word for Windows, needs a 16-MHz 886 or 386 and 2 megabytes of RAM to match the DOS version's performance. You can get the XT for $850; the 386 will cost you about $2,000.

The difference in speed is also worthy of attention. A power user on a text-based word processor can zip along, unhindered by the delays in a graphical word processor at the time refreshe takes the system struggles to catch up with the user.

A power user could more quickly edit in a textual word processor and format text for a desktop publisher, saving time that would be worth the cost of the two separate programs.

But the high-end graphical word processors that incorporate presentation features such as hot links and interactive forms processing are in a class of their own. They are not only understood by the textual word processor/desktop publisher combination, whose strengths cannot overcome the limitations of a simple, integrated, dynamic presentation capabilities.

Although the capabilities that best distinguishes graphical word processing from textual word processing and desktop publishing.

Owen Gruman has set up an electronic publishing system for a bi-monthly trade magazine and a quarterly national association newsletter. He has evaluated MS-DOS desktop publishing arts programs for several years.

from content is foremost in every university and author of five books. He has been working with computers since 1987.
How We Test

Continued From Page 72

mands, embed functions, and reassign keys to suit their individual tastes and needs. Each word processor should be capable of recording macros and entering commands, as well as saving macros by storing them in the program (rather than in a separate file). Banners are given for conditions or variables support and for the capability to reassign function keys.

For printer support each word process-

or should be capable of printing on an HP LaserJet, a dot-matrix printer, and a Diablo-type daisy-wheel printer. Bonuses are given for HP Deskjet or color printer support as well as support for Postscript or other soft fonts such as Bitstream.

To earn a satisfactory score in compatibility, products must read and write ASCII, DOS or OS/2 products must also read DCA-DRT (Document Content Architecture — Revisable Form Text) files, while Macintosh products must also support MacWrite and RTF Rich Text Format. Supporting other popular formats merits higher scores.

We scored speed by comparing the results of all the packages' performance in 11 text file loading, file saving, inserting an ASCII file, and content speed moving from the top to the bottom of a document, mentally scrolling to the bottom of a document, reformatting text, searching for the last word in a document, searching, and replacing a string of characters throughout a document, and appending a file to the end document. For a satisfactory score, the word processor had to perform quickly and efficiently in a majority of the tests.

Higher scores meant the word processor did better overall, generally, if not always, exceeding mean times for all tests. We also tested on a 386 platform.

Documentation:

Scores reflect the quantity and quality of both written and on-line information. At a minimum, documentation should describe the product and how to use it. Bonuses are awarded for a quick-start guide, a detailed user manual, a quick-reference card, and a written tutorial. Poor organization, missing informa-

EASE OF LEARNING:

EASE OF USE:

ERROR HANDLING:

SUPPORT:

VALUE:

This product comparison was developed by Galen Crumlan, Review Board: John Lombardi, Contributing Editor; Ed Aslinger and Jeff Ecker, Information Product Center Technicians; Gregory S. Smith, Test Development: Special thanks to Amy Samborn, Assistant Reviews Editor.