

## REVIEWS / PRODUCT COMPARISON

**W**ord processing continues to be a core application of microcomputers. The huge Windows word processing market supports a wide range of products, but three major contenders fight for first place: Lotus Development Corp.'s Ami Pro for Windows, WordPerfect Corp.'s WordPerfect for Windows, and Microsoft Corp.'s Word for Windows.

Because all these products sell at the same price (\$495), word processor battles are won on features, ease of use, ease of learning, and user loyalty. As the standard hardware on America's business desktop continues to improve, these behemoths claim ever greater resources in their constant struggle to be all things to all people. WordPerfect wants 32MB of disk space and runs best with at least 8MB of RAM; Word takes 24MB; and even Ami Pro wants 18MB of disk space. With swap files and temporary work files, all use even more.

Additionally, because all of these products use WYSIWYG displays of text, graphics, tables, and other document elements, they place a tremendous demand on the video subsystem. If your computer's graphics capabilities aren't up to speed, the display may be jerky or slow. You'll need at least a 486DX PC running at 33 MHz, 8MB of memory, and a VGA or Super VGA monitor with 512KB of video memory.

All three products reflect trends in Windows word processing — even Ami Pro, which lags a release cycle behind Word and WordPerfect. Because specialized layout tasks have become the province of ordinary word processor users as well as design experts, these products include sophisticated features for graphics, tables, charts, drawing, columns, and color effects, as well as specialized headers and footers. Producing a nice table is no longer enough. You now also have options to create borders of varying thickness and shading; shade the columns; import, resize, and crop graphics; and manip-

ulate text for special effects such as drop caps or rotated fancy fonts.

In addition, each of these products anticipates that the user will want to integrate information extracted from a spreadsheet, database, or some other program. So they provide DDE, OLE, and conversion filters to ease the construction of complex documents.

These powerful features are of no use, of course, if they are too difficult to learn and use. Like other feature-rich Windows products, such as spreadsheets, the top three word processors come with such interface innovations as tabbed dialog boxes (which give you access to different sets of options as if they were pages in a binder) and shortcut menus (which pop up with context-specific commands when you click the right mouse button).

**GOOD HELP IS EASY TO FIND.** For more complex features, vendors are investing in better help. WordPerfect, Word, and Ami Pro include extensive tutorials, on-line support, and — in the case of Word and WordPerfect — animated mini-tutorials for special processes such as graphics manipulation.

All three of the products, for example, have carefully constructed systems that walk a user through mail merging for form letters or mailing labels. (Earlier versions of these programs simply gave users instructions.) Recognizing that printed documentation often never gets read or, in multiuser networked environments, often gets lost and never reaches the user's desk, all of the products have increased the detail and comprehensiveness of their on-line documentation. By consulting context-sensitive and carefully cross-referenced help systems, users can almost succeed in using these products without consulting the printed manuals.

Finally, these vendors recognize that different users prefer different ways of doing the same things. Some people like lots of icons and prefer to do things with the

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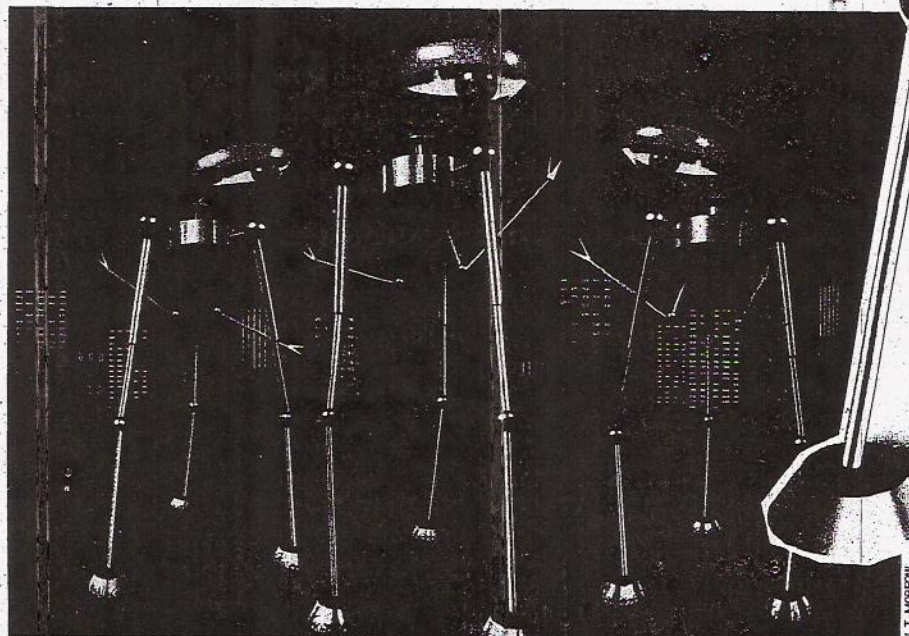
mouse; others want menus and keystroke shortcuts. Whatever your preference, the products all try to find a way to let you customize the user interface to your liking. The complex macro languages included in all three of the products serve as tools to further transform the regular word processing product into an advanced document system especially tailored to your needs.

**SUITE ALTERNATIVE.** All three products in this comparison are also available in integrated office suites. For a higher price, you can get not only word processing, but a spreadsheet, database, various other applications, and at least some degree of integration. Lotus' SmartSuite 2.1 combines Ami Pro with 1-2-3, Freelance Graphics, Approach, and Organizer for \$795; Microsoft Office Professional bundles Word with Excel, PowerPoint, Access, and Mail for \$899; and WordPerfect teams up with Quattro Pro and Paradox in the \$595 Borland Office. We will take a close look at the three office suite bundles in our May 9 product comparison.

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## WAR OF THE WORDS

Armed with ever-  
expanding features,  
the three superpowers  
of Windows word processing —  
Ami Pro, Word, and WordPerfect  
fight for word domination



J.T. MORROW



## Executive summary

**W**indows word processing has come of age, and these products, especially Word for Windows, effectively take advantage of the Windows graphical environment. Even WordPerfect, the quintessential text-stream word processing system, has managed to hide almost all of its internal operations under a very pleasing Windows exterior.

We found Microsoft Word for Windows 6.0 to be the best all-around word processing program. Strong in all areas, easy to use and learn, and accompanied by fine manuals and on-line help, Word is a mature product. Workgroups will especially appreciate its superior annotation and routing features, and Word-for-Windows' close association with its Macintosh counterpart positions it as a strong cross-platform product.

Ami Pro for Windows 3.01 is not as sophisticated as Word or WordPerfect, but it is by far the best product for layouts requiring multiple frames and graphics elements. It scored second overall. Frames in Ami Pro work intuitively and without complications, and the program handles complex text formatting tasks with ease. Ami Pro also offers the cleanest backward compatibility with its previous versions. It falls short of both Word and WordPerfect, however, in some basic word processing areas. Ami Pro is not as adept at finding and replacing text attributes, its grammar checker is less helpful, and it has less

**W**e evaluated Windows word processors using real-world tasks designed to test functionality in 10 categories: basic editing and formatting; proofing utilities; mail merge; layout; tables; long documents; file management; workgroup and networking; import and export; and macros. Each category focused on a variety of word processing uses — from everyday tasks to less common, advanced operations. We purposefully designed tasks that would cover a wide spectrum of uses to thoroughly test the products and expose their limitations.

In scoring each category, we looked at performance, speed (where applicable), and how easy the product was to learn and use. We started by awarding a satisfactory if the required features or functions were available and worked as expected. We then added and subtracted points based on how well or poorly the basic required functions were implemented.

THE SCORES	
Microsoft Word for Windows Version 6.0	8.2
Ami Pro for Windows Version 3.01	7.0
WordPerfect for Windows Version 6.0	6.0

extensive tables and mail merge. The next version of Ami Pro may well catch up, but it is currently behind the curve.

WordPerfect for Windows 6.0 would have fared better were it not for some crippling bugs in the current release. Filled with features, possessed of the most powerful spreadsheet module and the best grammar checker, and equipped with WordPerfect Draw, this powerful program is best suited for text-based applications and especially for legal applications, where its early implementation of tables of authorities, multiple lists, footnotes and endnotes, and other tools won many fans. WordPerfect 6.0 improves the Windows interface over the previous version, but the program still hangs at times during graphics operations. The method used for setting formatting by inserting special codes in the text stream has been much improved, but users must still use the Reveal Codes screen to inspect these codes when moving and changing text, or they may be surprised at the results. This text-stream approach to word processing makes the implementation of graphics boxes or frames less effective and less smooth than in Word and Ami Pro.

ed. Within each task we looked for ways the product made the task easier or more intuitive and awarded extra points if it was especially easy to learn or use. We determined the best and worst speeds in applicable categories, added or subtracted points, and computed the bottom line score for that category based on all these components.

In our discussion of each product, we have noted primarily what didn't work well or where there appeared to be a difference in how the various products handled a task. Where we make no comment, it simply means the product and the task without difficulty, and that

the result appeared as expected.

Our test platform was a Gateway 2000 33-MHz 486DX2 system with 8MB RAM, a 165MB hard drive and standard VGA with 512KB of video memory. The system was configured with DOS 5.0 and Windows 3.1. For workgroup and networking and file management testing, we used two such systems as clients and a Gateway 2000 66-MHz 486DX2 system with 16MB RAM as a file server. The server ran Novell Inc.'s NetWare 3.11 and used Lotus Development Corp.'s cc Mail 2.0 as a mail system.

### PERFORMANCE:

**Basic editing and formatting.** We opened an ASCII version of the InfoWorld reviewer's manual and performed some cleanup to prepare it for our long document tasks. We searched for and replaced double hard returns with single returns; double hyphens with em dashes; and a particular text string formatted as normal with italics. We looked for the ability to combine search attributes, such as searching a text string with a particular style. We tested the products' capability to save search criteria. We also looked for ways to do compound searches for documents using various file extensions and wild cards (for example, "\*.doc and memo.txt"). We tested drag-and-drop editing, cut and paste, and linking and embedding by opening two test documents and moving, copying, and linking text from one to the other. To test tabs, we

See HOW WE TEST, page 68



### Ami Pro for Windows Version 3.01

**L**otus Development Corp.'s Ami Pro offers an elegant and effective user interface. Its features and power lag at least one version behind Word and WordPerfect, but most of what Ami Pro does, it does well.

Part of Ami Pro's charm is its straightforward approach to graphics. If WordPerfect is clumsy and Word competent, Ami Pro is graceful. It sees the page as the key building block of a document, and it handles the various elements it can put on the page—text, graphics, and tables—with ease. It does most of the tasks the other two do, although often with fewer bells and whistles and fewer options.

One of the differences between the two generations of Windows word processors is on-line help. WordPerfect, and especially Word, have sophisticated hypertextlike help systems and specialized demonstrations. Ami Pro mostly relies on explanations reproduced from the written documentation.

#### PERFORMANCE: BASIC EDITING AND FORMATTING

After each search and replace pass, Ami Pro retains the search and replace strings but resets all attributes to normal, which is an inconvenience. You must enter the em dash using the Alt-keypad number combination. Ami Pro has fewer options for searching and replacing than either Word or WordPerfect, and its searching for formatting is the least effective. It can find and replace minimal text attributes but not fonts, paragraph formatting, or other characteristics. Ami Pro also could not find and replace double paragraph returns, because it can only find one paragraph return at a time.

Ami Pro can create OLE links only to documents belonging to another application; it cannot serve as both client and server to its own documents. It does cut and paste well, and it can drag and drop in both directions in the same document. It will not drag and drop across open documents visible on screen, but it will cut and paste across documents.

**Score: Satisfactory.**

### Word for Windows Version 6.0

**M**icrosoft Corp.'s word processor has grown in popularity. As a DOS application, it competed with the legendary WordStar and then WordPerfect. The DOS version of Word attempted to produce WYSIWYG formatting on inadequate PC screens with only minimal success and sported a user interface that, while clever, confused many.

With its conversion to Windows, Word has become a mainstream powerhouse. Now labeled 6.0 to bring its numbering in line with the Macintosh version, Word offers strong features and ease of use. Word has benefited greatly from its close association with its Mac counterpart; in the current edition the two platforms share the same user manual. Word for Windows 6.0 offers power, flexibility, and relative ease of use.

Word has the greatest number of searching options and is the easiest in which to insert a nonstandard character, such as an em dash. Word is the only program with extensive pattern matching, and it has the most complex set of search criteria available, including various combinations of styles, formatting, or lack of formatting.

Cut-and-paste and drag-and-drop editing worked reasonably well, and you can drag and drop both forward and backward in the same document. Only Word can drag and drop between two open documents and create OLE links to documents open at the same time within the application. When cutting and pasting or linking, Word defaults to not transferring formatting such as tabs, but this can be easily changed. **Score: Excellent.**

### WordPerfect for Windows Version 6.0

**T**he direct logical inheritor of the WordStar tradition of text-stream word processing, WordPerfect Corp. has developed a product ideally suited for text-based tasks. WordPerfect for Windows is strong on text management, citations, footnotes, and tables of authorities.

But in today's world of graphics and fancy printing, WordPerfect for Windows has to struggle for the effects achieved more easily in Ami Pro and Word. Graphics elements and complex layouts are harder to incorporate into WordPerfect's stream of formatting codes, where the internal commands for text placement and management appear. No sophisticated user of WordPerfect can live without using the infamous Reveal Codes screen.

WordPerfect has made major improvements in power, capabilities, and ease of use in this version, but the product still does not coexist with the Windows graphical environment as easily as Ami Pro or Word.

WordPerfect has limited replace options, and we could not enter all the items in our task. You can insert an em dash and other characters if you know the key combination, or you can enter them through the Characters menu option. Searching for formatting works well.

WordPerfect lets you drag and drop easily within a document, but you cannot drag and drop between two open documents. WordPerfect can create OLE links to other WordPerfect documents, but not when the client and server documents are both open.

The placement of formatting codes in WordPerfect's text stream is critical for determining how text is displayed. Formatting will not be included with a cut and paste or any other move unless the appropriate codes are moved as well. Version 6.0's Autocode Placement feature takes care of some of this, but we found that it did not move tab formatting. Thus, the Reveal Codes window is still an essential tool for cut-and-paste or drag-and-drop editing. **Score: Good.**

#### PERFORMANCE: PROOFING UTILITIES

Ami Pro does not find single-letter errors. So, if you have a word that is mistyped as "th e," the program will find the "th" as an error and let you correct it to "the," but the remaining "e" is simply skipped. It can catch double words and finds unusual capitalization (e.g. finds "Isn't" and replaces with "Isn't"). The Skip All choice requires an exact match on caps, and you cannot backtrack or exit to edit without ending and restarting the spell check. Ami Pro recognized English language words that require accents and recognized that the San in San Francisco needed to be capitalized.

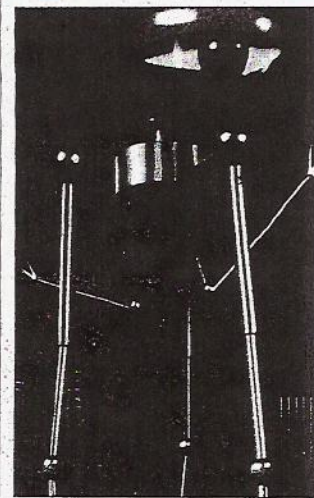
Ami Pro supports extra-cost foreign-language dictionaries and user-editable custom dictionaries. The thesaurus has synonyms, parts of speech, and mini definitions for words, but no antonyms. The grammar checker is customizable but has somewhat less extensive explanations than either Word or especially WordPerfect. **Score: Satisfactory.**

Word does not find single-letter errors. The spell checker failed to find "doent" as "doesn't," and it captured only one out of the nine accented words in the test. The spell checker works with the AutoCorrect feature, which automatically corrects common transposition and misspelling errors as specified by the user beforehand. Word supports extra-cost foreign language dictionaries and has editable user dictionaries.

Word's grammar checker is capable but not as sophisticated as WordPerfect's. Both the spelling and grammar checker have an Undo Last Correction button, but if you exit either to edit or undo, they start over as if you had begun a new task. This causes the grammar checker's statistics to be inaccurate. You can do limited editing in the grammar checker's window, though. The effective thesaurus has synonyms, parts of speech, and antonyms. **Score: Very Good.**

WordPerfect also does not find single-letter errors. It did not catch any of the accented words for accurate replacement. You cannot insert foreign characters in the spelling checker box directly (though you can use the Alt-keypad method), but you can enter foreign language characters in the text. The spelling checker has a Resume feature when you exit to the text to correct an error. The Skip Always choice will not skip a capitalized word if the original was not capitalized. If you want to undo the last changed word, you have to exit and use the regular undo.

WordPerfect supports extra-cost foreign language dictionaries and user-editable custom dictionaries. The grammar checker, Grammatik, is completely integrated into the program. WordPerfect does not have as many readability statistics as Word, but the grammar checker is easier to use. It has a genuine Resume function when you exit to the text to make a correction. The thesaurus has synonyms, antonyms, and parts of speech. **Score: Good.**



### Summary

#### BASIC EDITING, FORMATTING

All three products do an acceptable job of editing and formatting, but they differ in how gracefully they implement sophisticated features.

Word has the edge, in part because it has great options for search and replace and especially sophisticated search criteria, and in part because its drag and drop proved far superior to the other two. Only Word will drag and drop between two or more documents open at the same time within the word processing environment. WordPerfect's search options and drag-and-drop capabilities rank second. WordPerfect's method of inserting codes into the text stream, however, requires the user be sure the right codes move with edited text to preserve formatting. Ami Pro lacks the advanced find and replace features found in the other two, such as searching for fonts or paragraph formatting.

#### PROOFING UTILITIES

None of these products met all our standards for proofing utilities. They have trouble with foreign-derived English words that require accents, and they do not always recognize city names as being composed of two words (Ami Pro alone caught San Francisco). Word performed the best, though. Its spell checker has an Undo Last Correction option and includes an AutoCorrect feature that automatically corrects common errors. WordPerfect has a better grammar checker than either Word or Ami Pro, but it is not quite as easy to use.

Ami Pro does a satisfactory job of proofing but has few of the extra conveniences, such as a Resume or Restart. Without antonyms in its thesaurus and with somewhat less extensive explanations for grammar errors, Ami Pro comes in last.



**Ami Pro for Windows**  
(Continued)**Word for Windows**  
(Continued)**WordPerfect for Windows**  
(Continued)**Summary**  
(Continued)**PERFORMANCE: MAIL MERGE**

Ami Pro has extensive mail-merge capabilities, though it won't easily select all the members of a company and then print only one envelope or label for that address. Ami Pro uses a macro function to permit the merging of Avery labels by number. This process, while effective, is harder to use than the corresponding functions in WordPerfect and Word, which include the special label information within the merge dialog. Ami Pro's mail-merge function is not as flexible in that it does not have a test run to check data, and you cannot merge to another document on-screen without merging to an off-screen file first, although there is a process to view each merged document before sending it to the printer. Nonetheless, it is much faster than Word, somewhat faster than WordPerfect, and performed the mail-merge functions in our test effectively. **Score: Good.**

Word has strong mail-merge capabilities, though as with the other products, it was difficult to select all the members of a company and then print only one envelope or label. This task may be doable with a custom macro using the macro language, but it is not easily user accessible.

Word's merge was slightly slower than WordPerfect's and much slower than Ami Pro's. The help facilities are fine, and the label choices extensive. The step-by-step aids for constructing the mail merge work well. **Score: Very Good.**

WordPerfect has extensive mail-merge capabilities. It handles many labels and envelope options. Like the other products, it had problems with our task of printing only one envelope or label for all the members of a firm at the same address.

WordPerfect's method of managing merge tasks is not as intuitive as Word or Ami Pro's, and it is easy to make the wrong choice and then have to start over when specifying data files and forms. The method of identifying selection conditions is unusual and does not immediately recommend the more common Boolean, And/Or choices. Instead, it uses range separators (Ohio-Utah) and excluded values codes (!Utah) as well as the file name wild cards of \* for zero or more characters and ? for one character. All common Boolean operators are available through merge expressions, but they do not all appear in the help screens. **Score: Very Good.**

**PERFORMANCE: LAYOUT**

Ami Pro is the best product for complex graphic layout tasks. Although it does not do drop caps as easily as Word, its handling of frames is superior to all of the products: the frames in Ami Pro work intuitively because the program sees its work in terms of filling frames, one of which can be a page. Thus, sizing, positioning, rotating, and managing frames works almost effortlessly. Compared with WordPerfect's graphics capabilities, which require much study to use effectively, Ami Pro's frame-based graphics are much easier to implement. However, not even Ami Pro will make frames larger than a page, nor will it handle the frame-based story lines that are the hallmark of a true page layout program. **Score: Excellent.**

Word accomplished our elaborate formatting tasks, though some with more difficulty than others. It has peculiarities that make it harder to use than Ami Pro — though more powerful on some graphics and page layout tasks. Word does drop caps better than the other products. The integration of graphics tools with the word processing program worked reasonably well, but we needed much study and trial and error to complete the newsletter. Word can insert different page layouts on the same page, which is an advantage.

By working with the various features in Word we could construct almost any variation on layouts we needed, but at the same time the inability to carry independent story lines from one page to the next clearly distinguishes Word (and the other word processing products here) from a true page layout program. The graphics facilities include many line drawing tasks and the ability to create call-outs. **Score: Good.**

WordPerfect had great difficulty with our layout tasks. The graphics and layout tools appear to be part of the program, either through WordPerfect itself or the WordPerfect Draw program that comes integrated reasonably well into the package. However, WordPerfect continually produced General Protection Fault (GPF) errors as we edited graphics, moved them, or added new ones. These GPFs required a restart of the computer.

WordPerfect's tools have the least intuitive approach of the products, using more dialog boxes and less clicking and dragging to set various characteristics of images. Layout is centered around boxes, which are similar to frames in Ami Pro and Word but don't work as smoothly. WordPerfect also has a poor drop cap facility, though it draws the best horizontal and vertical lines on the page. (It uses a special kind of graphic for the lines that you can place anywhere and move with the mouse.) **Score: Poor.**

**PERFORMANCE: TABLES**

Ami Pro's tables perform all the expected tasks. You can make tables of as many columns as fit the page. You can enter simple formulas using common arithmetic operators, but other functions such as MAX, MIN, and ABS are not available. Table cells can contain any Ami Pro data or graphics, and you can put simple borders around the cells and table. However, the process for importing an external spreadsheet is clumsy in that you must create an empty table as large or larger than the source table before you import. **Score: Good.**

Word is the easiest for managing tables, but its table functions do not have as many complex formulas as WordPerfect. Tables in Word do not serve as a substitute for a basic spreadsheet and only handle elementary arithmetic such as sums and other functions you might find on a reasonably competent calculator. Microsoft expects users to have a good spreadsheet if they need more elaborate functions, and it provides strong links to external spreadsheets for linking and embedding data. WordPerfect, in contrast, provides the functions of a spreadsheet as part of the word processing program. **Score: Good.**

For managing tables, WordPerfect has the most spreadsheet-like features. The user interface is less intuitive than the other two products, and you interact more with dialog boxes than through on-screen dragging. If you turn on the table gridlines display, you cannot see the table borders or shading. The manual and on-line help provide no hints about this. WordPerfect's tables include extensive formulas, and they operate quite a bit faster than Word's tables. If you need a powerful spreadsheet inside the word processing program rather than linking to a real spreadsheet, then WordPerfect is particularly useful. **Score: Very Good.**

**PERFORMANCE: LONG DOCUMENTS**

Ami Pro did a fine job of outlining, using standard conventions for collapsing and expanding. When dividing a document into subdocuments to be included in a master document, Ami Pro requires you to cut and paste the elements for each subdocument into a new Ami Pro document and then save the new document as **See AMI PRO, page 76**

Word does a fine job of creating an outline, and it can do it automatically from heading styles. The outline is directly and automatically linked to the styles applied to paragraphs. Many different outline styles exist. Demoting, promoting, and other outline features are all available. Sections can be collapsed and moved and **See WORD, page 76**

WordPerfect has separate heading styles and outlining capabilities, so you must explicitly link the outline and the headings. Outlining is powerful and has all the expected features, though when you move one section of the outline to another place you can confuse the formatting of the headings depending on the place. **See WORDPERFECT, page 76**

**MAIL MERGE**

All of these programs do a reasonable job with standard mail-merge tasks, but Word and WordPerfect have significantly more powerful features than Ami Pro, which does not allow a test run to check data. Word has a slight edge in ease of learning because it has superb instructions that walk a user through the task. WordPerfect has the edge in speed, though. Ami Pro is somewhat less easy to use for standard Avery labels and does not have as many options or features.

All of these programs rely on subsets of their macro languages for mail merges. Depending on the expertise of the user, all the programs can be customized to produce virtually any mail-merge task through skillful manipulation of the macro language.

**LAYOUT**

Ami Pro was by far the best product for our layout tasks, primarily because its concept of frames is more intuitive and straightforward than Word's frames or especially WordPerfect's boxes. Word did drop caps best of all the products, and Word's layout features were easier to learn and much easier to use than WordPerfect's.

WordPerfect has a reasonably complete set of layout and drawing tools, but it produced General Protection Fault failures that crashed our computer. We were able, in the midst of the same complex edit and re-edit of a graphic image, to trigger this failure repeatedly, which seriously impaired WordPerfect's ability to accomplish our layout task.

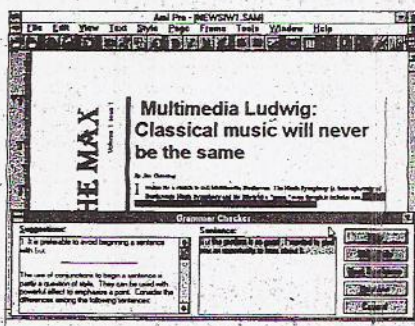
**TABLES**

Word has a sophisticated table function, but it lacks the powerful formula capabilities of WordPerfect tables. Users with 1-2-3, Excel, or equivalent products installed on their machines may not need the elaborate formulas and functions of WordPerfect, but for those who have only occasional use for such sophistication, the WordPerfect solution of integrating a spreadsheet module into the word processing program may be advantageous. Ami Pro has strong links to 1-2-3 spreadsheet products as part of its design, and thus does not devote much attention to table functions.

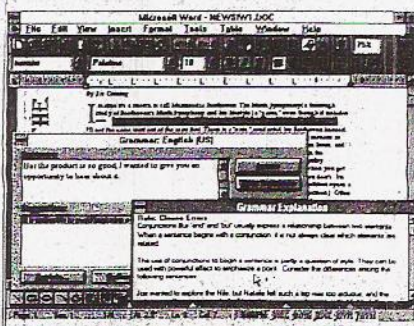
**LONG DOCUMENTS**

In the long-document test, we worked with a master document created out of several subdocuments, and we used the outlining, indexing, and table of contents capabilities of each of the products. Word proved to be the best at these tasks, primarily because its features were easier to learn and use and more fully integrated. **See SUMMARY, page 76**

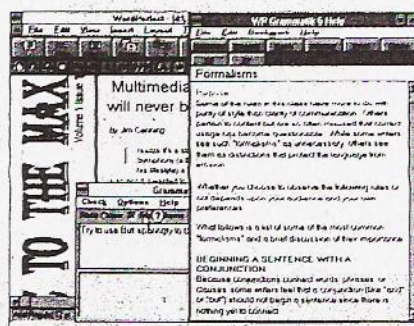




Ami Pro's grammar checker offers less extensive explanations than WordPerfect's or Word's.



Word's grammar checker has a handy Undo Last Correction button, but it resets when you exit.



WordPerfect's grammar checker lets you exit and resume the check without resetting its statistics.

### Ami Pro for Windows (Continued)

### Word for Windows (Continued)

### WordPerfect for Windows (Continued)

### Summary (Continued)

#### PERFORMANCE: LONG DOCUMENTS

a subdocument. This is clumsy, even compared with WordPerfect. The master document holds the codes needed to assemble the whole document and generate a table of contents and index. There is no way to edit the expanded document together. You cannot see the final document without printing it. The clumsy indexing is done by marking entries in each subdocument separately, not in an expanded master document on screen. We never were able to get the headers and footers to print properly, though they appeared OK in the master document on screen in page mode.

**Score: Satisfactory.**

all their associated text goes with the heading.

Word's master document facility is easy to implement. Word makes subdocuments by itself, using the first words of the first line of each subdocument as the file name. If a file name conflicts, it shortens the name by one character and inserts a number. Expanding and condensing are very easily accomplished. You can index and create tables of contents relatively easily across the subdocuments by working on the expanded master document. Word offers many options for tables of contents and indexes, and these tasks are made easier by a mini tutorial. **Score: Very Good.**

ment of the embedded formatting codes. Thus, you need to use Reveal Codes to determine what gets moved and what gets lost.

Although WordPerfect can generate a table of contents automatically from outlines with heading styles applied, this feature is poorly documented. Unless you observe the Reveal Codes window carefully, you will not recognize this feature and mark the entries separately, as the manual instructs.

You must explicitly create master and subdocuments. Once created, though, the master document process works well. Expanding and condensing work fine. **Score: Satisfactory.**

#### PERFORMANCE: FILE MANAGEMENT

Ami Pro possesses many of the same basic file management operations found in the Windows File Manager, except for directory creation. One option Ami Pro shares with WordPerfect — but not Word — is the capability to move files to other locations. Basic sorting capabilities are not available, nor is the application equipped with a menu option to search for files. You can, however, add a SmartIcon or a menu item to launch the FIND FILE.SMM macro, which accomplished our search task. The macro can also use pattern matching and Boolean logic.

Ami Pro cannot search multiple network drives, nor can it search by date or time. Locating a document using summary information is harder than in the other two products. Although Ami Pro does not contain tabbed dialog boxes or use the right mouse button for executing related operations, its commands are grouped together and are intuitive. **Score: Good.**

Word can open, copy, and delete files from within the application. You can create directories, but only by choosing the Copy command in "Find file." In addition to some basic Windows File Manager-type functions, Word allows you to sort in various ways. You can preview a document and print without opening the file. Many options are available when searching for a document, such as selecting multiple locations on network drives; saving search criteria; using pattern matching; selecting file formats; and using Boolean logic. Advanced sorting capabilities also added to Word's score. Specifically, file lists can be viewed in many different ways that allow you to get to your document quickly without having to continuously scroll a long, confusing, unsorted list. Features such as tabbed dialog boxes and the use of the right mouse button make these tasks very easy to complete. **Score: Very Good.**

WordPerfect can perform all the file management operations found in the Windows File Manager by either choosing File Open or selecting Quick Finder. In addition to standard file operations, you have the ability to move files to other locations (directories or drives); change file attributes; print unopened documents; and create and remove directories. Quick Finder presents you with an exhaustive collection of options. You can save your searches; search for single or multiple files; search within a date or time range; and much more. Like Word, the right mouse button is used to execute functions that are related to a particular task. Unlike Word, you cannot search multiple network drives or directories. Missing also are tabbed dialog boxes. **Score: Very Good.**

#### LONG DOCUMENTS

WordPerfect gets the job done, but the processes of indexing, table of contents creation, master document management, and outlining work more or less independently. This makes them harder to learn and use, but once they are all created, all work fine.

Ami Pro's outlining functions work on a par with the others, but the facilities for handling master and subdocuments are primitive, and you cannot see the assembled document until you print it.

#### FILE MANAGEMENT

All three products let you perform typical file and document management functions without leaving the application. WordPerfect lets you move files to other locations in either network or local directories and define the full range of file attributes. Also, the network installation allows the administrator to determine which file and document management functions will be available to each user when individual workstations are set up.

Word's incorporation of the right mouse button and intuitive interface make its file and document operations the easiest to use of the three products.

Ami Pro's use of a macro to accomplish some of its file management operations is a kludgy patch. After the macro is attached to a SmartIcon, you have some search capability at your fingertips. Once you execute it, however, limitations such as the inability to save searches or search multiple locations become apparent.

#### PERFORMANCE: WORKGROUP AND NETWORKING

Ami Pro's network installation is slightly different from the other two products. The administrator decides whether you have local directories for macros, documents, style sheets, and dictionaries or whether they will be shared on the network. Rather than clicking a Set Up Workstation button as in the other products, Ami Pro requires you to run NODE.EXE from the NODE directory on the network. This works fine, but a more direct approach would be more efficient.

To control the number of licensed copies running concurrently, the admin-

Word has added new features to enhance its workgroup and networking capabilities. You can send mail and route documents, which allows users in a workgroup to add annotations or revisions to the same document. During installation, Word automatically recognizes your mail system and adds it as a menu option. Word worked fine with our cc:Mail system.

Word handled our workgroup and networking tasks without any problem. A split window displays annotations with references to where they are in the doc-

Installing WordPerfect 6.0 on a network is a straightforward process. You have the option of selecting a particular network drive for installation of the program files; however, the default is set for the local C: drive. Once you select a "real" network drive, all the other directories change accordingly. The option to set a password to use a particular network printer is available during installation. After completing the server installation, the administrator has the option to determine which functions can be available to users via settings contained in the public

#### WORKGROUP AND NETWORKING

All three products contain features that allow workgroups to interact more efficiently. Each product is networkable and contains the standard installation features you would expect, such as sharing common libraries and file sharing with security. Each product was capable of recognizing cc:Mail and adding the appropriate files and menu options, but WordPerfect does not supply the filters needed to view the documents.

Word excels in this category by adding a formslike routing function that controls how documents flow to others in a work-





Ami Pro's superior implementation of frames makes layout tasks a breeze.



Word accomplished all of our layout tasks, though not without much study and trial and error.



WordPerfect has a host of layout tools, but the Reveal Codes window is critical to accurate placement.

### Ami Pro for Windows (Continued)

### Word for Windows (Continued)

### WordPerfect for Windows (Continued)

### Summary (Continued)

#### PERFORMANCE: WORKGROUP AND NETWORKING

istrator runs the LICENSE.EXE program. This allows the administrator to set the number of licensed copies for all Lotus applications that can run concurrently. You can also view how many "Lockouts," — or unauthorized installation attempts — have occurred. Ami Pro will recognize your mail system and was able to send documents through cc:Mail with no problems.

Ami Pro's annotation and revision capabilities are limited compared with the other products. These shortcomings become apparent when sharing documents among many users. Color-coding your revisions to distinguish between users is set up at your local workstation and saved to an .INI file. (In Word and WordPerfect, the document itself stores the color-coding information.) Ami Pro does not have revision tracking or a way to view revisions historically. Annotations — which are called "Notes" — can be reverted to text by cut and paste using keyboard combinations only. Overall, Ami Pro is adequate, but clearly a revision behind in this category. **Score: Good.**

ument. Although annotations can be incorporated as text, this requires cutting and pasting from the annotation window into the document. Considering how well this product incorporates annotations, this is a minor objection. Setting colors and text effects for revisions is a snap. This customizability especially helps distinguish different authors within the workgroup. Word's approach in managing annotations is definitely more efficient than the other two.

**Score: Excellent.**

.BIF file. These will override any local settings contained in the private .BIF files that are created when the application is installed on workstations.

WordPerfect 6.0 automatically recognizes your mail system and creates a menu option under File. However, the filters needed to view documents sent through cc:Mail were not included. Lotus is providing a filter on its BBS to correct this, but it was not available in time for testing. Annotations and revisions are standard, and annotations appear as balloons above the text when the annotation object is clicked. Annotations are easily converted to text, and text can be converted into annotations. Much as in Ami Pro, you have to rummage through the entire document and click the object that displays the annotation. WordPerfect can use color coding and initials to distinguish authors in a workgroup. You set this option in the Environment selection under Preferences. WordPerfect is a very strong product for a workgroup environment. **Score: Very Good.**

group. Word's ability to manage revisions in a workgroup couldn't be easier — it's completely customizable and intuitive. Unlike the other two products, Word's annotation view window allows you to view all annotations with references all at once.

WordPerfect's installation offers the administrator the option of globally controlling the users' work environment by editing .BIF files to control things such as file management options. Although it's a little confusing at first, this method is a step in the right direction in controlling user functions. WordPerfect displays annotations in documents by displaying a balloon graphic that contains the text.

Ami Pro's workgroup functions are limited compared with the other two products. You must set up color coding for revisions in an .INI file, and annotations are possible only by adding "notes" to particular text in a document.

#### PERFORMANCE: IMPORT AND EXPORT

Ami Pro did the best job of dealing with files created by its previous versions. It imported an Ami Pro 2.0 file easily with all graphics elements intact and in the right place and the fonts correctly translated. We resaved this file in Ami Pro 2.0 format and then again in Ami Pro 1.2 format and reimported both. Each time the conversions in both directions worked correctly. Ami Pro has a host of other file and graphics conversion formats, as well. **Score: Excellent.**

Word did a fine job of importing the Word 2.0 file, although when we saved this file back to Word 2.0 and reimported it into Word 6.0, several graphics elements appeared out of place. Word also has a host of other file and graphic conversion formats. **Score: Very Good.**

WordPerfect 6.0 has difficulty importing and exporting files created by its previous version. We installed a fix, which slightly improved the import of WordPerfect 5.2 files. However, we still lost one graphic element, another was misplaced, the column widths were wrong, and the fonts did not transfer accurately. When we saved this imported file as a WordPerfect 5.2 file and reimported it, the new file lost or altered additional graphics and converted the fonts to the Greek alphabet. **Score: Poor.**

#### IMPORT AND EXPORT

Of the three products, Ami Pro's backward compatibility was the best, with everything transferring properly, including graphics and their placement on the page. Word's prior conversion worked acceptably. WordPerfect's import feature has a bug in the original shrink-wrapped edition that scrambles the fonts on import. An interim fix will transfer the file into a font that's readable, but the column widths still do not transfer properly.

#### PERFORMANCE: MACROS

Macro recording in Ami Pro worked fine; however, you cannot easily enter a code for author because it does not appear directly in the list, though it may be available through the macro language. Ami Pro's macro language is only a little less powerful than WordBasic. Ami Pro lets you assign a macro to an icon or key combination, and it includes a special ready-made macro that will assign a macro to a menu. Management is by individual file name, not template, which limits your flexibility in attaching macros to individual documents. **Score: Good.**

The WordBasic macro language worked well for basic tasks; recording, pausing, restarting, and saving operated as expected. Word manages macros through templates that can apply either locally to individual documents or globally to all documents. Assigning macros to keys, menus, or icons is easy. Combining two macros into one requires editing both macros. Some knowledge of macro programming is required to do this easily. Most editing functions are available during macro recording, although there are some limits on the mouse pointer. **Score: Very Good.**

WordPerfect's macro recording works well. The mouse is available during macro recording to point to menu items, but it is not available anywhere in the text area. Not all functions are available during macro recording. Like Ami Pro, WordPerfect manages macros by file name and not by template, giving you less flexibility in attaching macros to different documents. WordPerfect has a complex and powerful macro language, and macros can easily be linked. This process is only described as part of the macro command descriptions. **Score: Good.**

We tested only the macro recording capabilities, not the full extent of the programming features. All will record simple keystroke macros that can include commands, but Ami Pro and WordPerfect are less powerful than Word.

Word's keystroke macros work well and are easy to record, invoke, and store. WordPerfect's macros, while apparently as powerful as Word's, capture some doing keystrokes. WordPerfect and Ami Pro managed macros through file names, which is less flexible than Word's approach of attaching them to templates or documents.

See AMI PRO, page 78

See WORD, page 78

See WORDPERFECT, page 78

See SUMMARY, page 78



**Ami Pro for Windows**  
(Continued)**Word for Windows**  
(Continued)**WordPerfect for Windows**  
(Continued)**Summary****DOCUMENTATION**

The principal documentation for Ami Pro is a 620-page user's guide with a detailed index. Organized around topics such as Enhancing a Document, Using Text and Picture Frames, or Modifying a Picture, the manual describes the features and functions of the program with explanations and examples. In addition, Ami Pro has a style sheet guide that explains the characteristics and features of the many ready-made styles included with the program. A Working Together Bonus Pack describes a series of macros included with the program that help Ami Pro work with other Lotus Windows applications, especially Lotus 1-2-3, Release 4 for Windows.

Ami Pro has an on-line animated tutorial to introduce new users to its features, as well as on-line documentation of the program and the macro language. The on-line information is somewhat less extensive than what is provided in WordPerfect and Word. In-context help is generally available, although it's not quite as sophisticated as Word or WordPerfect. **Score: Very Good.**

Users of Word for Macintosh and Windows receive the same printed documentation; the programs are now identical in file formats, documentation, features, and performance. Printed materials consist of a clear Quick Results book, which contains examples and instructions on how to install and begin working with the program. The 800-page user's guide is organized by functions and has detailed explanations of the program's principal functions and commands. Organization is excellent, and it has many cross references, a detailed index, and helpful examples and illustrations.

The on-line help system includes indexed help, topical help, examples of various kinds, and illustrations of how features work. It also includes information to help WordPerfect users convert to Word. On-line help comes with wizards—special aids for common procedures related to graphics or special documents.

The WordBasic macro language has no printed documentation, but an extensive on-line support system includes examples as well as definitions and descriptions of statements and functions. Word has endless combinations of button bars, icons, and other information that can appear on the screen to serve as further documentation, and in-context help appears everywhere. **Score: Excellent.**

WordPerfect provides substantial printed documentation as well as extensive on-line help. A Getting Started booklet provides a quick but thorough introduction to the features and power of the product as well as information on installation and setup. Learning WordPerfect is an extensive, directed tutorial using ready-made files. A Guide to WordPerfect's Draw, Version 2.1, which is an integrated part of this package, leads the user through information on how to use charting and graphics tools. The bible for all serious WordPerfect users, of course, is the almost 1,000-page WordPerfect Reference manual, an alphabetical guide to every command and feature in the program. The manual's explanations are technically complete and include cross references to related materials and some examples.

Novice users can turn to the interactive tutorial in WordPerfect's on-line documentation. Combined with step-by-step instructions for common tasks, the tutorial gives most users enough information to become quite proficient. WordPerfect's on-line documentation is complete, with many cross references and reasonably clear explanations. WordPerfect also has in-context help everywhere in the program. WordPerfect's macro manual is also on-line with complete documentation. **Score: Excellent.**

**DOCUMENTATION**

All three products have strong documentation, from fine user's manuals and quick-start guides to on-line guides and in-context electronic help. Word and WordPerfect have the most extensive documentation; Word's written documentation is somewhat easier to use and understand, but both have outstanding on-line help. Ami Pro has exemplary written documentation. Its on-line help is also fine, if not quite as sophisticated, as the other two.

Word and Ami Pro use a topical approach in their written documentation that focuses on groups of features or tasks, while WordPerfect uses an alphabetical reference guide to commands or features. New users will find Word and Ami Pro's organization easiest to use, but experienced users will appreciate the quick access to a command or procedure that the WordPerfect approach provides.

All the programs have extensive help available at every step of the word processing task. For major processes such as mail merge, the programs provide special step-by-step instructions. In many instances in WordPerfect and Word, special mini tutorials teach the steps involved in a graphics or charting or table process. All of the products use on-line documentation exclusively to support their macro languages.

**SUPPORT POLICIES**

Lotus offers unlimited free support via a toll line, which is open almost around the clock: from 8 a.m. Monday to 4 p.m. Saturday Eastern time. Support is also offered via a 24-hour, toll-free fax-back service, as well as a CompuServe forum and private BBS. A custom corporate support plan is available. Ami Pro has a 90-day money-back guarantee. **Score: Excellent.**

Microsoft offers unlimited free support via a toll line from 6 a.m. to 6 p.m. Pacific time Monday through Friday. Help is also available via private BBS and a CompuServe forum, as well as a 24-hour fax-back service. Custom support plans are available, and there is a 90-day money-back guarantee. **Score: Excellent.**

WordPerfect has discontinued its policy of unlimited free support, offering instead one free option and two paid plans. The free plan provides 180 days of toll-free support Monday through Friday from 7 a.m. to 6 p.m. Mountain time. A 24-hour fax-back service, a private BBS, and corporate support plans are available, and there is a 90-day money-back guarantee. **Score: Very Good.**

**SUPPORT POLICIES**

All three companies offer extended hours, corporate support plans, BBS, fax support, and money-back guarantees. In addition, Lotus and Microsoft offer free (though not toll-free) telephone support for an unlimited time. WordPerfect Corp.'s recent decision to limit its free support to 180 days hurt its score.

**TECHNICAL SUPPORT**

Each time we spoke with the support personnel, they were helpful and patient. It did not matter how basic or complex the question was. The technicians went beyond reading the manual; they explained how the product worked and which options were available. They then made sure the fix worked. We were on hold once for 3 minutes. **Score: Excellent.**

The support technicians we spoke to were knowledgeable and eager to solve our problems. We were able to get through on the first call without waiting on hold to both the free standard-support line, as well as the paid priority-support line. The technician helped us with installation problems and afterward offered to walk us through the workstation setup. The technicians explained what was causing the problems, and what options we had to solve them. **Score: Excellent.**

WordPerfect's technical support was extremely difficult to reach during peak business hours. We encountered numerous busy signals in trying to reach the department that handled technical questions specific to graphics. Once we reached a graphics technician, we received more than adequate help. The technician was willing to spend time with us and tried diligently but unsuccessfully to provide a solution to the problem. Though the technicians supplied exemplary service, we must downgrade their score due to the difficulty we had reaching technical support. **Score: Good.**

**TECHNICAL SUPPORT**

Support technicians at all three companies were knowledgeable and helpful. The difficulty we had reaching WordPerfect's technicians prevents it from getting a higher score.

**VALUE**

Ami Pro is priced at \$495, and though not as strong as the equally priced Word, it represents a very good value. Its expert use of frames for graphics makes it the best for complex layouts, but its lack of some sophisticated features reduces its value somewhat. Much of the difference between Ami Pro and Word or WordPerfect is due to a version lag. **Score: Very Good.**

Among the three products reviewed here, Word 6.0 is the best value. Its \$495 price tag gets you extensive features, commendable ease of use and learning, and tight integration of functions and modules. Although Ami Pro does frames with more grace and WordPerfect may have more powerful table functions, Word's combination of features, power, and usability make it our top choice. **Score: Excellent.**

Also priced at \$495, WordPerfect enjoys an edge in the power of its tables and in its special features for legal work. However, it is harder to use and learn and less integrated than Word. The difficulties we encountered in complex layouts with graphics and with our import/export task also reduces its value somewhat. Nonetheless, for most business text and document management, WordPerfect remains a very good value. **Score: Very Good.**

**VALUE**

The overall value leader in this group is Word. This is partly due to superior usability. In almost every category, Word's carefully thought out design and help features facilitate learning and using the program. With the exception of graphics, which Ami Pro does more easily, and spreadsheet functions in tables, which WordPerfect does more powerfully, Word holds its own or exceeds the other two products. WordPerfect continues to be hampered by an archaic design that requires close attention to codes inserted in the text, and Ami Pro is one generation behind in features and usability. We see Word as the best value.

**Company:** Lotus Development Corp.'s word processing division, in Atlanta, can be reached at (404) 913-3272, fax: (404) 698-7653.

**Company:** Microsoft Corp., in Redmond, Wash., can be reached at (800) 426-9400 or (206) 862-8080, fax: (206) 883-8101.

**Company:** WordPerfect Corp., based in Orem, Utah, can be reached at (800) 451-5151 or (801) 225-5000, fax: (801) 222-5077.



## HOW WE TEST / from page 68

### Windows word processors

table of contents; insert odd and even headers and footers; and insert document breaks (section, page, etc.) to separate sections. We also required long document management functionality such as master and subdocument options and an outline view. We awarded points to products that fully integrated the outliner, indexer, table of contents, and master document.

**File management:** We looked for and tested functions that are normally carried out by a separate file management utility, such as Windows File Manager. For example, we tested how well each product could search by date, author, keywords, and text strings. We examined each product's ability to perform DOS operations such as Move, Copy, Rename, Create Directories, Check File Size, and Change File Attributes.

To receive a satisfactory score, the product had to perform simple file and document management, such as searching summary information, file names, and file types. Products earned extra points if they could do complex searches (using Boolean logic, multiple file patterns, or combinations of various criteria), provide a thumbnail preview of a found document, or save searches.

**Workgroup and networking:** To test workgroup and networking features, we installed the application on a two-client network and made note of any problems we encountered. Next, we tested each product's capability to open and share files across a local area network. We examined how well each product handled annotations and document revision and comparison. In addition, we tested the products' mail capabilities and security options.

To receive a satisfactory score, products had to install on a network and possess basic network features such as sharing documents without losing information. They also had to allow users to attach annotations and mark revisions in text.

We raised the score if a product provided a direct, uncomplicated way to install both server and nodes. We also awarded points if the installation could detect a mail system and add the menu option within the application.

**Import and export:** We tested each product's ability to import a document created in the previous release: Ami Pro 2.0, Word 2.0, and WordPerfect 5.2. For example, we created a document in WordPerfect 5.2 and imported it into WordPerfect 6.0. The document consisted of heavily formatted text, with headers, footers, and graphics. We compared the original document with the imported document after a hard copy was printed and looked for any problems. After importing the document into the current version of each product, we then exported it back to the previous version and again looked for any differences in formatting. We also looked for the product's ability to automatically recognize a file format.

To receive a satisfactory score in this category, the product had to support at least its own prior releases. We raised the score based on how well formatting was retained and how many other import and export filters were available. We factored in speed by awarding extra points to products that were particularly fast. We also tested to see if the product automat-

ically recognized the file format during importing. Last, we tested related features, such as importing styles or style name only.

**Macros:** For this scoring category, we tested basic macro functionality, including recording, combining, and assigning macros to icons, menus, and keyboard combinations. We did not test the full programming capabilities of the macro

language. In each product, we created two macros that, when combined, inserted a footer into an open document. The footer contained the file name, author's name, and last update.

To receive a satisfactory score, each product had to be able to record keystrokes and save them to a file; provide a visible indication that recording was in process; and be able to pause, resume, and stop recording a macro. The product also had to run our macro when we selected the file from a pull-down menu or performed a key combination. Macro

files had to be available to other users on a network.

We raised the score if keystroke macros were especially easy to record, store, and invoke. We also awarded points if the product used efficient methods to record complex tasks.

#### OTHER SCORES:

The remaining categories (documentation, support policies, technical support, and value) follow our standard scoring criteria. See "How We Test," December 13, 1993, page 57, for details.

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