By John Lombardi
Review Board

Microsoft Corp.'s Word has always been an unusual product, one that tries to bridge the gap between technical word processing and office word processing. But its amazing control over printed output has had a price: Word has been slow, complex, and lacking in some features.

With Word, Version 3.0, Microsoft addresses these problems. Though still no speed demon, Word now keeps up with its major competitors, even on a conventional 8088-based IBM PC. New features such as column handling and better mathematical functions bring Word's features list up to par. Outlining has been added as a bonus. As a result, Word 3.0 is able to offer corporate users all the capabilities of its feature-rich high-end competitors, while emphasizing the things Word still does best: screen display and output.
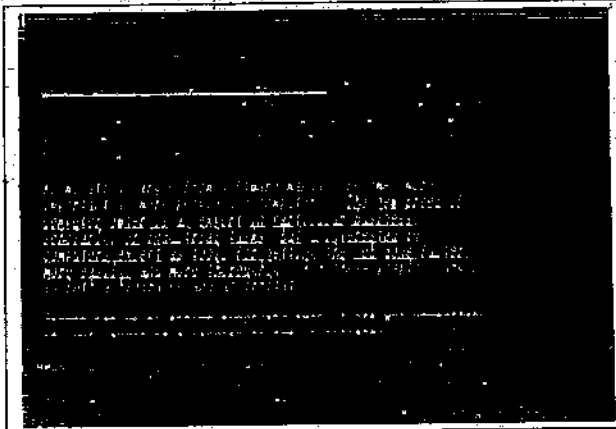
There are still limits to Word, even in Version 3.0. Word is more complex than ever — offset by a truly superior tutorial and context-sensitive help — and Microsoft's user interface continues to be an annoyance.

FEATURES: Word offers a graphics approach to text, painting the characters on the screen with the greatest detail possible with the computer hardware. Like very few programs, Word shows boldfaced text in bold characters, underlines with the underlines on the screen, and displays italics as italics.

Word also shows strike-through, single and double outline, small capital letters, large capital letters, superscript, and subscript. Not all of these are perfectly legible, but Word's output is not limited to screen resolution. Instead, Word keeps information about the formatting of the text in extreme detail, much more than can be seen on screen, so that the printout will be as accurate as the printer allows. Thus, as printers become more and more sophisticated, a Word document is able to take advantage of the maximum resolution of any printer it recognizes.

Summarizing Word's features is an impossible task, for like most powerful programs, Word has a feature list that is practically endless. As an editor, Word does all the things every word processing program for microcomputers does. By now, all the quality word processing programs do a fine job of editing, and Word is no exception. In addition to editing functions, Word handles complex document assembly tasks, such as merge printing, and provides a document library and glossary. It also offers up to eight on-screen windows into the same or multiple text files, and a spelling checker.

Word 3.0 has added new capabilities, among which are footnotes that are long enough to be printed on more than one page, index and table of contents generation, automatic paragraph numbering, and hidden text, which displays on screen but is excluded from the printed output. Word can now manage columns of text and tables, do

more complex mathematic functions within a document, and convert documents from Wordstar or IBM Document Content Architecture (DCA) Revisable Form Text format. In addition, Word can sort individual lines or variably sized paragraphs in a document, useful for creating bibliographies, for example.

Of considerable interest is the new feature that allows the creation of an outline and can accept text under the headings. The results can be displayed and printed in detail, or at various levels of headings. This kind of outlining, though available in stand-alone outlining programs, is not part of most high-level word processing programs.

PERFORMANCE: The Word screen shows as close an approximation of the printed text as the display hardware permits. Since everything is done in graphics mode, the capabilities of the graphics hardware make a significant difference in the quality of the displayed text. We rated the program as it performs using a standard IBM PC with an 8088 processor, IBM Color Graphics Adapter (CGA), and a green monitor. More sophisticated hardware produces somewhat faster performance. The Enhanced Graphics Adapter (EGA) and monitor allow you to show 43 lines per screen or, in 25-line mode, to show character enhancements in colors instead of as italics, underlines, and so on. Otherwise, text is no clearer on an EGA that on a CGA.

In addition to the graphics support, Word makes excellent use of a mouse if one is available; the mouse speeds complex block operations. We did most of our testing with the keyboard, in part because we believe most word processing activities take place using keyboard rather than mouse input. Fortunately, Word doesn't exact a penalty for failure to use a mouse, and keyboard alternatives are always available.

All the versatility and graphics orientation of Word exacts a price, and the price is speed of operation. But each incarnation of Word has become faster than its predecessor, and this latest version finally makes Word fast enough that it fits in with the average speed of its competitors. It is still somewhat slower than some of the quicker packages, such as Word Perfect, but not by much.

Although evident, the penalty for the high graphics content of this program is not crippling. Word 3.0 is now fast enough to be used as a general-purpose word processing program, and although the screen update and cursor movement are a bit jumpy, the program's overall speed is satisfactory. Movement in a document, even a long one, takes place very quickly. Jumps from page to page are fast, though scrolling through a document line by line is relatively slow. We judge the overall speed of Word 3.0 as adequate for the task, even if it does not set any records. On an AT, the speed is a bit better.

As an editor, the performance of Word is competent. Although its menu structure slows down the execution of some common editing functions and the use of function keys for common cursor movements takes some getting used to, the program does what it should do reasonably well. Style sheets, a concept introduced in the original version that lets you standardize complex document formats, have been enhanced.

In output, Word 3.0 shines as no other major-market word processor can. Word 3.0 supports more specific printers than ever, emphasizing the very latest laser printers. (There are 17 possible installations for the HP Laser Jet printer.)

Word 3.0 is a flexible and powerful program. It started as more specialized software, but in its latest version is now as fully featured as its competitors. In short, this new version of Microsoft Word is fast enough to be competitive with the major

word processing programs for IBM's PCs, bringing it fully into the competition with mainstream office products. Like its competitors, however, it also requires a substantial amount of disk space and memory.

In speed of operation during editing, Word 3.0 performs satisfactorily on a standard 8088-based PC compatible using a hard disk, to the point where users interested in the program's other powers are no longer making a major sacrifice in terms of responsiveness in editing.
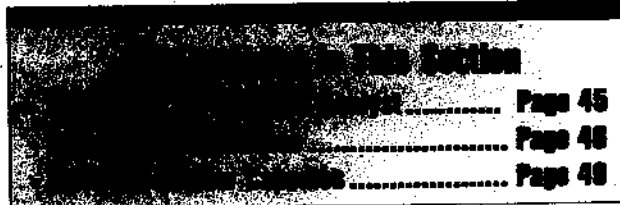
Because of its extraordinary output capabilities, Microsoft Word earns a very good in performance.

DOCUMENTATION: Any program this complex needs lots of documentation and Word offers two thick loose-leaf manuals (a reference manual and a user manual) in addition to a separate booklet about printers. This documentation is supplemented by an outstanding tutorial and excellent on-screen help.

The documentation quality is good, the explanations full, and the organization intelligible.

The printer manual is especially helpful, since one of the strengths of this program is its elaborate printer support and printing capabilities. A counterpart of such power is the need to explain how users can create their own printer definitions to make good use of the powerful Word formatting capabilities. The printer manual, while not easy reading for a novice, will provide the guidance needed to adapt most printing devices to the capabilities of the program.

There are small deficiencies. One is the index, which is helpful but lacking in some obvious entries. For example, pagination or repagination isn't listed under those terms, but only as "print repaginate," though it's not a printing function and would not be the first place anyone would think to look. Another minor shortcoming is the lack of a discussion about computer memory, text size, and program efficiency. Although the manual makes reference to the fact that it creates many temporary files, and to the possibility of running out of memory or disk space, there are practically no specifics about how much memory or disk space is needed to handle how much text. We did not, however, run

out of memory or disk space; the program provides methods of recovering if you do.

Many will find the lack of discussion of memory-resident programs a more serious lapse in the Word documentation. Word works with Ready, a memory-resident outliner from Living Videotext, but it freezes when used with Sidekick, Borland International's desktop utility. Despite the wide distribution of Sidekick and other memory-resident programs, nowhere in the documentation is there any discussion of what kind of programs will and will not work with Word (nor even that you should load the mouse driver before loading Ready). We do not require that all programs work together, but it is essential that quality products be aware of the likely computer environment. Memory-resident programs have proliferated to the point where Microsoft owes it to its customers to warn them of the potential for conflict.

These faults aside, the quality of Word's documentation is very good, and we so rate it.

EASE OF LEARNING: The disk-based tutorials provided with Word are excellent and make it possible for a beginner to start using Word with a minimum of bother. The tutorials are carefully paced, complete, and structured in such a way that a user can do the ones of interest when they are needed. Moreover, the tutorials are linked into the regular program's help system so that a user can branch into a tutorial lesson at any time while using the program.

Although this is not a simple program, the tutorial is so good that it makes Word as easy to learn as any high-powered word processing program we have tested, and much easier to learn than such programs as Displaywrite 3 or Multimate.

The fine tutorials and good manuals are aided by superb on-line, context-sensitive help. In the ease of learning category, Word 3.0 rates an excellent.

EASE OF USE: *Easy to learn* is not the same as *easy to use*, and Microsoft Word is less easy to use than other programs in its class. Part of the difficulty comes from the complexity of menus, screen displays, and options. The program is so complex that ease of use is compromised to some extent. It's not just an issue of having many choices, something that is necessarily implied for a powerful program.

It's an issue of having numerous choices with intricate relationships. You must know a great deal about this program to make those choices intelligently.

The program uses a menu structure that will be easy if you are a Multiplan user and will be hard if you are not. To execute many functions you must first type the escape key and then choose options from a layered menu system that appears at the bottom of the screen. These menus are well-designed, have helpful prompts, and often are self-explanatory. But at the same time, they require a separate process to activate. Many formatting features permit Alt-key combinations that bypass the menu structure, improving usability for truly expert users. The special Word vocabulary, which draws from typesetting terms and common typewriting terms, can be confusing.

Sometimes Word's profusion of choices provides opportunity for user confusion. For example, Word allows measurements in inches, points, centimeters, picas, and characters and measurements at 10 or 12 per inch to determine spacing, margins, tabs and the like. This gives the user great power, but because you can mix these measurements throughout the document, you can also get tied up in your own cleverness if you become too creative.

Microsoft Word takes an approach to text processing that differs substantially from other high-power programs. Word sees text as a continuous stream, much as a document-oriented word processor like Wordperfect does. However, Word also paginates a document before printing, a process used by page-oriented word processing program such as Multimate. You need to paginate in order to see accurate page breaks, but Word avoids the other drawbacks of page orientation, such as being able to see only one page at a time.

Our evaluation of this program's ease of use depends in part on the purpose for which it is used. Word is not a general-purpose word processing program, despite its many features, and in normal office typing, the many powerful features of Word plus its graceless menu system get in the way of ease of use. We would say that for a law office producing nothing but correspondence, Word is far too hard to use. But for those who value exacting control over complex formatting and a wide range of output devices, Word makes this possible.

and more easily than most specialized technical word processing programs. Word is designed to enhance the ease with which these format-intensive tasks can be accomplished.

Those who need its specialized text power will find Word 3.0 satisfactory in ease of use.

ERROR HANDLING: Microsoft is the principle designer of PC-DOS and MS-DOS, the IBM PC disk operating system, so it should have good error handling, and indeed Word handles errors with aplomb. The program has a fine single-level "undo" function that not only un-deletes but can even restore missorted text to its original order. The program puts editing changes into a temporary file and only updates when saving, thereby protecting the original file against damage from unanticipated interruptions.

The program recovers nicely from such simple errors as an open disk drive door or an incorrect system disk. Somewhat cryptic error messages are salvaged by a very complete error-message list in the documentation. The installation program is virtually error proof, allowing simple installation and reinstallation of the program under many different conditions.

We rate error handling very good

because of its useful undo function.

SUPPORT: Microsoft provides strong support for this product. Updates to Version 3.0 cost $75, the program is no longer copy-protected, and a help hot line (unfortunately not toll free) is provided. We called the hot line and asked about the Sidekick problem. The response was helpful and well-informed, although there was no solution offered other than to not use Sidekick. We rate Microsoft's support as satisfactory.

VALUE: Even at a list price of $450, which is $55 more than the earlier version, Microsoft's Word 3.0 is a very good value. The reason is that this program has all the power and most of the general features of the full-feature word processing titans in this price range, such as Multimate, Word-perfect, and Wordstar 2000. In addition, it has superior formatting and on-screen display and output capabilities.

Microsoft is promoting the product as appropriate for corporate users. For those with a specific need for Word 3.0's unique powers, it's a very good value.

John Lombardi is a professor of history and author of five books. He has been working with computers since 1967.