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Word Processing Software for the IBM PC

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Dedication

To my grandmother, Ada Guttenberg, for her love and support.
To my grandfather, Abe Guttenberg, in loving memory.

The Seybold Series on Professional Computing

PATRICIA B. SEYBOLD, *Series Editor*

O'Keefe • INTEGRATED SPREADSHEET SOFTWARE
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Preface

The IBM Personal Computer has taken the world by storm—particularly the office world. Most large organizations have made the IBM PC the approved personal computer for use by managers who request personal computing capability and for secretaries whose word processing needs don't justify a "full-function word processor."

And yet the probability is that most IBM PC users did not acquire the machine primarily for word processing applications. We would venture to guess that VisiCalc™, Lotus 1-2-3™ and similar spreadsheet programs are the kind that have fueled the invasion of PC's into the office. But a word processing capability is nevertheless essential. And, in fact, as managers and professionals gain experience with spreadsheet and graphics applications, they will find themselves typing many of their own reports and memos on the same machines they researched their recommendations and proposals on. So, despite the fact that many users begin their personal computing experience with "number crunching" applications, most will gravitate toward document preparation and revision.

There was a time when *good* word processing was only available on a system designed as a word processor. This is no longer true. Today's word processing software for general-purpose PC's is now equivalent in quality to that found on most of the office word processing systems designed specifically for that purpose. So word processing on a personal computer has now come of age. It has, as we like to put it, "gone professional."

With the prevalence of PC's in our offices and in our homes, and with the advent of quality word processing software, a broader community of users is attracted to these programs. The secretarial population used to be considered the primary market for word processing, with authors (those who write at home as well as those who write at the office) constituting the secondary market. Now, to those two groups must be added managers and professionals using PC's in the office or at home to generate reports and memos. We predict that eventually the number of managers and professionals using word processing programs will far outweigh the number of secretaries who use them, simply because there are fewer secretaries than managers.

This means that programs need to become still simpler. Most of us will not spend two or three days training to use a word processing program. We want to be up and running within a matter of minutes. However, our needs for relatively complex functions do not diminish as our statures within our organizations rise. A manager is just as likely to need to use footnotes or to create a numbered outline as is his or her secretary. So, in evaluating the programs covered in this book, we apply the same standards we would to any professional computing application: the programs must be easy to learn and to use and yet, at the same time, highly functional. We do not subscribe to the popular notion that easy to use means low in functionality.

Patricia B. Seybold

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-*R.M.*

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Ronni T. Marshak has an extensive background in word processing. Prior to joining Seybold Publications, she taught word processing and office administration for federally funded training programs. Beginning as a research assistant, Ms. Marshak has since published reports and articles on electronic typewriters, word processing for microcomputers, and integrated office systems. She is an associate editor of both *The Seybold Report on Professional Computing* and *The Seybold Report on Office Systems.*

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1 Introduction

Word Processing on Personal Computers

IT WAS early 1983 when we first began paying serious attention to word processing on personal computers. Before that time, the word processing programs available on personal computers seemed to be designed for home or hobby use. And, even in early '83, most of the information-processing industry still considered the personal computer in the office to be the latest executive toy. PC's were often sneaked into the office after hours. They were used for spreadsheet applications, or perhaps for some more advanced accounting purposes.

Word Processors vs. PC's. Word processors, on the other hand, were considered secretarial tools. Executives seldom got involved in word processing, other than in purchasing the equipment. In fact, the only non-secretarial group which could freely admit to using word processing were authors. Many authors used stand-alone machines that were designed as dedicated word processors, like the IBM Displaywriter or Wang's Wangwriter, instead of personal computers with word processing software.

But we held the belief that the PC was destined to become standard equipment on managerial desks. And we knew that as managers and professionals became familiar with keyboarding, the transition to word processing would be a logical step. It is much

easier and less time consuming for a manager to draft a document on a word processor and then have it "fixed" by the secretary, than for him or her to dictate or to write in longhand.

Industry Evolution. In the early 1980s, a number of software firms released word processing packages for personal computers used in the office. However, these early packages were *either* highly functional or easy to use. There really weren't any on the market which met both qualifications. Quality word processing was still only available on a dedicated word processor.

Two separate phenomena have occurred in the last year or so. One, as we predicted, was the standardization of personal computers as management workstations. And, again as we maintained, the demand for management-quality word processing has gone sky-high. The second phenomenon was one we anticipated, but one that has occurred even sooner than we would have predicted. This is the migration of the PC from the manager's desk to the secretarial desk. And the primary function of the secretarial PC is word processing.

Cost Factors. The basic justification given for providing secretaries with personal computers rather than dedicated word processors is financial. However, cost is not as much of an issue as the public would like to believe. Indeed, many people have the impression that it is cheaper to do word processing on a personal computer equipped with word processing software and a low-speed, letter-quality printer than it is to use a dedicated, stand-alone word processing system. This isn't true, at least if you care about quality hardware and software on your personal/professional computer.

The IBM PC we used in these evaluations, a dual-floppy machine with 256K of memory and a low-speed daisywheel printer, cost $6,153 when purchased in early '84. That price did not include the cost of the word processing software. (The packages we evaluated range in price from $80 to $695.) At that time, we could have purchased for $4,290 a DECmate I with less memory but with word processing software and a dot matrix printer sufficient for many writers submitting manuscripts for publication. We would have paid about the same price as the IBM for a DECmate I with a correspondence-quality printer. A Wangwriter, including two floppy disks and a quality printer, cost $5,995 in early '84, including

WP software. So the prices for an IBM PC configured for word processing and those of the popular "Writer" stand-alone word processing products are comparable. Why, then, buy a PC instead of a word processor, especially for a secretarial station?

Versatility. Many people feel that the choice between a dedicated word processor and a personal computer for word processing is made simpler by virtue of the fact that a personal computer is a more versatile, flexible machine, and, if they want to perform functions other than word processing, they would be better off with a personal computer. We would like to remind you that this assumption isn't true, either. Almost all major suppliers of stand-alone word processors now offer CP/M and MS-DOS compatibility as options for their systems. These popular PC operating systems allow you to use the machine alternately as a dedicated word processor and as a personal computer.

Nevertheless, when you purchase an IBM PC or some other professional computer, you expect to have a lot of compute power, extensive graphics capabilities, and access to a wide range of off-the-shelf programs. This is indeed an inviting prospect.

Industry Trends. Industry trends will always color the consumers' choices. Enhancements to dedicated word processing systems aren't as frequent or as impressive as they have been in the past. There aren't any new word processors on the market worth mentioning. The companies that made their name in word processing have either been acquired by a different company (Micom purchased by Philips; Lanier purchased by Harris) or are developing office systems and microcomputers of their own (NBI). If the industry is abandoning "Good Ship Word Processor," then users have no choice but to jump off as well.

Standards of Measurement. Now that PC's are proliferating on both the manager's and secretary's desks, word processing has become one of the most widely used applications. We acknowledge that personal computers are not designed as word processors, but we fail to see why one's standards for word processing software should be compromised. Indeed, we have always been puzzled about why, in the past, word processing programs on conventional

personal computers are often so bad. After all, the hardware used to support the application is in most cases virtually identical to that used in a dedicated word processing system (formerly Z80 or Intel 8080, floppy disks, standard monochrome display and keyboard). We arrived at the conclusion a while ago that the reason is a "cultural" one. The people writing WP software for the conventional (home) personal computer market did not know what *good* word processing is.

Differences in Hardware Features. Probably the most important differences between word processors and professional/personal computers have to do with the keyboards. To some extent, too, there are differences in screen display characteristics. However, neither of these limitations is necessarily mandated by considerations of utility or cost. Many of the newer personal and professional computers have the potential for a higher-quality screen display (given the proper character-generation capabilities) than you will find on the typical word processor. And they could also have a keyboard as well conceived as what one expects with a word processor.

We fault IBM particularly for its original PC keyboard. We don't think it was a logically-conceived keyboard even for non-word processing functions.

Word Processing Software. In the early days of PC word processing software, packages were modeled on two different design philosophies. The first category was based on a microcomputer orientation. This included the use of coded commands (usually mnemonic) for applications. Formatting the documents was accomplished with codes embedded in the text. These packages also made extensive use of formatting rather than on-screen editing. The designers were more concerned with how the document would print than how it was displayed. Programs in this category were usually powerful and versatile, but hard to use and even harder to learn.

The second category came from a word processing orientation. These packages provided function keys for applications instead of commands. There were more extensive on-screen prompts and help menus. And, most importantly, the screen display reflected, as accurately as possible, how the document would look at printout. This is sometimes called WYSIWYG (what you see is what you get).

These programs were very easy to learn and use, but often lacked flexibility and advanced features.

In the last year or so this has changed. Software designers from the word processing companies have left the industry leaders to start their own software companies combining their knowledge of word processing with the new industry trends, and, as we had anticipated, the quality of word processing packages on PC's has improved significantly. The interface has become less "computer-ish" and the features are more useful to the business professional, rather than targeted for the secretary only.

An increasing number of PC programs feature advanced capabilities and friendly user interfaces, so the professional user now has a word processing program which is not only comparatively easy to learn and use, but offers the applications to make it worth using. There may still be problems with word processing on personal computers. The design of the PC as a general-purpose device sometimes works against you, and some of the packages with excellent features and interfaces are too slow for efficient use. But in general, the quality of word processing has improved so significantly that it no longer seems absurd to think of the personal computer as a word processing workstation.

IBM's Investment in Word Processing

After coming out with a personal computer which changed the face of an industry, IBM appeared to have slapped itself on the back, said "well done," and delegated the software issue to third-party houses. The closest IBM came to word processing on the PC was to endorse several packages (including EasyWriter I and Peachtext) and to market them under the IBM name. The result was a plethora of word processing packages from third-party software designers, each claiming to be the friendliest, most powerful, and best suited for the IBM PC.

But IBM hadn't really abandoned PC-based word processing. It was just taking its time. And on April 3, 1984, IBM announced two word processing software packages for the IBM PC and PC*jr* based on the IBM dedicated word processing system, the Displaywriter. The packages are modeled on Textpack 2 and Textpack 4 Displaywriter software.

The significance of this announcement has yet to be felt. Third-party designers are shaking in their shoes. The industry is watching closely. IBM has the habit of creating industry standards. A low-cost word processing package which is totally compatible with the rest of the IBM office systems product line could change the face of the software industry just as the PC changed our view of computing in the office.

You will find our evaluation of IBM's DisplayWrite 2 software for the PC toward the end of the book, after our discussion of many of the most interesting third-party programs. We have not reviewed DisplayWrite 1 here because it is aimed primarily at the PC*jr* market, although the package also runs on the PC and PC-XT.

2 Evaluation Criteria

IN OUR CAPACITY as evaluators of word processing programs, we receive many phone calls asking for advice. Recently we have been besieged with questions about word processing software for the IBM Personal Computer. Basically, these questions boil down to two:

- "What is the *best* word processing package for the PC?"
- "What's new out there?"

Let's address these questions one at a time.

What is the best word processing package for the PC? We couldn't tell you. Not anymore than we could tell you what is the "best" car or the "best" restaurant. It all depends on individual tastes and needs. Each word processing package has its own texture and flavor. It is up to you to determine whether you find these pleasing and useful.

What's new out there? Asking the question reflects a growing awareness of the momentum of this industry. Users are recognizing the fact that new and significant software packages are coming out as steadily as debutantes in season. The question could also reflect dissatisfaction with the products currently available.

This second query is a question we can answer. The better word processing packages for PC's now offer a couple of key attributes: the user interface is simple and self-explanatory, and the functionality is superior to that offered on many dedicated word processors. In particular, today's WP packages often include the

ability to divide the display up into two or more "windows" to facilitate editing across two documents. Formatting features are typically quite advanced as well. It is not uncommon to find facilities for the automatic creation of numbered outlines, or for the semi-automatic generation of a table of contents or an index.

The Evaluations

The task of software evaluation is not a simple one. A black-and-white, feature-by-feature comparison isn't enough when you discuss word processing. There are shaded areas. For example, you don't just ask, "Does the program provide automatic footnoting?" You have to go further and ask, "How *well* does the package provide automatic footnoting?" And you can't forget to ask, "How *easily* does the program provide automatic footnoting?"

So we examined each piece of software in relation to these three questions:

- What features are available in the package?
- How good are the features?
- How easy are the features to learn and execute?

What Features Are Available?

Just as every automobile has standard features, so does a word processor. You wouldn't buy a car without a radiator or a transmission, and you shouldn't buy a word processor without automatic wordwrap or the ability to insert a phrase. However, you may prefer an automatic transmission, power steering and disc breaks, rather than the standard features. In word processing, you may choose a package which offers column move and on-screen justification.

For your car, you might also choose some extra options, not necessary to its operation, but which are nice luxuries—such as a stereo radio or a rear-window defroster. For word processing, math, automatic outlining and spelling verification would fall into this category of non-essential niceties. Yet, there are many drivers who wouldn't consider owning a car without a stereo. And there are those word processing users who would never own a system that didn't offer an outline-numbering package.

Basic WP Functions. Below we have listed the features we consider to be essential to a worthwhile word processing program. These descriptions will also enable you to understand the terminology used in our reviews if you are new to word processing.

- *Wordwrap:* When entering (typing) text and you come to the end of the screen line, you shouldn't have to type a carriage return. Instead, the overflow characters should drop down to the next line automatically regardless of whether or not you actually type a line return character. But we believe it is also essential to have the system bring only entire words down, rather than splitting words in the middle, when the end of the line is reached. This means that the program will sometimes break the line early in order to keep entire words intact. This is called wordwrap.
- *Insert & delete:* Inserting is the ability to add new text between existing characters on the screen without losing the existing text or retyping characters. (The alternative to insert mode is overstrike, which causes new characters to replace on the screen the characters which are under the cursor at the time the new keys are struck.)

  We favor programs that offer an insert mode that allows you to move freely within existing text and insert characters at any locations at any time, although some programs automatically exit insert mode after one insertion is complete, requiring you to re-enter insert mode in order to move to another location to make an insertion. In either case, after an insertion is made the text should automatically be reformatted properly on the screen to take into account its new line breaks.

  Similarly, a delete function removes text from the screen and should automatically close the gap to reformat the remaining text. Word processing programs offer a variety of delete functions, including "backspace rubout" to remove the character immediately to the left of the cursor, single-character delete to remove the character under the cursor, word delete to erase a word, etc.
- *Copy & move:* The ability to define (select) a section of text and copy or move it to another position in the same document. This is sometimes called "cut and paste." Enhanced programs allow moving and copying text into different documents.

- *Search & replace:* The ability to find all occurrences of a string of text and replace it with a different text string. Conditional replacements require verification by the operator at each occurrence of the search string. Global replacements change all the occurrences without verification.
- *Accessing a directory:* This is not an editing or formatting feature, but it is important to be able to call up a directory or index of documents on a rigid or floppy disk easily and quickly.
- *Multiple tab lines:* The ability to change tab column positions within a document. This includes automatic realignment of existing text to the new settings.
- *Decimal tab:* A tab stop which aligns numbers on the decimal point.
- *Indent:* The ability to set a temporary left (or right) margin.
- *Automatic pagination:* The system determines page endings by number of lines per page. Enhancements include widow and orphan control (not leaving the first line of a paragraph at the bottom of a page or the last line of a paragraph at the top of a page).

Desirable Functions. The following features are not vital, but are highly desirable in all but the most elementary packages:

- *Paragraph assembly:* The ability to save boilerplate paragraphs which can be called into a file to create a standard document. There are many variations on this feature including glossaries, libraries and save/get areas.
- *Multiple format lines per document:* The ability to change margins and line spacing as well as tabs several times within a document.
- *Screen and print attributes:* The ability to embolden and underline text, preferably appearing as such on the display. More enhanced attributes include double underlining, super- and subscript representation, and strikethrough characters.
- *Headers and footers:* Standard text which appears at the top and/or bottom of every page. The program should accommodate automatic page numbering. More advanced features allow different headers and footers to appear on facing pages, and the ability to change the contents at any time.

- *Horizontal scrolling:* Margins may be set at up to the 250th column position. But since the screen displays only 80-character segments of the complete document, it is necessary to be able to scroll horizontally to see the part of the document which occupies column positions to the right of the first 80 columns. Horizontal scrolling enables the viewing of any part of the document in 80-character pieces.

Advanced Functions. Some features are not required for basic word processing, but are always nice to have. Most users find one or more of these capabilities vital to their word processing needs:

- *Automatic footnotes:* The program automatically numbers each footnote and positions its contents at the bottom of the page or on a separate page.
- *Table of contents and index generation:* The ability to flag words or phrases for insertion into a table of contents or index. This includes noting page numbers and sorting the table of contents entries by page number and the index entries alphabetically.
- *Split screen:* The screen can be split to allow the display of two different documents. Text may be moved and copied between the two files.
- *User-defined keys and macros:* The storing of commands and/or text strings for recall into a document at any time. These capabilities vary widely from one program to another. These functions differ from paragraph assembly, which stores text characters only.
- *Spelling:* There are two different spelling functions available on many packages. The first is spelling verification. This feature marks any word in the text which is not included in the dictionary associated with the spelling program. Spelling correction programs go further. In addition to indicating which words are not in the dictionary and may therefore be misspelled, these programs suggest corrections, and usually one keystroke will substitute a suggested correction for an incorrect word.
- *Math:* Math packages vary from simple calculator features in a special window, which enable the result to be inserted into a document, to column math where numeric columns and rows within the document can be totaled.