

Peelings IITM



THE MAGAZINE OF APPLE
SOFTWARE AND HARDWARE EVALUATION

VOL. 4 NO. 6

1983

\$3.00

How To Choose
YOUR Word Processor
(page 36)

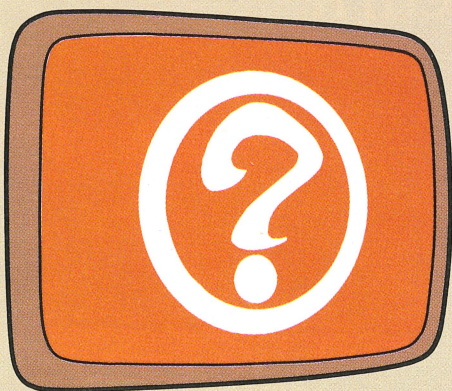
WORD PROCESSORS

- Perfect Writer
- Select
- Magic Window II

Word Processor
Comparison Charts
(page 61)

- Pie Writer 2.2
- Format II
- Megawriter

INFORMATION SERVICES



For Your Information:
Don't Miss
These Five Reviews!

The Source

CompuServe

Delphi

Dialog®

Official
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STOCK MARKET • Portfolio Master 3.1
BEGINNER COLUMN "The Anything Machine"
CHAPTER SIX: "Assembly Language"



More Apple II owners choose Hayes Micromodem II than any other modem in the world. Compare these features before you buy. You should. It's your money. Thousands of other Apple II owners have already compared, considered, and are now communicating — all over the U.S.A. — with Micromodem II. The best modem for the Apple II. The most modem for your money.

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Micromodem II is available with or without the Terminal Program. Buy your modem by itself, or optionally packaged with the Terminal Program disk and user manual at extra cost. The software is also sold separately, for those who already own a Micromodem II.

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Hayes

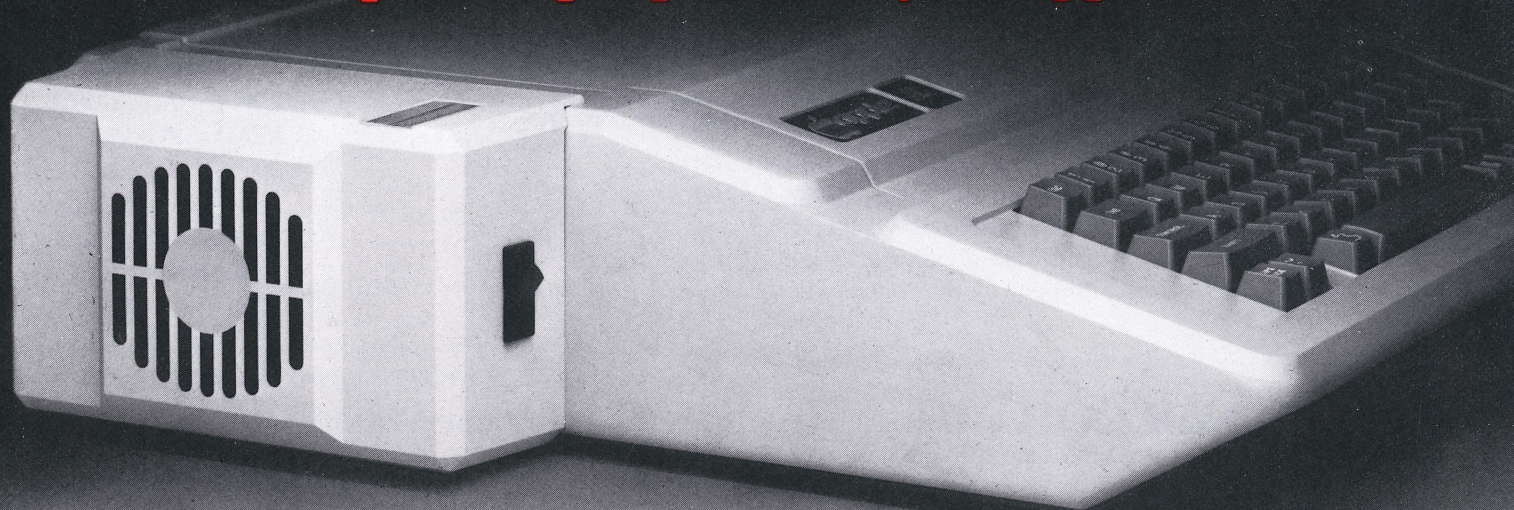
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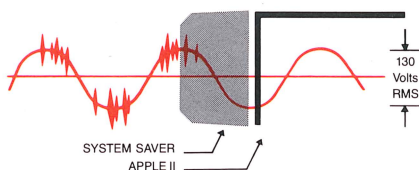
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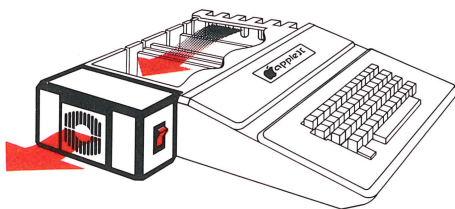


By connecting the Apple II power input through the SYSTEM SAVER, power is controlled in two ways: 1) Dangerous voltage spikes are clipped off at a safe 130 Volts RMS/175 Volts dc level. 2) High frequency noise is smoothed out before reaching the Apple II. A PI type filter attenuates common mode noise signals by a minimum of 30 dB from 600 khz to 20 mhz, with a maximum attenuation of 50 dB.

For Cooling

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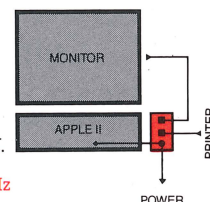
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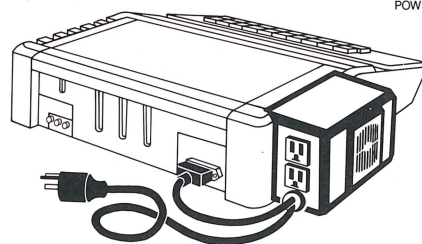
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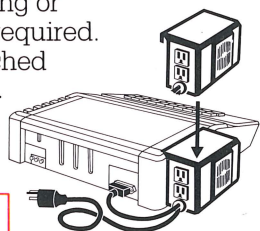
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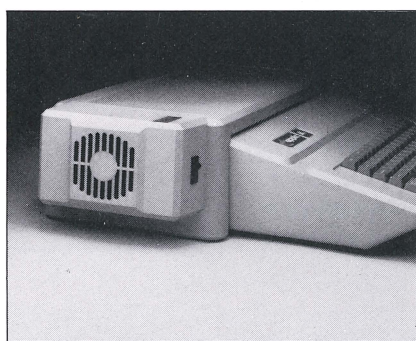
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Volume 4, Number 6, 1983

BEGINNER COLUMN:

- 9 **The Anything Machine**
Chapter 6: Assembly Language

INFORMATION SERVICES

- 13 **The Source**
- 17 **CompuServe**
- 21 **Delphi**
- 24 **Dialog**
- 28 **Official Airline Guide**

WORD PROCESSORS

- 36 **Word Processor Introduction**
- 38 **Word Processor Glossary**
- 39 **Perfect Writer and Speller**
Published by Perfect
Software, Inc.
- 44 **Select**
Published by Select
Information Services

- 48 **Magic Window II**
Published by Artsci, Inc.
- 50 **Pie Writer 2.2**
Published by Hayden Software
- 51 **Format II**
Published by Kensington
Microware, Ltd.
- 54 **Megawriter**
Published by Megahaus
Corporation
- 57 **Word Processor Wrap-Up**
- 61 **Word Processor
Comparison Charts**

BUSINESS AND FINANCE

- 70 **Portfolio Master 3.1**
Published by Investors Software

DEPARTMENTS

- 3 **Authors**
- 4 **Peelings Ratings**
- 5 **Letters**

ADVERTISER INDEX

Advertiser	Page
APPLE ORCHARD	72
APPLIED ENGINEERING	33
AVANT GARDE	71
CIRCADIAN SOFTWARE	52
CRAWFORD DATA	18
DARK STAR SYSTEMS	60
DAVID DATA	42
EAST SIDE SOFTWARE	8
EXEC-SOFTWARE	55
GEE WHIZ SOFTWARE	38
HAYDEN SOFTWARE	34, 35
HAYES MICROCOMPUTER PRODUCTS	C2
INTERACTIVE MICROWARE	32, 45
KENSINGTON MICROWARE	1
LJK ENTERPRISES	C3
MICRO ANALYST	12
MICRO CO-OP	58
MICRO-SPARC	27, 43
OHM ELECTRONICS	7
SANSOFT PLUS	26
SENSIBLE SOFTWARE	59
SIERRA ON-LINE	C4
SOF-TECH	4
SOFTKEY PUBLISHING	19
TACKABERRY SOFTWARE	49
VIRTUAL COMBINATICS	20
WILDCAT COMPUTING	47

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We stress that you should not skip a review or disparage a program because it receives a low rating. The rating alone can never tell the whole story. Only reading the entire review will give you all the information you need. For this reason, the rating should never be quoted alone without reference to text of the review.

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C — Average. Software of a mediocre nature. There may be a lack of good programming concepts or poor error trapping. It may be a repeat of other work, or have a low performance/price ratio.

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F — Unacceptable. Software of such poor quality or usability that it should not be marketed.

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LETTERS

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Almost three years ago, I bought a Softcard and
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Here was an author's dream come true. It had most of the
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LETTERS

The following letters are very interesting stories of two writers' experiences with various word processing software and hardware. They are full of excellent details on interfacing, and they are just the kind of letters we would like to see more of. Thanks, Tod and Richard.

Dear Peelings,

I have had an Apple II for four years, have recently acquired an Apple IIe, and my wife owns an Apple III. I have done freelance technical writing and editing for small firms and even Apple Computer, Inc. Additionally, I edited the local Mensa newsletter, the Intelligencer, and am currently in charge of printing a literary monthly, The Ecphorizer, also a Mensa publication.

I started off several years ago with the original Apple Writer, which was paired with a used Diablo Hytype I printer. The two worked quite well together, the only problems being the lack of such amenities as underlining and microspacing between words. The justified text would insert the needed extra spaces between the left-most words on each line, resulting in "rivers of white" down the left side.

When I started my first job for Apple, I was given Script II. Script was coupled with various macros to produce standard manual formats for Apple. The disks for each manual could now be printed on Qume Sprint 5 printers and given to their production department to paste up flats for the manual. Lest anyone be misled, Script is a text formatter rather than a word processor. The text is entered using the Pascal Editor from the keyboard, complete with formatting commands (i.e., ^UL means underscore next line), edited and adjusted on screen, and saved to disk with Filer. Then one runs Script, and the formatting commands are interpreted and passed along to the printer.

I have two major complaints regarding Script II (and Script III, too). The first is that it was designed to work primarily with an outdated printer: the Qume Sprint 5. When Script came on the market, Qume was already selling the Sprint 9. If one is not using a Sprint 5, microspace justification won't work. At least the spaces are added alternately on the left-most and then the right-most sides of each line, eliminating the "rivers of white." Script is not configurable to any of the new letter-quality printers

without special hardware in the printer to allow it to emulate the Sprint 5.

This leads to the second complaint. The source code is held proprietary by Apple . . . (I) can understand that Apple doesn't want its source codes floating around, but at least Script can be updated to include a printer configuration module.

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do it? Well, the makers of WordStar left a comment command wide open. When a period begins a line of the screen, this signifies (to the formatter) that a formatting command follows. However, a double period means "ignore all that follows on this line." Therefore, the authors of these adjunct programs instruct us to insert a double period and then some letters which THEIR programs will recognize and act upon!

I have just read about a new program designed to work with WordStar to format print in true proportional spacing, provided one used the correct print wheel on one's printer. Since NEC offer a proportional spacing thimble, I intend to investigate this product further. In case you are interested, the article is about "MagicPrint" in the June, 1983 issue of Creative Computing.

If you have WordStar installed on an Apple II+ and you upgrade to an Apple IIe, WordStar will work just fine on it. In fact, I have now available all printable ASCII characters on the Apple IIe keyboard, including fully functional SHIFT, SHIFTLOCK, and TAB keys. My configuration is set for VIDEOTERM WITH SHIFT MOD, NEC 5510/20, no Communication Protocol, and CP/M List Output Driver (LST). The one thing you have to watch out for is to deactivate the software shift key by pressing ESC once; otherwise lower case comes out caps and vice-versa.

The only major problem I've had with WordStar is

transportation. That is, I'd like to install it on our Apple II, but even with the help of an Apple Tech Note, we've been unable to do so. The program just crashes. I'd like it on the Apple II to utilize storage space and the ProFile hard disk.

While I'm on the subject of transportation, I'd like to point out that text or ASCII files created with AppleWriter II or the Apple II Pascal Editor can be eventually used on the IIe with WordStar. A friend of mine created a Pascal program which will translate certain character combinations (i.e., %% and &&) into WordStar formatting commands (i.e., CTRL-P-CTRL-S). The resulting textfile can be downloaded via an AppleWriter II utility to an Apple II formatted disk, and then converted to CP/M format using the APDOS program. Then a simple run through WordStar to reformat the paragraphs will give you a WordStar textfile complete with the requisite formatting commands already imbedded. This capability greatly extends to non-CP/M equipped Apples the means of creating and downloading files to WordStar.

Sincerely,

Tod Wicks
Palo Alto, California

Dear Peelings,

First let me say that I enjoy receiving Peelings II and that I find the magazine to be quite useful. I am writing to you based on your request for reader feedback. After working part time on a Ph.D. thesis in mathematical statistics over the past 3 or 4 years, last September it came time to start typing a rough draft of my text. Despite the special mathematical symbols and Greek letters which would be required, I was determined to type it myself on my Apple II if at all possible.

Based on your review of Pie Writer and the fact that the disk is not copy protected, it did not take me long to decide which word processor to purchase. I bought Pie Writer, version 2.1, 80-column version for use with my card which is compatible with the Videx Videoterm. My choice of printer was only slightly more difficult to make. Since I needed to be able to define my own characters (Greek letters and math symbols) and also desired flexible HIRIS dump capability, I purchased an Epson-MX-80 F/T type III printer and a Pkaso interface card. This card allows users to easily define their own character sets and also has other interesting features.

The first problem I encountered was that the Pie Writer program and the special character feature on the Pkaso interface were not compatible since the Pkaso special character routine modifies two page zero locations used by Pie Writer. However, since Pie Writer is unprotected, I was able to patch the Format module to correct the problem.

Working with a Videx compatible 80-column card, the next problem that arose was that I could not get the Epson to print when working in 80-column mode. I traced the problem to the 80-column card itself. More specifically, the 80-column card's C8 ROM would not turn off when \$CFFF was accessed. The C8 ROM on the Pkaso interface could thus never gain control when working in 80 columns. Again, since Pie Writer is not copy protected, I was able to modify the Format module so that it did not access the 80-column card and used only the 40-column screen mode. In this manner, I was able to print my text. If Pie Writer had been protected, neither of these two modifications would have been possible, and I would not have been able to use the program to print my thesis.

I proceeded to enter a large part of my text, skipping for a moment the imbedded format commands necessary to provide the subscripts, exponents, special characters, etc. I found Pie Writer relatively easy to use and certainly powerful enough to handle the formidable task to which it was being put. When it came time to enter the imbedded printer format commands, I purchased a Videx Enhancer II so that the control codes could be defined as macros and entered with a single keystroke. This greatly simplified and speeded up the entry of imbedded printer format commands.

However, when it came to printing out the formatted text, I had another unpleasant surprise. While the original text without the imbedded printer commands printed out as one would expect, passages of text which contained a

high density of imbedded printer control codes would not print correctly, the Format module losing portions of the text to be printed. After verifying that I had not made a mistake and that the problems were not due to the patches I had made, I wrote Hayden explaining that there was a bug in the Format program. After six weeks, I received a letter back from them indicating the correct way of entering imbedded printer control codes, something which I already knew. It has now been two months since I wrote back to Hayden (enclosing a diskette to illustrate the problem), and I have received no further reply from them. I am enclosing a copy of my correspondence for your information.

In the meantime, I have been able, with a lot of trial and error, to get most but not all of my thesis to print correctly by staying in fill mode as much as possible, simplifying my equations, and formatting the text by hand (for example by indenting the required number of spaces rather than using the command for centering or the .tl command for titles). I had fewer problems getting exponents and subscripts to print in long passages by defining them as special characters rather than by using these modes built into the Epson. This is because fewer control characters are required to activate and deactivate the special characters as opposed to the subscripts and exponents.

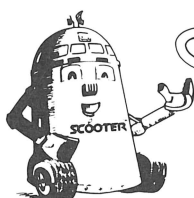
I am still hoping to hear from Hayden fairly quickly so that I can finish printing my dissertation. Given a corrected version of Pie Writer, I would not hesitate using it again for similar applications. It is a very capable word processor and adding a macro capability with the Enhancer II makes it even more powerful.

In retrospect, I must admit that my use of Pie Writer was a quite ambitious one. However, Pie Writer worked very admirably, except of course for the annoying problem of

losing text when a line contained many imbedded control characters. The result, when printed out correctly, were very nice indeed.

Sincerely,
Richard Sylvester
Mons, Belgium □

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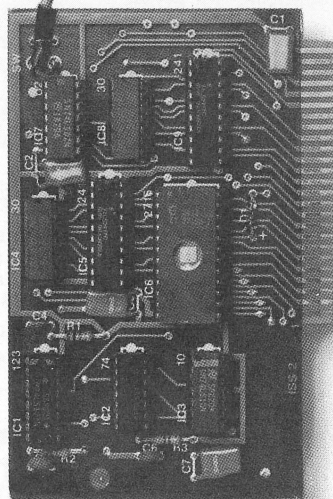
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THE ANYTHING MACHINE

Chapter Six: ASSEMBLY LANGUAGE

by Tom Little

Programming in assembly language is fundamentally different in several ways from programming in any other language such as Applesoft or Pascal. There are also similarities—as always. In this month's column we'll discuss these differences and similarities, and touch on some of the why's and wherefore's of Assembly language. As with previous columns, the intention is to stimulate interest (or bring apathy out into the open, as the case may be), rather than to give a thorough course on the how-to's.

THE SOUL OF THE COMPUTER

Deep down inside every computer, where fools rush in and users fear to tread, there lies the soul of the machine: the hardware. In a sense, all those fancy computer languages, data base systems, and word processors are a facade: the machine does not know about them, and the machine does not care that it just erased your 80-page report instead of filing it. The hardware responds to, and produces only, electronic signals. We humans are responsible for interpreting (or misinterpreting) them.

The computer's processor is designed to fetch its instructions from memory, one at a time. It does this by changing the electrical states of

some connections within the machine. After a short time (less than a millionth of a second), the memory chips have responded to the electrical signals and the states of some other connections have been altered. The processor responds to these new signals by performing some very specific, unsophisticated action.

If we don't want to talk about electrical signals (a programmer with a voltmeter is no longer a programmer, he's an engineer!), we can say it a different way. We can say that the processor has read a number from a memory location, and that this number is an *opcode* which causes the processor to perform a certain action. When we think of the processor responding to numbers it reads from memory, we're thinking of it running machine language.

There are a few hundred different numbers that act as instructions to the processor. They are instructions for very simple actions. They mostly instruct the processor to change the contents of registers or memory. Registers are just like memory locations except that they are inside the processor itself. The processor doesn't have to signal memory to use its registers. Because they are so much faster to access, the processor is designed to do arithmetic only on numbers in registers. For example, the number \$E8 (the dollar sign means the number is hexadecimal, or base-16) causes the processor to add 1 to the contents of a register

known as the X-register. At this level, a computer works a lot like a programmable calculator.

Programming in machine language consists of familiarizing yourself with which numbers cause the processor to perform which actions, combining these opcodes into a machine language program (which is just a sequence of numbers), and placing the program in memory where the machine can use it. None of these steps is trivial.

The task can be made easier by programming in assembly language. The only difference between this and machine language is that when writing in assembly language, descriptive words are used in place of the hard-to-remember numeric codes. Thus instead of the number \$E8, the mnemonic INX (which stands for "increment X") would be used. This makes it much easier to design the program. After a program has been written in assembly language, it still must be translated back into the numeric machine language before it can be used. This can be done by hand (it is not difficult, just tedious and time-consuming), or a program called an assembler can do it quickly and with less pain.

Now, bear in mind that the computer is ALWAYS running a program in machine language. In a very real sense, there are no other computer languages. When we say that the computer is "running a BASIC program," we're not being altogether

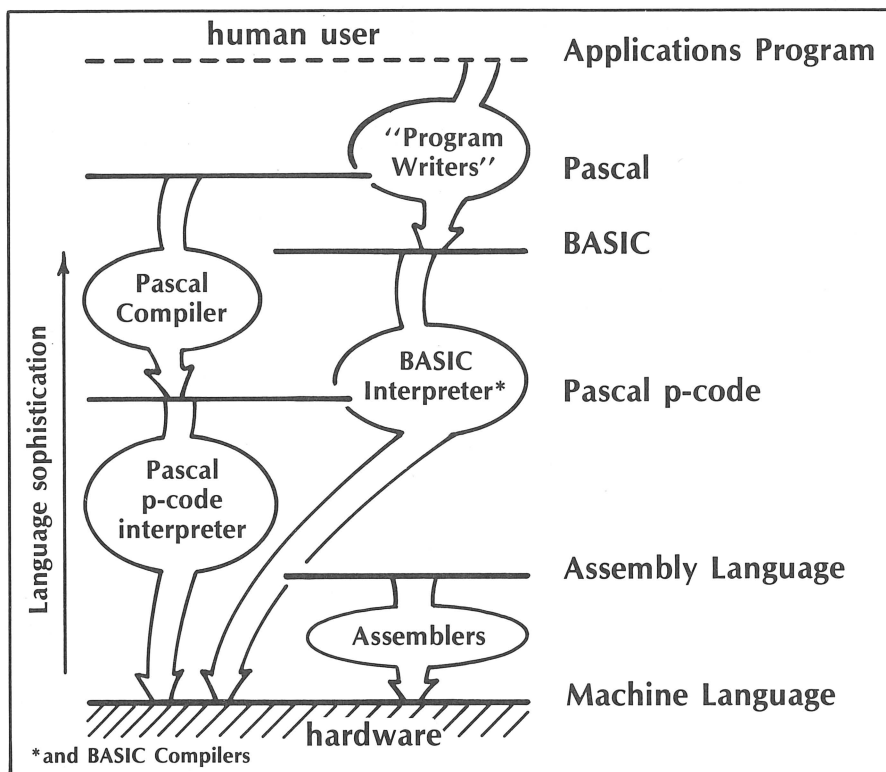


Figure 1. Apple Languages and Translators.

honest. Actually the computer is running a machine language program (which is sometimes called the BASIC interpreter), whose only purpose is to fool the users into believing the computer "understands" a BASIC program! Figure 1 gives an overview of where all the various interpreters, compilers, and assemblers stand in relation to machine language.

At once, both the advantages and disadvantages of assembly language programming come to light. The "good news" is that you have complete control. There's no way to more effectively dominate the machine, other than getting out a soldering iron. The "bad news" is that you have to think of your computer like a pocket calculator, paying attention to every trivial addition and subtraction required to get the job done. The Apple's processor doesn't even have a multiply instruction! To multiply 3 X 5 in assembly language, it is necessary to write a program to do repeated additions.

At this point the sensible reader will have decided to leave assembly language to the guys with the volt-

meters. With a knowing chuckle he will turn away to some less absurd portion of the magazine.

Those remaining will read on about some of the incredible gimmicks that have been contrived to make it easier to program hardware so primitive it can't multiply.

A SAMPLE PROGRAM

The beginning and the end of assembly language programming on the Apple is the *Apple II Reference Manual*. This book is basically a description of how to make the Apple do things from machine language. The input/output operations are described in gory detail, and there's a lot of information about the Monitor ROM, a permanent memory chip in the Apple that has a lot of "canned programs" to make life more peaceful for the assembly language programmer.

For example, we read that there is a subroutine located at memory address \$FC58 which clears the screen of printing (like "HOME" in BASIC). The routine at \$FBDD makes a beep, \$FD8E starts a new line of printing,

\$FD6A reads an input line of text from the keyboard, and \$FDED prints the letter or character whose numeric code is in the A-register (or accumulator). These codes are also listed in the *Apple II Reference Manual*. You can tell already that things will get a bit tedious in assembly language—dealing with letters by numeric code is just one of its joys.

With these pieces of information we can write an assembly language program. Not a profound one, mind you, but at least one that will work.

```
JSR HOME
JSR BELL1
LDA #'"@'"
STA $33
LOOP: JSR CROUT
JSR GETLN
LDA $200
JSR COUT
CMP $33
BNE LOOP
RTS
```

The "JSR" instruction is like BASIC's "GOSUB": it means go execute that routine, then return to do the next instruction. The manual says that subroutine GETLN will print as a prompt whatever character code is in location \$33. So we LDA (load accumulator) with an at-sign and STA (store accumulator) to location \$33. This is the way to put a number in memory using machine language: via the accumulator. The manual also tells us that GETLN leaves the line of text the user has typed (GETLN is like "INPUT" in BASIC) in memory, starting at location \$200. So LDA \$200 will put the first character of the input line in the accumulator. JSR COUT prints this character on the screen. CMP (compare) \$33 checks to see if this character is the same as the one in location \$33, which we are using for a prompt. If they are not equal, the processor branches (BNE) to the beginning of the loop. If they are equal, the RTS ("return from subroutine") instruction is executed, and the program ends.

Notice that we have used names

rather than numbers in most cases. An assembler would resolve these names into numbers for us, and the names make the program easier to read. We can assemble this program by hand, knowing the addresses of the Monitor routines (HOME, COUT, etc.) and the opcodes that go with the various instructions:

20	58	FC		JSR	HOME
20	DD	F8		JSR	BELL1
A9	C0			LDA	#"@"
85	33			STA	\$33
20	8E	FD	LOOP:	JSR	CROUT
20	6A	FD		JSR	GETLN
AD	00	02		LDA	\$200
20	ED	FD		JSR	COUT
C5	33			CMP	\$33
D0	F0			BNE	LOOP
60				RTS	

The machine language is written on the left, in hexadecimal. The first column consists of opcodes, the second and third columns are the numbers corresponding to the addresses and numbers implied in the assembly language version. Careful scrutiny of this listing will bring up some points of confusion if you are new to assembly language, but this is the listing an assembler would produce and the one a human assembler would produce after some study of Apple machine language. This program as it stands will clear the screen, produce a beep, and prompt the user repeatedly with an at-sign. It will echo the first character tricky things like input and output, assembly language programming is not as awful as it might be. But it's still pretty bad.

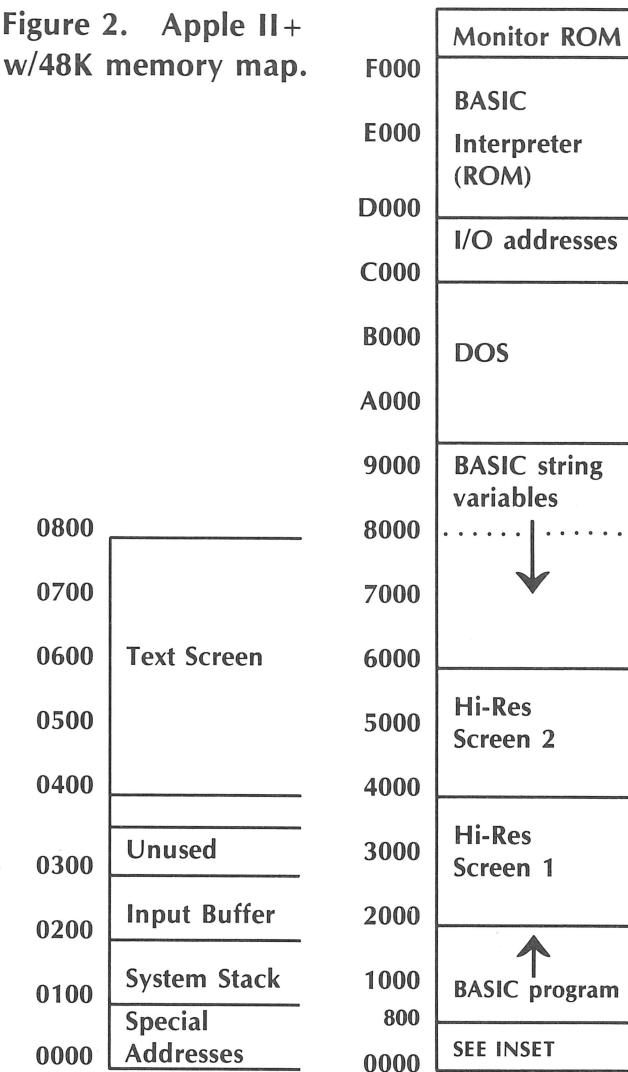
ASSEMBLERS

Although a good assembler makes it much easier to program in assembly language, nearly all assembly language programmers are comfortable using the method shown above to make minor changes ("patches") and debug their programs. This method also has the advantage of being more educational and emphasizes the direct contact with the machine which is the hallmark of assembly language programming.

But, when a person's had enough education, an assembler is the preferred tool for this type of programming. Not only does it translate and load the program for you, a good assembler will also provide a variety of other aids. An example is a macro facility, which allows the programmer to give an oft-repeated sequence of instructions a single name, to save on typing. With extensive use of macros, an assembly language program can look almost like a BASIC program. In this way, one can have some of the advantages of both worlds.

An assembler also opens up the world of large, complex programming projects. BASIC or some other high-level language is usually just not fast enough or flexible enough to use for something like an arcade game, word

Figure 2. Apple II+ w/48K memory map.



processor, or custom operating system. And creating such a thing by programming in machine language by hand is nearly impossible. With an assembler, a programmer can reap the full potential of his computer. Nothing is impossible. The price paid is the many hours (which run quickly into weeks, months, and years) spent learning all about such obscure items as I/O addresses, character codes, Monitor subroutines, and a host of hardware-related details.

Assembly language is thus a different way of approaching the computer. One cannot compare the "features" of assembly language and Applesoft, as was done for Pascal and Applesoft in the last issue. For certain types of tasks, assembly language is indispensable, for others it is a laughably tedious alternative to the relatively straightforward style of BASIC.

Next time, our itinerary takes a new turn. We leave behind the investigation of different systems and languages, and enter the world of genuine applications, turning our attention toward the "Anything" and away from the "Machine". Coming up: **GRAPHICS!**□

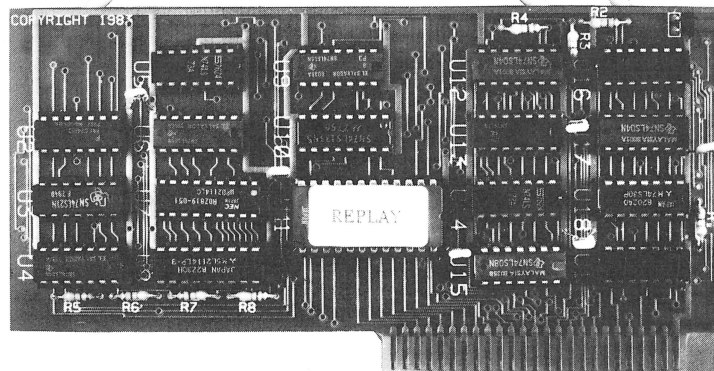
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REPLAY II is intended to be used as an analysis tool, for program development, and for making archival backup copies.

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REPLAY II is an interface card that is slot independent. Users can stop a program, examine and change memory, or copy the program, and restart. Control of the APPLE is obtained by pressing the remote switch which comes on an 18 inch cord outside the APPLE. REPLAY II does not copy the original disk, rather it copies the program executing in memory. If a copy is desired a blank disk is inserted in drive 1 and the options on the menu are contained in the eeprom on the REPLAY II card, no other disk needs to be booted for copying, unlike other copy cards. The very act of booting another disk alters memory which is detectable by some protected software.

REPLAY II does not change ANY memory. Extra memory is buffered to allow copying and analysis without altering the original memory contents. Other copy cards always change specific points in the original memory. REPLAY II faithfully reproduces the lower 48K of memory in a fast load format. The upper 16K can also be copied for a 64K copy. Standard DOS 3.3 files are created automatically for storage on floppy or hard disks. A RAM card is needed for this.

REPLAY II is fully documented in a 60 page manual. Utility programs supplied with the REPLAY II card include Program Analysis, Comparisons, Packing and Compression. A language card is not needed to run packed program copies.

Because most programs are written in Assembly language, the user should be familiar with Assembly in order to fully utilize the advanced Analysis and Packing programs. Users can now freeze a binary program and perform a transparent step or trace while continuous disassembly is shown. View text or hires during trace.

REPLAY II can automatically move protected APPLESOFT programs to a standard DOS 3.3 disk for listing or modification.

Now game players can save a game at any level and QUICKLY restart with the REPLAY II card. Users can freeze games, change variables to obtain unlimited ships or power, etc., then restart the program. Saving high scores is easy!

Minimum requirements are an APPLE II and a single disk drive.

THE SOURCE

Source Telecomputing Corp.
(A subsidiary of Reader's Digest
Association, Inc.)
1616 Anderson Road
McLean, VA 22102
703-734-7500 or 800-336-3366

Reviewed by Michael L. Weasner
and Monty Lee

INTRODUCTION

The Source is the oldest, biggest, and most powerful of the Information Services available to the public. Currently they claim a subscriber base of 36,000 and are adding 2,000-2,500 every month. Just about every service imaginable is available through The Source or its users. As with the other systems reviewed in this issue, all that is required to access it is a terminal (or home computer), a modem, and a phone. Terminal software may enhance your capabilities online but is not required. There are two other things that are required: an ID/password to log on the system and money to pay the connect charges that will begin adding up rapidly. Being the biggest does not mean that The Source is without faults; in fact, there are many areas of customer complaints. We shall address the good and the bad of The Source in this review.

DOCUMENTATION

Over the past nearly three years that one of the reviewers has been online with The Source, the quality of the documentation has been one of the most frequently heard com-

plaints from users. Since a system such as The Source continually evolves and procedures change, the documentation should be expected to lag somewhat behind the actual implementation of the changes. However, in this case, the documentation not only lags by an excessive time period, but the format of the manuals has not stabilized during this time. For example, we now have the third User's Manual (1983 edition). It is in a different format than the earlier manuals. The first manual was just that, the first. The next manual was a well-formatted, user-oriented description of how to use most of the services of The Source. It was in a standard size three-ring binder and was sent to all subscribers free of charge. One update was sent to all users over a year ago and was the last update of the second manual. During this same time frame, the publication *SourceWorld* went through several changes in its publication frequency: monthly, irregularly, bi-monthly, and occasionally. The third manual is still 8 1/2 X 11 inches *but* it is bound and cannot be updated with change pages nor inserted into the binder. This new manual is the best from the standpoint of the information it provides, but it definitely lacks the capability of being updated. To counter this lack, The Source provides free (the 1983 manual was not free to subscribers): a newsletter, a Command Guide, and small update sheets. All these extras are of dissimilar formats and sizes, which presents a problem for storage. They hardly look like a "system of documentation" as the ad for the new manual states. The information

they contain is useful but can be easily misplaced because of the different formats. When Reader's Digest took over, it was hoped by the user community that the documentation would improve. Surprisingly, it hasn't. Now that Control Data Corporation has a large stake in The Source, maybe the documentation will improve in addition to just the online services.

There are errors in the new manual that will cause the new user many problems: the Telenet IDs are incorrect (a space is missing), and in one place it states the maximum characters on a line of text is 120—a couple of pages later it says, 80. (The correct answer is 80 characters per line.) There is some misleading information for the new user in that the extra-cost Source*Plus services are not indicated as such in the manual discussions of them. All of the instructions are oriented toward "command strings", and very little reference is made to the menu system which is the default operational mode. A new user will be able to follow the examples but could get lost once he tries to use the menus. But as we said earlier, the 1983 manual is the most informative of the three to date.

SERVICES

There are so many services available on The Source that we will only touch on some of the more commonly used ones. When you log on each time to The Source, you are taken to the Main Menu from which you can either go to the command mode or follow the menu system to the service of your choice. Most users probably use the command

strings once they are familiar with the proper ones to use. One of the nice features of the menu system is that you can also string the menu/sub-menu selections together such as PUBLIC 113 which takes you immediately through three menu levels, directly to your selection. Of course, this reduces the connect time necessary to get to your selection and hence is very useful. On the other hand, the menu system is ideally suited for exploring the system and looking for new features.

One of the main services of any time sharing information system should be electronic mail, and The Source is no exception. It has what we would describe as the most versatile mail system available. Coupled with The Source's file editing system, there is very little you cannot do with your mail (except send it to someone not on the system, but there is a way around this deficiency). Files can be loaded into any place in your letter; you can edit while writing, have the system check the spelling and correct mistakes, save the letter before sending, save, forward, reply to, have mailing lists, send carbon copies, and on and on . . . You can even send Western Union mailgrams. SourceMail is very flexible.

There is a bulletin board system which is everything from a classified ad system to a useful way of asking for and receiving help on a multitude of subjects, computer and noncomputer related. There are categories for just about every microcomputer, Hayes modems, VisiCalc, CP/M, Radio, Video, home and apartment listings/wanted, cars, aircraft, photography, and much more. The system is similar to the mail system and is easy to use. One complaint that has been expressed by users concerns the long delay (minutes) when purging an item that the user has previously posted. No explanation of the delay has ever been published by The Source.

United Press International (UPI) news is available on the system. You

can read national or state news; general, business, or sports news; specify keywords to search for and a specific date or range of dates (up to one week). You can read the entire story or merely scan at the first two to four lines and then return to specific stories. This system is kept up to the minute and can provide the user with the most current news on almost any subject that is making news.

One of the many ways that Source users communicate with each other is via the CHAT system. The command ONLINE will tell a user what other IDs are currently using the system, and then an interactive live keyboard conversation can be held with some other user. A way to disable CHAT calls is available and can be very convenient when a user doesn't wish to be disturbed while online. Occasionally a user can get kicked out of the CHAT mode and cannot reenter it with the same other user. It can take a few minutes before it becomes apparent that a user has been kicked out, and this time is non-productive.

Another way of communicating on The Source is through the PARTICIPATE system. PARTI is a giant, hierarchical free-form communication service. At the top are approximately 40 major topics. Each major topic has several branches on topics related to the major one. For example, STOCKS is one of the major topics. Off STOCKS are several branches: NYSE, AMSE, OTC, and METALS. Each of the sub-major categories has branches; for example, off of METALS you might find topics like SILVER, GOLD, and COPPER. This branching process continues as long as one likes. Each PARTI member can initiate a conference at any level. If a conference is started at the top, a major topic, then the user initiating the conference is responsible for all storage charges associated with the conference. At the lower levels, you are branching off topics and so are not charged anything beyond normal connect costs. As you elect to join

various conferences, your name is placed on the mailing list for these. The next time you log on to PARTI, all waiting mail will be available for you to scan or read. You can write or answer mail just like SourceMail, and can similarly post announcements like POST.

There are some annoying problems associated with PARTI. First, it takes some time getting used to, in that it is easy to get lost in the trees and have to break out. If you do not perform a normal exit, you may inadvertently cause files to remain open on your user code without your knowing. Thus it is advisable to check your files after every PARTI exercise. Second, if you have joined several conferences, you may have a lot of notices waiting to be read the next time you log on. Unfortunately, there is no easy way to skim all the notes, particularly if you are interested in a specific conference. As you go through each note, you are forced to at least scan every branch of the conference. This can take some time. After an absence from PARTI, there may be many notes to go through, even though some may not be wanted (e.g., conferences you had decided to leave). Overall, PARTI is an interesting way to discuss various topics. With the increased costs of The Source, it may not be all that economical. However, it is fun at times and is a way to fill late, late evenings.

Some of the most useful features of The Source are the travel services offered. The Source enables you to become somewhat of your own travel agent. You can scan extensive flight information on all U.S. and most international routes. You can then make travel, motel/hotel, and rental car reservations through the Travel Club, a very helpful service. Since The Source flight information does not provide any air fares, you can contact the Travel Club via SourceMail or from the command prompt by typing LETSGO. You can then find out about air fares and make reservations. Additionally, in-

formation on various tour packages is available by typing TOURS.

BOOKS is the command to enter the Professional Book Center. The Source offers electronic book ordering for in-print books published or distributed in the United States. You enter the name of the book, publisher, and date. If the book you have ordered is not available, you will receive a cancellation report. Books are priced at the publisher's suggested retail prices plus postage and handling fees. Consequently, it may be cheaper to order the book from your local bookstore, assuming you have one, particularly since there is no connect time associated with a bookstore. Records, video tapes, and old radio show recordings can be ordered through MusicSource and RadioSource.

Source*Plus services are Source options that have an additional charge for use. Management Contents, Ltd. is a Source*Plus option in which abstracts of the nation's leading business publications are available. The abstracts can be searched by publication name, date, article title, author, and keyword. In addition, the complete printed article that the abstracts have been drawn from can be ordered through The Source. Unfortunately, the Management Contents, Ltd. may not be worth the extra cost. The abstracts are usually old (often three to five months) and are often too short or abbreviated to get a clear picture of the article. The costs associated with ordering the article are too expensive compared to the costs of going to a local library and getting the article.

Comp*U*Store is a shopping center accessed via computer. You can browse through and order from over 30,000 items. The program is structured to compute price comparisons, including shipment costs, automatically. Products include major appliances, furniture, clothing, electronics equipment, hardware, and more. Comp*U*Store is not a Source*Plus service since The Source does not charge extra for it;

however, to use the shopping services, you must pay an annual \$25.00 membership fee, and thus these shipping services are only available at extra cost. The system is easy to use, is menu driven, and lets you browse through specific products or look at bargains. Help information is generally available at most main menus. Ordering is simple. The only problem we note is a recent experience by a new member (one of the *Peelings* editors). A telephone was ordered, and his credit card was billed four days later. However, the equipment did not arrive until six weeks after the order was placed. And this required a phone call and some prodding. For those products we ordered, all were soundly packaged and shipped the best way available. All merchandise was new and not factory seconds, in fact, there was no difference between Comp*U*Store and a catalog order from a department store. They do need to work on delivery times.

One of the major areas of The Source is business. The Source contains timely and comprehensive listings of daily and weekly activity on the nation's financial markets. Search of specific stock information is through keywords. UNISTOX, the market summaries of UPI, contains 168 reports on stocks, bonds, commodities, money markets, Treasury bills, etc. One of the biggest drawbacks to using UNISTOX is knowing what report you want. Source does not provide any documentation that details the various reports and how they differ. For example, to find the closing prices on the NYSE, Source documentation says to use reports 45, 89, and 100. Each gives a different report but without any explanation, and it is difficult to analyze the data presented. Even typing HELP REPORTS will not provide the information. Another problem area in UNISTOX is the keyword search. After entering the keyword, UNISTOX does a string-by-string search of the entire UNISTOX report.

Thus if the keyword entered was "a", then the UNISTOX report would print out every stock report that had the letter "a" in it. Similarly if the keyword was "East", only those stock reports with "East" (upper/lower case does not matter) in them, like Eastman Kodak, Air EAST, Eastern AirLines, etc., would be found.

The search is extremely slow, especially during periods of heavy Source usage. It probably is fast considering the number of reports it has to examine, but for the user it is prohibitively slow if several keywords are entered. At times there have been waits of up to 10 minutes to find a specific stock. This is a long time to be logged on and doing nothing but waiting.

The Commodity News Service (CNS) tracks news and price activity in the nation's major commodity markets. Again, you have to really understand commodities in order to interpret the data that CNS gives you. Like many of the business services, these (i.e., UNISTOX and CNS) are not for beginners unless they have a lot of patience.

One of the more popular features of The Source is User Publishing. A significant number of users have established magazines and Special Interest Groups for all Source users to take advantage of. Some of the best services on The Source have been placed there by the users and many are Apple II related. For their efforts, many originators receive royalty payments that are based upon how much their files are read by other users. Currently, subscribers whose material appears in PUBLIC receive a quarterly royalty payment based on the total billable time logged on their programs, but are responsible for their file-storage costs and the online time needed to compose, update, and promote their files. The rates are as shown in Table 1.

Based on the storage costs discussed in the next section, the following examples will give an indication of the wide range of possible payments.

It is assumed that 100 users will read the file. This number may be much less or much greater.

Table 1

Billable Usage/Month	Royalty Percentage
\$1000.00 or more	17.5%
\$500.00 - \$999.99	15.0%
\$250.00 - \$499.99	12.5%
\$249.99 - or less	10.0%

There are no Telenet or Tymnet charges, but there is a charge of \$0.25/minute if you use SourceNet (an 800 number). Interestingly, this additional charge of \$15.00/hr for SourceNet is probably more than using your nearest Telenet or Tymnet Long Distance number would cost during reduced rate periods. There are storage costs, including an automatic monthly charge for the storage (4K) required to maintain your account. Cost for storage of text are indicated in Table 4.

Table 2

File Size	Monthly Cost (3x)	List Time (300 Baud)	Usage Cost	Royalty
5K	\$3.75	7 minutes	\$0.90	\$9.00
20K	\$15.00	30 minutes	\$4.00	\$50.00
100K	\$30.00	150 minutes	\$19.00	\$330.00

(all figures are approximate and are computed using evening rates)

COST

So how much does all this power at your fingertips cost? Besides the one-time sign-on fee of \$100.00 (waived or reduced with the purchase of some modems and terminal software packages for the Apple II), there are the connect charges. These rates have changed considerably and frequently from their original 1980 values. The rate hikes are a source of many user complaints because many perceive them to be excessive and without accompanying improvements in The Source service. Currently the rates are as follows:

Table 3

THE SOURCE

Daytime	Evening (& weekends)	
300 Baud	\$20.75/hr	\$ 7.75/hr
1200 Baud	\$25.75/hr	\$10.75/hr

SOURCE*PLUS

Daytime	Evening (& weekends)	
300 Baud	\$29.75/hr	\$14.75/hr
1200 Baud	\$34.75/hr	\$19.75/hr

Table 4

# Of Blocks	Charge/Block/Month
1-10	\$0.50
11-99	\$0.20
100-999	\$0.15
1,000-9,999	\$0.10
10,000-99,999	\$0.05

(1 Block = 2K Characters)

A monthly minimum of \$9.00 is assessed if your usage is less than \$9.00. This minimum usage fee plus a minimum storage cost of \$1.00 result in a total minimum monthly bill of \$10.00. Once you begin using The Source, it will be difficult to keep your usage under \$9.00. During peak time periods the response of the system can be measured in tens of seconds, whereas during slack periods a response of about one to two seconds can be found. One interesting test was recently performed by a user having access to two accounts. The first account was his normal account, and the second was a new account for which he was given one hour of free connect time. The tests were performed as closely as possible to simultaneous so that there

should have been very little difference in system response. All timings were done from the initial log-on menu selection to the command prompt with the results shown in Table 5.

Table 5

	Free Account	Paying Account
data 1	30 sec	10 sec
data 2	30 sec	9 sec
data 3	30 sec	10 sec
data 4	120 sec	30 sec

Other tests were performed by the reviewers over the past several months that indicated the Prime computer clock was running fast and hence overcharging users by charging for greater connect time than was actually used. When this was brought to the attention of The Source, they stated it must have only been with the specific ID of the user complaining because no other complaints had been received. We are still trying to figure out how the system's computers could run fast with only a couple of accounts and not with all users. Recently, The Source made an unannounced change which affects all users. Only by reading the new manual would a user be aware of it. In the past if you were inadvertently disconnected, your ID could still remain logged on, resulting in additional connect charges. If your usage remained inactive for three minutes, you were automatically logged off by the system. That time limit has been increased to 15 minutes, and without warning to the users.

SUMMARY

User complaints about The Source are very consistent: The documentation system is bad (the online help is good; however, it costs you connect-time charges); the rates change too often and without justification; the response of the system is slow at times; and perhaps the most often heard complaint is the lack of re-

sponsiveness of The Source Customer Service. Many users prefer to use SourceMail in their dealings with the people at The Source, and for some reason, this mail is either never read or, at the very least, is responded to very slowly. The Billing Dept. has earned a reputation of being notoriously slow to reply or to even credit a user for acknowledged overcharges. The reviewers individually waited for over six months for

credits to be made, and then it took several letters and phone calls before payments were made. The Source is powerful and big, but it may have become too big for the antiquated billing system used. It was OK when there were 3,000 users, but with more than 10 times that number now, things need improving at all levels within The Source.

On the positive side, The Source offers more services, with more

power, to the average user. Not all its features (games, programming, financial modeling, etc.) will be of use to each user, but these features are available for whomever needs them. More services will continue to be added, and it is expected that The Source will continue to be the leader in providing access to online information. They will remain, as they call themselves, "America's Information Utility."□

CompuServe

CompuServe
5000 Arlington Centre Boulevard
Columbus, OH 43220
800-848-8990

\$39.95

Reviewed by Monty Lee

INTRODUCTION

CompuServe is another database system similar to THE SOURCE and DELPHI (both reviewed in this issue). It allows you to access information from a multitude of different sources like news, weather, sports, financial information, entertainment, and personal computing, to name a few. CompuServe is different from THE SOURCE in that all the levels in CompuServe must be accessed via menus; you cannot go to a command level like you can with THE SOURCE. This means you have to get to know the menus well if you want to save time accessing a particular item. CompuServe has recently added several new services and increased its promotional effort to expand its user base. One of the promotional schemes is the inclusion of five hours

of log-on time with the initial sign-up fee of \$39.95. Since the basic usage charge for CompuServe is \$5 per hour, the five free hours is equivalent to a \$25 credit to your account. If you use these hours, then your net sign-up fee is only about \$15. This \$15 fee makes CompuServe much cheaper to get started on than THE SOURCE.

This is a preliminary review based solely upon the initial sign-up and the five free hours. It will evaluate only the material sent as part of the \$39.95 and not any additional documents which can be ordered separately at additional costs once the user has permanently signed up for CompuServe.

DOCUMENTATION

The worst problem of CompuServe is documentation. The Starter Kit documentation is a 65-page 8 1/2 X 11-inch printed document with a three-ring spiral notebook. The document itself is eye appealing and very easy to read. All major headings are in blue boldface type, making it easy to scan for a specific topic.

The best part of the documentation is the Supplement II on EMAIL (Elec-

tronic MAIL). It comprises 42 pages of the 65-page document and details the entire operation of EMAIL: how to compose messages, edit them, store and delete them, etc. The material describes a very powerful text editor for EMAIL. Unfortunately, you cannot use EMAIL (thus cannot receive or send electronic mail) until you have signed up permanently on CompuServe. In other words, the primary intent of the free period is mainly just to get the feel of moving around the various menus and seeing what topics are available.

The EMAIL section and the easy-reading layout are essentially the only good points for the entire set of documentation. There are several major problems with the rest. First, there is no index for finding a specific topic, so you will have to scan through the blue text to find what you are looking for. Second, the material presented is sketchy at best, and usually totally inadequate. For example, the entire section in the documentation dealing with the Business and Financial menu is only nine lines of text. The documentation provides just enough information to get you onto the system. Once on, the

user is forced to accumulate connect charges in order to find out how to effectively use the system. Third, most references in the documentation tell you that the "information can be displayed by selecting User Information from the main menu...." In other words, you have to be logged on before you can get help. This is unacceptable. For example, one of the items not detailed at all in the documentation is the log-on rate. You cannot find this out until you log on, find the right menu, and then read the specific rate structure.

Logging on is described in adequate detail to get you on the CompuServe network. Unfortunately, no mention is made of the additional costs associated with using Tymnet or Telenet access numbers. In fact, only one page of telephone numbers is provided. To find a more detailed list, you first have to log on. About seven pages describe how to move about in the menu system of CompuServe. It is a fairly superficial description, and you will have to use the menu system a while to understand it. One excellent page in the manual shows the hierarchical layout of the

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menu. It is a great reference for moving about quickly in the menu items.

To clearly illustrate the lack of documentation, only two pages are devoted to describing the four major areas of CompuServe: User Information, Personal Computing Services, Home Services, and Business and Financial Services. Only one line describes the various subheadings within each major area.

According to the Starter Kit, documentation is available for CompuServe Information Service customers once they have subscribed. You order this documentation from a menu item. However, if you go to the documentation order section, about 20 documents are listed and none indicate which is the follow-on set. A brief description is provided but is so inadequate as to fail to even imply the purpose of many of the documents. Overall, CompuServe has failed badly in aiding a new subscriber with their documentation.

SERVICES

CompuServe is a menu-driven system in which you proceed to different sections via menu selection. When you first sign on, you are presented with the main menu from which you can move to all the other areas. You can also move to a menu by specifying the menu name at the command prompt (!). Thus to move from the main menu (Figure 1) to EMAIL, you could type HOM-30 at the command prompt.

The main menu is called CIS-1 and is presented in Figure 1.

CompuServe **Page CIS-1**

CompuServe Information Service

- 1 Home Services
- 2 Business & Financial
- 3 Personal Computing
- 4 Services for Professionals
- 5 User Information
- 6 Index

Enter your selection number, or H for more information.

Figure 1. CIS-1 Main Menu

By pressing 2 from the main menu, you jump into the business and finan-

cial area, and are presented with the following menu:

CompuServe **Page FIN-1**

BUSINESS AND FINANCIAL SERVICES

- 1 News/Reports
- 2 Investments & Quotations
- 3 Communications
- 4 Brokerage Services
- 5 Banking Services
- 6 Discussion Forum
- 7 Travel Services
- 8 Personal Finance

Last menu page. Key digit or M for previous menu.

!2

CompuServe **Page FIN-20**

INVESTMENTS & QUOTATIONS

- 1 MicroQuote
- \$ 2 Quick Quote
- \$ 3 Standard and Poor's
- 4 Value Line Data Base II

\$ Indicates charges in addition to connect time may be incurred.

Last menu page. Key digit or M for previous menu.

!1

CompuServe **Page FIN-9**

MicroQuote

- 1 Order manual (Via FEEDBACK)
- 2 MicroQuote Demonstration
- \$ 3 Run MicroQuote

\$ Indicates charges in addition to connect time may be incurred.

Last menu page. Key digit or M for previous menu.

As you can see from the above example, CompuServe continually prompts you for input as to what you want to do. Using the appropriate command, you can move forward or backward any number of menus within the system. A brief command summary is presented on the next page.

Brief Command Summary

- T — TOP menu page
- M — previous MENU
- F — FORWARD a page
- B — BACK a page
- H — HELP
- R — RESEND a page
- S n — SCROLL from item "n"

G n — GO directly to page "n"
 N — display NEXT menu item
 P — display PREVIOUS menu item

Once a menu item is selected that requires a program on CompuServe to be run, you are prompted to please wait a moment. This moment is about a minute at least in most cases. After a while, this gets to be annoying. Probably one of the biggest problems with the menu structure is the inability to break out if the incorrect selection is chosen. I inadvertently entered a wrong selection and could not break out for over five minutes. Since there was no command prompt, the program never gave me the chance to abort. I tried inadvertent selections at other menu levels and the same thing occurred. Once, when trying to break out with CTRL-P, I got logged off the system.

Since many of the major areas of CompuServe are not too accessible to new subscribers, I was not able to test them out. I could look at the weather, sports, and other miscellaneous output, but could not get into the bulletin board, EMAIL, programming area, or most of the financial market area.

COSTS

CompuServe hides a lot of its costs. First of all, the basic connection fee is only if you use a CompuServe network phone. The documentation states that there are "many CompuServe Network locations which are found in most major metropolitan areas . . ." The catch is that you may still have some long-distance costs associated with using the CompuServe Network. For example, the city of Los Angeles has only one CompuServe Network number, located in East Los Angeles. Thus for many residents of the surrounding cities, an additional telephone charge is required to access the network.

If you elect to use Tymnet or Telenet, you are billed an extra \$2.00 per connect hour. This makes the

rate more comparable with THE SOURCE. Finally, many of the services available on THE SOURCE as standard have additional premiums associated with them on CompuServe. (Again, you can't find out what these premiums are from the documentation.) Most of the financial information has this surcharge, including stock quotes.

The rate structure for CompuServe is as follows:

PRIME *	EVENING	TYMNET/ TELENET
\$22.50/hr	\$5.00/hr	+\$2.00/hr

* Requires a separate contract; normal users cannot log on during PRIME time.

There are additional charges for other services; e.g., stock quotes are \$0.03 a stock.

SUMMARY

The initial look at CompuServe is not very favorable. I left feedback for the system operators concerning some of the difficulties I had experienced. I found the feedback system very awkward to use and not responsive to the user, particularly if the specific comments don't fit the menu items listed for feedback. Additionally, after calling CompuServe, I found out that my feedback items couldn't be answered since I could not use EMAIL (I was not a permanent user).

The documentation is extremely deficient. There is no indication of what the follow-on material will be like. If it's like the EMAIL section, it should be excellent. If it's like the rest, you're in trouble. The Starter Kit is for an initial look at CompuServe. Unfortunately for CompuServe, it casts a very unfavorable light on the system. The five hours goes quickly when you have to spend time on the system figuring out how to use the system. Overall, CompuServe has much to do to improve the Starter Kit for the beginner, both in the documentation and in the service. □

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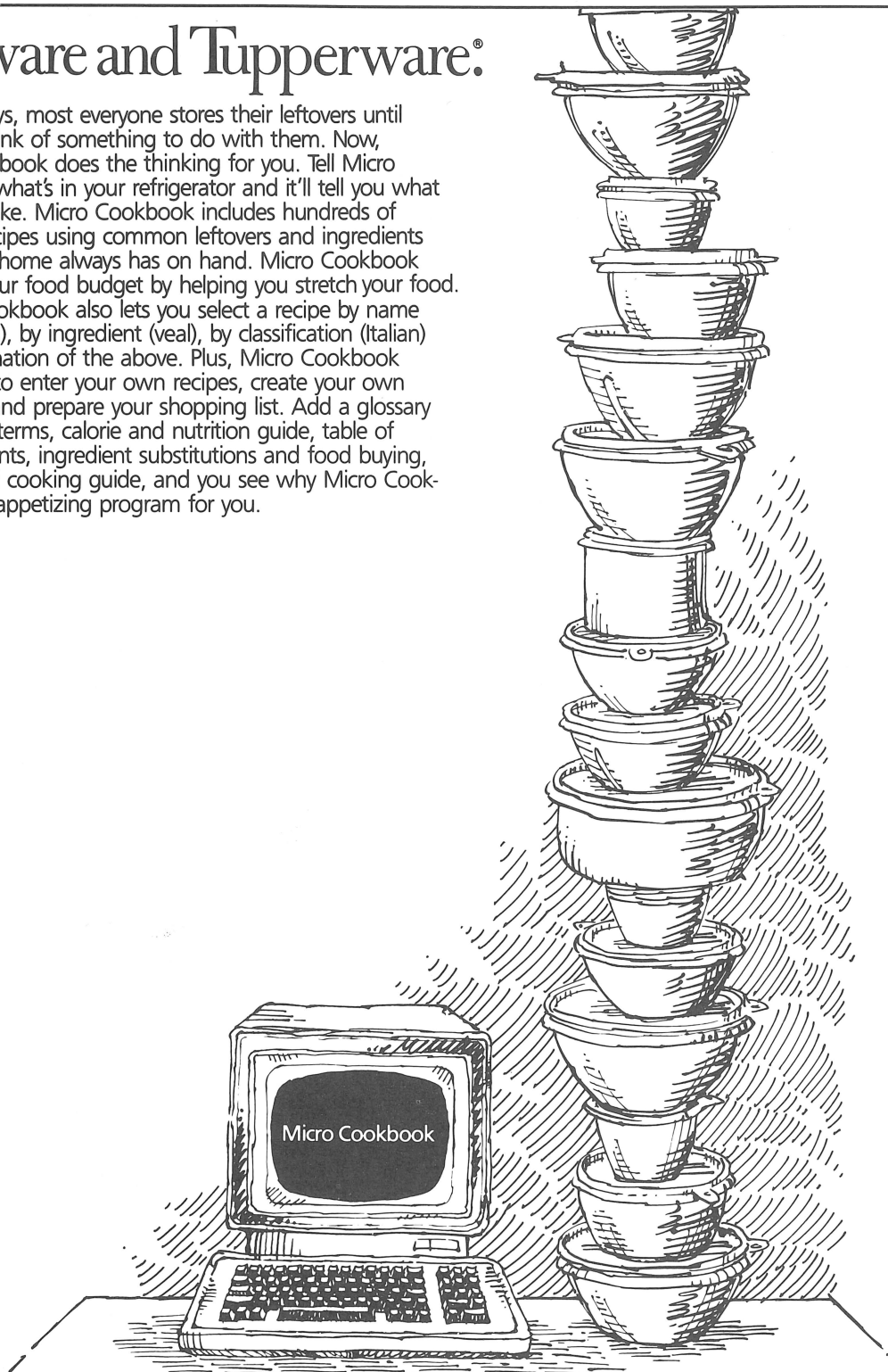
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DELPHI

General Videotex Corporation
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617-491-3393 (Mass. only)

Reviewed by Michael L. Weasner

INTRODUCTION

Delphi is the newest entry into the Home Information market. All the expected features of electronic mail, bulletin boards, electronic shopping, news, and travel services are available. In addition there are several services not available on other systems. Currently, Delphi has only about 600 users, but I expect that this will increase as users migrate from other systems. Delphi services are still growing and will be changing over the next several months. For this reason, many of the comments that are true as I write this review may no longer be true as you are reading it. *Peelings* hopes to update our look at Delphi in about six months and will report our findings then.

DOCUMENTATION

The folks at General Videotex must have really been listening to the user comments from other systems. The Delphi manual organization is the best I have ever seen—for any product. It is a 1/2-inch thick, 8 1/2 X 5 1/2-inch looseleaf manual contained in a three-ring padded binder. The manual is easy to read and contains very little “computerese”. This is in keeping with Delphi’s thrust of aiming for ease of use by “noncomputer

literate” people. That is, Delphi has been “designed for Humans”. As it turns out, reading the manual is not even required because there is an online guided tour which you take the first time you log on to Delphi. However, the manual will be useful for later reference when you need to look up something and do not wish to take advantage of the extensive online help. There is no index to the manual and none is required since the Table of Contents thoroughly covers all the topics. In fact, once you are familiar with the Delphi Main Menu, you will not even need the Table of Contents. Page numbering is by Selection; if you want to look up something about MAIL, you simply look for the pages with numbers that begin with “m”. Having the documentation laid out parallel to the Main Menu proved to be a real timesaver while online. I hope that other documentation writers will consider using this format; it is very convenient for the end user and works great.

Several changes were noted in the operation of Delphi compared to the discussions in the manual. This is to be expected of a new system. Delphi has indicated that a completely new manual is currently being published and will be sent free to all users, as will all future updates. Errors in the current manual are minor and few; none will cause the new user problems.

SERVICES

The first time you log on to Delphi, you are automatically given a Guided Tour of the system. This is a short overview of Delphi as well as a ter-

minal configuration program. You are given some instructions about commands used with the system and are prompted to change your password from the original one assigned and to indicate your terminal display characteristics (width, and lines). The Guided Tour defaults to 40 columns per line, but when you select 80 columns per line, you will notice that the display immediately corrects. One of the nicest features of Delphi is the ability to format text for display in any width without splitting words. This means that you will not have to be concerned about the width of text sent since the system will correct for any reader of your text. Once the Guided Tour is completed, you are taken to the Main Menu:

APPOINTMENT-CALENDAR
BANKING
BULLETIN-BOARDS
CONFERENCE
DELPHI-ORACLE
EXIT
GAMES
GUIDED TOUR
HELP
INFOMANIA
LIBRARY
MAIL
NEWS
ONLINE-MARKETS
PROFILE
TRAVEL
WRITERS-CORNER

MAIN> What do you want to do?

All subsequent logons will take you to this menu first. At the prompt (at any prompt in fact) you enter the first one or two characters of a selection and press RETURN. If you have a

question about what your choices are, you merely enter a question mark without a RETURN, and the system will tell you your alternatives. There are a few options that require a RETURN after the "?", which indicates that not all the selections respond uniformly. This can cause some delays and frustrations. Once you are familiar with the menu options at most levels, you can change your Profile to disable display of these menus. This is a superb feature when coupled with the distinctive prompts. For example, at the Main Menu the prompt is "MAIN>", at the Mail system prompts you will see "MAIL>", etc. You will always know where you are by the prompts, and if you forget what the menu items are, just enter "?"

Not all the services were operational during the time period for this review. When selecting a service that is not up yet, you are taken to its menu where you can select a function. Once you have made this second selection, only then are you informed that this service is not yet available. When all the submenu items are unavailable, it would seem to make more sense to indicate this when the item is selected from the Main Menu. People don't like wasting money on nonproductive connect time. Of the services that were operational, all were similar to the same services offered by the other systems reviewed in this issue. However, some differences were noted, pro and con.

The Bulletin Board system is broken down into types and then further broken down into specifics. For example, the Apple Board is contained within the Computer Board. The best feature of Delphi's Board system is that the system "remembers" the last time you checked that Board, and so you are shown only unread items. You can change the date to allow rereading of items if necessary. Posting of items is similar to that of The Source, with the exception that you cannot load an existing file into the item to be posted. Cur-

rently, there is no capability to load a file into the Mail system either, although a file can be mailed as the entire letter. Unfortunately the editor (Writer's-Corner) was not available for this review. As with all text displayed by Delphi, a "fill mode" is always functional to display text according to a user's Profiled column width. However, a problem was noted with this fill mode in that the text:

Michael L. Weasner
Contributing Editor, Peelings II

was displayed as:

Michael L. Weasner Contributing Editor, Peelings II

Obviously this is not what was intended.

The Mail system has all the expected options of read, send, reply, forward, and delete. Unlike the other systems reviewed in this issue, Delphi Mail can be sent to subscribers of The Source and Compuserve. This process involves sending your letter to a specific Delphi account whose user downloads your letter and then uploads it to the other systems as requested. Since this process has human intervention, there is no security for your letters. I tried some test letters to friends on The Source, and as of this writing, one week after placing on Delphi Mail, no one has received their letters. Even the US Post Office can do better than this. Once this service has the bugs worked out, it will be a useful tool for some Delphi users. The reverse process of having mail sent from Source or Compuserve users to Delphi users has yet to be developed. Both directions will be required if this feature is to be exploited to its maximum potential. When forwarding mail, I was surprised to discover that you cannot add comments to the forwarded letter so that the new addressee knows why the letter is being forwarded.

The remainder of the Mail system works as advertised and works well.

But there is a problem, and it is not just with the Mail service but with the entire Delphi system. When you are typing text as responses to the prompts or as general text for letters, bulletin boards, etc., there is a considerable delay in the echoing of the text back to your screen. This delay is very distracting and is one of the two complaints I received from Delphi users. At times the delay was more than one second for each character typed. I ran a test of the upload speed on both The Source and Delphi using the following text:

This is a timing test letter for Delphi and The Source. It was uploaded to the respective MAIL systems using Data Capture 4.0/80 and the Hayes Micromodem II. The total character count to the last "." is 223. End of test.

On The Source the test took 32 seconds at 300 Baud or 7.0 characters/sec. On Delphi the test took four minutes and 46 seconds at 300 Baud or 0.8 characters/sec. This slowness of response is unacceptable and needs immediate correction (Delphi has indicated they are working on the problem).

The News service provides convenient access to most of the news that a user could want. The following is the News Menu:

- 1 PROFILEd stories
- 2 URGENT stories
- 3 UPI NATIONAL Wire
- 4 UPI SPECIAL Washington Wire
- 5 UPI BUSINESS Wire
- 6 UPI NATL Radio,TV,Cable Wires
- 7 UPI REGIONAL Wires
- 8 UPI STATE Wires
- 9 UPI SPORTS Wire (US)
- 10 UPI SPORTS Wire (World)
- 12 DPA (North America) Wire
- 13 DPA (Latin America) Wire
- 14 OPEC News Agency Wire
- 50 IMTS—Health and Medical News
- 51 USDA—Agricultural News
- 90 Information on NEWS system
- 91 Create/Alter your Profile
- 98 Display this Menu
- 99 QUIT/Exit NEWS

You can create a profile of what subjects you desire to have displayed, or you can select individual services

and then a keyword(s). One problem was pointed out by a user and verified: the Profiled story topic was changed by the system from a user's input. This could result in unwanted information being displayed. Otherwise, the News system is very powerful and complete.

The Travel service is another powerful service of Delphi. When you first select the Travel option, you configure your preference sheet for airlines, smoking/nonsmoking, type of rental cars, and more. This allows the travel people to better serve you when you request a service. You can make just about any travel arrangement needed, including ocean cruises. Airline schedules are available to each user. Simple and, once again, complete.

The Banking service, once operational, will provide a convenient method of home electronic banking. According to Delphi, the system will utilize your own bank account to pay all your bills via Electronic Fund Transfers (EFT). Other such systems through various banks require you to maintain your accounts with that bank. They may be limited in what bills you can pay without writing checks, but they can also provide more services such as transferring funds between savings and checking accounts, electronic mail with the bank, and much more. Delphi's method, if accepted by the banks, will still be very worthwhile. Delphi banking also has a statement reconciliation function. The Delphi banking system may not be as powerful as some of the systems offered by the banks, but then, you won't have to change your bank to use it.

The Delphi Oracle is a semi-official user-liaison to Delphi management. If a user has questions or continual problems, they can be passed on to the Oracle, and the Oracle folks will work on them with Delphi. This setup seems to be working well for all concerned.

The Conversation option is similar to the interactive live chats available on the other systems. You can dis-

play a list of who is online and then initiate a conversation with them or join a conversation already in progress. Because more than two users can "talk" at once, the system lets you know who is talking by displaying their ID or pseudonym with their comments.

Other services available include several games. If your terminal is VT52 compatible, there are some games that use graphics to enhance the play. This feature was not evaluated. The Online Markets provide access to several computerized shopping methods. Comp*U*Store, described in the Source review, is also available to Delphi members. The Library is one of the more powerful and useful services offered by Delphi. The Kussmaul Encyclopedia is online and contains over 20,000 entries, many of which are cross-referenced to other entries. The Library also contains an impressive set of research data bases and will prove extremely useful to students and professionals alike. A thorough review of just the Library could comprise another complete article.

COSTS

Delphi has an initial sign-on fee of \$49.95 which gets you your ID and the manual. Family and Group memberships are available at no extra cost. Additional manuals are \$19.95. The rate structure is different than that of The Source. The basic hourly rates of \$5.00 for "home time" (6 p.m. to 8 a.m.) and \$20.00 for "office time" (8 a.m. to 6 p.m.) will apply for most of the services of Delphi.

To this basic rate will be added "premiums" for 1200 Baud and Telenet usage, plus the additional cost services (news, Comp*U*Store, parts of the Library, and Travel). The following table shows the current premium rates.

Storage rates are free for the first 50,000 characters and \$0.05/mo. for each additional 1,000 characters. Banking is expected to cost \$1.75 per month. There are other miscellaneous charges depending on the service.

A direct comparison to a flat rate charge as with The Source is not possible, but I thought I would attempt to provide a feel for the possible costs of a similar service. On The Source, UPI News is free, so the normal hourly rate of \$7.75 applies after 6 p.m. If a user of Delphi were to spend one hour accessing the news service after 6 p.m. it would cost:

Basic Rate	\$5.00
Telenet Charge	\$1.00
News	\$11.00
<hr/>	
Total	\$17.00

or more than twice as much for the same service. On the other hand, if the same one hour were spent using only the mail and bulletin boards on both systems, the following rates would apply:

	DELPHI	SOURCE
Basic Rate	\$5.00	\$7.75
Telenet Charge	\$1.00	none
<hr/>		
Total	\$6.00	\$7.75

	HOME	OFFICE
1200 Baud	\$2.50	\$5.00
Telenet	\$1.00	\$4.50 to \$9.50
Comp*U*Store	\$3.50	\$15.00
Dialcom Library	\$11.00	\$15.00
News	\$11.00	\$15.00
Travel Schedules	\$11.00	\$15.00
Research Library	\$25.00 to \$330.00	
	depending upon the files accessed	

which slightly favors Delphi. If 1200 Baud were used, Delphi would cost \$8.50 and The Source, \$10.75. Storage charges are quite different for the two systems and may be more of a factor for some users.

SUMMARY

Only two complaints were expressed by Delphi users to this reviewer. The slow keyboard response has already been discussed. The other one is the fact that a user has to request access to the additional cost

services. Delphi explains that this was done so that a new user is not shocked by the end-of-the-month bill when the additional charge services are accessed. This seems a reasonable approach.

All other comments from users were very favorable towards Delphi, and I would agree that Delphi is a good system. Unlike The Source, which has a more business-oriented approach, Delphi seems geared for the home user and in fact, the entire family. As Delphi grows in its user base and services, it will definitely be

a worthwhile competitor to the other systems. It will never replace the other systems but will provide an alternative. Perhaps someday we will see the capability to access all the services of one system from any of the other systems. After all, you can phone your friends who use General Telephone from the Bell or Continental phone companies. That's what the Information Explosion is all about, and Delphi has taken the first step towards that day with their capability to send electronic mail to The Source and Compuserve.□

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Reviewed by Robert D. Arbeit, M.D.

"Where was that article? What's been written about this issue?"

Finding specific, relevant information is often a critical part of solving a problem. But the sheer volume of published material now available on almost any topic can make this a difficult, time-consuming task. For over a year, I have been finding references through DIALOG®, a centralized bibliographic retrieval service. Doing a "literature search" has never been easier, more flexible, or more satisfying. While most of my experience has been in biomedicine, the same system can be used to answer ques-

tions in other sciences, professions, and businesses.

Traditionally, finding references has involved using a published database in which citations are grouped by subject. For example, one of the major sources for biomedical references is MEDLARS (Medical Literature and Retrieval Service), which is produced by the National Library of Medicine. Every article in more than 3,000 journals, over 250,000 records per year, is indexed using Medical Subject Headings (MeSH), a "controlled vocabulary" that provides standardized descriptive labels for cataloging the citations.

The first step for any physician seeking articles about a particular topic has been to "look it up" in Index Medicus, the printed version of the database. Often this is a great help; it is almost always a big chore. A careful search may require looking under several subject headings. Index Medicus is issued monthly and

compiled yearly. Each monthly release is over two inches thick; each annual collection includes almost a dozen volumes that fill several feet of library shelf. The tedium of scanning pages of tightly printed citations easily leads to missing references and to terminating searches prematurely.

An on-line edition of MEDLARS, called MEDLINE, was developed several years ago, but access to the NLM computers is limited, and users are required to complete a one week course in search techniques. These trained personnel are available through medical libraries to perform specific searches, but there is generally a waiting list and often a fee for such a consultation. Thus, neither the printed materials nor the computerized resources have provided a quick means to find a few recent key articles.

Dialog Information Retrieval Service is a broker of bibliographic, numeric, and directory databases. Founded in 1972, it now offers ac-

cess to MEDLINE and more than 170 other databases. Dialog is the software, the intermediary between the user and the raw data. There are about 40 commands or qualifiers, most of which can be implemented with one- or two-letter mnemonics. Only about 10 commands and a handful of operators are required for most searches. The formats of the instructions and responses are orderly and logical. Errors are quickly trapped and the messages are clear.

A typical session has several predictable phases: **(1) ACCESSING THE DATABASE.** Service is available 22 hours per day Monday through Friday and 12 hours on Saturday. DIALOG can be reached through Telenet, Tymnet, Uninet, or by direct dial at either 300 or 1200 baud. Any terminal emulation program which provides a buffer for capturing the session should be satisfactory; the provision of a "break" function is desirable. The simple log-on procedure is followed by brief operational announcements. The user must then specify which database is to be used.

(2) DEFINING THE SEARCH. The database can be searched using a variety of strategies. By the simplest analogy to the printed version, particular subject headings can be specified and the list of references scanned for articles likely to be informative. Even such an unsophisticated use of the system would have advantages over the printed edition. With one command, the user can view all the citations under that heading since 1980—the equivalent of searching up to 12 monthly issues and several annuals.

The real power and flexibility of DIALOG is the ability to define multiple sets of references according to the user's particular specifications, and then create new subsets by applying the standard logical operators: and, or, not. Parentheses can be used to combine multiple concepts in a single command line. DIALOG also supports "free text" searching of the database. This allows retrieval of ar-

ticles according to the words used by the author in the title or abstract, not just by the subject headings chosen by the indexer in cataloging the record. While there is some technical debate about the relative merits of index-based versus free-text search strategies, the ability to use both approaches is a definite advantage. Reference sets can also be defined by author, journal, year of publication, language, and other functions.

As each set is defined, the number of citations in that set is given. This provides an indication of the relative breadth of the search; a very large number of citations suggests that further specifications might be helpful. At any stage, the user can assess the results of his strategy by looking at the references retrieved in one of several formats. These include title only or title plus the indexing terms assigned by the professional catalogers. This information is often useful in suggesting further refinements to the search strategy.

(3) RETRIEVING THE REFERENCES. Once the references have been selected, each can be displayed on-line as a complete bibliographic citation including the author's abstract. At 300 baud, displaying more than a dozen references, even without abstracts, is slow and somewhat expensive. Alternatively, the citations can be printed off-line at Dialog and mailed to the user. The charge for this service on Medline, is 7.5 cents per bibliographic citation, 15 cents with the abstract. An estimate of the total cost of off-line printing and the option of cancelling the command are given prior to final confirmation of the order. Off-line printouts may be sorted by author, journal, and/or year of publication. Delivery is prompt and reliable.

(4) TERMINATING THE SEARCH. The database can be exited by beginning a new database or by the direct command "Logoff." In both cases, the system responds with the estimated cost of the search session, plus telecommunications and printing charges, and then exits. There is

also the option to save the entire search strategy for use either at a later time or on another database. Further, search strategies can be set to run each time the database is updated, generally monthly, so that the user is automatically informed of the current citations in his particular area of interest.

In addition to Medline, Dialog offers more than 170 other databases. The majority of these are bibliographic files. Coverage includes chemistry, agriculture, biosciences, business and economics, science and technology, law and government, current affairs, social sciences, and education. There are also useful nonbibliographic databases including patents, numeric business data, and directories of individuals, businesses, and publications. Much of this information is highly specialized, but there is also much of general interest. For example, using "Books in Print," you can learn the publisher of an unheralded novelist; with the "Electronic Yellow Pages," you can find a florist in that far-off town your friends just moved to. And, of course, there is "Microcomputer Index," where you can check out all the reviews of the 1200 baud modem you are considering. The costs of accessing databases varies widely, from \$25/hour for some government-prepared files to over \$100/hour for certain science and business indices. Telecommunications fees add \$6 to \$8/hour. Costs are prorated; for example, five minutes in a \$60/hr database only costs \$5 plus \$0.67 telecommunications. So you pay only for what you use.

Dialog is, obviously, a large, complex system. While browsing may be fun, it can also be frustrating and, potentially, quite expensive. Good documentation is critically necessary and is generally readily available. The "Basic System Guide" costs \$40.00 and has three components, all provided in loose-leaf format for easy updating. The "blue sheets" are one page descriptions of each database, including who produced it, the gen-

eral coverage and sources, the structure of the records, and certain technical data useful for searching. More comprehensive documentation chapters of approximately 20-40 pages are also available for each database at \$5.00/chapter. These describe in complete detail the organization of the file. They are extremely useful for developing sophisticated search strategies of large, complex databases such as MEDLINE. However, they are not necessary for occasional forays.

The "yellow sheets" describe suppliers who will provide a full text copy of any reference found on any database in Dialog. These services are generally quite expensive, but are useful if you do not have the time or opportunity to retrieve a particular article. Orders can be placed directly while on-line with minimal effort. I have never used this option.

The general system guide is, in my opinion, actually the weakest part, perhaps because it has not been comprehensively revised since 1979. The introductory and technical reference sections are satisfactory, but the coverage of search strategy and execution is fragmented, incomplete, and somewhat confusing. Fortunately, I was able to take a "System Seminar for New Users", which was invaluable. These 1 1/2-day courses, which currently cost \$135, are offered weekly or monthly in about 15-20 major cities

around the country. Seminar groups are limited in size to enable each participant to have supervised hands-on terminal experience. The syllabus includes a carefully organized, clearly written training outline, which provides insight into the construction as well as the use of the databases. After the seminar, each participant has free access to special on-line training files for further practice.

Every new user receives \$100 worth of free connect time during their first month on-line. This lets you properly configure your terminal software, develop some skills, and have some fun before the meter starts running. In addition, each month there is a free half-hour on some database. I never did think of a question for "Water Resource Abstracts", but I had a good time with the "Book Review Index". Further, every current user receives "Chronolog", a monthly newsletter which describes new databases and features and reviews search techniques. Itemized bills are also sent monthly. Connect charges are listed individually for each search performed as well as being summarized across each database accessed during the month. These features are probably more useful for institutions than individuals, but they do serve to show clearly how the money was spent.

In November, 1982, Dialog introduced the Knowledge Index (KI), which is essentially a subset of the service designed for personal use. Initially, there were only 12 databases available, but this has already been expanded to 18. These include files covering general and business news, magazines, books, microcomputers, software, psychology, and medicine. The repertoire of search commands is markedly restricted, but the full set of logical operators is supported. There is no provision for automatically storing or repeating searches or for off-line printouts. Reasonably sophisticated searches can be performed on KI, but without the extraordinary technical control and support provided on Dialog. As in almost any software system, simplicity means less power and flexibility. KI is available daily from 6 p.m. to 5 a.m., and during the daytime on weekends. Probably the greatest advantage of KI is the rate structure —\$24/connect hour, including all telecommunications costs. For some files, this is one-half or even one-third the regular cost on Dialog. Charges are billed directly to your credit card each month. There is a \$35 initiation fee, but no monthly minimum. The documentation is clear, readable, and appropriately detailed.

We are told that the "microcomputer revolution" is occurring in the "information age". I certainly can't imagine going back to doing my personal writing or data analysis without my Apple. But for some problems, like searching truly large databases, the best answer remains a mainframe computer, particularly if someone else has entered the data, debugged the software, and simply charges you to look. With your microcomputer, a modem, and Dialog (or now KI), you can have the best of both worlds on your desk—and you'll never miss that critical article again.□

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TABLE OF CONTENTS

Turtle Graphics	8
Applesoft Line Cruncher	14
TRAC Income System	19
MAMA	25
Amper Free Space Catalog	26
Machine Language Editor	27
Apple CALENDAR	36
Peaceful Coexistence	43
Apple Slugger	43
Reverse Key	45
Amper Find	45
Bond Manager	47
DOS 3 + 2	53
Amper Speed	57
Apple Darts	61
MicroCalc	63
Variable Cruncher	72
Life	77
Apple Flash	80
Checker	81
GO- Greeting Program	83
Quick Sort	86
Applesoft Line Editor	90
Othello	96
SPRINT	99
Disk Dump	102
Hi-Res Colors	103
Apple Record Command System	104
Apple Art Gallery	114
Game I/O Expmnt	119
Super Keypad	123
Disk Commander	125
Compare Applesoft	132
Amp-L-Soft	136
Electronic Message Center	152
The Shape	155
Disk Map	159
Apple Bowl Football	161
Apple Scroller	167
Lower Case Letters	168
Recipe Box	170
Disk Doctor	178
Quasar II	182
DOS Command Entry	189
MLE Driver	189

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Reviewed by Alan Shalette

INTRODUCTION

How good is your travel agent? As you'll see later, this is the keynote question to determine whether you'll find Official Airline Guide/Electronic Edition (OAG/EE) the kind of flight planning tool which may prove either extremely valuable or just an interesting addition to the burgeoning market for online databases. The OAG/EE is an informational service only, chiefly supplying schedule and fare information for worldwide air travel. It does not provide reservation or ticketing services.

Information provided by OAG/EE is positioned somewhere between OAG's pocket Flight Guides and their complete flight and fare guides. All OAG's products compete with the information resources and services available through competent travel agents.

HARDWARE AND SOFTWARE REQUIREMENTS

Virtually any computer capable of running a terminal package should be able to access the database. You will, of course, need to have a modem. Thus, if you haven't yet equipped your Apple for communications, you may need to spend at least \$300.00 to \$500.00 to acquire a modem, an RS-232 interface, and a terminal software package.

For this review, I used an Apple II plus, a Hayes Micromodem II (eliminates the need for a separate RS-232 interface), Southwestern Data Systems' ASCII Express Professional terminal package (reviewed in *Peelings II* V3N8, 1982), and Videx's Videoterm 80-column display card--although a 40-column display should work fine.

Access is provided via TYMNET and TELENET and the public access networks (public telephone system).

OPERATION

The OAG/EE's top-level and command structure are quite similar to those used by Dow Jones News/Retrieval. It responds to five top-level commands after you sign on with your user ID and password:

/I for information and assistance

/S for schedule displays

/F for fare displays

/M to return to the command menu

/Q to exit from the OAG/EE

Sub-menus are displayed after entering each of these commands, as discussed below. These commands may be entered at any time to move to different functions.

Information and Assistance is intended to answer routine questions about using the OAG/EE, subscriptions, and billing. It also gives access to an electronic suggestion box through which you may communicate with the system operator (known as SYSOP in online database parlance). This communication is one-way only, however, since, like Dow Jones News/Retrieval, no electronic mail facility is provided to contact users. Response to your comments may be sent via mail or telephone contact.

Menu options available in response to the */I* command are shown in the Main Information and Assistance Menu (Table 1).

Schedule displays are quite similar to those provided in OAG's printed flight guides. To illustrate how the system works, let's assume you want to plan a business trip from

TABLE 1

-- INFORMATION AND ASSISTANCE MENU --

- 1 HOW TO USE THE ELECTRONIC OAG
- 2 DICTIONARY OF ENTRIES
- 3 USER TERMS AND CONDITIONS
- 4 OAG EE "HELP" DESK
- 5 OAG EE ELECTRONIC SUGGESTION BOX
- 6 REMARKS
- 7 SUBSCRIPTION AND BILLING INFORMATION
- 9 OAG NEWS (LAST CHANGED 16 MAY)

PLEASE SELECT A NUMBER

Chicago to Tulsa, OK.

To access flight information, you will need to tell the system at least the two end points involved—i.e., CHICAGO and TULSA. This information may be specified by either typing out the full city names or by entering only the airport codes—i.e., ORD for Chicago's O'Hare and TUL for Tulsa.

The system gets confused if you enter the name of a city which may be in more than one place—e.g., PARIS, France or PARIS, Texas. It also gets confused if you misspell city names or enter ambiguous airport codes. For example, I got the following response to a misentered request for Tulsa (I entered TULAS):

TABLE 2

UNABLE TO IDENTIFY YOUR CITY. IF YOUR DESIRED CITY NAME IS NOT LISTED BELOW, SCHEDULED FLIGHTS MAY NOT BE AVAILABLE.

- 1 TUCUPITA, VENEZUELA
- 2 TUCURUI, BRAZIL
- 3 TUFU, PAPUA NEW GUINEA
- 4 TUGUEGARAO, PHILIPPINES
- 5 TULCAN, ECUADOR
- 6 TULCEA, ROMANIA
- 7 TULEAR, MADAGASCAR
- 8 TULSA, OK, USA
- 9 TULUA, COLOMBIA

As you can see, recovery from these types of errors is quite easy.

The system would also like to know the time and date of your flight. If you don't tell it this information, it will assume you wish to travel "today" and will show all flights available after 6:00 AM.

The foregoing city, time, and date information may be entered one item at a time in response to specific prompts, or in one command string using semicolons to separate data fields:

/S CHICAGO;TULSA;19MAY;6AM

If you would like to see all of today's flights, you would just enter:

/S CHICAGO;TULSA;;

And, if you like, you may mix city and airport codes. For example, if you wanted only flights leaving from Chicago's O'Hare airport you could enter:

/S ORD;TULSA;17MAY;3PM

In response, you would be shown the following schedule display for all available direct flights:

TABLE 3

DIRECT FLIGHTS		FRI-20 MAY	
FROM-CHICAGO, IL, USA/OHARE			
# TO-TULSA, OK, USA			
NO EARLIER DIRECT FLIGHT SERVICE			
1	900A	ORD 1043A	TUL AA 555 727 B 0
2	1000A	ORD 1149A	TUL UA 519 73S 0
3	1125A	ORD 104P	TUL AA 349 72S L 0
4	300P	ORD 439P	TUL AA 673 727 0
5	650P	ORD 835P	TUL UA 869 73S D 0
6	920P	ORD 1100P	TUL AA 259 72S 0
NO LATER DIRECT FLIGHT SERVICE			
ENTER + FOR CONNECTIONS			
ENTER CX, X#, F#, RS (#=LINE NUMBER)			

Information shown for the third flight listed in the display includes, from left to right:

- | | |
|-------|------------------------------|
| 3 | — Display reference number |
| 1125A | — Departure time |
| ORD | — Departure city |
| 104P | — Arrival time |
| TUL | — Destination city |
| AA | — Airline/carrier |
| 349 | — Flight number |
| 72S | — Type of aircraft (727-200) |
| L | — Lunch served |
| 0 | — Number of stops |

TABLE 4

CONNECTIONS		FRI-20 MAY	
FROM-CHICAGO, IL, USA/OHARE			
# TO-TULSA, OK, USA			
NO EARLIER CONNECTING FLIGHT SERVICE			
1	700A	ORD 808A	STL TW 425 727 S 0
	850A	STL 1000A	TUL TW 179 72S S 0
2	700A	ORD 820A	STL OZ 617 D9S S 0
	930A	STL 1037A	TUL OZ 751 D9S S 0
3	957A	ORD 1100A	STL TW 711 707 S 0
	1200N	STL 108P	TUL TW 485 727 S 0
ENTER +, DF, X#, F#, RS (#=LINE NUMBER)			

The rest of the information shown is self-explanatory with the exception of the command options listed at the end of the display:

- + — Will cause the system to display available connecting flights as shown in the Table 4.

Here, this same (+) command would be used to display the remaining connecting flights which are too numerous to include in one display page whereas:

- — In the second or following additional schedule displays, will page backward to the preceding display.
- CX — An alternate command to use if you want to see connecting, rather than direct flights.
- DF — As shown in the connecting flight display, will return you to the direct flight display.
- X# — Requests a display of expanded flight information for the flight reference number entered. For example, entering X1 for connecting flight -1 in Table IV will result in the following display:

TABLE 5

EXPANDED CONNECTION DISPLAY (1 OF 2)
LEAVE- 7:00A ON-20 MAY
FROM-CHICAGO,IL,USA/OHARE
TRANS WORLD AIRLINES FLIGHT 425
AIRCRAFT-BOEING 727
CLASS-FIRST/COACH/ECONOMY
ARRIVE- 8:08A
AT-ST.LOUIS,MO,USA

ENTER + FOR SECOND FLIGHT INFORMATION

EXPANDED CONNECTION DISPLAY (2 OF 2)
LEAVE- 8:50A
FROM-ST.LOUIS,MO,USA
TRANS WORLD AIRLINES FLIGHT 179
AIRCRAFT-BOEING 727
CLASS-FIRST/COACH/ECONOMY
ARRIVE-10:00A ON-20 MAY
AT-TULSA,OK,USA

TOTAL TRAVEL TIME 3H 00M
ENTER S TO RETURN TO SCHEDULES
ENTER F FOR SELECTED FARES

- F# — Requests a display of fare(s) for the indicated flight #, which will be discussed below.
- RS — Requests a display of return flight schedules for the two cities shown (return time and date will need to be specified as discussed earlier).

Fare displays may be reached directly from OAG/EE's main menu or from the schedule displays, as noted earlier. The only difference between fares and schedules commands is that no departure time is used for fares. Instead, an optional fare category choice may be made if you use the single line entry—e.g.,:

/F ORD;TULSA;;5

This command will display fares for all of today's flights between O'Hare airport in Chicago and Tulsa for fare category 5—all fare types. The complete list of fare categories is shown if you enter only the command /F.

TABLE 6

FARE MENU	
FARES FOR DIRECT FLIGHTS AND CONNECTIONS	FARES FOR DIRECT FLIGHTS ONLY
---	---
1 COACH CLASS AND EQUIVALENT FARES	6
2 FIRST CLASS AND EQUIVALENT FARES	7
3 BOTH COACH AND FIRST CLASS FARES	8
4 ADVANCE-PURCH AND EXCURSION FARES	9
5 ALL OF THE ABOVE FARES	10

PLEASE ENTER A NUMBER

A sample of the fare display corresponding to the /F ORD;TULSA;;5 command is shown in the next table which contains three display pages.

TABLE 7

FARES IN US DOLLARS		FRI-20 MAY	
SELECTED FOR ORD-TUL			
#	ONE-WAY	RND-TRP	ARLN/CLASS FARECODE
NO LOWER FARES IN CATEGORY			
1*	238.00	AA/B	BE77
VIA DFW			
2*	238.00	UA/B	BE77
3*	249.00	AA/B	BE70
VIA DFW			
4*	249.00	UA/B	BE70
5*	279.00	AA/Y	BLE70
VIA DFW			
* ENTER L# TO VIEW LIMITATIONS			
ENTER +,L#,X#,S#,R#,M,RF(#=LINE NUMBER)			

TABLE 7 Continued

FARES IN US DOLLARS FRI-20 MAY
SELECTED FOR ORD-TUL

#	ONE-WAY	RND-TRP	ARLN/CLASS	FARECODE
1*	146.00		AA/M	MAP3
	VIA DFW			
2*	146.00		UA/M	MAP3
3	183.00	366.00	AA/Y	Y
	VIA DFW			
4	183.00	366.00	UA/Y	Y
5	306.00	612.00	AA/F	F
	VIA DFW			
6	306.00	612.00	UA/F	F
* ENTER L# TO VIEW LIMITATIONS				
ENTER -,O,X#,S#,R#,M,RF (#=LINE NUMBER)				

Additional commands available here include:

- O** — Return to the first display in the sequence.
- S#** — Show the schedule for the flight # indicated.
- R#** — Show the return schedules for the fare shown.
- M** — Return to the fare menu shown in Table VI.
- RF** — Display return fares.

As you can see, the round trip fare varies from \$238.00 to \$612.00. Let's suppose you're a typical business traveller and would like to get the cheapest fare available for a one-day stay. An "*" beside their flight reference #'s indicates that the \$238.00, \$249.00, and \$292.00 discount fares all have limitations. Entering L1 after the second display page would give the limitations for American Airline's M-class fares as shown in the following table.

TABLE 8

CHI-TUL AA CLASS M FRI-20 MAY
146.00 US DOLLARS ONE WAY
LIMITATIONS FOR FARE CODE MAP3

FARE DESCRIPTION: ADVANCE PURCHASE
COACH FARES
BOOKING CODE: M.

PURCHASE TICKET FOR TRAVEL NO LATER
THAN 3 DAYS BEFORE DEPARTURE.
* END OF LIMITATIONS DISPLAY *
ENTER S TO VIEW SELECTED AA SCHEDULES
ENTER F TO RETURN TO FARES DISPLAY

Thus, if you make your reservation just three days in advance, you can save \$107.00 versus regular coach (class Y) fares.

DOCUMENTATION

OAG/EE's user's manual is typeset and slickly printed, with highlights in red; and its seventy-five 6 1/2 X 8 1/2-inch pages are spiral bound for horizontal reading. It contains nine sections separated by index tabs, but excludes a table of contents:

- Quick Start
- Subscriber Support
- Overview of OAG EE
- Glossary of Terms
- Finding Your Way
- Fares Tutorial
- Schedules Tutorial
- Dictionary of Entries
- Index

The manual is accompanied by a 20-page pamphlet containing network access instructions and by two small, sticky-backed menu and command option reminder charts, which you can put in a convenient place for quick reference.

This documentation is fairly complete, is easily read but difficult to scan, and leaves a lot to be desired—although this may be a matter of personal preference.

First, I'd add a table of contents. Next, I'd reorganize the manual's contents, putting the Subscriber Support, Glossary, and Dictionary of Entries in appendixes at the end of the manual. I'd merge the repetitive introductory pages at the front of the manual with the "Overview of OAG EE" and "Finding Your Way" sections into a new introduction chapter. I'd also beef up the "Quick Start" chapter with an expanded sample inquiry session containing examples of key displays; put index or contents tables in each of the two tutorial sections; and finally, I'd add an appendix containing a set of all key menus and displays organized either by key word or in a master organization/flow chart.

PERFORMANCE

OAG/EE is one of the more forgiving of online systems I've used. It, in many cases, remembers information you gave it previously and will make logical assumptions about what you're trying to do if you're not explicit about new queries—e.g., in specifying cities, dates, fare codes, and the like.

Another example of its responsiveness to unintelligible input was discussed earlier where the system's response to a misspelled city name was shown in Table 2. This is much more appropriate than a more typical response seen in other systems—telling you you're wrong and to get it right.

Besides the "Information and Assistance" menus, there are no "help" menus, per se. Rather, if you get stuck at any point and would like a further definition of a system command, option, or most of the contents of its displays,

all you need do is enter a “?” followed by the item confusing you. For example, if you would like to know the airport code in a given city—e.g., Chicago—all you need do is enter ?CHICAGO and the following will return:

TABLE 9

RESPONSE TO YOUR HELP REQUEST

CHICAGO=

CHI-CHICAGO, IL, USA
CGX-CHICAGO, IL, USA/MEIGS
MDW-CHICAGO, IL, USA/MIDWAY
ORD-CHICAGO, IL, USA/OHARE
MAKE AN ENTRY THAT WAS AVAILABLE BEFORE
YOU MADE THE SPECIFIC HELP REQUEST,
OTHERWISE ENTER /M - OAG COMMAND MENU

Unfortunately, if the item you would like to know more about—e.g., the meaning of a BE77 fare code—is not a legal argument for the “?” command, the system will try to respond and will show you all cities, worldwide, begin-

ning with either BE or BH (clever of them to anticipate both spelling and pronunciation relationships).

Thoughtfully, OAG provides a 24-hour per day Help Desk, reachable via a toll-free 800 telephone number. Subscription and billing information can also be gotten during weekdays through another toll-free number. Toll-free numbers are also given for network access information.

As with most online databases—and most computer systems, for that matter—experience begets speed, and you can learn to take advantage of undocumented shortcuts. For example, simply hitting your RETURN key saves the extra strokes needed to enter SHIFT ; (+) RETURN if you follow the prompt instructions explicitly.

The one chief shortcoming I could identify in my brief testing sessions was that international air fares “ARE NOT YET AVAILABLE FOR DISPLAY”.

CONCLUSIONS

Is OAG/EE for you? As I said earlier, how good is your travel agent? Among those things an agent can do that OAG/EE cannot do—at virtually no cost—are:

- Compile an itinerary composed of all the flight legs you’re interested in.
- Confirm availability of the number of seats you want for the specific flight and fare class you’re interested in.
- Reserve these seats—entering your American Advantage frequent flyer number, if you have one.
- Request specific seat assignments.
- Issue and deliver the tickets and boarding passes, or prepay the ticket for pickup at the airport ticket counter.
- Automatically bill the ticket to your charge card or company account.
- Identify, locate, and make hotel and rental car reservations.

So who needs OAG/EE? Maybe an executive travelling with a portable terminal but not OAG’s Pocket Flight Guide. Perhaps, someone lodging at Chicago’s Midland Hotel which now offers a computer terminal in each room. Maybe businesses which don’t want to subscribe to OAG’s larger editions and fare supplements, which can run as high as \$196.00 per year, excluding extra delivery charges. Someone who doesn’t have access to the Source or CompuServe to inquire against their flight schedule databases—although, to be fair, these don’t include fares. Someone who doesn’t trust their travel agent to find the cheapest fare available.

Not me—but who could pass up a free trial offer?□

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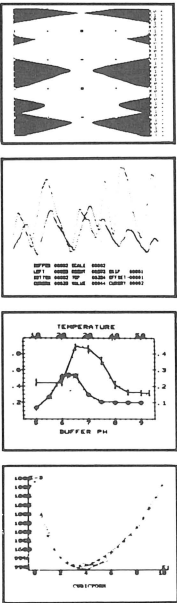
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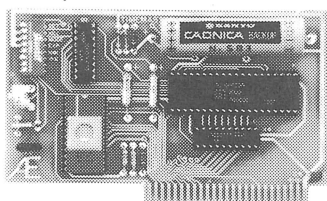


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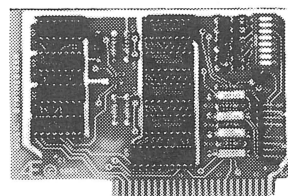
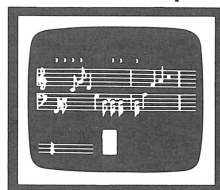
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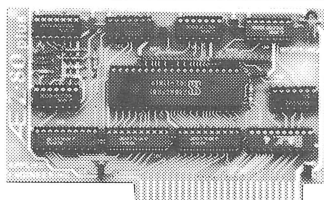
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 - An on-card PROM eliminates many I.C.'s for a cooler, less power consuming board. (We use the Z-80A at a fast 4MHZ)
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There used to be about a dozen 80 column cards for the Apple, now there's only ONE.

- TOTALLY Videx Compatible
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	PRICE	BUILT-IN SOFTWARE	SHIFT KEY SUPPORT	PASCAL COMPATIBLE	729 DOT MATRIX	LIGHT PEN INPUTS	40 COLUMN OVERRIDE	INVERSE CHARACTERS
VIEWMASTER	169	YES	YES	YES	YES	YES	YES	YES
SUP'RTERM	375	NO	YES	NO	NO	NO	YES	YES
WIZARD80	245	NO	NO	YES	YES	NO	YES	YES
VISION80	375	YES	YES	YES	YES	NO	NO	NO
OMNIVISION	295	NO	YES	NO	NO	NO	YES	YES
VIEWMAX80	219	YES	YES	YES	YES	NO	NO	YES
SMARTERM	360	YES	YES	YES	NO	NO	YES	NO
VIDEOTERM	345	NO	NO	NO	YES	YES	NO	YES

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The best microcomputer word processor any money can buy.

Thousands of dollars worth of word processing performance for just \$149.95

Who's saying that?

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In his definitive study, Naiman compared 14 major word processing products—and PIE: Writer was among the top three. Its nearest neighbors were dedicated word processors which cost from \$13,500 to

\$15,000. (See a portion of the study results below.) Yet PIE: Writer can be part of your personal computer system for just \$149.95!

So now your business or home microcomputer can have capabilities equivalent to the industry's top machines. Naiman says:

"PIE: Writer, running on a humble Apple II, out-scored every other word processing program for microcomputers . . . (It) crams an incredible amount of power into a small (23½ K) and inexpensive package . . . PIE: Writer beat four out of six dedicated word processors."

No other microcomputer word processor earned the ranking that PIE: Writer did. PIE: Writer can make your personal computer into a word processing whiz.

That's not all.

PIE: Writer has been steadily collecting honors from experts throughout the industry for its all-around price/performance and its many advanced user features.

When *Peelings II* magazine compared 10 micro word processors, PIE: Writer came out on top . . . again. *Peelings II* rated PIE: Writer "AA + " and defined the rating as ". . . top notch, superb." The review concluded:

" . . . a formidable contender in performance to price ratio . . . PIE: Writer is hard to beat."

And *Interface Age* said in an in-depth review of PIE: Writer's current version:

" . . . much has been gained in this update to a time-tested classic."

	Operating system(s) and/or machine(s)	Price	Overall Score
CPT 8100	dedicated word processor *	\$15,000	94¾
Dictaphone Dual Disp.	dedicated word processor *	\$13,500	85¼
PIE: Writer:	Apple II, IBM PC	\$149.95 \$199.95	84¼
A.B. Dick Magna SL	dedicated word processor *	\$14,500	83
Write	CP/M†	\$400	82¼

*Includes word processing hardware & multistation support.

†Requires additional CP/M Hardware for your personal computer (\$200-600 extra)

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Why the experts love PIE:Writer.

Why all the fuss?

Here are some of the features reviewers chose as the basis for PIE:Writer's excellent performance, and the reasons why you should choose PIE:Writer:

PIE:Writer is fast in executing functions such as search, scroll, page up and down.

PIE:Writer is easy to learn, with an excellent new set of user documentation.

PIE:Writer is copyable to back-up disks.

PIE:Writer can edit either text or programming code.

PIE:Writer is compatible with a wide range of hardware.

And reviewers note that PIE:Writer has refined the most sought-after editing features:

- ✓ wrap/columnar option
- ✓ text marking
- ✓ global word search & replace
- ✓ custom form letters and mailing lists
- ✓ justify right and left
- ✓ status display
- ✓ save or insert text from another file
- ✓ control page breaks
- ✓ cut and paste
- ✓ "Help" screen
- ✓ forward & backward page scrolling
- ✓ automatic centering
- ✓ full format control
- ✓ control page numbering, bottom and top headers
- ✓ underlining
- ✓ tabbing by word or moveable marks

You'll love PIE:Writer too.

You'll find everything you need in PIE:Writer. Whatever you write will be easier to do: reports, letters, books and articles, memos and personal notes. Use PIE:Writer with a 40 or 80 column set-up, lower case adapters, hard disks, modems or shift-key modifiers. PIE:Writer works with spelling checkers, Visi Calc* files and can edit program source files.

PIE:Writer gives you efficiency and capabilities far beyond other word processors. You can save valuable time and be more creative with all your documents. And PIE:Writer is an easy transition for typists as well as writers and managers.

You'll be using PIE:Writer the day you install it on your personal computer. Just a few moments with its built-in training lessons and you're up and running.

The experts use words like "powerful," "clean," "formidable" and "graceful" to describe PIE:Writer. But don't take their words for it. Try PIE:Writer yourself and enjoy the ease and excitement of the top-ranked word processor.

The Hayden Advantage.

There's another significant reason to love PIE:Writer: it's backed by Hayden Software, a company with the experience and resources to provide solid products; thorough, user-friendly documentation; and full technical support.

PIE:Writer is part of Hayden's growing "Personal Information Environment" family of software products. The PIE family also includes PIE:Speller, a 20,000 word dictionary spelling checker with a user-defined component. And PIE:Communications, which turns your personal computer into a communications center by letting you send and receive text between your computer and others.

Together with Hayden's other Professional Software products, the PIE family helps you make the most of your personal computer in any environment.

Hayden provides a full range of software for your computer, including business, entertainment, educational and technical products. Visit your local dealer and learn about the Hayden advantage.

Runs on: Apple II, IIe
Price: \$149.95

Runs on: IBM PC
Price: \$199.95

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HAYDEN SOFTWARE

INTRODUCTION TO WORD PROCESSORS

by John Martellaro

You have probably seen articles in computer magazines that appear as if they will help you select a word processor. They usually start off by telling you how wonderful word processing is on a microcomputer, drift into a few horror stories, dabble with a few definitions of terms, and conclude with the advice: "see your dealer." In the very next article, you will then find a story about how poorly some dealers are prepared to advise their customers on the complex and expensive software available for microcomputers. You may begin to feel that there is little hope. The problem is compounded by the rather wide spectrum of capabilities in word processors. Company "A" says that they never intended to give you the world for their modest \$50 program. It doesn't seem to do the job. Company "B" says that their program is the premiere word processor. All you need to do is send a check for \$600. You receive a manual the size of the Random House unabridged dictionary and five diskettes. It may be weeks before you get that letter out to your (fill in the blank).

Where is there some clarity and sanity in all this? Surely there are enough word processors out now to satisfy the personality of just about anyone. You wouldn't be reading this if you weren't in need of such a program. So the trick is to find that

program. However, even if you find it, you may have troubles. The industry is young and there are few standards. If you are trying to run a Russian Tupelov Model 101 with your \$50 text editor, don't be surprised to find that there is no configuration option for this printer. If your intention is to print your Ph.D. thesis in General Relativity using fibre bundle theory with Apple Writer I, think again. It follows that you must have a fairly good idea about what you want to do and how your word processor must fit in with the rest of your software investment and hardware capabilities. For example, I am in the market for another printer, and my principal requirement is that it is supported by my word processor. There are new and fancy ink-jet printers that I have considered, but they are too new to have developed a following among word processor publishers.

In order to help you decide on a word processor for your Apple, *Peelings II* has developed, over the years, a word processing criteria chart. It has now gone through several iterations and refinements as a result of experience and reader feedback. You will see it later in this issue with the scores achieved by the word processors we have reviewed here. My personal opinion is that a page full of boxes and bullets for every conceivable feature is too confusing. I race past these boxes in disgust and bewilderment. They don't tell the true story. Ultimately, a program

must be graded on those things which we all accept as important in and characteristic of the process. A word processor that will not delete by word or line is rare. Deletion by word or line is sometimes hailed by vendors as a word processor feature among a long list of seemingly impressive but ultimately routine functions. It is much more rare for a word processor to keep its files as standard Apple DOS textfiles so that you can edit EXEC files, Spreadsheet files, and Communications Program files. Based on reader feedback, I can say with confidence that the items in the criteria list reflect the common needs of word processor users and that the weights attached to the items in the criteria list are fairly accurate. Some items have been omitted because no vendor in his right mind would publish a word processor in 1983 without them. The list contains things that seem to be important, and, up to a point, the total score is a "figure of merit" for a word processor. I don't think that I need remind you that some of the programs that score well are going to be complex and formidable packages. Thus, if your ambitions and pocketbook are modest, you will almost always have to live with some kind of compromise.

There seems to be three major classes of word processors. There are what I will call Class I programs that are the best that currently exist. These would include WordStar, Perfect Writer, and Gutenberg, for example. Users of Class I programs

A photograph of a man in a grey suit and white shirt standing behind a young boy. The man has his hands on the boy's shoulders. The boy is wearing a red polo shirt with a striped collar and is smiling. The background is a soft, out-of-focus grey.

EDUCATION?

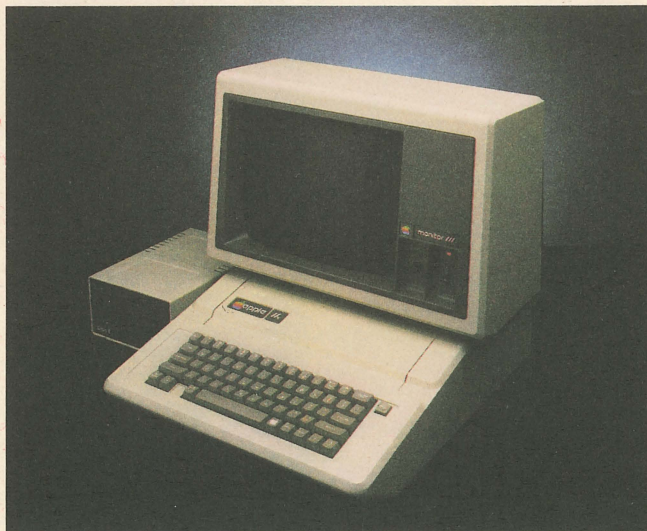
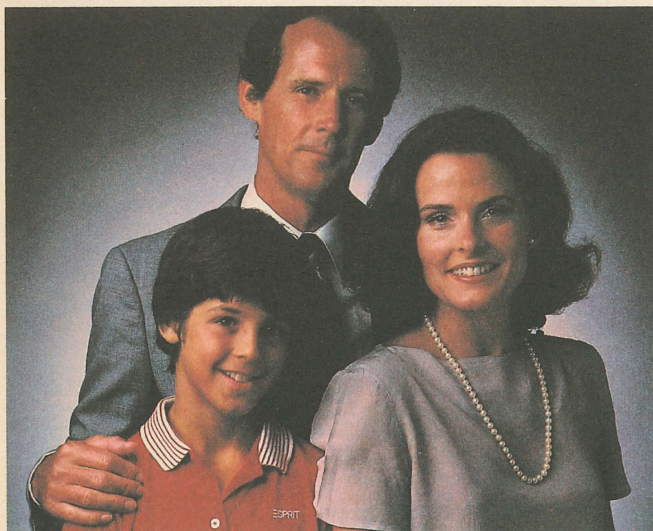
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from Scholastic



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- ★ the nature of programming
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- ★ word processing
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02

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often write for a living and can afford \$300 to \$500. Class II word processors are middle-of-the-road programs for those who want to do serious work, but do not require (or want) the ultimate program. Most of the programs we have reviewed fall into this class: Pie Writer, Format II, Zardax, Screenwriter II, and Letter Perfect are a few. They sell in the \$100 to \$200 range. Class III programs are for beginners or people who just don't do much word processing or people who will sacrifice power heavily in favor of simplicity. Some examples are: The Correspondent, Bank Street Writer, and Megawriter. They are almost always less than \$100. If you can be honest enough with yourself to identify which class of program you really need, you will be a long way towards finding the right software. If you give in to your irrationality and move outside the proper class, you will suffer.

Once you have settled on the proper class of word processor, you should think about the major features that will impact your usage and minimize problems for your own personality. Split screens are nice, but if you are operating a business, the copyability of the software will be more important. Here are some considerations for you to think about:

COMPATIBILITY

Do you have other software such as spreadsheet, communication, spelling, and database programs that keep files which you will want to work with? I have a friend who keeps his word processor and communication program and time & charges program on one diskette. He can edit a file, then load it into his comm package, upload it to The Source, then log off and maintain his billing program—all without ever changing the diskette. Professional writers may need to consider what system their publisher is using or will be likely to be using.

COPYABILITY

This is an important consideration

for commercial use or for writers who make their living by writing. WordStar, Perfect Writer, and Pie Writer have been copyable for some time, and sales continue. Do not overlook this consideration.

SPEED

The speed of a word processor can be one of the single most important features for those who compose at the keyboard. Computers have a reputation for being fast, and a slow word processor can be a real irritation. Speed here refers to the speed of executing and responding to commands, screen scrolling, and disk access. Word processors that do not have a reputation for being blindingly fast (for various technical reasons) are WordStar, ScreenWriter II, MegaWriter, Super-Text, and Executive Secretary (the last time I saw it). Word processors that are fairly fast are Pie Writer, Letter Perfect, Write Away, Sandy, and Zardax. CP/M word processors tend to be slower because they treat the display as a terminal, while native Apple word processors are usually memory mapped to the screen.

INTEGRATION

Do you need a powerful mail list/form letter capability? Will you be using your program with a wide variety of equipment? Will you be buying a hard-disk system soon? Almost every word processor, "so-called" or otherwise, advertises a form letter capability, but they often differ widely in capability. Does the program exploit the features of the Apple system, or was it kludged onto the Apple?

If you have grown up with your first word processor and are ready to buy a better one, and know what you want, mail order is a possibility. However, if you are a first-time buyer, there are several better alternatives: (1) Some companies will loan or rent software or sell it conditional to your acceptance. There are some legal questions about this practice, but they are unresolved. (2) Use

a friend's computer. There are enough people now who own microcomputers that it should be possible to try out a word processor on a friend's machine. You won't be pressured by a salesman, and your friend will be able to tell you what he does and does not like. Just remember that everyone loves the word processor he uses, and it may not be really the one for you. (3) Your dealer. A dealer who will not let you sit down for an hour or so and try out a word processor is making a mistake. Find one that will. Seeing that a certain program works on a particular hardware combination is a good way to avoid nasty surprises. If you see that Zardax works beautifully with a Qume and an Apple Super Serial Card, you may be inclined to buy the same system. Further, if you buy that system from your dealer, he will probably be able to set your system up like his before you take it home. In these days of conflicting (or nonexistent) standards (see the letters section), it is a safe way to go. Do not, for goodness sake, buy an off-brand printer and a word processor sight-unseen, and expect everything to go smoothly.

The alert reader will notice that I too have finished with the advice to see your dealer. However, this is ultimately what any customer has to do for a complex system like a computer. What I hope I have done between the beginning and the end of this introduction is to give you some food for thought. You have a responsibility to study and learn in this Hi-tech era. There is no such thing as a free lunch. Having done your homework by reading this introduction, you should now have a better idea about what you are looking for as you read the following articles. Afterwards, you will be armed with the knowledge you need to make an informed decision.

Gee. All this for three bucks.□

WORD PROCESSOR GLOSSARY

Correspondence Quality Printing that is clearly not Letter Quality, but is suitable for correspondence of an informal nature. Produced by dot-matrix printers with, perhaps, double strike to smooth out the dot structure.

CPI Characters per inch. 10 = Pica, 12 = Elite.

CPS Characters per second (of a printer).

CPU Central Processing Unit. A carry-over from earlier days when the processing unit of a large computer was a discrete collection of circuits and parts. A microprocessor, by definition, puts all the logic circuits on a single chip.

Draft Quality Printing that shows a noticeable dot structure such as those produced by electrostatic, thermal, and inexpensive dot-matrix printers.

Font The physical appearance of a character set and defined within some kind of rectangular array.

Imbedded Control Characters Characters such as CTRL-K (ASCII 11) that are inserted into text but directed to the printer's CPU for format control.

Imbedded Format Characters Special characters, such as .FI that are put into the text, that only a formatting program recognizes.

Incremental Spacing Sometimes called Microspacing. The process of using spaces a small fraction of a character width to achieve a better looking justification. The printer head must be able to accept commands to move these small distances, typically daisy-wheel "letter quality" printers.

Letter Quality Printing Type that is indistinguishable from that produced by a standard IBM Selectric typewriter.

Line Oriented A text editor that operates primarily on a line of text at a time.

Live Screen Screen handling such that a character is always entered at the cursor position when an unprefix-ed key is struck. Some word processors enter a mode in which letter keys perform various commands instead.

Logical Search The ability to apply logical operators to a search. For example, "Find all words that start with 'F' OR contain 'ion' ".

Memory Mapped The screen is a direct representation of characters stored in memory. Changing the screen changes memory.

Pin Feed Platens on a printer with sprockets that pull perforated paper through.

Point A printer's measure of type size. 1 point = 1/72 inch.

Proportional Spacing The process of giving differently shaped characters different horizontal spacings. The word processor must be able to direct, and the printer must be able to accept horizontal shifts of less than 1/10 inch (or 1/12 inch), and the character fonts must be set accordingly.

Screen Oriented Allowing cursor moves and character entry anywhere on the screen.

Text Processor A program that is capable of manipulating text on a visual display. It may or may not have formatting capability, is not strong in its character and word handling capabilities, and is usually line oriented.

Turnstile Displace The process of shifting characters on the screen (during inserts) similar to the winding turnstiles at amusement parks. Characters leave the screen on the right and show up continuously on the left, one line below.

Word Processor A program whose strength is the manipulation of text at the character level on a visual display. It is able to format and print text with good facility and has powerful text editing commands. It is usually thought of as screen oriented.□

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Unlocked

Rating: See "Word Processor
Wrap-Up" which updates
author rating.

Reviewed by Alan Shalette

INTRODUCTION

Perfect Writer consists of three parts—a text editor, a print file formatter, and a printer driver. It may be purchased separately or with Perfect Speller as a combination package. I'll refer to the integrated system of Perfect Writer and Perfect Speller as Perfect Writer since that was the product I had for review.

Perfect Writer runs under the CP/M operating system. This may be a turn off for those of you who don't have a Z-80 card installed, but may I suggest that you read on to discover some of Perfect Writer's unique capabilities which should help advance the state of the word processing art a few more notches.

To those of you who can run CP/M

systems, let me point out that Perfect Writer's AA- rating assumes you have installed more than the minimal system required for most CP/M systems. If you, as I, have just two Apple Disk II drives installed, its ratings should be A- or B+. Perfect Writer's operation is awkward when used with a total disk capacity of only about 250K bytes or less.

HARDWARE AND SOFTWARE REQUIREMENTS

As a CP/M-based system, Perfect Writer requires a Z-80 card, an 80-column display card, and at least 64K of RAM—although I couldn't locate these requirements in Perfect Writer's documentation. At least two disk drives are required to house Perfect Writer's programs, its special buffers, and your text. Perfect Writer will work with two Apple Disk II drives, but it needs significantly more storage to work well.

I used Microsoft's Z-80 Softcard, Videx's Videoterm (without their Keyboard Enhancer), and an NEC 5510 Spinwriter connected to an Apple high-speed serial interface card for this review. These devices were located in standard slot assignments: Softcard in Slot 7; disk drives in Slot 6; Videoterm in Slot 3; and printer interface in Slot 1.

FEATURES AND FUNCTIONS

Perfect Writer is not a system you'd want to use to teach your children word processing. Nor will it find

favor with casual users. Like Pie Writer, WordStar, and the other highly capable systems, this one demands full immersion to become fluent with its over 100 editing and over 50 formatting commands, its command syntax, and its default parameters.

Its editing screen is live, wrapping and filling lines as you add text. It shows you text as it will be printed unless overridden by user-set formatting commands and parameters. Cursor movement and deletion commands allow you to control your cursor and editing on the basis of characters, words, lines, sentences, paragraphs, screens, and, with text marking, any arbitrarily defined blocks of text. Unlike some packages such as Select, text editing and insertion/creation are operable at the same time—you won't need to switch between Edit and Insert modes.

Like Pie Writer, text may be inserted into the middle of a line by pushing trailing text behind newly inserted characters. You may also enter an open line command which will break the line at the cursor. Then you would enter text in blank space and hit RETURN to splice the line back together. Overwrite mode is also available, which will cause new characters to write over old ones instead of pushing them along.

Text entry, insertion, deletion, and cursor movements are quick and only slightly slower than Pie Writer. On the other hand, Perfect Writer sup-

ports more editing commands and functions not found in Pie Writer, in addition to the sentence- and paragraph-oriented commands mentioned above. Some of these are: letter and word transposition; a copy buffer which will accumulate text from several different places in the document; an invisible file mark so you can jump back and forth between two different places in your document; ability to load and save files from within the word processor; ability to insert a complete file at the cursor location; and convert a word to upper or lower case or capitalize its first letter.

Other major features not available in Pie Writer and a host of other highly capable systems include:

(1) Virtual Memory Perfect Writer keeps only a small part of the text you're currently editing in memory. A disk-based swap file is updated periodically as you do your work. Swapping is time-based, using the number of Z-80 cycles since your last keypress. While other packages also use virtual memory, I believe Perfect Writer may be unique by not triggering its swapping based on vertical scrolling. (Of course, if you jump from the top to the bottom of a large document, swapping will be required.) This makes Perfect Writer's swapping unobtrusive since it most often occurs while you're not trying to add text.

(2) Multiple Document Editing With Split Screen Perfect Writer is one of a new breed of systems which will let you work on more than one document at a time. While doing so, it sets up two horizontal windows (like in VisiCalc) with one document displayed in each. Each window may be scrolled and edited independently. Virtual memory lets you have up to seven documents in "memory" at one time, but only two will be displayed. In this mode, you may easily move text from one document to another or refer to one while editing the other.

(3) Automatic Document Organization and Formatting The

system supports about 10 formatting commands which will automatically format your documents. For example, if you write specifications or other highly structured documents, its @CHAPTER, @SECTION, @SUBSECTION, and @PARAGRAPH commands can be major timesavers. Appropriate use of these commands can, with no other formatting commands, produce a document organized as follows:

Chapter 1 Chapter Heading

1.1 Section Title (text...)

1.1.1 Subsection Title (text...)

1.1.2 Subsection Title (text...)

1.1.2.1 Paragraph Title (text...)

1.2 Section Title (text...)

Similar commands will automatically number and format chapter headings and subheadings, appendixes and appendix sections. Note that you don't need to know what the appropriate section (etc.) numbers should be. These are assigned automatically as determined by the sequence of commands you use.

(4) Automatic Table of Contents, Index, Footnotes, and Notes If you use the document organization commands noted above, the system will automatically generate a Table of Contents showing, for example, all chapter, section, and subsection headings. Page numbers will automatically be moved to the Table of Contents and Index. You may also designate any sections of text to be included in an automatically generated index with the @INDEX(text) command. Text between the parentheses will also be printed where it occurs, using any additional formatting commands you place between the parentheses. @FOOTNOTES and @NOTES are similarly specified. In response to these commands, footnote numbers will be inserted in the

text, and the footnotes themselves may be placed at the bottom of the page, the end of the text, or within the line itself, enclosed in brackets. Note numbers will be printed as superscripts or in brackets in the text, with the notes printed at the bottom of the page. Reference, footnote, and note placements are driven by user-selected parameters, and references will be numbered automatically.

(5) Variable Page Headings, Footings, and Numbering One of the problems I encounter with Pie Writer is that text insertion or deletion may necessitate reprinting the rest of the document to get page numbering right. In addition, header or footer lines containing section titles must be designated separately for each section (e.g., ".he"Section Title" "Page %"—where the % sign tells the system to print the current page number). Perfect Writer allows you to designate variable names instead of specific chapter titles. If you use the @CHAPTER command noted earlier, the current CHAPTERTITLE can be inserted into the header or footer lines. Also, chapters may be numbered individually (e.g., page numbers for Chapter 4 would be numbered 4-1, 4-2, etc.). Thus, if you made a major change in a chapter, only that chapter would need to be reprinted to get the page numbers correct. Of course, page numbers in the Table of Contents and Index would be revised automatically.

PERFECT WRITER/PERFECT SPELLER INTERFACE

Most spelling checker packages (I use The Apple Speller from Sensible Software) operate independently from word processors. Typically, they allow you to mark words not found in their dictionaries with special characters that you then search for with your text editor. This process requires that you leave your word processor, boot the speller, check and mark your text files, and then reboot your word processor to search for and correct the marked

words. Although they operate dependently, you can easily move to Perfect Writer or Perfect Speller from within the other system. When you finally move back to Perfect Writer, you will be in Spell mode, with the cursor positioned at the first marked (incorrectly spelled) word. In this mode, you may add the word to your dictionary, change or edit it, or add the word's root to Perfect Speller's dictionary.

That's all I have room for. Let me add, however, that Perfect Writer incorporates the greatest number of automatic, parameter- and variable-driven formatting features I've seen in any word processing package. In contrast, the most significant shortcoming I've noted is its lack of an obvious mail-merge feature. In this type of operation, you might create two text files: one containing a form letter, and the other, a list of addressees separated by special characters. The format/print function of your word processor would repeat the form letter for each addressee, moving through the addressee file to get a new one each time. Names, addresses, or any other information you like may be entered from the keyboard at print time, however.

INSTALLATION

Most CP/M systems are written to operate on a host of computers, terminals, and printers. Their installation is normally a more extensive process than with systems which operate under Apple DOS. Thus, Perfect Writer needs to know a lot about your keyboard's design, display/80-column card, and printer. You may also specify many default parameters which govern its automatic features.

Fortunately, Perfect Writer comes already configured for a standard Apple/80-column card configuration and with parameters set to drive a "plain vanilla" printer. While the preset parameters can get you going quickly, you'll probably find it necessary to run Perfect Writer's installation programs to make it more

compatible with the limitations and capabilities of your specific configuration. (If you're not technically oriented, you may want to go on to the next section of the review.)

For example, I use an NEC Spinwriter which has all sorts of capabilities not noted in Perfect Writer's "plain vanilla" printer table—e.g., to support underlining, boldface print, superscripts and subscripts, reverse printing, and the like. To use these features requires that I tell Perfect Writer that I have a SPIN10 (for 10-pitch type), a SPIN12 (for 12-pitch), or SPINPS (for proportionally spaced typefaces). It then creates formatted print files specifically designed for the type of printer I designated. It will use original document files with only "plain vanilla" printer configurations.

Since I wanted to use SPIN10 as my standard default, I ran one of Perfect Writer's configuration programs and updated several of its control files. Alternately, just before it created its print file, I could have told Perfect Writer that it should not use the standard printer configuration but to look in its printer table and use the parameters designated for SPIN10 instead. Other standard printers in its table include Epson MX-80 without Grafrax, Centronics 737, and Diablo. Parameters in the printer tables include character widths, line height, smallest horizontal and vertical paper movements, synchronization protocol, and output character translation. If I didn't like the preset parameters, I could have changed any of them or could have created my own printer definition table and given it a new name.

This treatment is also available for all of Perfect Writer's editing commands. Any commands may be duplicated or reassigned to any of 383 allowed combinations of available keys plus their combinations with ESC, CTRL, and CTRL-X, which are used as prefixes. For example, the command ESC CTRL-K is used to delete the current line.

Of course, you may also set any of Perfect Writer's default formatting parameters such as page length and width, number of lines above footers, margins, and the like. You may also set its automatic document organization parameters such as the number of lines before chapter titles and paragraph indentation.

If I've left you in a fog, this isn't nearly as complicated as actually trying to perform these tasks. Were it not for the standard terminal and printer configurations supplied with the system, I might never have been able to use the system and complete this review. Flexibility has its price.

It's not that Perfect Writer doesn't help you make these changes. There are just too many parameters and options available to do so quickly. It's a little like tennis or chess, the more you work at it, the better you get. Eventually, you may even reach star status.

DOCUMENTATION

Perfect Writer's manual is printed like an oversized paperback book containing 378 pages. It is accompanied by help screens, an accordian-style (five folds) quick-reference card, and a series of lessons and sample documents contained on a data diskette. Two additional pages were inserted in the package discussing Apple-specific considerations for installation and some nonstandard key assignments.

The manual is beautifully printed and clearly written but is not "...comprehensive and complete..." as stated in the manual's introduction. For example, commands are implemented to delete and close whitespace and greyspace (whatever that is); others are available to control indentation. I found these commands in a table Perfect Writer uses to assign commands to key sequences. They are also contained in the help screens since the help file is generated from its key assignment table. These "unidentified" commands seem to work, although I'm not totally sure what they do. They

aren't documented in the manual, but a lesson describes one of the indent functions.

Further, the system is shipped without the file needed to display help information. The help file is generated as part of installation processing. In contrast, the inserted Apple-specific instructions tell you the system is "...preconfigured and ready to run."

PERFORMANCE AND CONCLUSIONS

As I've noted earlier in the review, Perfect Writer's functional capabilities far exceed those of Pie Writer, which has been previously rated AA+ in *Peelings II*; in addition I'm impressed by Perfect Writer's quick

key actions, on-screen formatting, and virtual memory management. They result in an operation which is only moderately slower than Pie Writer's—no simple feat for this type of system. My chief problems are with Perfect Writer's command key assignments, and appear to stem, in large measure, from the limitations of Apple II's keyboard and Videx's Videoterm 80-column board. To illustrate, Videx uses CTRL-B to type a backslash, a standard ASCII character which is not available on the keyboard. Perfect Writer uses this same combination to move the cursor backwards one character. Unfortunately, the Videoterm overrules, and so this very important cursor movement is not available to Perfect Writer unless its key definition table

is changed. Similar problems were encountered with CTRL-A, CTRL-K, and CTRL-U.

I've also mentioned that Perfect Writer doesn't work well with just two Apple Disk II drives. Its AA-rating is conditioned on having significantly more than 250K bytes of disk storage space available.

Perfect Writer is clearly not designed for the casual user. Rather, it should find favor among those whose word processors are fully integrated with their daily activities and who won't need to rely on it for mail-merge processing. If and when I am tempted to move from Pie Writer to a new system, Perfect Writer/Perfect Speller will be a prime candidate. □

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Your Apple is easier to use and runs much faster with this new, licensed by Apple, DOS 3.3 update.

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 2. TLIST lists all Random/Sequential Text Files.
 3. DUMP Binary/Ascii to screen or printer.
 4. DISA disassembles Binary to screen/printer.
 5. AL prints program Address & Length.
 6. / Single keystroke, second Catalog command.
 7. HIDOS moves DOS to the Language Card.
 8. FIND hex group in 64K memory in 3 seconds.
 9. DATE prints out. Use with Mtn. clock card.
- Commands 8 & 9 in Hidos only.

10K More Memory

These nine commands operate identical to existing DOS commands. Use A or A\$ for address and L or L\$ for length. Enter new commands on the Keyboard and use them in Basic programs with the familiar D\$. Use HIDOS in Hello program for turnkey startup, adding 10K free memory.

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TLIST, DUMP, and DISA Features are:

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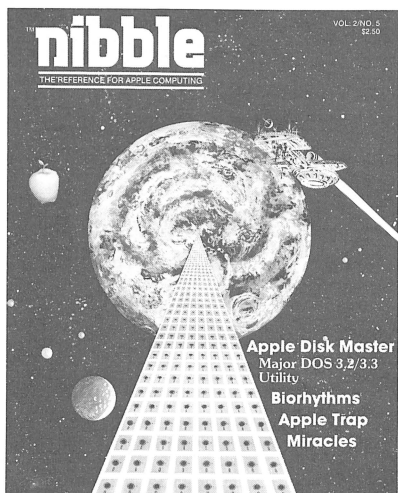
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SELECT

Author unspecified
Select Information Systems
919 Sir Francis Drake Blvd
Kentfield, CA 94904
415-459-4003

\$395 (word processor alone)

\$595 (with spelling checker)

Rating: See "Word Processor
Wrap-Up"

Reviewed by Robert Greenwald

(Ed. Note: Select Information Systems has indicated that a major revision will be available in September 1983. Peelings will review this new package as soon as possible.)

INTRODUCTION

SELECT is a CP/M word processing program which appears to have been designed not for power but to overcome the fears of first-time computer users. SELECT's strengths include extensive use of menus, a disk-based tutorial, and a well-written (albeit taciturn) manual; its unique aspect is virtually total avoidance of the use of control keys. Unfortunately, the trade-off for this is a lack of flexibility and speed which makes it so cumbersome to use that many writers will find it impossible to compose at the keyboard as they might be wont to do, and revising hard copy isn't much better.

The SELECT system consists of three diskettes: one each marked

MASTER, INSTALL/TEACH, and SPELL. This is accompanied by 87 pages of indexed documentation in a padded binder, an end-user agreement, and an interesting form entitled "Claim for refund under 30-day trial acceptance period". The version and documents reviewed here were marked "Copyright, 1981."

INSTALLATION

To install SELECT, one needs sufficient working knowledge of CP/M to be able to format disks and prepare masters containing PIP, SUBMIT, and system tracks. The manufacturer expects this to have been done for most users by the dealer handling the sale. (Similar installation procedures might be required in any CP/M system.) For user installation, one runs a program called INSTALL that makes a working master which can then be backed up by any standard technique. To customize the installation, one is confronted by a long list of terminals and asked to choose the correct one. The only Apple choice was "Apple with Sup'R'Term". Since my Apple is equipped with a Videx 80-column board, I bypassed that choice the first time through, but after scrolling through all the choices, I was forced to go back and make that selection. It seems to work correctly, but if the program supports all Apple 80-column boards equally well, a generic phrase would be better suited. Installation is completed by selecting a printer; my Epson MX-80 was one of the choices.

Following installation, the SELECT main menu appears. This allows the user to Create, Edit, Delete, Print, Rename, or View a document; List

the files; get Help; Run a program; Merge a document with a mailing list; or Quit. All of these choices are invoked by pressing a single letter, and this is generally true throughout the SELECT system.

TEACH

At this point, the SELECT manual recommends that the user close the book and learn the system using the disk-based tutorial called TEACH which is invoked by pressing T from the main menu. This selection yields the prompt to insert the INSTALL/TEACH disk and respond to "Enter Drive (A-P)." Trying to run TEACH via drive A turned out to be impossible. In drive B: the TEACH program runs well.

The TEACH menu consists of 26 items whereby one learns the instructions for and practices all the editing commands. The first menu selection is Cursor Control. Dutifully following the documentation, I closed the manual, invoked TEACH, selected the first lesson, and was instructed to move the cursor around using the four little arrow keys on my terminal; I was further instructed that if my terminal had no such keys, I should consult its manual for additional information. Were I an Apple novice who had just bought SELECT for its purported ease of use, I would have run screaming for help, since the Apple obviously has no such keys. As an experiment, I tried the commands used in the Apple version of Magic Wand, namely CTRL-W for up-cursor and CTRL-Z for down-cursor. I was surprised to find that they worked, and even more surprised to discover later on that this critical piece of in-

formation could be found on page 36 of the documentation.

Once that experiment was over, the rest of the TEACH program moved rather well. It is impossible to be sure how quickly a novice could move through it all, but within a hour, most users should have the fundamentals in place. Each correct mastery of an editing command elicits a gratuitous remark of commendation, and these gradually become rather annoying. There is also a great deal of disk access during TEACH, which slows one down considerably.

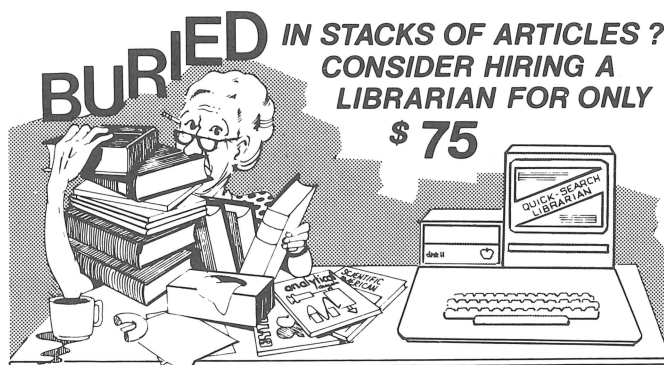
EDITING

To start work, one Creates a document from the main menu, preferably on a formatted, empty disk in drive B: using a name such as B:TEXTFILE. That file can then be edited and given a new name if desired, and if the latter option is chosen, the original will be retained under the old name. Like Magic Wand, the CP/M word processor with which I am most familiar (now available as PeachText), SELECT generally retains the original file, and if the user does not elect to give the edited version a new name, the original is renamed TEXTFILE.BAK and retained while the new version gets the old name, unmodified. If however, during the course of editing, you would like to rename the current version, there is no option to do so.

The main SELECT menu then appears across the top of the screen in Pascal-like fashion; there are so many choices in edit mode (21 all together) that they do not fit on one screen and, just as in Pascal, they must be seen via a toggle. All standard word processor functions are included, such as copying or moving text from one section to another, scrolling, goto, locate (search), replacement, setting tabs, etc. One can append a document from disk into the current file; the display command allows for scrolling of text; a help file can be invoked when you need it; a block of text can be printed, or a section can be extracted and written to disk. For many of these functions, one sets "pointers" which are numerical block markers inserted in the text in various locations; when a command is invoked involving a section of text, one merely specifies which pointer numbers are involved. One can have up to eight pointers in place at any time (compared to four in Magic Wand), but they don't appear on the CRT unless one is in "pointer" mode.

Superficially, this all sounds great, but the sad fact is that editing a document with SELECT is quite maddening, especially when writing at the keyboard (as was done with this review). The reason is that new text is added in the Insert mode, but in that mode, you cannot move the cursor or change anything that you have already done. If you are rereading what you are writing, or if you see a typographical error in the previous word or previous sentence, you cannot whip the cursor up there, overtype it, and come back to what you were doing. To edit, one must exit the Insert mode and then make another selec-

tion, such as Erase (which will delete a character, word, or sentence), Xchgng (change a letter or letters), or Zap (remove a block of text after pointers have been set). For example, changing one erroneous letter requires *four* keypresses (ESC to get back to the menu, X to invoke Xchgng, the correct letter, and ESC again), not counting the keypresses required to move the cursor to the error. Furthermore, when exiting the Insert mode (via ESC), nothing may happen for a few seconds (if a lot of text has been inserted), and then one must wait patiently while the previous input is justified. (On-screen justification can be turned off, but it is ON by default; if multiple changes are to be made, it is mandatory that this process be aborted or you will sit there all day waiting for justification after every trivial change. On the other hand, if justification is turned off, one winds up with parts of words sticking out of the text in bizarre fashion, and the screen appearance is often rather ridiculous.) Insertion of just one character in the middle of several paragraphs of text required an eight second pause while the program regrouped; Magic Wand, Pie Writer (reviewed in this issue), and most other programs surpass SELECT in this regard. Screen refresh is very slow on the Apple in general, but SELECT makes it even worse; even scrolling of text is slow by comparison.



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The basic problem here, of course, is that the control keys have been ignored. With the exception of cursor movement on the Apple version, SELECT does not use any control keys. Obviously, the designers of this program were aiming at potential users who find the concept and use of control keys difficult (if not abhorrent), and for a poor secretary who has been handed a WordStar disk and told, "Here, start using this!", the SELECT concept has some validity. But the control key is what gives the computer operator mastery over his CPU, and to discard the computer's power plunges one back to the dark ages. Editing with SELECT is so cumbersome that it is hard to imagine anyone composing successfully on the screen; revising from hard-copy is not much better.

If there is a way to embed control characters in the text, I couldn't find it mentioned in the manual. Like Magic Wand, special printer functions are called by use of designated symbols (e.g., the caret for boldface), but my Epson needs more specific directions. With Magic Wand, one can use the "OUT" command to send control signals to the printer, but SELECT does not appear to have that capability. I could not find a command to home the cursor to either the start of a line or to the top or bottom of the page; fortunately, my Apple has a Videx Enhancer which gives me auto-repeat keys—but without this feature, one would

need to press REPT and Right Arrow together all the time to move the cursor around. Most of the other editing features listed in the *Peelings* criteria are present in SELECT, but again, many of the functions are quite slow and require multiple keypresses.

FORMATTING/PRINTING

A text file must be saved to disk before it can be printed (as with Magic Wand and, I believe, most other CP/M word processors); the screen formatter is memory resident with the editor, but the print program must be called after the file has been saved. In Edit mode, one can invoke the Formatter easily; change margins, spacing, and other parameters; turn off word wrap; and issue justification commands. Format commands can also be inserted in the text with the backslash, exactly as in Magic Wand (the commands are often the same). There are substantial disparities between the backslash justification commands, the screen display, and the final printed format, and these take a great deal of practice. There is mailmerge capability, formatted files are saved to disk, headers and footers can be set up, and page numbers can be respecified. While printing, the CRT shows not the text but instructions for aborting and/or stopping the print process. Autohyphenation is not supported.

DOCUMENTATION

The 87-page manual is clearly printed and well organized, with each command described in modest detail. Both a table of contents and index are included. Several sample documents are included in both draft and formatted form, with comments about the formatting commands and what they accomplish—a handy and instructive feature. A quick-reference card is not included, but since the menu for all commands is always on-screen, and no control keys are used, one is probably not needed. Accompanying the program is an end-user agreement, in small print, which allows the user to make up to five

copies, modify the source code, and transfer use to another machine (replacement, not addition). Furthermore, the manufacturer appears to be willing to take it all back within 30 days if the user returns everything with a form indicating problems, reasons for dissatisfaction, etc. As end-user agreements go, this one seemed rather reasonable.

MISCELLANEOUS

The Apple version is apparently the only system needing control keys, because most other terminals are assumed to have cursor movement and other special function keys. CTRL-U is supposed to be the tab key, but on my machine, this command had the same effect as Right Arrow, i.e., single spacing. The system seemed well error trapped, and every attempt to press a wrong key elicited a bell. The SPELL program has a dictionary of 20,000 words and listed as suspect many words that I thought should have been obviously spelled correctly; it was, however, rather fast, and automatically found every marked word for operator checking (as opposed to programs which mark words with a caret or similar symbol, after which manual search processes are required). I was unable to ascertain whether or not the Shift Key Mod would work.

SUMMARY

SELECT has many advanced word processor features, enjoys the advantages of the CP/M operating system, is not difficult to learn, and would be good for someone who has an inordinate fear of the control keys. However, the slow speed of execution and the cumbersome nature of text entry and editing precludes its efficient use. On the *Peelings* word processor evaluation chart, SELECT scores only 239 in editing and 60 in ease of use; it does well in other categories, yielding a total score of 828. It does so poorly in speed compared to comparable products that it cannot earn greater than a C rating. □

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Magic Window II

by Bill Depew
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North Hollywood, CA 91601
213-985-2922

\$149.95

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Rating: See "Word Processor
Wrap-Up"

Reviewed by Alan Shalette

INTRODUCTION

Magic Window II is a nice, medium-powered word processor which spreads its power smoothly over a standard array of word processor features. It's distinguished by software-based 70-column displays, hardware adaptability, and an easy-to-get-along-with personality.

It should serve casual users well since, more than any other package I've seen, it puts on printed paper "exactly" what you see on the display screen. The flip side of this feature, of course, is that its formatting flexibility is fairly limited.

HARDWARE AND SOFTWARE REQUIREMENTS

I may soon refuse to review any package whose documentation doesn't include a clearly labeled hardware/software requirements sec-

tion. This would be one of them. I don't know what its minimum requirements are, but I tested the system with 64K of RAM, DOS 3.3 on an Apple II plus. Magic Window II should work well with just one disk drive, and a second drive is optional.

Beyond these basics, Magic Window II's hardware needs and abilities become more apparent since its installation process steps you through a series of options relating to displays, printers, and keyboard/case shift capabilities.

You may tell Magic Window II to use any of three types of displays: (1) Apple II's standard 40-column display; (2) one of seven popular 80-column boards it names (I use Videx's Videoterm) or an "Unlisted 80-column Card"; or (3) software-generated 70-column display. You pay a penalty for choosing 70-column display since the software required will significantly reduce memory available to store text. I should also note that the resulting character set is OK, but I wouldn't want to work with it for long periods at a time.

Special printer drivers are available for six different types of dot-matrix and daisy wheel printers including those made by Diablo, Epson (with Grafrax plus), NEC, and Qume. You may also specify "Unlisted Serial Printer" or "Unlisted Parallel Printer."

Finally, you must tell Magic Window II how to trigger upper-/lower-case shifting, selecting either: (1) "Standard Apple", in which case you will use the ESC for shifts and shift-locks; (2) "One-Wire Shift Key Mod", with which your Shift key ac-

tually works; or (3) "Upper/Lower Case Hardware" such as Videx's Keyboard Enhancer.

After stepping through these options, Magic Window II will prepare a new disk containing appropriate drivers and which you will also use to store your documents. Thereafter, when you boot the system, it will install the appropriate drivers, and away you go.

FEATURES AND FUNCTIONS

Access to Magic Window II's editing, formatting, printing, and file management functions is provided through a series of menus and sub-menus. Each menu also shows and will allow you to alter related parameter tables shown at the top of the menu. For example, its "Filer" menu looks like the following:

Filer Menu

- A. DISK SLOT6
- B. DISK DRIVE1
- C. DISK VOLUME0

- 1. MAGIC WINDOW II SYSTEM MENU
- 2. CHANGE OPTIONS
- 3. SAVE FORMATTED FILE
- 4. LOAD FORMATTED FILE
- 5. FILES DIRECTORY
- 6. UNFORMATTED FILER SUBSYSTEM
- 7. DOS COMMAND
- 8. CLEAR FILE IN MEMORY

Magic Window II uses a comparatively limited set of key entries to govern its character, line, tab, and screen-oriented cursor movement commands; and character and line-oriented deletion and insertion/copy commands. With a few exceptions,

these are all accomplished by hitting the CTRL key in combination with one of the other standard keys.

Line lengths of up to 160 characters are supported by scrolling the display horizontally when either the left- or right-hand display limits have been reached.

Line and page lengths, margins and other page layout parameters are kept in a format table. Thus, with the exception of superscripting and subscripting, boldface, underlining, and related printing commands which are embedded in your text, formats may not vary from place to place within a single document. Since Magic Window II allows you to list a sequence of files you wish to print, you may save individually formatted sections of your documents with their own parameters. Continuity is preserved by carrying over page numbers from one section to the next when the document is printed.

The system keeps formatted and unformatted files on storage diskettes—as implied by the Filer Menu shown above. Formatted files contain all format information in addition to text. Unformatted files contain only text as it was developed, laid out in compliance with format parameters in effect at the time of its creation. Unformatted files are used to merge text into formatted files. You might want to use text merge to insert boilerplate clauses into newly developed contracts.

Instead of producing hardcopy, you may tell the system to write your print file to a diskette as a standard text file. This would allow you to transmit a fully formatted document to another computer using an appropriate terminal program and modem. Unformatted files may also be transmitted.

DOCUMENTATION

Magic Window II's manual is in a small looseleaf binder containing about 125 pages. Both its Table of Contents and Index are complete, and the Index is cross-referenced for efficient use. It is accompanied by a

color-coded keyboard layout chart showing each system command and a series of sample and lesson files on the System Master diskette—one of two provided with the package.

The manual starts out assuming you've never operated a computer before and takes you on a short tour of the Apple, its keyboard and peripherals. Later sections address each of the subsystem menus—Filer and Unformatted Filer, Print, Editor, Format, and Configuration.

It is well written, complete, and easy to understand. Its readability might be improved if it were typeset instead of typewritten. (*Ed. Note: Art-Sci has indicated that an upcoming manual will be typeset—delivery date: Sept. 1983.*)

PERFORMANCE AND CONCLUSIONS

The system has a nice "feel" to it. Command syntax and key assignments are logical and easy to learn and use. It works quickly and fairly efficiently even though menus are involved. Additional keystrokes needed to move to menus and change parameters seem an efficient trade-off against the burden of needing to memorize and enter compound commands (e.g., those using the ESC key in combination with the control and other keys), which other more powerful word processors often use.

Character entry and word wraps are also fast, with good visual feedback. I value its "glue line" command (CTRL-G) which will collect fragmented lines until the current one is filled up. In other systems using "what you see is what you get" displays, you often need to position the cursor at the first character of the text you want to link up and must "pull" it along behind the cursor until the preceding text is reached.

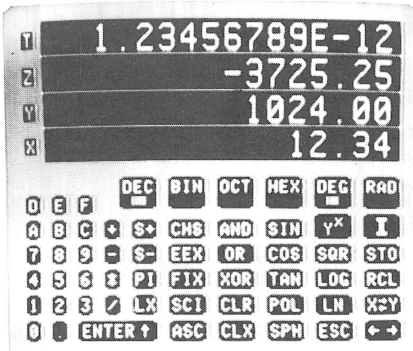
Vertical page scrolling is a little inconvenient since it moves only half a page at a time. In 70-character display mode, which uses the Apple's Hi-Res display, cursor movements and scrolling are very fast and

lack the "rippling" effect typical of other Hi-Res character generators. I would not want to stare at its 70-column character set for extended periods of time, however.

Its copy buffer operation is a little inconvenient since it collects and inserts lines of text only one line at a time. That is, to move four lines of text, you must hit CTRL-K four times to move the text to the buffer, then move to the new location and hit CTRL-R four times to insert all four lines. In other systems it is more usual to accomplish either task with significantly fewer keystrokes.

If its moderate power suits your applications, I think Magic Window II would be a good choice.□

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B)lank out text
C)enter
D)elete
F)ind
G)o to buffer
H)orizontal slide
I)nsert
J)ustify
K)lose
L)oad (from buffer)
M)ove cursor up
N) cursor down
O)ptions
P)aragraph
Q)uickscan
R)eset margins
S)tart (moves cursor to start of a portion of text)
T)idy

U)nderline
V)ertical slide
X)-out
Y) BeYond (moves cursor to beyond a portion of text)
Z) moves cursor to end of a portion of text

The cursor keys work as they should in either mode. That is, the vertical cursor keys leave the cursor in the same row. On the Apple IIe, full use is made of the arrow keys, the delete key, and the tab key.

An important consideration, if you chose Format II, is that it is designed to work on primarily one page of text at a time. The editor is a window into a page up to 80 columns wide and nominally 66 or 80 lines long. A document consists of a series of standard DOS text files with the page number appended. This compromise in technique has the advantage of very fast operations on text. The disadvantage occurs when operations, such as global search, must span several pages. These pages must be sequentially and quickly brought into memory. For letters or memos which seldom exceed a page or two, this technique is acceptable and perhaps preferable. For those who write multi-page articles or fiction, it would be better to go with a program that keeps as much text in memory at one time as possible. In Format II, there are operations which can push text into an overflow buffer that extends beyond the normal page length. If you wish to keep this text as part of the document, there is provision to make it a separate page (inserted between the current and next) or insert it at the beginning of the next page. These operations may seem aesthetically uncomfortable to some, and they are to me. However, if you are using Format II for its intended applications, then there shouldn't be a problem.

As mentioned above, many of the operations in format mode have similar sub-functions. And the ESCape key is always used to escape or abort a function. This is true even if two levels of escape are necessary. You can justify a portion or all of the text on the screen to see how it will look when printed. However, justified text is not saved to disk as it appears on the screen, but rather as it was prior to the justification. Also, if the margin is reset much wider than the current text, the program has difficulty justifying the text. There are only a few control keys that are active in text entry mode. Some involve tab and margin control and saving or renaming a file. The way to leave the editor is with a CTRL-D, but it only works in entry mode. Often, while left in format mode, I wanted to leave but could not. I think the command should work in either mode.

I felt more comfortable with this editor than most. It is one of the few word processors I have seen that is so comfortable and predictable that I would consider using it for certain applications as an addition to my small library of personal software tools.

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FORMATTING

There are word processors that use the technique of imbedding "dot" commands in the text to control the output. Sometimes this nearly gets out of hand, and the novice user is confronted by pages and pages of dot commands, some of which are confusing. I consider this an obsolete technique. Ideally, a word processor shows you what you will get on the screen. However, there are still a few limitations on the Apple hardware that prevent both high-speed operations and complicated software fonts. Format II takes care of justification and underlining (as reverse video) and leaves the rest to a set of 10 printer control codes that can be assigned by the user. They are inserted into the text on an Apple //e with "Open Apple" 0 through 9. These codes can be any series of up to five ASCII characters. For example, Open Apple 4 can be assigned as 27/69, which is ESC E. On an Epson, this will turn on emphasized printing. I had no trouble using this on a //e, but for some reason, I could not enter codes on my Apple II Plus with an integer card in slot 4. Attempts to enter numeric keys were interpreted incorrectly. As a result, I was unable to check for the effect on justification of imbedded control codes.

Of particular note is the option to suppress underlined text. An example was given of making up an exam in which the teacher's personal master has the answers underlined. At print time, the teacher can print a sub-master that will have the underlined answers deleted.

There are other options that control the paging and provide up to two headers and two footers per page. An interesting option is the ability to display a table that shows the character that will be printed for every ASCII code and the relative width of the character. For those who are using daisy wheel printers with incremental spacing and possibly an altered ASCII table such as the Qume, this will be very helpful.

Format II has an unusually detailed section on its proportional and incremental spacing capability. You are likely to learn quite a bit about the process just from reading the excellent documentation which has numerous examples and diagrams. I have never seen better documentation in this area.

INTERFACING AND FILES

Format II keeps its files as standard DOS text files that are compatible with all other word processors that use them. The record length is 80 characters. The program is not copy protected, which allows you to have a diskette configured for several different printers or to install it on a hard disk. Moreover, if you are a business user, the combination of copyability, extraordinarily strong form letter capability, and the emphasis on short documents will make Format II one of the primary candidates for your consideration.

When Format II boots, it identifies the type of machine and the type of display. All the appropriate drivers and modules are loaded. An astounding number of 80-column boards are supported: Ace-80, Full-View-80, Magnum-80, Omnivision, Screenmaster, Smarterm I and II, Sup'R-term, Ultraterm, Videoterm, Viewmax-80, Vision-80, and Wizard-80. The absence of copy protection also lends itself to using DOS enhancers, but beware. I tried updating a copy of the Format II disk with Diversi-DOS. The boot-up went wonderfully fast, as did a file load. Then the editor died. I have not been able to check which other DOS enhancers work or don't work.

The mailing list and form letter capability is especially strong and easy to use. You must dedicate an entire diskette to a data base which can have up to 16 fields, with field descriptors up to 15 characters long and field contents as long as 16 characters. A formatted page is set up that makes for easy definition and entry of data. The data base may be browsed in order and sorted by any

given field (ascending only). The fields are usually defined with some unique character string, like **!name** or **!state**, so that when printing, every occurrence of **!state** is replaced by the contents of the field. You can then set up a dummy form letter that looks like:

```
!firstname !lastname  
!company  
!address  
!street  
!city !state !zip
```

One field of the definition screen is set up for a qualifier so that you may take an entire data base and selectively choose which members of the data base will be printed. You can also operate on up to four fields with "logical" qualifiers. For example, if you had a field defining the person's status as a dealer or customer and a state field, you could print form letters to only those dealers in New Mexico; or you could send a mailing to every state except Louisiana. This would be a powerful tool for marketing managers or retail stores who want to send out announcements to certain people in certain areas on a monthly basis.

DOCUMENTATION

The original manual started out in a brown padded binder; the print was small and printed with a daisy wheel printer, and the text was cramped and confusing. The latest documentation written by Harry and Ellen Brawley is a model of clarity and organization. It is typeset and placed in a spiral-bound booklet. It looks very good, and the spiral binding helps the manual lay flat. There is a FAST START! chapter that helps you get a letter out of your machine in about 10 minutes. Then there is a chapter on usage, with escalating levels of complexity. The basics are covered first and the details later. The style and content are professional and mostly error free. I did object to some of the lingering British usage that the Brawleys were not able to

completely stamp out Catalogue, Initialise, etc.). There is a reference section and an appendix that covers hardware requirements for the Franklin Ace, sample printer codes for popular printers, differences between II+ and IIe usage, and a complete index. Each major section has a divider tab. All in all, it is 177 pages and is one of the best word processor manuals I have seen. Even though the diskette is not protected, the original will be replaced by Kensington for \$10.00. Of course, you must be a registered owner. If you are in possession of the older

manuals, you should get this new one.

CONCLUSION

There is only a handful of Apple II word processors that are not copy protected, that are in the \$150 class, and provide full-feature word processing. Format II does not have some of the flexibility and editing niceties of Pie Writer, but it is more modern and is particularly strong in ease of use and form letter features. I cannot think of another word processor that would be better overall for business use. However, it is not

for those who cannot live with the one-page-at-a-time principle. Also, it is not for those who like to do all their editing with control keys. Format II, like Super-Text, goes into an editing mode in which commands are selected by letter. This seems to remove the user somewhat from the immediacy of word processing, but I also found that certain commands on Format II, when mastered, go just as fast as a control-key-driven editor. So if you don't like control keys, try this package.□

MEGAWRITER

Author unspecified
Megahaus Corporation
5703 Oberlin Drive
San Diego, CA 92037
619-450-1230

\$59.95

*Rating: See "Word Processor
Wrap-Up"*

Reviewed by John Martellaro

INTRODUCTION

Megawriter is described by the publisher as a word processor. In the process of working with the program, I began to feel uncomfortable with that description, and it is my personal inclination to call it a text processor. I will point out in this review why I feel this way, but your criteria for a word processor may differ from mine. Therefore, you should pay

close attention to those items to see if this program will meet your expectations and requirements.

Megawriter is a modestly priced program with modest capability. The editor used is essentially the Pascal editor supplied with the Apple UCSD Pascal system, with added refinements and additions in order to supply the usual functions of a word processor/text editing system.

STARTING UP

One of the major liabilities of Megawriter is the time required to bring up the system. It is a two-stage process requiring two diskettes. The total time from power-up until the system is ready to do editing is at least 140 seconds. Contrast this to Pie Writer (mentioned in this issue) using Diversi-DOS (V4N1, 1983) which loads DOS and the editor in eight seconds. This is one disadvantage of using the Pascal system.

Another problem is that the pro-

gram does not make use of the Apple II signature byte to determine whether the system is a II+ or a IIe. As a result, the user must wait about a minute for the booted program to ask which system it is on. If it is not the desired one, a power-down and reboot is necessary.

THE EDITOR

The primary text editor is very similar to the Pascal editor. A line of prompts across the top of the screen shows the possible selections: A(djust, C(opy, D(elete, F(ind, I(nsert, J(ump, R(eplace, Q(uit, X(change, and ?. If you are using a 40-column screen, you may use a CTRL-A to toggle to the right-most 40 columns, just as with Pascal. Additional commands obtained with the question mark are M(argin, P(age, S(et, V(erify, and Z(ap. I will describe some of these functions next.

While in the editor, there is a perceptible lag of a second or so

while the system analyzes the command. Some of the commands entail a disk access as, presumably, code segments are brought in to memory. The combination of the slow start-up time and the lag in processing commands makes Megawriter slow enough to possibly be uncomfortable for some users. An example of this is the CATALOG command. In order to get a catalog, you must leave the editor and select the disk organizer module. This requires a disk access. If you don't remember the name of the data diskette, you must select the option to display the disks on-line. Then, you may request a catalog. Another disk access is performed at the Catalog select. Finally, the disk is accessed a third time to read the catalog. Yet another disk access is required to get back to the editor. I personally found this to be frustrating.

Megawriter allows the insertion of

text through the I)nsert command or the overwriting of text through the X)change command. The insertion part goes fairly well, except for the fact that, after a certain amount of inserted text, most of the text on the rest of the screen is blanked out leaving only a few words after the insert point. This prevents you from seeing the following text. (Seeing the following text might be important for you when making insertions.) I will admit that some of the more powerful programs of this kind insert text in the same manner, but I also expressed my objection to the process when reviewing them. After the text is inserted, you must use a CTRL-C to effect the change, resulting in a pause of about 10 seconds. Word wrap is in effect for this inserted text. In the X)change mode, the screen is overwritten, but you can only overwrite up to the end of the line. Most cur-

rent word processors allow one to continue onto the next line with overwrite. In the area of text deletion, Megawriter is also missing some expected functions. There is no specific command to delete a word or a character at the cursor and immediately close up the gap from the right. Instead, you must use the D)delete key, and then you can use the space bar, RETURN, TAB key, or cursor keys to erase by overwriting the undesired text and then type CTRL-C to activate the change. At this point there is a pause, and then the gaps are closed up. But instead of simply closing up the text dynamically, the entire screen is blanked out and rewritten, wasting more time. It is true that deleted text can be recovered until you actually use CTRL-C, but this is not the technique used by most word processors. The J)ump command allows you to jump

backscrolling

customizing

unique

into

t

unusually friendly

full printer support

makes your Apple an intelligent terminal • talks to all hosts • unattended long file capture and send

unique backscrolling feature permits roll back and capture of text after it has rolled off screen

powerful full screen editor • change, arrange, global search and more • automatic operation

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to a marker, the beginning of the text, or the end. You cannot jump from the beginning to the end of a line and back again.

Character input is noticeably slower than most editors I have seen, but there is, a type-ahead buffer to help out. You can tab with CTRL-I (II+) or the TAB key (/e), but there is no command to tab by word. You may select an argument (not displayed), or "repeat factor" as it is called, which affects the cursor movement. For example, 12 <uparrow> moves the cursor up 12 lines. There are no row or column indicators on the screen, and the name of the file is not displayed. Instead of smooth and continuous scrolling, the screen is often overwritten to achieve text movement. For example, when an up-arrow command would normally force a screen scroll down, Megawriter blanks the screen and rewrites it. The screen rewrite also occurs when text is copied from the buffer and when text is replaced with the Replace function. This is the global "search and replace" and I found it to work as expected.

The A)adjust command allows you to justify the text line by line in left, right, or center justification. Because you must do this manually for each line of text, I have not given full credit in the rating scale for On-Screen formatting. The C)copy command includes the facility to insert part or all of a named file at the cursor. The S)et command has the capability to set a marker which the J)ump command can be used to jump to. Despite the fact that the program is of modest capability, the file size is limited to about 8000 characters.

Several times, I managed to hang the program. I do not know how this happened, but I know that I managed to do it. Once, out of desperation, I hit CTRL-RESET. To my surprise, I was dropped into the BASIC prompt. Another two minutes to reboot (with text lost) was required. There needs to be a warning in the manual about this.

The frequent screen rewrite, the

absence of a word delete and word tab function, lack of tab markers, and the lack of a convenient delete-by-character outside of Insert mode are weaknesses of the editor. The strengths are the simplicity and avoidance of CTRL commands. You should refer to the scoring chart to determine if the editor has features of interest to you.

FORMATTER

When a request is made to print a document, there is a disk access for about 10 seconds. A reasonable person would assume that some code is being loaded, and Megahaus confirmed this in a letter saying that "code segments are occasionally read from the disk, but without any intervention by the user". I conclude, then, that the formatter section of Megawriter is a separate segment which is loaded into memory under program control. It produces printed text in accordance with a page of parameters that control the printed output and "in-text" formatting commands. The parameter list includes the usual items such as margins, page length, line spacing, page numbering on/off, output (printer or screen), etc. The in-text commands control justification, page numbering, starting a new page, and local control of some of the items in the parameter list such as line spacing and margins. In addition, certain printer control codes can be assigned to character labels. Megawriter helps you with this by supplying a file of codes for the most popular printers: C. Itoh, IBM, Epson, Gemini, NEC, Qume, Apple's dot matrix, and Siemens. Six of these control codes can be assigned to turn on and off any printer feature that responds to up to five ASCII characters. For example, features like underlining and emphasized print can be turned on and off with these labels.

INTERFACING AND FILES

The support for the various different Apple II configurations and printers is adequate. I had no trou-

ble using the program with either a II+ or IIe. While the program does not access a real-time clock, the user can input the current date, and the program will time-stamp the files. This is an excellent facility.

There is a disk organizer module that provides the ability to do basic housekeeping. The selections include Backup, Catalog, Delete, Rename, Initialize, Pack, and On-line (names of disks on-line). One of the features of this module is the ability to use wildcards in most of these operations that use file names. I have not seen this very useful wildcard feature in any other word processor.

You should think long and hard about whether you will want to keep your files on a Pascal formatted diskette. In these days of increasing commonality between software packages, keeping data in anything but DOS text files is a risk. For example, you will not be able to look at VisiCalc text files easily.

There is no sample file supplied, which is a considerable oversight in 1983. Also, it does not seem that the file being edited is kept in memory during the printing process. When you leave the editor, you are forced to either save the file or abandon the changes, or return to the editor. During formatting, the file is reloaded. When you return to the editor after printing, the file name is remembered.

The file managing system, according to the manual, can waste space on the diskette. This requires that the user, to make maximum use of his diskette space, must occasionally use the Pack function.

There is a form letter capability of the kind that I prefer. That is, the title of the field is inserted directly into the text inside delimiters. For example,

9 Oct 1983

<\$NAME>
<\$STREET>
<\$CITY>, <\$STATE>

Dear Mr <\$NAME>,
etc.

DOCUMENTATION

The documentation comes in a spiral-bound booklet of 150 pages. It is thorough and generally well done. It has an index and appendices on trouble-shooting, ASCII codes, and the command structure. The style and content are light and easy reading. However, I did notice that there were some minor printing problems caused by the device used to print the text occasionally losing horizontal registration. Also, there was a strange and inappropriate use of *sic* on page 5. Megahaus should be commended

for supplying such a thorough and well-produced document with its \$60 package.

SUMMARY

Overall, Megawriter is an easy-to-use program. It has a minimum of complications, and the documentation will make learning relatively painless. However, Megawriter cannot be considered to be in the class of Perfect Writer or WordStar. Above all, it is slow, and text editing may be cumbersome for many. □

WORD PROCESSOR WRAP-UP

The technique developed last year by *Peelings II* to give a rating to word processors has worked out very well. This involves the following: rank the word processors by total score, rank them by performance to price ratio, then combine the ranks. The programs that are near the top of the list in both performance and performance to price ratio will get the highest ratings. Just what the rating will be is still a judgment based on experience and historical data.

Here are the results:

PERFORMANCE/PRICE (1)

RANK

1. Megawriter	12.6
2. Format II	6.67
3. Pie Writer	6.33
4. Magic Window II	5.39
5. Select	1.76
6. Perfect Writer	1.63

PERFORMANCE (2)

RANK

1. Perfect Writer	1131
2. Format II	1001
3. Pie Writer	950
4. Select	873
5. Magic Window II	809
6. Megawriter	753

SUM of (1) and (2)

Place	Sum	Rating by Rank	Rating by Author
1. Format II	4	A+	A+
2. Pie Writer	6	A	A
3. Megawriter	7	B	C
4. Perfect Writer	7	B	AA- (conditional)
5. Magic Window II	9	B	B+
6. Select	9	C	C

To finally sort out the final rating, *Peelings II* has developed what seems to be a workable standard based on the absolute power of the program. We believe that a program should be close to AA if it can get 80% of the maximum score (1140 pts) and it should be close to C if it only gets 50% (712 pts). In this light, it is fairly clear that Megawriter is saved by its low price and that Perfect Writer is overpriced. It is also clear that Format II is a good buy. Pie Writer, in light of current standards, has failed to keep the pace, but is still an excellent product.

We have entered the rating in the software index as the rating by rank because it is clear that the author ratings parallel the performance score without regard to price. Even though absolute performance is used as a guide, there still has to be consideration given to how much you get for your money.

In order to calibrate these ratings, an experiment was performed making the assumption that word processors evaluated on the 1982 standards were able to get roughly the same percentage score as this year's programs on the 1983 standards. Last year, there were 375 points. This year there are 1425. The factor is 3.80 exactly. After multiplying the scores of last year's programs by that factor they seemed high because this year's standards are more rigorous. All the programs seemed to correlate better with 100 points subtracted. The master list combines all the programs (using last year's prices to maintain calibration; also,

there were corrections to Screen Writer II in V3N8, 1982). Be aware that this is *rough* calibration and that as new versions of these word processors are evaluated against the 1983 standards, they will be inserted in the proper positions with updated scores.

PERFORMANCE/PRICE (1)

RANK

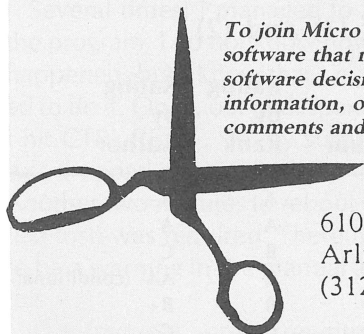
1. Megawriter	12.6
2. Correspondent	10.6
3. Screen Writer II	7.29
4. Format II	6.67
5. Pie Writer	6.33
6. Letter Perfect 5	6.17
7. Apple Writer II	5.89
8. Write Away	5.55
9. Magic Window II	5.39
10. Super-Text 40/80	4.31
11. Word Handler	3.34
12. Zardax	3.19
13. WordStar	2.91
14. Sandy	2.57
15. Gutenberg	2.46
16. Spellbinder	2.00
17. Select	1.76
18. Perfect Writer	1.63

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RANK

1. Perfect Writer	1131
2. WordStar	1093
3. Format II	1001
4. Spellbinder	990
5. Write Away	971
6. Pie Writer	950
7. Screen Writer II	948
8. Zardax	941
9. Letter Perfect 5	926
10. Apple Writer II	884
11. Select	873
12. Magic Window II	809
13. Gutenberg	774
14. Super-Text 40/80	755
15. Megawriter	753
16. Sandy	717
17. Word Handler	665
18. Correspondent	625

Remember, this is just a rough ranking based on an extrapolation of last year's scores. The sole point was to certify the rankings of the group reviewed in this issue, and these are marked in boldface. Only these ratings should be taken as definitive.

The next issue will have a follow-up that will, we hope,

Place

Sum

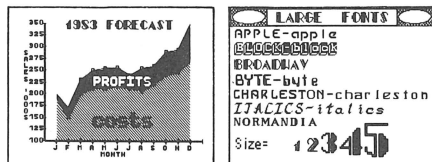
Current Rating

1. Format II	7	A+
2. Screen Writer II	10	A+
3. Pie Writer	11	A
4. Write Away	13	B
5. Letter Perfect 5	15	A+
6. WordStar	15	AA+
7. Megawriter	16	B
8. Apple Writer II	17	A
9. Perfect Writer	19	B
10. Correspondent	20	B
11. Spellbinder	20	B
12. Magic Window II	21	B
13. Zardax	20	B
14. SuperText 40/80	24	B
15. Gutenberg	28	N
16. Word Handler	28	C
17. Select	28	C
18. Sandy	30	C

include PeachText, Apple Writer //e, and perhaps some other late arrivals. We will defer our prefer-to-use ranking until that time.□

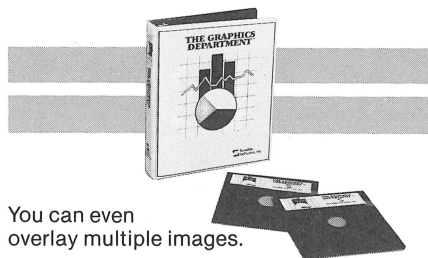
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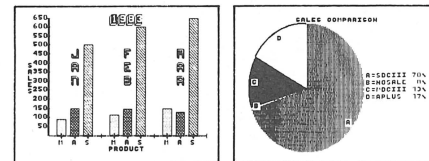
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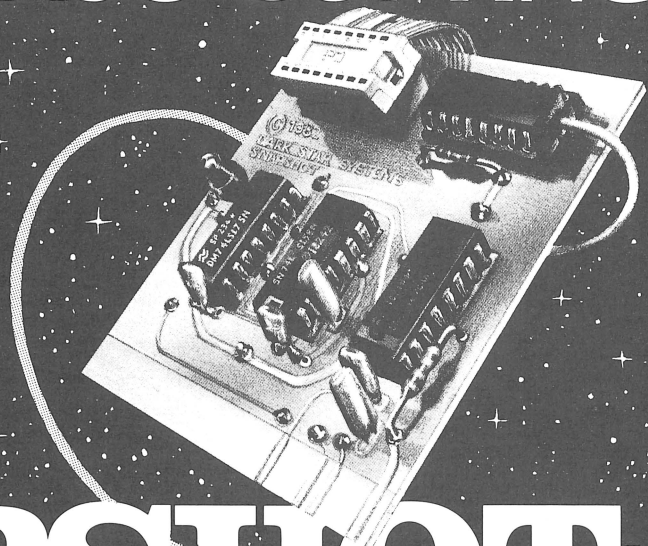
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WORD PROCESSING CRITERIA AND WEIGHTS

(Subcategory scores are set to the left.)

	MAX PTS -----	MGC WIND II -----	PFCT WRITER -----	SELECT -----
1. EDITING				
On screen formatting and justification	60	60	60	40
"What you see is what you get"				
(Dump to screen preview only = 10)				
Screen oriented	45	45	45	35
Imbedded special characters	35	25	35	0
ESC/CTRL character in text -> printer (20)		20	20	0
Display ESC/CTRL characters (5)		5	5	0
Assign ESC/CTRL characters to labels (5)		0	5	0
Super/subscripts visible screen (5)		0	5	0
Split Screen editing	35	0	35	0
a) inspect 2 or more files (15)			15	
b) buffer text across split screen (20)			20	
Screen always "live"	30	30	30	0
Global search and replace	30	18	24	20
a) initial text prompts (5)		5	x	5
b) range/direction specifier (3)		0	x	3
c) query Y or N at each replace (3)		3	x	3
d) ignore or utilize case Y and N (3)		0	x	3
e) wild card search (4)		0	x	0
f) logical/Boolean search (2)		0	x	0
g) speed of search (10) (Pie Writer = 10)		10	x	6
Scroll speed	25	12	20	5
(1 screen/sec = 24 lines/sec = 25)				
Screen appearance	25	8	20	25
Neat or cluttered (5)		3	x	5
File name on editor screen (5) &		5	x	5
remembered during session (5)		0	x	5
Screen prompts for common commands (5)		0	x	5
Visible tab markers (5)		0	x	5
File Statistics	25	10	4	15
Command for remaining disk space (10)		0	x	0
Command for (or display of) file size (5)		5	x	5
Row & col indicator or column ruler (3)		3	x	3
Page indicator (2)		2	x	2
Word count (5)		0	x	5
Text control	25	20	15	25
Shift a windowed column left/right (10)		10	0	10
Leave tabular material intact (5)		5	5	5
Split and glue lines (5)		5	5	5
Move or Copy a marked block (5)		0	5	5
Insert & Delete	25	8	25	15
Multi-key delete by range or marker (10)		8	10	10
Delete by word (5)		0	5	5
Infinite character insert (10)		0	10	0

	MAX PTS	MGC WIND II	PFCT WRITER	SELECT
Character input speed	20	20	18	5
Speed carrying out screen commands	20	12	18	5
Integrated speller included (Compatibility only with other co-resident products = 10)	20	0	20	20
Mnemonic commands	20	18	20	20
Math mode	20	0	0	0
Command macros or command language that will execute editor commands	20	0	20	0
Cursor control	20	12	18	15
Vertical cursor move forces a scroll (5)		5	x	5
Vertical cursor command always leaves cursor in same column (5)		2	x	5
Word tabbing (5)		0	x	5
Jump by page (5)		5	x	0
Word wrap	15	10	15	15
a) on input (10)		10	10	10
b) on insert (5)		0	5	5
Help command	10	0	10	10
Visual feedback (all commands have visible effect)	10	8	10	0
Maintains an index	10	0	10	0
Option to force file save on editor exit	10	8	10	10
Buffers	10	2	10	5
Screen buffer (5)		1	5	5
Line buffer (5)		1	5	0
User command to jump to address (m.l. routine)	8	3	4	8
Recognize "shift key mod" (II Plus)	7	7	7	7
Detect altered file	7	5	7	0
Reverse screen to black on white	7	0	0	0
Redefine keyboard/key assignments	6	0	6	6
	600	341	516	306

2. FORMATTING

Formatter & editor both memory resident	20	20	30	20
Print any single page or interval w/o marker	20	20	5	20
Form letter capability (20 = excellent 10 = fair)	20	5	20	15
Column material printed as is	20	20	20	20
Send formatted file to disk (text file)	15	15	15	15
Spacing	13	8	13	
Proportional spacing (8)		8	8	0
Incremental spacing (5)		0	5	0
Hyphenation (Auto = 10, prompting = 5)	10	0	0	
Pause & continue on output (anywhere) (pause after single sheet feed expected)	10	5	10	10
Multi-file printing	10	7	10	5
Link named files for output (5)		5	5	
Schedule printing several documents (5)		2	5	

	MAX PTS	MGC WIND II	PFCT WRITER	SELECT
	-----	-----	-----	-----
Spooling (software)	7	0	0	0
Headers & Footers	7	4	7	7
True footnotes	7	0	7	0
Dual column printing	6	0	0	0
Insert HIRES dumps with approp. hardware	5	0	0	0
Page numbering	5	2	5	0
Start at any number (3)		2	3	0
Turn off/on (2)		0	2	0
	----	----	----	----
	175	106	142	112

3. INTERFACING

Number of printers explicitly supported (5 pts/printer; max of 30 points)	30	30	30	30
80 column boards supported (5 pts/board; max of 25 pts; //e = 25)	25	25	25	10
Written for Apple II system vs. generic	20	20	5	0
Available for (or usable on) hard-disk	15	15	15	0
Can access more than 64K memory	10	0	0	0
Usable with more than 2 floppy drives	10	10	10	10
Boots on II Plus or //e (detect sig. byte)	10	10	10	10
User definable software fonts	10	0	0	0
132 column board support	8	0	0	0
Usable directly with a modem	7	0	7	0
Will access a clock for dating files (manual dating = 2)	5	0	0	0
	----	----	----	----
	150	110	102	60

4. FILE HANDLING

Save files as standard text file	30	30	30	30	or CP/M textfile
Disk as virtual memory	20	0	20	0	
Disk read/write speed for files (Diversi-DOS speed = 20)	20	10	18	20	
Append/insert named file at cursor	15	15	15	15	
Save marked section as named file	15	15	0	15	
Execute DOS commands from editor	15	15	0	15	
Half credit from command mode					
Catalog (5)		5	0	5	
Lock/Unlock (5)		5	0	5	
Rename/Delete (5)		5	0	5	
Read binary files	5	5	0	0	
Init/Format diskette from editor	5	0	0	0	
Half credit from command mode					
	----	----	----	----	
	125	90	83	95	

WORD PROCESSING CRITERIA AND WEIGHTS

(Subcategory scores are set to the left.)

	MAX PTS	FORMAT II	MEGAWRITER	PIE WRITER
<hr/>				
1. EDITING				
On screen formatting and justification	60	60	20	10
"What you see is what you get"				
(Dump to screen preview only = 10)				
Screen oriented	45	45	45	45
Imbedded special characters	35	30	30	30
ESC/CTRL character in text -> printer (20)		20	20	20
Display ESC/CTRL characters (5)		5	5	5
Assign ESC/CTRL characters to labels (5)		5	5	5
Super/subscripts visible screen (5)		0	0	0
Split Screen editing	35	0	0	0
a) inspect 2 or more files (15)				
b) buffer text across split screen (20)				
Screen always "live"	30	0	0	30
Global search and replace	30	21	18	23
a) initial text prompts (5)		5	5	3
b) range/direction specifier (3)		3	3	3
c) query Y or N at each replace (3)		3	3	3
d) ignore or utilize case Y and N (3)		0	0	0
e) wild card search (4)		0	0	4
f) logical/Boolean search (2)		0	0	0
g) speed of search (10) (Pie Writer = 10)		10	7	10
Scroll speed	25	25	8	10
(1 screen/sec = 24 lines/sec = 25)				
Screen appearance	25	25	15	16
Neat or cluttered (5)		5	5	5
File name on editor screen (5) &		5	0	0
remembered during session (5)		5	5	5
Screen prompts for common commands (5)		5	5	1
Visible tab markers (5)		5	0	5
File Statistics	25	10	15	23
Command for remaining disk space (10)		0	10	10
Command for (or display of) file size (5)		5	5	5
Row & col indicator or column ruler (3)		3	0	3
Page indicator (2)		2	0	0
Word count (5)		0	0	5
Text control	25	25	25	25
Shift a windowed column left/right (10)		10	0	0
Leave tabular material intact (8)		8	8	8
Split and glue lines (9)		9	9	9
Move or Copy a marked block (8)		8	8	8
Insert & Delete	25	20	20	15
Multi-key delete by range or marker (10)		10	10	10
Delete by word (5)		0	0	5
Infinite character insert (10)		10	10	0

	MAX PTS	FORMAT II	MEGAWRITER	PIE WRITER
	-----	-----	-----	-----
Character input speed	20	20	5	20
Speed carrying out screen commands	20	20	10	20
Integrated speller included	20	0	0	0
(Compatibility only with other co-resident products = 10)				
Mnemonic commands	20	20	20	5
Math mode	20	0	0	0
Command macros or command language that will execute editor commands	20	0	0	10
Cursor control	20	15	15	20
Vertical cursor move forces a scroll (5)		5	5	5
Vertical cursor command always leaves cursor in same column (5)		5	5	5
Word tabbing (5)		0	0	5
Jump by page (5)		5	5	5
Word wrap	15	15	15	10
a) on input (10)		10	10	10
b) on insert (5)		5	5	0
Help command	10	0	0	10
Visual feedback (all commands have visible effect)	10	10	10	10
				Pie help uses memory
Maintains an index	10	0	0	0
Option to force file save on editor exit	10	0	0	0
Buffers	10	10	10	10
Screen buffer (5)		5	5	5
Line buffer (5)		5	5	5
User command to jump to address (m.l. routine)	8	0	0	0
Recognize "shift key mod" (II Plus)	7	7	7	7
Detect altered file	7	0	0	0
Reverse screen to black on white	7	0	0	0
Redefine keyboard/key assignments	6	0	0	6
	----	----	----	----
	600	378	288	355

2. FORMATTING

Formatter & editor both memory resident	20	20	0	20
Print any single page or interval w/o marker	20	20	20	20
Form letter capability (20 = excellent 10 = fair)	20	20	15	15
Column material printed as is	20	20	20	20
Send formatted file to disk (text file)	15	0	0	15
Spacing	13	13	0	0
Proportional spacing (8)		8	0	0
Incremental spacing (5)		5	0	0
Hyphenation (Auto = 10, prompting = 5)	10	10	0	0
Pause & continue on output (anywhere) (pause after single sheet feed expected)	10	10	0	10
Multi-file printing	10	0	2	5
Link named files for output (5)		0	5	5
Schedule printing several documents (5)		0	0	0

	MAX PTS	FORMAT II	MEGAWRITER	PIE WRITER	
	-----	-----	-----	-----	
Spooling (software)	7	0	0	0	
Headers & Footers	7	7	3	7	Mega: headers only
True footnotes	7	0	0	0	
Dual column printing	6	2	0	0	
Insert HIRES dumps with approp. hardware	5	0	0	0	
Page numbering	5	3	2	0	
Start at any number (3)		3	0	0	
Turn off/on (2)		0	2	0	
	----	----	----	----	
	175	125	62	112	

3. INTERFACING

Number of printers explicitly supported (5 pts/printer; max of 30 points)	30	30	30	20
80 column boards supported (5 pts/board; max of 25 pts; //e = 25)	25	25	25	25
Written for Apple II system vs. generic	20	20	20	20
Available for (or usable on) hard disk	15	15	15	15
Can access more than 64K memory	10	0	0	0
Usable with more than 2 floppy drives	10	10	10	10
Boots on II Plus or //e (detect sig. byte)	10	10	0	5
User definable software fonts	10	0	0	0
132 column board support	8	0	0	0
Usable directly with a modem	7	0	0	7
Will access a clock for dating files (manual dating = 2)	5	0	2	0
	----	----	----	----
	150	110	102	102

4. FILE HANDLING

Save files as standard text file	30	30	0	30
Disk as virtual memory	20	0	0	0
Disk read/write speed for files (Diversi-DOS speed = 20)	20	10	10	20
Append/insert named file at cursor	15	0	15	0
Save marked section as named file	15	5	0	0
Execute DOS commands from editor	15	5	5	7
Half credit from command mode				Half credit for all
Catalog (5)		5	5	5
Lock/Unlock (5)		0	0	5
Rename/Delete (5)		5	5	5
Read binary files	5	0	0	5
Init/Format diskette from editor	5	3	3	0
Half credit from command mode				
	----	----	----	----
	125	53	33	62

	MAX PTS	FORMAT II	MEGAWRITER	PIE WRITER
<hr/>				
5. USER SUPPORT				
Owner protection	100	100	100	100
1 copyable diskette = 100				
2 uncopyable diskettes = 20				
1 uncopyable diskette = 0 (even if second available for a fee)				
Manual	60	53	40	59
Tutorial (10)		10	0	10
Index (10)		10	10	10
Readability (10)		10	9	9
Organization (7)		7	5	6
Thoroughness (7)		7	7	7
Quality/durability of materials (6)		4	4	7
Value as a reference (5)		5	5	5
Quick reference card (5) or page (2)		0	0	5
Ease of installation	40	37	31	25
Pictures in manual (5)		5	5	0
Menu-driven self configure (25)		25	25	25
Explanation of terms or glossary (5)		0	0	0
Formal description of features (5)		1	1	0
Warranty	25	25	15	25
Does not preclude owner from archiving (15)		15	15	15
Does not restrict user to single CPU (10)		10	0	10
Phone number - technical hotline	10	0	10	10
Sample files supplied	10	10	0	10
Upgrades published regularly	5	5	5	5
	-----	-----	-----	-----
	250	230	201	234

6. OVERALL EASE OF USE

Subjective impression	30	25	15	15
Command structure simplicity & coherence	25	20	20	10
Absence of modes	20	10	7	15
Protection from mistakes & error recovery	20	20	0	20
Intelligent use or avoidance of sound	15	15	10	10
Reliance on manual after initial use	15	15	15	15
	-----	-----	-----	-----
	125	105	67	85

maximum score

1425

1001

753

950

price

\$150

\$60

\$150

	MAX PTS	MGC WIND II	PFCT WRITER	SELECT
<hr/>				
5. USER SUPPORT				
Owner protection	100	0	100	100
1 copyable diskette = 100				
2 uncopyable diskettes = 20				
1 uncopyable diskette = 0 (even if second available for a fee)				
Manual	60	50	40	45
Tutorial (10)		8	x	9
Index (10)		10	x	8
Readability (10)		7	x	9
Organization (7)		5	x	6
Thoroughness (7)		7	x	5
Quality/durability of materials (6)		3	x	4
Value as a reference (5)		5	x	4
Quick reference card (5) or page (2)		5	x	0
Ease of installation	40	25	20	35
Pictures in manual (5)		2	x	0
Menu-driven self configure (25)		15	x	25
Explanation of terms or glossary (5)		3	x	5
Formal description of features (5)		5	x	5
Warranty	25	0	25	25
Does not preclude owner from archiving (15)		0	15	15
Does not restrict user to single CPU (10)		0	10	10
Phone number - technical hotline	10	0	0	0
Sample files supplied	10	10	10	10
Upgrades published regularly	5	5	5	5
	250	90	200	220

6. OVERALL EASE OF USE

Subjective impression	30	20	25	15
Command structure simplicity & coherence	25	20	18	20
Absence of modes	20	0	20	0
Protection from mistakes & error recovery	20	15	10	15
Intelligent use or avoidance of sound	15	5	10	15
Reliance on manual after initial use	15	12	5	15
	125	72	88	80

maximum score

1425

809

1131

873

price

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Owner protection

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- 2 uncopyable diskettes = 2
- 1 uncopyable diskette = 0
- second available for a f

Manual

- Tutorial (10)
- Index (10)
- Readability (10)
- Organization (7)
- Thoroughness (7)
- Quality/durability of mat
- Value as a reference (5)
- Quick reference card (5)

Ease of installation

- Pictures in manual (5)
- Menu-driven self configure
- Explanation of terms or gl
- Formal description of feat

Warranty

- Does not preclude owner fr
- Does not restrict user to
- Phone number - technical hot
- Sample files supplied
- Upgrades published regularly

6. OVERALL EASE OF USE

- Subjective impression
- Command structure simplicity
- Absence of modes
- Protection from mistakes & e
- Intelligent use or avoidance
- Reliance on manual after ini

maximum scor

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x subcategory scores not available



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- #8 DATA BASE (Part 1), HOME ENTERTAINMENT
- #9 DATA BASE (Part 2), MASS STORAGE

reflect all commissions in computing profit and loss. Cash balance is automatically adjusted for each sale or purchase.

OPERATION

The program is a joy to operate. Of a dozen programs I use regularly, only this one has dust on the manual. The manual, which has approximately 70 pages, has no index but does have a usable table of contents. The documentation lacks the sleekness of a big software house production. No matter, the program has the answers you need in the questions it always asks. You move smoothly and quickly from one operation to the next. Error catching is excellent, to the point of annoyance, as you are constantly reminded to save to disk what you have just entered or updated from Dow Jones. Appropriate utilities are included for easy addition to, deletion from, or change of the portfolio.

Multiple portfolios can be maintained. The Dow 30 or your favorite stock picker's choices can be followed and compared to your real portfolio. A separate data disk in drive 2 holds several large portfolios. Additional disks mean no limit to the number of portfolios that can be managed.

The same author also markets Professional Portfolio Master (\$495) which performs as Portfolio Master but in addition, will cross-reference. This means that all accounts holding IBM can be viewed, or one Dow access for IBM's price can be made and then posted to all portfolios holding IBM. The professional version also allows time-delayed mass printing of portfolio reports and time-delayed Dow Jones access.

PRINT AND DISPLAY

The program supports no 80-column board. It displays several different arrangements of the portfolio or sales tables in 40 columns on the CRT screen. It can print any of these 40-column displays, and three additional 80-column reports can be printed but not screen-displayed. Printer form feed can be suppressed

or it will automatically skip 11-inch paper perforation. Hardcopies demonstrating regular access to current quotes should help you survive the auditor's challenge to your tax deduction for this software.

VENDOR SUPPORT

I had the early 1982 version of this program and wrote the author asking why I could only record purchased calls and not calls written. I received a prompt written reply promising this in a revision to be out in six weeks—the revision was on time and possessed the promised capability. When a minor problem occurred six months later, I called. James Huebner personally answered the phone, listened patiently to my problem, and said to send in the backup disk and that he would fix the problem. He did, within two weeks. If only all vendors . . .

CONCLUSION

There are several programs claiming to do what Portfolio Master does so well. The original Dow Jones Portfolio Evaluator did not allow manual entry, restricting the evaluation to what could be retrieved from the DJNS data base. The current Dow Jones Market Manager prints only four reports—none can be screen displayed—and it lacks other features of Portfolio Master, while costing more. The programs that combine portfolio management with fundamentals modeling or technical analysis neglect the more simple task of recording or monitoring which this program handles so well.

I can think of nothing else I would expect this program to do. In the manual the author is described as "for twenty years a specialist in investment management". The program indeed reflects a nice blending of investment needs with efficient microcomputer application. Anyone who manages one or several investment portfolios, consider this review a strong buy signal. You can place a stop loss order on your valuable time with Portfolio Master 3.1.□

Portfolio Master 3.1

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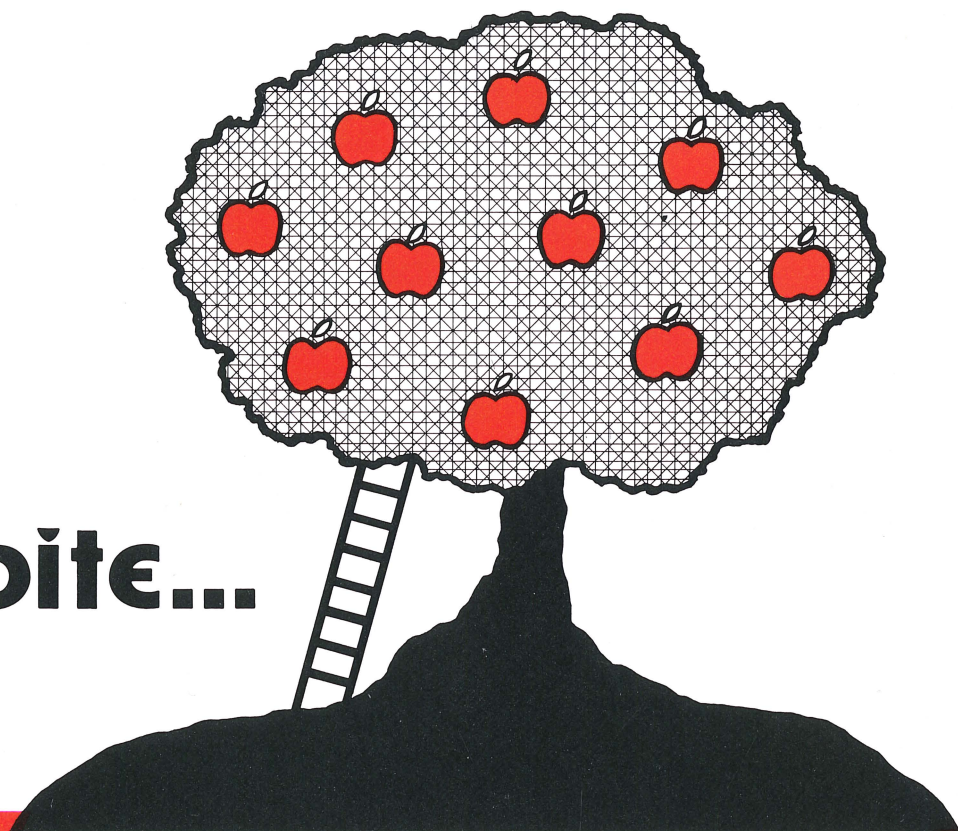
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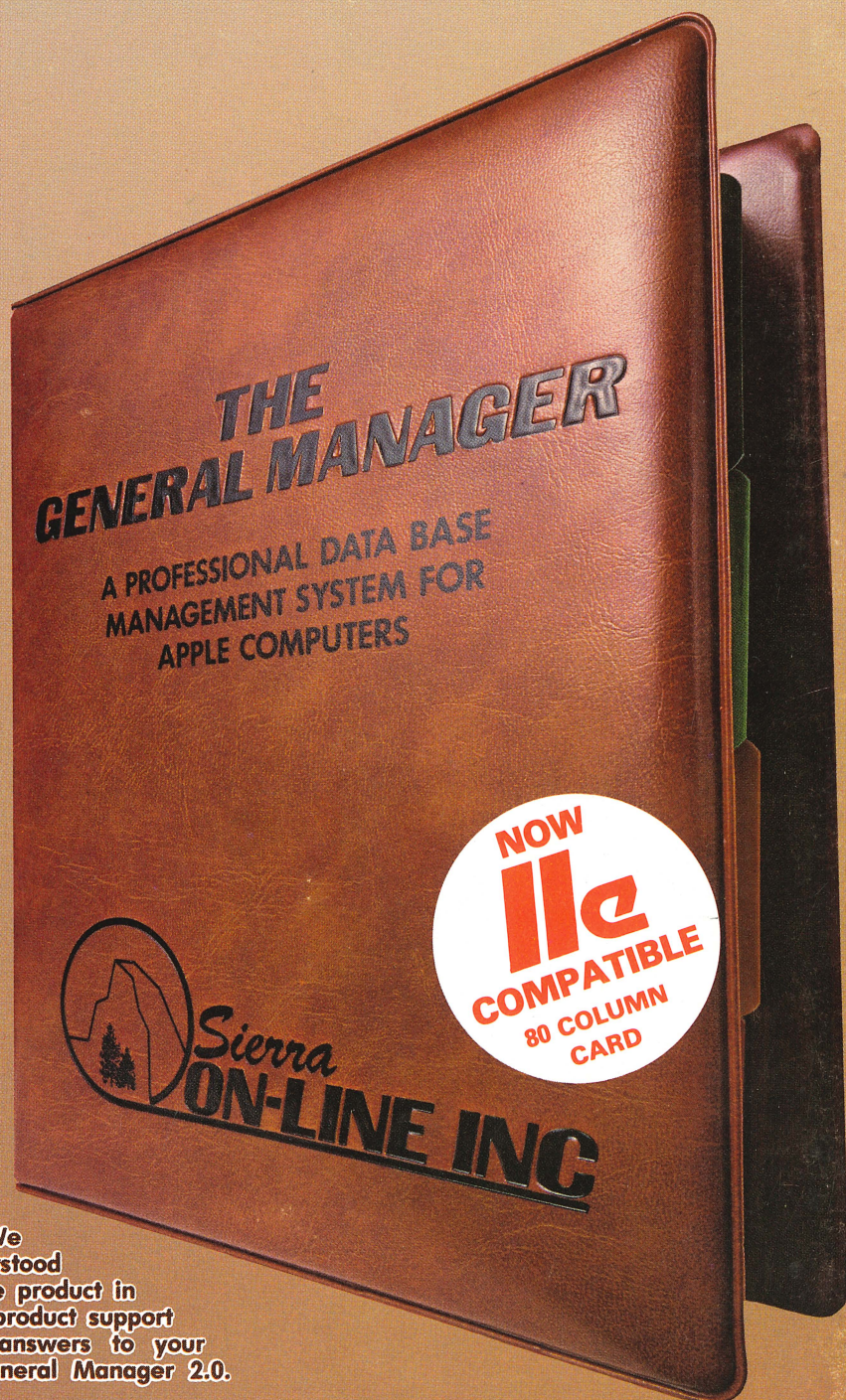


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