Alpha Software The Apple-IBM Connection
Data Communications Support Program

■ PROFILE

Function ● support the transfer of basic text files and certain program-dependent file types between Apple II and IBM Personal Computers.

Computers/Operating Systems Supported ● Apple II or II+ with DOS 3.3, and IBM Personal Computers or PC/XTs running PC-DOS 1.1 or higher.

Configuration ● the Apple II system requires 64K-byte RAM, one disk drive, and a Hayes Micromodem II, California Computer Systems Model 7710 serial card, Apple Super Serial Card, or a Mountain Hardware CPS Multifunction card; the IBM PC requires 96K-byte RAM minimum, one disk drive, and an IBM-compatible serial port or Hayes SmartModem.

Current Version/Version Reviewed ● "New Version"—no release number/not specified.

Number of Installations ● approximately 5,000.

Comparable Products ● none.

Optional Associated Software ● none.
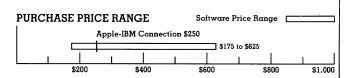
Price ● $250 retail price.

Vendor ● Alpha Software Corp; 30 B Street, Burlington, MA 01803 ● 617-229-2924.

■ ANALYSIS

Alpha Software provides a series of products, most of which have a common thread of compatibility with VisiCalc and WordStar. The Apple-IBM Connection, which we will call CONNECTION hereafter, recognizes that many corporations have a requirement to transfer data from Apple II computers to IBM Personal Computers. In theory, any pair of communication products could serve to accomplish this, but a single integrated product is easier to use.
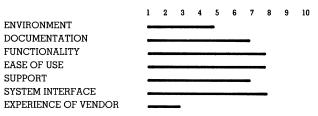
The CONNECTION consists of an Apple II program and an IBM program which pair to support an actual communication exchange via modem or directly. There are also utility programs for each system to facilitate file conversion on the transferred data. The utilities are primarily directed toward the transfer of VisiCalc.DIF files or WordStar text files.

The Apple II gained much of its popularity through the extensive support of after-market vendors, and this is already true to a lesser extent of the IBM PC. The CONNECTION does not support all possible hardware configurations,

PRODUCT QUALITY RATINGS*

	1	2	3	4	5	6	7	8	9	10
ENVIRONMENT										
DOCUMENTATION										
FUNCTIONALITY										
EASE OF USE										
SUPPORT										
SYSTEM INTERFACE										
EXPERIENCE OF VENDOR										

*For an explanation of rating criteria, please refer to the Communication Features section in the Software Evaluations (805) report.

and some seemingly logical forms of transfer (Apple II Pascal to IBM PC UCSD Pascal, for example) require the support of utility programs at both ends which are NOT supplied with the CONNECTION.

The CONNECTION can be used for transfer between two like computers as well, but its value in that context is limited and alternative packages would probably be more suitable. Users with a mixed environment and a high volume of inter-system transfer may want to use the CONNECTION even for like-to-like exchange just to retain consistency of operation.

A corporation with a significant volume of Apple/IBM data exchange may find the CONNECTION very helpful, but it should NOT be viewed as a general-purpose communication product.

☐ Strengths

Communication tasks are one of the mysteries of computers to many users, and the prospect of marrying two different products from different vendors on different computers to support a data exchange is pretty intimidating. The CONNECTION offers a controlled environment where the total task is defined and implemented under control of what is essentially a single product.

The file exchange process can be managed from one end of the communication path using the master/slave modes of the CONNECTION. This reduces the level of familiarity needed by a second operator to run the package and the amount of coordination required for a successful transfer.

Many file transfer processes just move data from one system to another without regard for the potential differences in the internal structure of the information on the source and destination computer. By providing a limited set of utility options, the CONNECTION can actually produce a workable copy of the file on the other system, not just a copy of the data.

PURCHASE PRICE RANGE   Software Price Range ☐

Apple-IBM Connection $250

$175 to $625

$200	$400	$600	$800	$1,000

ALPHA SOFTWARE APPLE-IBM CONNECTION PRICING ● open bar shows the typical range of prices for **DATA COMMUNICATION SUPPORT PROGRAM** used in a corporate environment ● the vertical line within the bar graph indicates the price of **Apple-IBM Connection,** the evaluated product, relative to the price range of similar products.

Alpha Software The Apple-IBM Connection
Data Communications Support Program

The approach to the transfer problem implicit in the design and explicit in the documentation is a straightforward "I want to take this from computer A to computer B." Depending on what "this" file type is, and what the two computers are, menus and tables guide the user through any pre-processing, the actual exchange, and any post-processing.

☐ **Limitations**

The CONNECTION is a very specialized product, and stepping only a little outside its intended scope can result in failure. In particular, general communication applications such as connection to a data center system are not supported.

The Apple configuration requirements for the CONNECTION are very restrictive. Many Apple systems do not have 64K bytes of RAM, and there are many modem and serial port types other than those supported. A user may be forced to pay several hundred dollars to upgrade Apple hardware just to run the CONNECTION.

The manual does not give a good feeling about the details of the transfer operation. If it were not for the audio tape tutorial, the operation of the master/slave mode would be obscure enough to be of little value.

There is a significant reliance on outside utility programs for some types of file transfer. While this is explained in the specific descriptions on how to transfer files, a user may purchase the product unaware that it will not, in its supplied form, support the type of exchange desired.

■ **HANDS-ON EVALUATION**

An influx of IBM Personal Computers into an operation which had previously contained several Apple II computers had long presented us with file transfer problems, and the promise of the Apple-IBM Connection was enough to sustain great expectations on our part.

Our first problem was that the Apple computer we used had only 48K bytes of RAM, which is after all the old standard for that series, and would not run the program at all. A 16K-byte upgrade solved that problem. There was an addendum card on the front of the manual which confused us considerably on the options of the system, and we finally called Alpha Software to get things straight.

The IBM element of the product must be "installed" by the user, which involves providing details on the configuration. If a configuration of 64K bytes of RAM is indicated, a slower interpretive BASIC form of the program is used. We were unable to run this version dependably at 9600 bps. The IBM version is also copy protected, but the backup procedure (one shot and you're out) will allow the backup to be made to a double-sided diskette. This gives some room for files if you don't want to disk swap. It would have been more convenient to have a copy of the program on each data disk.

A big plus with the product was a short audio tape which described the operation of the system during a sample transfer. It was a step-by-step description of how to do a

transfer, and you could even hear the keys being struck at the appropriate points. This tape was such a hit with the operating personnel that we had to arrange a group session to hear it and see the procedure followed. It established a level of confidence in the operation of the product which would have been otherwise difficult to achieve.

There is a little too much documentation on file transfer choices, and we suspect that most companies will find, as we did, that only a few were actually used. We highlighted our own form of exchange in the manual and put a tab in to make it easy to locate. Some setup support from our most knowledgeable Apple user was required to get everything going, but the program supported the transfer of VisiCalc files with no difficulty. A subsequent test of WordStar transfers on another system was also successful.

☐ **User Interface**

The Apple-IBM connection uses a menu structure for the entry of all commands. The commands and options are selected from a master menu, and any additional information required by a particular command or option is prompted for by the program. The program also prompts the user through external and special actions, so that little knowledge of communication is required for its use. Either station in the circuit can control the entire transfer by assuming a "master" status, minimizing the amount of coordination required for successful file transfer.

Menus: A single menu is used as the basis for all command options. If the operating mode of a computer makes some of the options inappropriate (you cannot select send or receive in slave mode, for example), the options will not appear on the menu. Menu selection is made by letter, and the letters do not correspond in any way to the command name but are assigned alphabetically.

Control characters: Not used.

Function/special keys: The ESC key is used at the main menu to signal the desire to establish the link. No other special or function keys are used.

Command language: None.

Positive feedback: The program displays the progress of the connection as the user takes steps to establish it, but there are some intervals during which the state of the circuit could be in doubt. Modem delays will cause these long pauses, as will a delay in response from the opposite station.

Status display: Progress of the connection is displayed as the state changes, and an ongoing display of the number of blocks transferred displays during file exchange.

Help facilities: No on-screen help is provided. A comprehensive set of examples of file transfer is included with the program, and an audio tape is provided to take the user through an entire transfer process.

☐ **Environment**

On the IBM side, the CONNECTION is an easy program to support. All that is required is a disk drive, a minimum of

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96K bytes of RAM, and either an IBM-compatible serial port or a Hayes SmartModem. Having additional memory did not affect the operation of the program, but it was hard to imagine how it might have been used to advantage in any case. The IBM program is copy protected.

The Apple II configuration options were less clear. In the first place, only a few serial ports and modem options are supported. If you happen to have a different modem, you will have to purchase one which is compatible. Some serial cards do not support the menu selection of data rate because they set it from switches on the board. Fortunately, we had a supported serial card. Memory requirements are stringent for the early Apple II and II+ systems— you need 64K bytes of RAM. One of our Apple II systems had the required memory, but the main system had to be upgraded.

An Apple IIe system has some strange restrictions on the slot usage for the serial card, and there is some interaction between the card and the 80-column board.

Neither the Apple nor IBM instructions indicate how to use a second disk drive for data storage, if such a drive is available. All the examples indicate operation in single-drive mode.

Our Apple specialist forgave most of the restrictions on the grounds that the Apple computer does not have the same level of communication standardization as the IBM. He felt that the vendor would have faced an impossible task in making the product compatible with all communication/serial port options.

☐ Documentation

The documentation for the CONNECTION consists of a single manual, an operator card with the key usage and menu structures, and an audio tape which serves as a tutorial.

The tutorial tape was accepted by our staff to a much greater degree than any written form of tutorial had ever been accepted. The tape takes a user through a sample setup and file transfer in a simple, step-by-step way. You are expected to follow the procedure in parallel with the speaker, transferring one of your own files. The tape and the sample session gave everyone a level of confidence in the communication process which made the reference to the documentation easier and made some of the pre-process and post-process tasks less intimidating.

The manual is likewise systematic in its structure. The opening sections describe the necessary operating environment on both the Apple and IBM and help you set up both systems for the execution of the program. You should read these sections before using the tape tutorial.

The second part of the manual describes the transfer process itself. It is divided into sections based on the pairing of computers; Apple-to-Apple, Apple-to-IBM, etc. Each section opens with instructions to locate the file transfer type in the material which follows and follow the basic processing steps defined there. An example is then provided for user references.

The third part of the manual is devoted to reference material. This includes some comments on file structures, types, and naming conventions on the systems, a full description of menu options, and a discussion of the utility programs provided for pre-transmission or post-transmission processing. There is a glossary of terms and a fairly good index.

The most significant shortcoming of the manual is the poor explanation of the master/slave mode of operating the product, an omission which obscures the benefits of one of the package's best features. A second problem is the lack of solid technical grounding to assist in troubleshooting the product or "pushing" it to new areas of operations.

☐ Functionality

Like any other communication program, the CONNECTION requires a certain level of agreement between the systems on what is to be done. One way to enforce this is to have a voice conversation between the operators of the system, but this tends to break down if the same line is also used for data transfer. You can operate each end of the link individually, with one side naming files to be received and the other sending the corresponding file. Since the receiver must be ready to receive when the sender starts transmitting, this can result in lost messages.

A better way to run the CONNECTION assumes a master-slave relationship exists between the two computers for any transfer process. The operator of the slave side need only select the slave mode of operation, and the entire transfer process can then be controlled from one end of the path. We found this to be the only practical way to transfer where the two systems were not co-located, and a better way to handle even that.

Most of our exchanges of information were VisiCalc DIF files which were destined to become Lotus 1-2-3 files on the IBM system. We marked that page in the document, but the users quickly became familiar with the procedure, which is representative of all transfer processes with the CONNECTION.

Transferring a DIF file from Apple to IBM requires no pre-processing on the Apple, so our exchange process consisted of either calling the other system's operator and preparing both sides for the exchange, or cabling the two local systems together. In both cases, our people were most comfortable with the convention that the sending system be the master system, so the IBM software was set up in slave mode and the Apple in master mode. The actual transfer then involves the master selecting the SEND option and supplying the source and destination file name. The default selection for error control (parity, checksum) was satisfactory for all our transfers, and the COMPARE features which did not write to disk but compared transmission data with data already received was a form of verification we likewise did not find necessary.

Once the data has been received on the slave (or receiving) system, a post-transmission process utility may be necessary. In the case of VisiCalc DIF files, we ran RE-FORM on the PC and selected the option for VisiCalc

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Apple-to-IBM conversion. This created a file in the proper format for either VisiCalc or Lotus 1-2-3.

The master system can also initiate reception of a file from the slave, providing that the slave file is on the disk and the master operator knows its name.

The master/slave concept can be used for the transmission of electronic mail between users. If all systems are left connected to the modem and in slave mode, they will answer the phone when another system in master mode calls and accept a file. This same procedure can be used to support unattended transfers if the slave system is preset and left operating.

☐ Ease of Use

Operation of the product is based on a series of menus and a status message display which guides the user along the path to complete the transfer. We found that if the initial setup of the product was made correctly and both ends were in the proper mode of operation, there was no problem exchanging files. Even errors encountered in transmission were reported to both parties and remedial action suggested.

Selecting a mode of operation and establishing the connection were the major points of confusion with the product, and this was because the manual did not treat the master/slave options well. If a user does not hear the tutorial tape and attempts to run the CONNECTION, the most likely course of operation is the unsynchronized manual method of transfer outlined in the examples. We attempted this mode and found that the degree of coordination between the end-points necessary for a successful transfer could be achieved only if a parallel voice circuit was available or the two systems were in the same room.

As a dominantly IBM PC organization, we did not like the disk swapping necessary on the Apple II system. Neither the PC nor Apple instructions provide any insight into running the program with a dual drive system so that data can be received on a different disk, but we were able to handle that on the PC by making the data disk the default drive and loading the CONNECTION explicitly from the other drive. If you forget to replace the program disk with the data disk on the Apple side, the file to be sent cannot be located. Our operators tended to view this as an indication of total loss of system sanity and give up.

Some of the file transfer options, particularly those involving Pascal, could not be completed without using utility programs not supplied by Alpha Software. We tried several Pascal file transfers and a FORTRAN transfer, and the operators found that the combination of pre-processing and post-processing was complex enough to invite errors. Our Apple specialist again pointed out that the task was inherently complex and it was unfair to judge the CONNECTION on this basis. While this is certainly true, it is also true that a user with a problem is not necessarily soothed by the fact that it is an understandable one. A close survey of file transfer procedures for anyone planning to use unconventional file exchange is certainly in order.

☐ Support

Alpha Software has both an 800-number and a conventional number which can be reached for support. The personnel in the technical support area were helpful beyond the call of duty. Our first call had to do with the setup of the system, brought about by confusion over an addendum to the manual enclosed with the software. We were lead through the installation process confidently, and told to call back if we had any further problems.

Our second call was made in an effort to learn how to use a second disk drive with the Apple II. The support specialist was busy at that time, and we were asked to call back in 5 minutes; a minor annoyance in procedure but not an extra cost since there was an 800-number. The specialist was still busy when we called back, so we left a message this time.

☐ System Interface

What the program sets out to do, it does well. The conversion and transfer instructions cover most common file exchanges, and even some requiring the support of software of other vendors. Apple DIF files and WordStar files could be exchanged easily with the IBM form, and print-image or line-editor text could likewise be transferred without a problem.

The only negative aspect of the interface process was the lack of warnings associated with the transfer of program source. There are significant incompatibilities between the IBM and Apple forms of most programming languages, and a simple transfer of files will not resolve them. A warning to the user seems appropriate, or additional conversion functionality should be provided.

☐ Vendor Experience

Alpha Software is a relatively new company, having begun operation in 1981. They have several product offerings, most of which are directed toward personal computer business applications rather than to "hobbyist" or specialist users. The CONNECTION has been in the field for about one year.

■ PRODUCT OVERVIEW

☐ Terms & Support

Terms ● the Apple-IBM Connection is available on a purchase license basis only from Alpha Software Corp, through personal computer retail stores, software stores, or mail-order firms throughout the U.S.

Support ● 800-number and conventional telephone hot-line.

☐ Component Summary

The CONNECTION program—loaded automatically from the distribution diskette when the system is powered on. That disk is NOT required once the program has been loaded. The software elements of CONNECTION include: CPMTODOS—an Apple II utility used to convert Apple II CP/M format files (such as WordStar's text file) to Apple format for transmission; MESSAGE—an Apple II utility used to display a text file received using the "electronic mail" feature of the program; REFORM—an IBM utility used to

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convert files for transmission or to reformat files received from the other system prior to actual use:

$250 lcns

☐ Computers & Operating Systems Supported

Apple II or II+ with DOS 3.3 and IBM PCs or PC/XTs running PC-DOS 1.1 or higher. Support for IBM- or Apple-compatible systems is not covered.

☐ Minimum Operating Requirements

The Apple II system requires 64K bytes of RAM, one disk drive, and a Hayes Micromodem II, California Computer Systems Model 7710 serial card, Apple Super serial card, or a Mountain Hardware CPS Multifunction card; the IBM PC requires 96K bytes of RAM minimum, one disk drive, and an IBM-compatible serial port or Hayes SmartModem. A restricted version will run on an IBM PC with 64K bytes of RAM.

LCNS: license fee.

☐ Features

Type of Product ● Integrated Apple II/IBM PC communication exchange program.

Target Host Computer ● for use between Apple II and IBM PC computers or between two of either of the systems.

Protocol ● asynchronous proprietary file transfer protocol using the ASCII character set.

Data Rates Supported ● to 9600 bps using direct connection, or as limited by modem.

Format Conversion Features ● utilities provided to format text files, WordStar files, or VisiCalc or other files in the DIF format.

Automatic Setup Features ● no automatic dial or setup supported.

● **END**

Alpha Software Data Base Manager II— THE INTEGRATOR
Data Management Package

■ PROFILE

Function ● database management.

Computers/Operating Systems Supported ● IBM Personal Computer, PC/XT, IBM Compatibles, Texas Instruments Professional Computer using DOS (Version 1.0 or higher).

Configuration ● minimum 128K bytes of RAM; 192K bytes of RAM recommended with DOS Version 2.0, floppy disk drives containing 320K bytes of RAM each, or a hard drive system, monochrome, or color display.

Current Version/Version Reviewed ● Version 1.3/Release 1.2.

First Delivery ● June 1983.

Number of Installations ● information not available.

Comparable Products ● Ashton-Tate dBase II, Condor Computer Condor, Innovative Software T.I.M. and Fast Facts.
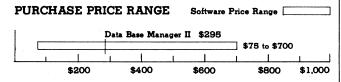
Price ● $295.

Vendor ● Alpha Software Corporation; 30 B Street, Burlington, MA 01803 ● 617-229-2924.

Canada ● Scarsdale Technologies, Inc; 1 Scarsdale, Don Mills, ON M3B 2R2 ● 416-441-1900.
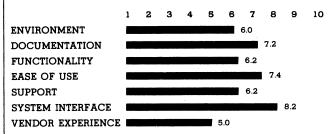
■ ANALYSIS

To use an old cliche, "The name says it all." Alpha Software Corporation aptly named this database program The Integrator, which is the key objective of this software package. It is a sophisticated product, not intended for use by the inexperienced. It is necessary for the user to have a working knowledge of spreadsheets, word processors, and mailing list packages in order to fully implement DBM2 (alias The Integrator or Data Base Manager II). DBM2 is well-suited for the intermediate user if it is used in conjunction with such popular and powerful software packages as Lotus 1-2-3, WordStar, VisiCalc, and MailMerge. However, Alpha Software does state that DBM2 will work well with any similar packages.

The integration concept, which is the main feature of DBM2 and which makes the package quite attractive to the business user, contributes to its greatest weakness. DBM2 is not an exceptional database management system by itself and it lacks a comprehensive reporting facility. But the package contains a report generation function and

PURCHASE PRICE RANGE

Software Price Range [   ]

Data Base Manager II $295

[==================] $75 to $700

| | | | | | |
| $200 | $400 | $600 | $800 | $1,000 |

ALPHA SOFTWARE DATA BASE MANAGER II—THE INTEGRATOR ● open bar shows the typical range of prices for **DATA MANAGEMENT** software used in a corporate environment ● the vertical line within the bar graph indicates the price of **Data Base Manager II—THE INTEGRATOR**, the evaluated product, relative to the price range of similar products.

PRODUCT QUALITY RATINGS*

	1	2	3	4	5	6	7	8	9	10
ENVIRONMENT						6.0				
DOCUMENTATION							7.2			
FUNCTIONALITY						6.2				
EASE OF USE							7.4			
SUPPORT						6.2				
SYSTEM INTERFACE								8.2		
VENDOR EXPERIENCE					5.0					

*For an explanation of rating criteria, please refer to the Data Management Features section in the Software Evaluations (805) report. The Overall Package Average is 6.6.

the ability to store up to 10 formats, including mailing labels, per each database. However, these reports are limited as to how they can be designed, which is quite simple at best.

DBM2 is a sophisticated database management tool and is definitely worth implementing in the business environment. It is a tremendous asset as long as the user comprehends the fact that the other powerful software packages like those stated above must also be implemented, and that the user should possess a working knowledge of them. Because of this interdependence, DBM2 is a worthy expense if the other packages are already in use, but it is quite an expensive proposition if DBM2 is the initial purchase.

□ Strengths

The ability to integrate with other powerful software in such complimentary fields as spreadsheets and word processing, and the ease with which this integration is performed, gives DBM2 quite an edge in its field of database management. This is not limited to brand-name products either—procedures are provided for general integration of other software into the DBM2 environment.

DBM2 offers the user the option to perform certain calculations while manipulating the database. The inclusion of these calculations frees the user from the time and added work of using spreadsheet packages to calculate the data and then transferring the new data back in DBM2. Thus, even though the calculations are limited to simple 2 field calculations, or a constant and one field calculations, it still proves to be a time saver. With the inclusion of date calculations, it is quite conceivable that the majority of calculations can be done by DBM2 alone. DBM2 includes a built in calendar which provides the package with the ability to perform the date calculations, a very useful tool for accounting purposes.

Alpha Software Data Base Manager II—THE INTEGRATOR
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The user is able to organize information according to user-defined priorities with DBM2's sort option. The sort is broken down into 2 selections—a fast in-memory sort with report generation, or a multilevel disk sort. The first sort has its limitations: it can only sort up to 2,500 records, and can only provide a multilevel sort by saving each sort as a new database and sorting again and again. However, it is a quick sort; it allows alphanumeric, numeric, and date sorts in ascending or descending order. It can generate reports using previously created formats or by each individual record. The multilevel sort is very useful with large files. It enables the user to overcome the memory limitations of spreadsheet files. The user can convert spreadsheet files into various DBM2 files, merge the files into a single file and then sort as one complete file. With the multilevel sort, the user is only limited by disk space.

In addition to the quick and powerful sort function, there is an equally impressive search option. The search is broken down into 4 separate routines. The first search can search up to 5 fields using logical operators and a choice of formats (alphabetical, numerical, or date). The next 2 searches involve a wildcard search with either a field search containing a certain character string specified by the user, or a search throughout each entire record of the database for that string. The final search option pertains to a phonetic search. The only requirement is that the first character be correct. All the search options include the ability to replace a selected field, a selected portion of a field, or all the fields in the record that contain the specified string. With the search and replace, the user is given a wide latitude of data manipulations from which to work.

☐ Limitations

The most serious limitation of DBM2 is that it is dependent on the other systems to operate effectively, especially in the reporting phase. It can generate reports and mailing labels, though very simple ones at best. DBM2 can perform calculations, up to a maximum of 2 fields and one operand per calculation. Difficult calculations are impossible. Due to its dependence, DBM2 burdens the user with the added expense of purchasing the other needed systems.

Data entry provides some of its own limitations. There is a lack of control over the entry characteristics of the fields, and the user is not kept from entering the wrong data. The user is allowed up to 40 fields per record, with each field being positioned directly below the previously entered field. The description of the field is limited to 10 characters, which prohibits the user even more from defining exactly what should be entered in that field. Also, except for a brief notation in the manual under field calculations, the user is not shown that dates must be entered in a certain format. The format allows the dates to be used successfully with the date calculation feature of the system. Since fields cannot be specifically defined, the risk of sort errors, search errors, and date calculation errors, as well as other calculation errors, is high.

IBM's PC and its compatibles come with at least 10 function keys for the purpose of making data entry and handling easier. DBM2 uses a maximum of only 5 of these keys during one option of the program—the rest are unused. Only one key, the F9 current date key, is similarly defined in each option. DBM2 uses one-letter functions which are automatically displayed at the bottom of the screen. However, the increased use of function keys and possible consistency of each key would provide greater ease in the use of the system.

■ HANDS-ON EVALUATION

DBM2 comes bundled in a hardcover loose leaf binder enclosed in the now familiar slipcase, along with the necessary diskettes and an instruction-oriented cassette. After opening the package our first step was to listen to the cassette. It gave us ideas of the many configurations we could integrate with, and then told us we would have to make the disk self-loading, (that is, diskettes with the DBM2 program and DOS on the same disk), before continuing with the cassette program. The instructions were easy to follow and we were actually able to create a self-loading system without the help of our technical staff. The manual even came with separate instructions for the different disk operating systems, and a number of hardware configurations.

Our professional staff did not experience any problems with creating the database on the screen. We were not fond of the field name limitation of 10 characters, because we had to configure an abbreviation that our data entry staff would understand. Data entry was not difficult, but errors were found, especially in areas of numeric and date entries. Since there were specific formats to follow, we had to instruct each of our staff how to correctly enter the data. We considered this quite cumbersome, and the necessity for developing a separate procedure manual to overcome the short field descriptions supported was one of the most voiced objections to the product.

Our staff had no difficulty in editing data, sorting data, or searching for data. We were pleased with the speed of the sort and search functions, and also with the different searches and replacements that we could perform. Even the database manipulations such as merging and reconfigurations proved to be quite simple.

Since our staff already possessed the skill and knowledge of separate spreadsheet and word processing packages, we tried out the integration function of the package with Lotus 1-2-3 and WordStar. We liked the fact that the Link sub-menu had 12 options on it and indicated the procedure and name of the most popular packages. Using Lotus 1-2-3 we sent a DBM2 file to Lotus, performed a few difficult calculations that could not be done with DBM2, and retrieved the new information from Lotus back into our DBM2 file. The transfers went quite smoothly.

We tried out WordStar in a different manner with equally good results. First, we created a letter using WordStar and saved it on DBM2's data disk. We then went into DBM2's form letter generation option and selected the fields of our database that we wanted in our letter, and we proceeded to print out the letter. We were able to create customized letters without transferring our database into a WordStar file.

Though DBM2's reporting facility is quite simplistic, it does provide a means to print out the information for the user. However, it is so restricted in its formatting that it limits the

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Data Management Package

reporting capabilities that most businesses need. Column titles can only be 10 characters long. We only had one title line and one footnote line. To be able to use the form generation option, the letter must be created first. The manual does advise that the line editor that comes with your other disk operating systems be used, but the line editors are somewhat difficult for the casual users.

We were impressed with the package as a whole. The absence of entry restrictions and limits on defining the data entry screen are irritating, but the system is still fully usable. Including the fact that it can generate its own reports, it is a complete system. However, for optimum usage of DBM2, spreadsheet and word processing systems are a must. DBM2 enhances itself and optimizes the other programs when the integration facility is used.

☐ User Interface

DBM2 uses a menu structure in format definition mode, and while the number of menu selections on the main menu are probably excessive, the format entry interface is satisfactory. Data entry is via an entry form defined in the format step, and the restrictions on the size of field prompts and general weakness in editing make this interface less satisfactory.

Menus: The main function menu is displayed after selection of the database has been made, or upon exiting the different options. Many of the selections have their own particular menus, with the integration and field calculation selections having the most elaborate. The main menu and selection menus cannot be bypassed by the user.

Control characters: None available.

Function/special keys: The use of the function keys varies with each option, with the F9 function key being constant throughout the total system (the current date kept by DOS). The ALT-F10 function (depressing the ALT key and F10 key simultaneously) is the only function that uses the ALT key. This function is used to get back into the main menu at any point in the program. It is known as the "panic button." Users are not able to modify or select function key assignments. Certain selections include the use of single letter responses that are displayed on the lower portion of the screen. The use of function keys is minimal.

Command language: None available.

Positive feedback: Deletion of records or of entire databases requires confirmation by the user. Incorrect depressions of single key entries or function keys will produce an audible beep. Database reconfigurations are not protected, and the previous database will be lost if not saved under a different title.

Status display: The upper portion of the Main Menu displays the title of the database currently being processed, along with the number of files currently found in that database.

Help facilities: The only Help facility is present in the Link menu for the conversion of word processing text files into Data Exchange Format files. In other areas of Help, prompts are given with underscores for each input position for the user to fill in the blanks. Default suggestions, shown in low intensity, can be accepted by the user by pressing RETURN.

☐ Environment

Data Base Manager II is geared to run on the IBM and IBM compatible configurations. However, in this version, the system is also able to run on the Texas Instrument Professional computer. On the IBM, DBM2 can run on DOS 1.1 and 2.0, and on IBM compatibles, using DOS 1.25. However, because 1.25 is larger than 1.1, all of DBM2's programs cannot fit on one disk. Alpha Software was aware of this problem, and therefore created 2 commands: UPDATE1 and UPDATE2. These commands are used when preparing the disks to be self-loading.

There is one drawback though, and that deals with memory. Alpha Software states that DBM2 can run successfully on 128K bytes of RAM, though optimal conditions are 192K bytes of RAM. The 192K is mandatory if using a hard drive. What is not stated anywhere in the manual is that when using an IBM compatible with DOS 1.25 or a PC with DOS 2.0, it is also necessary to have 192K bytes of RAM. The conversion to a WordStar DEX file is impossible without the larger memory.

Our staff tested DBM2 on 2 hardware configurations. The first was an IBM PC with 256K bytes of RAM, 2 360K-byte disk drives with a hard drive expansion, a monochrome display, and DOS 2.0. The other configuration was a Columbia Portable with 128K bytes of RAM, 2 360K-byte disk drives, a monochrome screen, and DOS 1.25. The only hardware difficulty we encountered during our test applications was the memory limitation on the Columbia with the DOS 1.25. All the other test applications worked fine on both machines. We also tried DBM2 with DOS 2.0 on the Columbia, but ran into memory limitation problems as soon as we tried running the tutorial.

☐ Documentation

The documentation supplied with DBM2 is well formatted and easy to understand. The manual is divided into 5 sections by plastic tabs for quick reference. The sections include a rundown on the options of the Main Menu, except for the Link option which composes the next section. The VisiCalc/Lotus 1-2-3/WordStar Link section gives specific instructions for the file conversions of each of the 12 options listed in that sub-menu. The next section, which is a very nice added feature by Alpha Software, concerns documentated applications for DBM2 and its integration with other systems. Some of the applications include inventory, accounts payable, and accounts receivable. The succeeding section concerns the appendicies, with the first appendix giving a few actual structures on some sample databases that the user can use as is or modify. These samples are very valuable for stimulating the user to the many variations and possible databases that can be created. The last section contains an index of the manual.

There are no templates or quick reference cards, but none are really needed. DBM2 provides a Help Menu at the lower portion of each screen. In addition, the system does not make major or complicated use of the function keys. The screen provides the quick reference, and the manual is composed to provide easy reference for more complex questions.

DBM2 does, however, provide a cassette with its manual

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and tutorial disk. The cassette is easy to understand and follow, and illustrates the main objectives of the system in conjunction with the tutorial. This in itself provided us with the best education in the use of DBM2.

After making the system self-loading, we returned our attention to the cassette, and experimented with the tutorial located on the data disk. Upon viewing the Main Menu, our professional staff became very skeptical as to its actual ease of use. The menu has 18 options which appear difficult at first glance. Though, after reading the manual for each option, and continuing with the cassette, our fears were eliminated. With the cassette as a guide, we tried almost every option, and felt confident afterwards to begin our own database.

□ **Functionality**

The Main Menu of DBM2 is the center of all the operations of the system. During boot-up of DBM2, the user is presented with a listing of all the databases on the data disk from which to choose. This selection process is also accessible from the Main Menu if the user wishes to exit the existing database and delve into another. If there is a database in use when the Main Menu is displayed, a line at the top of the screen will display the current database and the number of records presently on file. There are 18 selections on the main menu with the eighteenth allowing the user to exit from DBM2 entirely.

The creation of a database is requested at the same point in the program where the user is given a listing of existing databases. If a new database is needed then the user must only type in the new database name. The user is then required to define the format for the entry of the data. Screen formatting is limited to a listing style with one field directly above or below the next in a straight column. The user must enter the names of all the fields and the lengths of each field. The field name is limited to 10 characters, and the length of the fields are allowed up to a maximum of 60 characters. There is no provision for limiting the type of data entry for a particular field.

Once the format for entering the data is defined, the user is able to begin entering the data. As much data entry should be performed at the initial creation of the database as possible because subsequent insertions to already entered records can only be accomplished by individual edits. Thus, if a field is not filled in during the initial entering, the user must use the data edit selection of the Main Menu, edit that data, return to the main menu, and repeat the process for each record. Progressive movement through the records during the edit phase is not supported.

The first 6 selections deal with specific functions of data manipulation, including data entry, viewing data, sorting data, searching the database, editing data, and deleting data. The sort feature includes an alphabetical, numerical, or date sort, in ascending or descending order. The sort can be accomplished using either a small database of a maximum of 2500 records, or a very large database, with the limit being disk space. The sort can be used to override the limitations of spreadsheet file sizes by combining databases from many spreadsheet files into one DBM2 file, and then initiating a multilevel sort. Both sorts also allow the user to create new databases for conversions to other systems, or to run reports using formats already created by DBM2. The search function permits the user to probe

entire fields, specific character strings in certain fields, or whole records. A replacement option included with the search function can perform changes similar to the operation of the search itself.

The reporting facility of DBM2 is quite limited. At best, DBM2 will create simplified columnar reports or mailing labels. With wide use of the integration procedures, however, this limitation is overcome. The integration feature is accomplished with a simplified menu-driven program that allows the user to transfer data files back and forth from well-known spreadsheet and word processing packages by just entering choices from the menu. Step-by-step procedures for each selection are spelled out in the manual, and there are even explanations on how to use the files in the other programs once they are transferred from DBM2 files.

□ **Ease of Use**

Overall, our staff found DBM2 to be quite easy to use. After a bit of skepticism upon our first few encounters with the Main Menu, we finally became comfortable with the system. Our staff experienced no difficulty in setting up the system. In fact, we were able to configure a self-loading disk with the technical staff just looking on. They were also on hand to watch the ease with which we handled the file conversions with the popular spreadsheet packages and word processing programs. We feel that our prior experience improved our performance with the package, especially when linking data with other programs.

Our clerical staff had one major complaint, and that involved the data entry portion of DBM2. Even the best typists make errors, and with no editing restrictions, we encountered quite a few. We had to make a policy that the record be thoroughly reviewed before going on to the next one. This proved to be time consuming, but was the only way to make sure the search and sort functions would perform properly. The secretarial staff was a bit disappointed at the screen design, since there is only one option.

Our staff implemented a personnel file with emphasis on items required for individual employee benefits. In one day, we were able to construct a database, perform date calculations for change of dependent status on health insurance, and search for and sort those employees whose coverage had to be changed. Using a letter written in WordStar, we generated a form letter notifying them of the impending change.

We also transferred cost data to Lotus 1-2-3 in order to compare new insurance proposals that we had received. Our technical staff was impressed at the ease with which we converted our files back and forth between the various systems. The consensus of the staff was that, with the know-how we had with the other systems, we could master the power of DBM2 and use it to its fullest.

□ **Support**

Our technical staff was called in when we experienced difficulty in converting DBM2 files to WordStar files on the Columbia. We had set up the system per the instructions regarding the ease of a 1.25 DOS on a dual drive system, and had had no difficulty in using the other features of DBM2. Our technical staff reviewed the entire manual for

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an answer. They had an idea that the minimum memory configuration of 128K bytes was not enough when using DOS 1.25; however, no mention to that effect was found in the manual. We contacted Alpha Software Inc directly to request a solution to the problem.

Alpha Software was very courteous and extremely knowledgeable about their product. They were quite helpful when we advised them that our problem dealt with an IBM compatible and not an IBM PC. They confirmed our suspicions that we could not run this particular configuration on just 128K bytes of memory. However, Alpha Software provided additional suport by pointing out a way to get around the memory limitation by using a WordStar file and the Form Generation feature of DBM2.

Alpha Software Inc also provides the user with a product upgrade at a special upgrade price, and will notify the user of any new versions by mail. The user then has the option to purchase the upgrade or not. In addition, Alpha has a product replacement plan that supersedes the 90-day warranty and is good for a year after the warranty expires. A damaged disk can be replaced for only $20 during that time.

☐ System Interface

DBM2's complete title is "DATA BASE MANAGER II—THE INTEGRATOR." With a name like that, it had better be compatible with at least a few other systems. Well, it certainly lives up to its name. DBM2 is especially designed to work in conjunction with such well-known systems as Lotus 1-2-3, VisiCalc, WordStar, and MailMerge. However, DBM2 is also advertised as being compatible with any spreadsheet or word processor that conforms to any of the file configurations listed above. We determined that, at least, DBM2 worked well with Lotus 1-2-3 and WordStar.

☐ Vendor Experience

Besides DBM2, Alpha Software has out another database management program which appears to be a forerunner to DBM2. In addition, our version is an upgraded version of DBM2 with a significant improvement in database conversions.

■ DETAILED PRODUCT DESCRIPTION

☐ Terms & Support

Terms • Data Base Manager II—THE INTEGRATOR is available from Alpha Software Incorporated through computer dealers, software dealers, and mail orders throughout the United States.

LCNS: license fee.

Support • telephone hot-line support provided by Alpha Software's technical support group; product upgrades available at special price; product replacement plan also available.

☐ Component Summary

The software elements consist of the following files and programs. DBM2.EXE specifies drive to be used for data disk, DBM2MAIN.EXE displays database files, main data manipulation program, printer customization program. SEARCH.EXE is the data search and replace program, DBSORT.EXE is the data sort program and RPTFMTR.EXE is the program to create, change, view, and delete report formats. DBCALC.EXE is the field calculation program, REPORT.EXE is the report generation program, DBMERGE.EXE is the merging of databases program, RECONFIG.EXE is the copy or reconfiguration of databases program, and FORMLETR.EXE is the generation of form letter with WordStar files program.

MENU.EXE provides the VisiCalc/Lotus 1-2-3/WordStar menu for file conversions and TEXIN.EXE provides the WordStar/text file to Data Exchange Format (DEX) and DBDIR.DTA gives the directory of all databases present on data disk. UPDATE1.EXE provides part 1 of a transfer to a DOS 1.25 system and UPDATE2.EXE gives part 2 of the transfer to a DOS 1.25 system:

$295 lcns

☐ Computers & Operating Systems Supported

The package runs on the IBM PC, PC/XT, and IBM PC compatibles with DOS Version 1.X or higher. The vendor also claims the package will run on the TI Professional.

☐ Minimum Operating Requirements

The package requires 128K bytes of memory, 2 floppy drives with 320K bytes each on a hard disk drive, and a color or monochrome display. For those machines running DOS 1.25 or 2.0 or systems with a hard disk, 192K bytes of memory are required.

☐ Features

File & Record Limitations • record size limited to memory size, individual records are limited to 40 fields, each field is limited to a data length of 60 characters.

Integration • menu-driven file conversions between databases and VisiCalc, Lotus 1-2-3, WordStar, and MailMerge; plus other spreadsheet and word processing programs.

Data Editing • via sequential record-by-record, or by global search and replacement, specifying a particular field or character string; a Soundex phonetic search is one of the 5 types of searches.

Data Sort • provides a fast in-memory sort for databases limited to 2,500 records, or a multilevel disk sort for databases whose only limit is disk space; sorts on up to 40 keys.

Form Letter Generation • customized letter using forms created by a word processor and the database file, without having to convert the database file to a word processing file.

Field Calculations • performs simple calculations on up to 2 fields at one time, or various date calculations via built-in calendar.

• END

Alpha Software — The Executive Package
Management Decision Support Training

■ PROFILE

Function ● provides a structured environment for the development of management/professional skills in the use of spreadsheet programs and the BASIC programming language.

Computer/Operating Systems Supported ● IBM Personal Computer or PC/XT with PC-DOS, or compatible systems running MS-DOS.

Configuration ● any configuration capable of running VisiCalc or Lotus 1-2-3.

Current Version/Version Reviewed ● 1.0/not specified on product.

Number of Installations ● 5,000 as of January 1984.

Comparable Products ● no known product provides exact comparable features; DELTAK Microsystems "Teach Yourself Series" provides similar features.
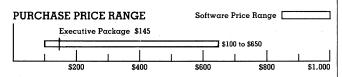
Optional Associated Software ● none.

Price ● $145 retail purchase.

Vendor ● Alpha Software Corp.; 30 B Street, Burlington, MA 01803 ● 617-229-2924.
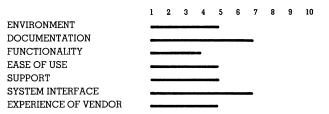
■ ANALYSIS

The development of true computer literacy, implying at least a limited ability to manipulate the computer to perform tasks, is a goal of many professionals and managers in business. Achieving this goal is often hampered by a requirement to invest considerable time in learning basic skills before tasks with any true significance can even be considered. Traditional training and tutorial material is difficult to relate to business problems and frustrating to use because it tends to treat seasoned professionals as children just because they are not computer experts.

The Executive Package approaches the problem differently. It presents the business professional with a set of very basic computer tools to solve business problems, including both programs written in the BASIC programming language and models developed using the popular VisiCalc spreadsheet programs. These models are probably simplistic in terms of real corporate needs, but their foundation is sound. The material is presented in a format similar to a Harvard Business School case study, and by developing the application in that manner the business

PURCHASE PRICE RANGE

Software Price Range ▭

Executive Package $145

▭ $100 to $650

$200	$400	$600	$800	$1,000

ALPHA SOFTWARE EXECUTIVE PACKAGE PRICING ● open bar shows the typical range of prices for **TRAINING** software used in corporate environment ● the vertical line within the bar graph indicates the price of **Executive Package,** the evaluated product, relative to the price range of similar products.

PRODUCT QUALITY RATINGS*

	1	2	3	4	5	6	7	8	9	10
ENVIRONMENT										
DOCUMENTATION										
FUNCTIONALITY										
EASE OF USE										
SUPPORT										
SYSTEM INTERFACE										
EXPERIENCE OF VENDOR										

*For an explanation of rating criteria, please refer to the Communication Features section in the Software Evaluations (805) report.

purpose and the technical solution are mutually supporting.

Most of the Executive Package works toward teaching the BASIC programming language. The theory that programming is necessary for computer literacy is not in high favor, and there is a strong argument that corporate interests are not well served by having everyone program. Learning BASIC this way would probably be a benefit to college students or new employees. A quote from Thoreau found at the beginning of a chapter says, "In the long run men hit only what they aim at. Therefore, though they should fail immediately, they had better aim at something high." The Executive Package aims high, at the corporate executive, but it is likely to be more useful aimed at the management trainee.

☐ Strengths

The primary strength of the Executive Package is the concept. Rather than teach a business professional computer applications by leading through cutesy games and simple exercises, it starts with the basic computer support for a business application and develops both concept and computer support in an almost "live" environment.

A wide variety of case studies are presented, each demonstrating computer power through a different business problem. By selecting the proper vehicle for instruction, nearly any professional can work in an area which is familiar and topical.

Some of the material provided is useful even in its current form. There are "utilities" which compute depreciation by all popular methods, find the systematic risk of a common stock, or apply three-on-three smoothing to a series.

An audio tape is used to introduce the user to the package and its purpose, a technique which goes a long way toward assuring a positive attitude at the start of the session and which helps define the way in which the product is used. It even takes the user through a sample case study.

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☐ Limitations

Most products for computers are designed by computer professionals, and rarely can such a person avoid "getting into it" too deeply. The total amount of material presented in the package is so formidable that many will simply give up.

The vast majority of the material provided teaches programming in BASIC. This package assumes that knowledge of BASIC programming, or any other form of programming, is necessary to understand and properly use computers. This idea may discourage people who cannot program but who can learn to effectively use special-purpose programs.

Some of the useful utility programs are presented in both BASIC and VisiCalc form. This duplication is helpful to relate the effort expended in solving a given problem using each system, and assures utility support for either type of user. It also results in fewer useful utilities. The copyright statement appears to limit these utilities to educational applications only.

■ HANDS-ON EVALUATION

We were impressed by the concept of the Executive Package—computer literacy through trial applications in real business areas. We were likewise impressed by the audio introductory tape; that feature got the product a hearing (so to speak) in the offices of a half-dozen key management and professional personnel. We tried to classify the interested parties as either those with a specific need to apply computer technology or those who had an interest in generally developing their understanding of computers.

We discovered immediately that without a home system to work with the package at night or on weekends, our key people did not have the time to learn basic computer operations. We rectified that by appropriating half-a-dozen portable PC-compatible systems and giving them to the staff members for the test. Each got a basic introduction to loading the operating system and the basics of running the computer, but no extensive training.

The result of the test was generally disappointing. None of the professionals interested only in learning about computers stayed with the project long enough to learn anything. Of those with specific applications motivating them, half found that the material was helpful and the rest dropped out. Our technical staff followed up with all personnel and reported that there had been no significant gain in computer literacy as measured either by the ability to deal with technical issues in a discussion or in the application of computers to business.

Interviews with the users indicated that the technical material had been difficult to understand and eventually lost their interest. Many commented that the VisiCalc section was more helpful and should have been expanded. Only one user felt the time spent had been worthwhile.

Application of the package to personnel in the corporate management training program, on the other hand, was successful. We deduced that recent formal education was a factor in the acceptance of the technique, and a third test on line management personnel seemed to confirm that conclusion.

☐ User Interface

The Executive Package relies on the two training "languages," BASIC and VisiCalc, for its user interface. To reinforce the on-screen examples, the manual provides text in case study form and repeats salient portions of the programming for illustration. There is an audio tape provided with the product which gives a basic understanding of the intent and style of the material.

Menus: VisiCalc menu structures are employed in the spreadsheet examples, but the sample spreadsheets will also load and operate under Lotus 1-2-3. BASIC provides an on-screen menu defining the use of the function codes.

Control characters: None of the sample programs provided use or recognize control character sequences.

Function/special keys: Their use is dependent on the programming language or spreadsheet package. BASIC provides a menu which defines the use of function codes to generate often-used BASIC commands. Function key use by spreadsheet programs varies with the program.

Command language: None is supplied with the material; command formats depend on the programming/spreadsheet package.

Positive feedback: The documentation provided with the sample programs/spreadsheets provides an indication of the expected values after an exercise has been completed. There is no on-screen feedback.

Status display: Dependent on BASIC or the spreadsheet program used; the sample programs/spreadsheets do not generate any status information.

Help facilities: None are provided within the sample material, and external facilities for Help will depend on the spreadsheet program used. There are no Help facilities in BASIC.

☐ Environment

The Executive Package requires an IBM PC and the BASIC language, a VisiCalc-compatible spreadsheet, or both. Since nearly every business with an IBM is likely to have both, the operating requirements are not restrictive.

Two disks are supplied with the package, one for BASIC and the other for VisiCalc. A user is encouraged to back the disks up to prevent material being lost—a wise precaution in a learning environment. This back-up is easily done since the Executive Package (or EP, as Alpha calls it) is not copy protected.

We tried the EP on several configurations, including PC-compatibles and systems with the minimum memory needed to run VisiCalc. None of the examples required more memory than the minimum system configuration required to run the supporting program.

☐ Documentation

The Executive Package (EP) is accompanied by a manual and a cassette tape used for an audio introduction. The manual is nicely divided into four sections, but the tab dividers are packed separately and must be inserted by the user. The labeling of the sections is not encouraging for someone hoping for logical presentation—the manual begins with Parts A, B, and C and proceeds to Part I and Part II. Why, we wondered? The answer is in the contents of the sections. Part A is an introduction and how-to-back-up section, and Parts B and C cover VisiCalc. All the rest covers BASIC. The conclusion that VisiCalc was an afterthought is inescapable.

The Part A introduction starts with running the program and then covers backing it up. The instructions are very complete, so no part of the task will require reference to the PC documentation.

Part B opens the world of VisiCalc with a sample spreadsheet (which for some reason EP chooses to call a "table") on the calculation of profit margin in an inflationary economy. The application is covered in an easy, tutorial style, and following the procedures gives a good introduction to VisiCalc. Part C provides an example of VisiCalc in utility program form. It opens with the statement that many of the programs solved in BASIC are even easier in VisiCalc; true but at this point no problems had been solved in BASIC.

Part I introduces BASIC. Here the style of the manual changes totally, to the classical Harvard Business School case study. Perhaps a warning would have helped, but many users who arrived at chapter 1 of Part I and encountered a reference to a hypothetical "Steve Cauldwell" puzzled over whether Steve was a computer

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specialist, a friend of the author, or the person who kept putting the Thoreau quotes at the beginnings of the chapters.

Once you get used to the new style, the BASIC part of the document is well done. The problem is whether you CAN get used to the new style. College students will have little trouble, but our professional personnel had some problems with a "story of Steve" approach. We found that those who had taken some of the modern role play executive training sessions adapted better.

☐ Functionality

If you are determined and complete the material in the proper frame of mind, the EP works. Corporations may find that their newly hired MBAs on the "fast track" training program will be able to grasp the material quickly and make quick use of the concepts. In fact, our experiment with three such individuals resulted in protests from those not favored. Therefore, we had to provide another nine with the material as well.

The section on VisiCalc, while interesting and somewhat useful for a beginner, provides little that a good computer magazine could not have provided. The scenario method of instruction starts with a problem, stated in "story" form and proceeds to a very simple computer application to demonstrate some aspect of the problem and a solution path.

Our professional staff reported that the concept was effective. The business statement of the problem started them thinking in terms of conventional solutions; and the development of a computer alternative in that context was more meaningful. They were increasingly able to anticipate useful extensions presented in later sections, and finally to extend the concept beyond the manual and into live business problems.

We had our programming organization review the examples and techniques, and they reported that the code employed met reasonable programming standards and utilized approved structured logic rather than older "go to" conventions. They felt that skills learned from the material would not be out of place in a data center.

Corporate management may be divided on the issue of whether their "fast track" MBAs should be programming at all. Seeking data processing solutions outside the regulated data center environment can result in the development of valuable statistical databases in locations unknown and inaccessible to the corporation at large, something our DP manager called "dispersal of the MIS database." The final resolution of this issue was a promotion of the training program with the understanding that the use of programming by user organizations would be regulated by the company's staff committee on data processing policy.

Given the fact that the package is billed as both a BASIC and a VisiCalc training aid, it might have been more helpful to have maintained the case study style and used both VisiCalc and BASIC to solve the problems. The VisiCalc section and the remainder of the work have little common ground in detail or style. Some of the BASIC programs did have VisiCalc forms available, and it was possible to gain some insight by using them in the scenario in place of the BASIC. The manual, however, was totally directed to the BASIC solution.

☐ Ease of Use

The EP as a product is closely related to the manual, because the manual drives the learning process, and the disks and programs provide essentially a relief from manually entering the examples. Since the manual has a case study style, the acceptance of that style is vital to the success of the program. We found that the targetted upper management and executive personnel had difficulty accepting the style and less flexibility learning BASIC as a programming language than VisiCalc as a decision aid.

For a manager, the case studies started simplistically in business terms, prompting rejection of the material on the grounds that it was too simple. Continued progress through a study brought increasing programming detail. In abstract, the introduction SHOULD have been at a proper pace, but if programming were not intimidating, the EP package would probably never have been written. Management did not respond to the material.

Recent college training, graduate school work after hours, or modern management training classes seemed to prequalify someone for the material, and therefore increased the success rate dramatically. We found that first-line managers did well if they were taking graduate courses, otherwise they did poorly. The best learners were new employees from business school, familiar with the case study format.

☐ Support

Supporting a training package is a challenge for any vendor. There is little that can be asked of a support specialist when the problem is that the VP of Finance can't or won't learn BASIC from the material supplied. We found Alpha Software helpful with technical questions relating to operation and to the application of the VisiCalc portion of the material to Lotus 1-2-3.

☐ System Interface

The selection of BASIC and VisiCalc as the teaching vehicles for EP was a wise one. The examples given are for IBM PC systems, but most can be applied with few changes to other computers. In the case of BASIC it is easy to key the program from the manual. VisiCalc transfer to an Apple required reading the IBM screen and manually keying the material. We moved a utility that way and it worked successfully. The same technique can be applied to use the VisiCalc examples with other spreadsheet packages such as SuperCalc.

☐ Vendor Experience

Alpha Software was established in 1981. It has several products on the market, most of which relate in some way to a VisiCalc environment. The Executive Package is their only educational offering.

■ PRODUCT OVERVIEW

☐ Terms & Support

Terms ● The Executive Package is available on a purchase license basis from Alpha Software Corp.; the utility material in the manual is NOT public domain, and the statement of copyright authorizes educational use only ● the product is available through computer dealers, software suppliers, or mail-order firms throughout the U.S.

Support ● 800-telephone number available for support, Monday through Friday, 9:00 AM to 5:00 PM.

☐ Component Summary

VisiCalc spreadsheet templates include INFLATE.VC, PERCENT.VC, MAX.VC, AMORT.VC, DEPA.VC, DEPB.VC, DEPC.VC, SMOOTH.VC, BETA.VC, PLAN.VC, CASHPLAN.VC, TABLE.VC, XRAY.VC, SHARE.VC, GROWTH.VC, PRESENT.VC, TIMELY.VC.

BASIC programs include the following: INFLATE, SALES, PLAN, CASHPLAN, TABLE, X-RAY, SHARE, GROWTH, PRESENT, RISKY, QUERY, GANTT, TIMELY, INVENTRY, INV, INVENT, DIET, SIMPLEX, DECIDE, LINEFIT, NEXTMNTH, FINDTIME, READ, PERCENT, MAX, SORT, SORTII, PLOT, HIST, PIE, AMORT, DEPA, DEPB, DEPC, SMOOTH, BAR, SEVEN:

$145 lcns

☐ Computers & Operating Systems Supported

The Executive Package supports the IBM Personal Computer on PC/XT with PC-DOS, or compatible systems running MS-DOS; the ability to run VisiCalc or Lotus 1-2-3 is required.

☐ Minimum Operating Requirements

The Executive Package requires a system with the BASIC language and a VisiCalc-compatible spreadsheet.

LCNS: license fee.

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Management Decision Support Training

□ **Features**

Area of Application ● BASIC programming training for personnel with a business background ● limited VisiCalc training is also provided.

Training Method ● scenario structure with a business basis serves to introduce a problem which is then successively attacked in computer terms to demonstrate the application of programming to the solution.

Training Vehicle ● document with computer disk for programs used ● audio tape provides introductory material only.

Target Audience ● specified as a management and executive training tool, but applicable more readily to college business students or recent business graduates.

Programming Techniques Used ● modern structured code, as limited by the capabilities of the BASIC language.

● **END**

Apple Computer Apple Writer
Word Processing Package

■ PROFILE

Function ● word processing.

Computers/Operating Systems Supported ● Apple II+, Apple IIe, and Apple III family ● runs under DOS 3.3 and SOS Apple III.

Configuration ● Apple IIe computer, a display device, and single diskette drive; compatible parallel and serial card printer interfaces supported; also supports 80-column board and the extended memory 80-column board.

Current Version/Version Reviewed ● Version 2.0 for Apple III/DOS 3.3-based Apple Writer II for the Apple IIe only.

First Delivery ● 1979 for Apple II+, 1980 for Apple III, February 1983 for Apple IIe.

Number of Installations ● information not available.

Comparable Products ● Word Juggler IIe, Easywriter, Piewriter, Write On!.

Optional Associated Software ● some versions support an optional spelling checker.

Price ● $195 for Apple Writer II; $275 for Apple Writer III.

Vendor ● Apple Computer, Inc; 20525 Mariani Avenue, Cupertino, CA 95014 ● 408-996-1010.

Canada ● Apple Canada, Inc; 875 Don Mills Road, Don Mills, ONT M3C 1V9 ● 416-444-2531.
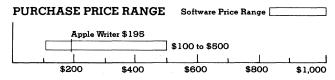
■ ANALYSIS

Apple Writer is a visually oriented word processor designed for use in general document, letter, and memo production. It is quick to learn, has online help, and is easy to use. This makes it well suited for the occasional user, the home user, the secretary, and the professional.

The document work area in Apple Writer is the computer memory, RAM; disk storage is used for archival storage and for saving work in progress. This means that a given document is restricted in size to the available memory. For an Apple IIe with 64K bytes of RAM, available memory is 27 bytes, or somewhere between 14 and 28 pages of text. For Apple Writer II using an extended 80-column card, this limit is extended. Larger documents are created by using the append facility, by using the continue-print command, or via Apple Writer's WPL (Word Processing Language).

☐ Strengths

Users will find Apple Writer quick to learn and easy to use.

PURCHASE PRICE RANGE   Software Price Range [   ]

Apple Writer $195

[   ] $100 to $500

$200 $400 $600 $800 $1,000

APPLE COMPUTER APPLE WRITER PRICING ● open bar shows the typical range of prices for **WORD PROCESSING** software used in a corporate environment ● the vertical line within the bar graph indicates the price of **APPLE WRITER**, the evaluated product, relative to the price range of similar products.

PRODUCT QUALITY RATINGS*

	1	2	3	4	5	6	7	8	9	10
ENVIRONMENT										
DOCUMENTATION										
FUNCTIONALITY										
EASE OF USE										
SUPPORT										
SYSTEM INTERFACE										
EXPERIENCE OF VENDOR										

*For an explanation of rating criteria, please refer to the Word Processor Features section in the Software Evaluations (805) report.

Many existing users will find it easy to use Apple Writer II, since it is an extension of Apple Writer 1.1 and 2.0. Furthermore, with only a few exceptions, Apple Writers II and III share a common set of commands. People who use both machines will find this an advantage.

Apple Writer's Word Processing Language (WPL) is based on the text editor mnemonics, so that a user can quickly make the transition from "text-editing" to more automated word processing based upon simple "programming." A typical example of such programming would be the printing of form letters while inserting names and addresses from an address file.

Apple Writer is accompanied by two manuals: Apple Writer II and WPL. The manuals are clear and exhibit a professional polish that users expect and demand. The manuals are fully indexed and contain many illuminating examples.

☐ Limitations

Apple Writer II allows the users to view "paper results" on the screen when the line width allows it. This limits the viewing of documents to those that fit the screen (a maximum of 80 characters per line). The user does not see underlined, italicized, or other specially formatted text. This limitation is not severe.

Apple Writer II has two further limitations. First, the present Apple Writer II lacks the integration of a spelling checker. This requires the purchase of a separate vendor's spelling checker and the inability to edit out the errors within Apple Writer. Secondly, Apple Writer II does not support microspace justification, boldface (using the offset and strike method), and similar daisywheel printer commands. This handicaps the office environment, which might use the better features of a daisy printer.

■ HANDS-ON EVALUATION

Professionals with little experience in word processing will

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tend to like Apple Writer's simple commands and the easy help command. The Apple IIe's cursor keys are used to move within the document. Common editing commands are simple, single-keystroke commands. The complex and numerous support commands are menudriven. The use of the help and other command menus does not lose the user's position in the text. The use of the help menu relies on the program disk being in the boot drive, so that two disk drives are desirable.

Apple Writer does not incorporate a print spooler, but may print to disk, to screen, or to other slots. This prevents the user from editing a document while a document is printing out. Printers which contain print-buffers mitigate this minor problem.

☐ User Interface

Apple Writer is easy to learn and efficient to use. The Apple IIe's cursor keys allow for direct movement within the document. Common editing commands are single key-stroke operations combined with the conveniently located "control" key. This allows the skilled typist to operate the word processor without taking the hands up off the keyboard. These single-key operations are based upon easy to remember mnemonics, such as "cntrl-B" for beginning, "cntrl-E" for end, "cntrl-F" for find, etc. The other numerous, and sometimes complex, supporting commands are menu driven, so memorization is kept to a minimum.

There are four menus. The help menu provides functionally indexed instructions and an overview of the Apple Writer II. The DOS menu provides the support operations related to storage and upkeep of data on the diskettes. The print command menu provides both information and control on the printer setup, and the "formatting" operation. The additional functions menu collects such operations as previous Apple Writer conversion operations, the handling of glossaries and tab files, and other miscellany.

The status line contains much useful information: how many characters of memory are free for more text, the total number of characters of current text in memory, the current cursor position relative to the beginning of the document, the filename of the text in memory, etc. If desired, the status line may be turned off.

☐ Environment

Apple Writer II provides a benign environment for the user. It supports the Apple IIe using the 40-column display, the 80-column card, or the 64K-byte extended memory, 80-column card. It may be used with one disk drive, but online help implies the need for a second drive.

Apple Writer II and a backup copy are provided since the program is copy protected. This prevents the present Apple Writer II from being copied to a hard disk, although a ProDOS version, with hard disk support, will probably be released soon.

☐ Documentation

The documentation provided includes two manuals: an Apple Writer II manual and the Word Processing Language (WPL) manual. The Apple Writer II manual contains an introduction to text editing on the Apple IIe, an Apple Writer II tutorial, and detailed instructions. The WPL manual describes how to program in WPL, a language based on the editor commands in Apple Writer.

Both manuals are comprehensive, clear, and well organized. The manuals are colorful, well illustrated with examples, and well written. Screen images and examples of printed forms are supplied throughout both manuals. At the back of the manuals there are a series of appendices and an index. The series of appendices provides summaries of commands, error messages, WPL commands, syntax descriptions, and other handy information. The content of these appendices makes Apple Writer easier to use and quick to reference.

☐ Functionality

Generating memos, letters, and small reports presents no problems for either professionals or secretaries. Apple Writer has all of the standard word processor features such as full screen editing, cursor control, open-apple and closed-apple function keys, find and replace, fast movement through the document, headings, footings, page numbers, split screen operation, etc. The temporary indenting/outdenting of paragraphs is useful for not only paragraphs, but for numbering subtopics.

The Apple Writer's WPL provides very powerful support for word processing needs. It provides the ability to program Apple Writer to perform repetitious tasks such as converting embedded formatting commands from one word processor to another, appending files together for print, printing form letters while inserting names and addresses from an address file, counting the number of words in a text file, etc. WPL allows each user to satisfy his own unique word processing needs.

Printer control sequences can be generated and stored in a glossary file. These glossary definitions can then be quickly recalled and embedded into the document. This provides the simple, but manual, control of such functions as pitch, superscript, subscript, and the like.

☐ Ease of Use

The ease of use of Apple Writer makes it a candidate for home use, for secretarial use, and for direct use by professional or technical personnel. As a text formatter, it lacks some of the features required to maintain formal reports or to make easy revisions to large reports. Most other available word processors also suffer in this area. Apple Writer's primary appeal is as an "occasional user's" word processor, performing letter and small report processing. Apple Writer is more suitable for the small business or office environment as opposed to a document-production environment.

☐ Support

Apple Writer II warranties the manuals and the media for 90 days. In addition, if Apple releases a corrective update to a software product during the 90-day period, Apple will replace the applicable media and documentation with the revised version at no charge during the six months after

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date of purchase. Unfortunately, Apple cannot guarantee that you will receive notice of a revision, even if the registration card is returned. The user is instructed to periodically check with an Apple dealer! The primary support is therefore the local Apple dealer.

Apple does have a technical support-line for their products. It is an answering machine that records a user's questions. Generally, Apple will respond the next day. This is a frustrating and time-consuming way of handling potential Apple Writer problems.

□ System Interface

Files may be exported into standard DOS 3.3 text files by printing to a disk file. This is useful for interfacing to other programs that take standard text as input, such as other word processors, mail lists, spreadsheet files, assemblers, and compilers. Apple Writer II also provides facilities for reading Apple Writer 1.1 and 2.0 files.

Apple Writer supports most printers by embedding special control codes in the document. Compatible parallel and serial interface cards are supported in slot #1.

□ Vendor Experience

Apple Computer, Inc and Apple Writer's author, Paul Lutus, are surely at the top of the experience list for Apple products. The expertise of Paul Lutus and Apple Computer, Inc shines in the software, as each generation of Apple Writers leaps ahead with new features. (This is best illustrated by the new Apple III version of Apple Writer III, which contains WPL, a spelling checker interface, word processing functions assignable to the keypad, a keypad template, and a utilities diskette for converting files between Apple Writer II and III, and from VisiCalc III, Quick File III, and Mail List Manager.)

■ PRODUCT OVERVIEW

□ Terms & Support

Terms ● Apple Writer is available for purchase through Apple

LCNS: license fee.

dealers throughout the U.S. and internationally ● the recommended list price for Apple Writer II is $195.

Support ● Apple supports all its products with a telephone support line.

□ Component Summary

Apple Writer II is provided as a full diskette, containing Apple Writer II, the help files, and several WPL programs. A backup copy of this diskette is also provided.

□ Computers & Operating Systems Supported

There are three versions of Apple Writer available: one for the Apple II+, one for the Apple IIe, and one for the Apple III family. The Apple II family is supported under DOS 3.3 and the Apple III family is supported under SOS:

Apple Writer II:

	$195 lcns

Apple Writer III:

	275

□ Minimum Operational Requirements

Apple IIe computer, a display device (a monitor or television), and single diskette drive. Compatible parallel and serial card printer interfaces are supported. Apple Writer II version also supports 80-column board and the extended memory, 80-column board.

□ Features

Display Type ● format controls are simple commands embedded into the documents text ● formatted document can be displayed on screen for convenient editing.

Display Feature Utilization ● audible feedback, status line, printer and format status screens.

Command Structure ● common-editing commands performed by control characters ● menus used for DOS and other miscellaneous commands ● open-apple and closed-apple function keys also used.

Error Recovery ● Apple Writer II handles DOS errors ● commands can be aborted just prior to invocation ● deleted characters, words, and paragraghs can be undeleted.

Block Structure ● supports cut and paste; copies words and paragraphs.

Merge/Print Functions ● allows programmed interruption of printing ● allows concatenation of several documents during printing.

● END

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■ PROFILE

Function ● the generation and maintenance of small-to medium-sized business databases, and the production of custom reports and displays from these databases.

Computers/Operating Systems Supported ● IBM PC, PC/XT, and PC-compatible systems, or other 8088-based systems, using PC-DOS or MS-DOS, or CP/M-86; 8080-, 8085-, and Z80-based systems using CP/M version 2.0 or later, CDOS, or CROMIX.

Configuration ● minimum configuration for the IBM PC: one floppy disk drive, 128K bytes of RAM, IBM monochrome display or equivalent; additional floppy disks or a hard disk are optional, as is a printer.

Current Version/Version Reviewed ● 2.4/Version 2.4 for IBM PC-compatible systems running under PC-DOS or MS-DOS.

First Delivery ● January 1981.

Numbers of Installations ● 150,000.

Comparable Products ● MicroPro ReportStar and DataStar, VisiCorp VisiFile.

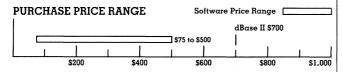**Optional Associated Software** ● none.

Price ● $700 retail price.

Vendor ● Ashton-Tate; 10150 West Jefferson Boulevard, Culver City, CA 90230 ● 213-204-5570.

■ ANALYSIS

dBase II is a relational database management program designed for use on microcomputers. It is a seasoned package, having been available for a number of systems for many years. The particular version tested, the version for IBM PC-compatible systems, is mildly restrictive environmentally, with memory requirements of 128K bytes. Although only one disk drive is required for operation of the dBase II package, two drives are required for operation of the computer-aided tutorial included in the package.

dBase II is a complicated and sometimes intimidating package. Many aspects of the package more closely resemble a programming language than an applications program. dBase II can offer an almost incredible amount of power and flexibility, but effective utilization of the package requires an experienced programmer. While dBase II could be quite effective as a tool used by a corporate data processing department in the development of a special database management package, this amount of power

PURCHASE PRICE RANGE

Software Price Range

dBase II $700

$75 to $500

$200	$400	$600	$800	$1,000	

ASHTON-TATE dBASE II PRICING ● open bar shows the typical range of prices for **DATABASE MANAGEMENT SYSTEMS** software used in a corporate environment ● the vertical line within the bar graph indicates the price of **dBASE II**, the evaluated product, relative to the price range of similar products.

PRODUCT QUALITY RATINGS*

	1	2	3	4	5	6	7	8	9	10
ENVIRONMENT										
DOCUMENTATION										
FUNCTIONALITY										
EASE OF USE										
SUPPORT										
SYSTEM INTERFACE										
EXPERIENCE OF VENDOR										

*For an explanation of rating criteria, please refer to the Data Management Features section in the Software Evaluations (805) report.

may not be desirable in the hands of more typical corporate personal computer users. Users most likely to be satisfied with the features and capabilities of dBase II are corporations with data processing departments that are interested in using a package like this one to develop a custom application, and smaller companies lacking a programming staff and having a more central database distribution.

☐ Strengths

dBase II is a very versatile, very powerful package. Although complicated, the learning curve is reduced by the inclusion of an interactive computer tutorial package. The similarity between dBase II programming features and structured programming languages such as PL/1 is also a plus.

The flexibility of dBase II allows the creation of extremely user-friendly applications programs that can provide almost any format or service desired. Operation of the application can be accomplished by almost anyone capable of starting the system: any amount of prompting, formatting, and editing of input can be done as necessary.

dBase II may be installed on and operated from a hard disk. Backup copies of the distribution diskettes may be created as necessary. The package is available for many different microprocessor systems, and many popular terminals are supported.

☐ Limitations

At first impression, dBase II can be daunting. The package is complicated, and the aura of complexity is heightened by the style of the documentation. Effective use of the package almost demands an experienced programmer.

The IBM PC-compatible version of dBase II is considerably more restrictive environmentally than previous versions have been. Use of dBase II requires 128K bytes of RAM, while the interactive tutorial program requires two disk

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drives. There is no explicit support for printers or printer options. The transmission of setup strings or the selection of printer options requires use of dBase II programming features.

The manual, while adequate, could be better. Some information is hard to find or missing entirely, and non-technical personnel tended to dislike the format.

■ HANDS-ON EVALUATION

dBase II has been around for quite some time, versions of the package have been available for almost four years. This shows in the range of capabilities that it offers, and the smooth and consistent way that the many features interact. The package can be extremely powerful, and two immediate examples of that power are provided: the first is the disk-based tutorial package provided with this version. This runs under dBase II, and demonstrates just how versatile dBase II can be. Another example is contained in the list of applications programs that is supplied with the documentation. Over two hundred programs dealing with every conceivable database application are listed. All this power comes at a price, however, and that price is complexity.

dBase II is essentially a programming language, and the package can be very intimidating when first examined. Technical personnel accustomed to structured language such as PL/1 or Pascal will have little difficulty in learning and using dBase II, but the same cannot be said for others. Despite reasonable documentation and the inclusion of the computer tutorial, we were forced to turn the package over to our technical specialist for command file development. The development of any but the most trivial of applications would require the services of a reasonably competent programmer.

Use of the database applications created is quite straightforward. Command files can be written such that totally untrained personnel can operate the package, almost the only requirement being the ability to turn on the computer. While the applications we generated were, of necessity, somewhat limited, we had no difficulty in matching existing input and report formats, generating file cards and mailing labels, and simple form letters. Since all displays are essentially under program control, operation can be extremely user friendly with generous prompting, screen formatting, time delays, and the like. We were able to create formats that satisfied everyone with little difficulty.

☐ User Interface

dBase II is more a programming system than a database product, and as such uses free-form command input more akin to program languages than to conventional menu selection. The general system commands are entered in a free-form manner. Some sub-command structures use a type of prompted form input for parameters; creation of an entry form or a report form is an example. The user who requires sophisticated formatting or selection logic in reporting or data entry must employ a programming language similar to a structured form of BASIC. For inexperienced users, the form-prompted, basic form of format and report creation is satisfactory but still more complex than other products. The programmatic form of entry and reporting is nearly a programming task.

Menus: Not used. Some commands will display forms for entry of user data relating to field types, prompts, positioning, etc.

Control characters: Used in full-screen editing mode for the entry of "programs" and in data entry mode. Control characters are used for cursor control, field movement, insert/delete functions and similar "word processing" functions. They are used in data entry mode to move between records and to exit data entry mode and return to command mode.

Function/special keys: Function keys are defined to represent the most used dBase II commands, but the definition may be changed by the user to generate any string of text.

Command language: Advanced database operations which require special formatting, selection, or processing of data may be handled in a pseudo-programming language which resembles a structured form of BASIC. The programs are normally written with dBase II's editor, but any text editor may be used to modify the programs. Programs may also be written by filling in simple forms, but the flexibility of this approach is limited.

Positive feedback: Command entry in free form is like programming—there is little interactive feedback to aid the user. Form-based definition of functions provides cursor movement to the next field and prompt changes to indicate acceptance of commands.

Status display: The record number is displayed at the top of the screen while in data entry mode. No other form of status display is used.

Help facilities: A HELP command provides the user with access to an indexed dBase II text file with entries by command. The text of the entries and the file itself can be modified by the user to suit local requirements. The amount of information available on the standard file for each command is not extensive.

☐ Environment

The version of dBase II that we tested was considerably more restrictive than earlier versions have been. While those earlier versions had memory requirements of somewhere between 48K bytes and 56K bytes, depending on the system, this version requires a full 128K bytes. Additional memory beyond this minimum appears to be superfluous, no apparent benefit results from increasing the amount of memory in the system. A quick call to Ashton-Tate verified that this is the case.

At least one floppy disk drive is required. Operation from a hard disk is supported, and procedures for hard disk installation are included in the installation instructions. Unfortunately, two disk drives are required to operate the "On-Disk Tutorial" program included in the package. The distribution diskettes are not copy protected, and Ashton-

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Tate emphasizes the importance of making multiple backup copies of them before attempting to use the package.
Many popular terminals are supported, and the correct configuration must be selected during the installation procedure. This is also true for the IBM PC, which is listed as a "terminal" option on the installation menu. Installation is not required for the "On-Disk Tutorial" included with the IBM PC-compatible package; it has already been done. There is no explicit support for printers or printer options. The transmission of setup strings or the selection of printer options requires understanding of some of the more esoteric aspects of dBase II programming.

☐ Documentation

The documentation supplied with dBase II consists of a two-part reference manual and a pocket reference. Also included in the package is a computer-aided instruction package, or "On-Disk Tutorial." Other items include a diskette containing sample programs, and a copy of "Application Junction," which is a catalog of dBase II applications programs. These have been created by dBase II users throughout the world and are available from the creators for fees ranging from gratis to five figures. The listing is compiled by Ashton-Tate as a service to dBase II users and is not a recommendation or endorsement of the programs.

Probably the most important item that is included as a part of the documentation: a peel-and-stick label that says "370," and thereby declares to the world that your IBM PC now possesses the power of a 370 mainframe.

One of the areas where dBase II shows its age is in the documentation. In this case, age isn't an advantage. The documentation is written for systems operating under CP/M, and it reflects this in the references to the operating system that are sprinkled throughout the manual. The age of the package is also reflected in the quality of the documentation. A few years ago this documentation would have been considered sufficient, perhaps even above average; but the proliferation of quality software packages with truly excellent documentation makes this manual seem a poor second by comparison.

The manual is divided into two parts, a tutorial and a reference. Ashton-Tate refers to these two sections as a usage guide and a programming reference, and these terms more accurately reflect the division of information and the organization of the two sections. The first part of the manual, which is also variously referred to as "part A" or "the red part" (referring to the color of the section dividers), provides a progressive tutorial describing many of the commands and functions of dBase II. It leads the user through the development of several simple database; report-, and command-files. The notation used to describe command and field entry is clear and easy to understand, and many illustrations are included.

The usage manual is not well suited to reference, which is unfortunate because some of the information given in that part of the manual is not repeated in the reference section. Use of the index is a must. There also seems to be quite a few inconsistencies between command descriptions and illustrations, as well as references to non-existent sample

programs. A diskette containing sample programs is included in the package but is unmentioned in the manual. The programs must be listed beforehand if they are to be referenced during study of the tutorial.

The disk-based tutorial package is similar in approach to the tutorial section of the manual, but provides an interactive capability that helps to speed learning. The course consists of ten lessons contained on three diskettes, running under dBase II. It allows the creation and processing of files during the tutorial process. The package also provides graphic illustration of how versatile dBase II can be. While everyone who tried the tutorial package praised it, some found it overly restrictive. When using the tutorial manual it is always possible to skip sections with which the programmer is already familiar; this is not possible with the disk-based version. In addition, user input is verified in the disk tutorial, and some command options such as short forms are not accepted even though they are perfectly valid.

The reference section of the manual is a no frills, no nonsense document, and it presents the information needed for programming dBase II clearly and completely. Our technical personnel were quite satisfied with it, and they were able to find the information that they needed in a short time with little difficulty. Non-technical personnel tended to dislike it; they found it to be too cold and dry, too "technical." The information is presented very starkly, the sections on functions and commands don't even have the luxury of a table of contents.

The only real drawback to the reference manual is the lack of operational information; questions of this nature are dealt with in the tutorial section. Some questions, like those concerning the value of memory expansion, or the sending of printer initialization strings, are not answered at all. From a programmer's point of view the manual is sufficient, providing the bare facts on command formats and fields, but others may find that many of their questions go unanswered.

The pocket guide, or "command and reference guide," is another tool of more use to programmers than anyone else. While it provides much of the information contained in the reference manual in a condensed form, and also includes page references to both sections of the manual, the information provided is that required by someone who is basically conversant with dBase II programming. After skimming the manual, our technical specialist was able to program the relatively simple dBase II applications that we required solely by referencing the pocket guide.

☐ Functionality

dBase II provides almost everything anyone could ever want in the way of a database management program. It is the standard by which such programs are measured, and unlike some other trend-setting applications packages, this one has aged well from a functional point of view.

dBase II allows entry screens to be formatted as desired. We were able to create a screen matching an existing form

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with little difficulty, and with dBase II individual fields may be type-checked and the range verified as well. In one instance we used dBase II for managing expense account records. Not only was format and type checking possible on such simple data items as the date, but expense items such as meal and travel allowances were checked to ensure that they were in the correct range. Record and field-size limitations are good; we never approached the limits with real applications. The maximum number of fields per record is 32, with a maximum record size of one thousand bytes. Files may contain up to 65,535 records.

The program also provides a number of methods of record access. The command structure of dBase II allows commands to access a record based on key fields, record number, field content, and partial field content, and the expressions to perform each of the above are the same for each command capable of the operation. Index keys are arranged in a hierarchical structure. The number of fields that may be specified in an index key is limited by the maximum number of characters that the command can process, which is 99 characters.

Record deletion is done with the usual practice of "marking" a record for future deletion, but instead of requiring the user to make a copy of the database file to eliminate records that are marked, dBase II provides a PACK function to eliminate records. Marked records may be restored to active status using the RESTORE command, unless the file has been PACKed since the record was marked for deletion. Other areas of file management in which dBase II excels include copying, merging, and appending. Files may be copied selectively, only copying records from "California" to a new file, for instance. New data may be entered into a sorted file in place, or just appended to the end, and pertinent indexes are updated automatically when the data is entered. Files may be copied into new files of different structure, allowing unused fields to be eliminated, and dBase II even has an option whereby the definition of a file can be copied into a file. This last option allows access to the structure of an individual database file so that custom applications programs may be written to operate on that file.

We had no difficulty in formatting reports to match existing forms, and also used the report generation facility to produce hard copy data entry forms. The form of the expressions to control field placement for a report is the same as those for an entry screen, the consistency between commands appearing here again. This also provides a lot of flexibility in report formatting. There are some limitations on the report generation process, however; we found (accidentally) that even dBase II cannot make a printer return to the top of a page. The documentation emphasizes the importance of specifying line positions in ascending order when a report is being generated, which we discovered after making the mistake in formatting. When checking the report by "printing" it to the display such errors are not always apparent.

A lot of dBase II's flexibility comes from the logical expressions that may be used as a part of almost every command. Any command dealing with data may optionally have an expression that defines the conditions that the data must meet in order to be operable. Thus a report can be generated containing customer names, and part numbers for parts whose inventory is insufficient to supply the order. Another feature of import is the logical structures thay may be programmed into a command file. Command file programming in dBase II really is programming: the package sports IF-THEN-ELSE, DO WHILE, DO CASE, macro substitution and procedure calls. Used with another dBase II feature, the local variable area, dBase II has almost as much capability as a programming language. The local variable area allows definition of up to sixty-four variables of the same types that may be defined for a database. In addition to providing a means of input validation, this also simplifies the generation of specialized reports such as invoices.

Non-database file support is also provided by dBase II, in two forms. One command converts database records into text files, while another converts the record into comma-separated values. This is a convention often used by other database packages in which the fields of a record are separated by a comma. Text entries in the record are enclosed in quotation marks. dBase II even provides for the rare case where text entries are not enclosed: the quotation marks may be optionally omitted when the file is created. These types of files may also be accepted as input to a dBase II database file.

There are some additional features specific to this version of the package. IBM-compatible systems sporting the equivalent of the IBM Color Graphics adapter may have color displays. A new command has been implemented in this version allowing color selection and underlining of characters. While of little practical value, the color displays were popular with some artistic members of the staff. A new feature of more immediate use: this version supports the function keys on the left side of the IBM PC keyboard. Function key support includes more than just definition of the ten keys, however. The keys may be redefined with any string value desired by the operator, up to 30 characters in length. The standard definition provides ten of the most commonly used dBase II commands; other applications include the storage and retrieval of repeated text during database creation or updating.

☐ Ease of Use

dBase II, like all database management packages, is used at two levels. At one level, data is entered, updated, deleted, and reports are generated. At the other level, the structure of the database and report files is determined, index fields are selected, and the index file built, and so on. From the perspective of the data entry personnel, dBase II is a very nice program that produces pretty reports and catches errors. These same people, if faced with the task of programming the database, would have a very different perspective. The dBase II package can be intimidating at first glance, even for an experienced programmer. The two sections of the manual are labeled "part A" and "part B." The installation portion of the manual is twenty-two pages long. On closer inspection, however, the package

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Relational Database Management Package

begins to lose its mysterious aura, and most of our testers began to like what they saw.

dBase II can be viewed as a programming language. Technical personnel accustomed to structured languages such as PL/1 or Pascal will find much of the dBase II programming structure familiar, while the commands, for the most part, are in English or near English. Command entry is very free form, and commands may extend over multiple lines. Error detection with dBase II could be better, in most instances it is content to identify the line with the error without supplying additional information. Error correction facilities are good, however. Errors may be edited, and a single step feature exists for testing new command files. Command files may be built in modules and invoked by another command file, and they may be nested fifteen deep in the process.

While the documentation provides most of what is needed to program with dBase II, there are some flaws. Some information is difficult to find in either section of the manual, and some information is missing entirely. Performing a task such as sending special characters to the printer is non-trivial with dBase II, there is no support for special printer functions and this limitation must be circumvented using the package's special programming capabilities. In this regard, dBase II can be difficult to use. Many tasks that other packages have relegated to a menu driven function require thought and careful programming to execute. In fact, some of the programmers that reviewed this package felt that it would not be significantly more difficult to program some applications in a structured language such as PL/1 or Pascal.

☐ Support

Support for dBase II comes primarily from the dealer. Users who have returned their warranty registration card are provided with periodic corrections, programming suggestions, and new project announcements. Ashton-Tate claims that the fastest route to assistance is via the local dealer. No special number is provided for customer service, although the documentation does provide both address and phone number.

We called the number provided in the documentation and asked for the customer service department. We were connected immediately, and after explaining the nature of our questions we were transferred to the technical support department. There, a recorded message informed us that we were in a waiting queue, that we would be taken from the queue in the same order that we had entered it, and that we should have our serial number ready. After a short wait (about two minutes) our call was answered, and our serial number was requested. Our questions were answered quickly and to our satisfaction.

☐ System Interface

Interfacing requirements are handled in two different ways with dBase II. The reference manual provides a written description of the files used by dBase II. In addition, dBase II includes commands to create standard text files, and

files containing comma-separated values, using the dBase II database as input. These types of files may also be used as input in the creation of a dBase II format database file. There are fairly common ways of providing interface support, and the utility functions provided allow dBase II to operate with a wide range of other products. We used a word processing package to create both command files and database input, and also successfully transferred database records from another database management package.

In addition to the above features, the package supports the creation of a file containing only the description of a database record. This command can be used to obtain a description of the exact format of the records that make up any given dBase II database file, allowing the development of applications programs that operate directly on the database. While the unusual method of providing file structure information was first met with some resistance by our staff, they soon realized the convenience of having the exact structure of any given database file immediately provided. This information is of use only to programmers needing to develop applications operating directly on the database, however, a task that should be approached with some caution even taking this feature into account.

☐ Vendor Experience

Ashton-Tate has considerable experience with database processing systems for microcomputers: dBase II has existed in various guises for about four years. Ashton-Tate claims that over 150,000 packages have been installed in that period. The product has been continually upgraded during that time period, and the version we reviewed offered several functional enhancements over its predecessor.

■ PRODUCT OVERVIEW

☐ Terms & Support

Terms ● dBase II is available from Ashton-Tate, computer and software dealers, and mail-order firms throughout the United States ● recent advertisements indicate that it may be possible to realize significant discounts on the purchase of this package.

Support ● provided primarily through the dealer; vendor will also provide technical information ● users who return their warranty cards receive periodic corrections, programming suggestions, and new product announcements from Ashton-Tate.

☐ Component Summary

Software elements include 4 files: DBASE.COM, DBASE-OVR.COM, DBASEMGS.TEXT, and INSTALL.COM.

DBASE.COM and DBASEOVR.COM are program and program-overlay files, respectively, containing the dBase II relational database management package; DBASEMSG.TXT is a file containing the Help text for dBase II; and INSTALL.COM is an installation utility used to configure dBase II for different terminals.

dBase III Package:

	$700 lcns

LCNS: license fee.

Ashton-Tate dBase II
Relational Database Management Package

☐ Computers & Operating Systems Supported

dBase II runs on the IBM AC, PC/XT, PC-compatible systems, or other 8088-based systems using PC-DOS or MS-DOS. The package also runs on 8080-, 8085-, and Z80-based systems using CP/M version 2.0 or later, CDOS, or CROMIX.

☐ Minimum Operating Requirements

Minimum memory required to run dBase II is 128K bytes; one floppy disk drive, an IBM monochrome display or its equivalent are also necessary. Additional floppy drives, a hard disk, and a printer are optional.

☐ Features

Record Size Limitations ● 32 fields per record, for a total of 1000 bytes.

File Size Limitations ● 65,535 records per file.

Field Size Limitations ● 254 characters.

Key Field Limitations ● 100 characters total length.

Screen Format Definition ● menu-driven definition form which provides default locations for prompts and data, or program control definition with full control over display form; full screen display for entry of data.

Entry Edit Capabilities ● basic format and alpha/numeric checks possible in simple format definition mode, but full program checking flexibility is available using high-level control language.

Report Format Definition ● simple structures may be entered from a menu which provides for listing type reports and simple summaries; default column positioning and headings are supported; full control over report format is possible through the high-level programming language.

Sort/Merge Capabilities ● both sort and merge commands are supported; only one key may be specified, but a cascaded sort is supported.

Query/Selection Capabilities ● full online query by any field or combination of fields, using arithmetic or logical expressions.

Programming & Batch Processing Capabilities ● high-level programming language provides for production of reports, entry of data, file maintenance, etc; interactive input is not required for file maintenance.

● **END**

BROCK Software Products KEYSTROKE Data Base
Data Management Package

■ PROFILE

Function • free-form, relational database management program for organizing, storing, and manipulating a variety of kinds of information in user-specified ways.

Computers/Operating Systems Supported • Apple III with 256K bytes of memory.

Configuration • minimum memory of 256K bytes, a video monitor, a second floppy disk drive, or a Profile hard disk; a printer and a joystick are optional.

Current Version/Version Reviewed • version number not indicated.

Date of First Installation • August 1983.

Number of Installations • approximately 1,500.

Comparable Products • Software Publishing Corporation pfs:File, Apple Computer Quick File, and Applied Software Technology Versa Form.

Optional Associated Software • KEYSTROKE Report Generator.

Price • $249 retail price.

Vendor • BROCK Software Products, Inc; P.O. Box 799, Crystal Lake, IL 60014 • 815-459-4210.
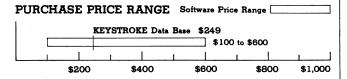
Canada • currently no distributors in Canada; however, plans are underway to institute them.

■ ANALYSIS

KEYSTROKE Data Base is an attractively packaged, menu-driven, relational database management system designed for home or business use. With the help of the manual, it is simple enough for beginners to use, yet contains sophisticated features that will appeal to the more advanced user.
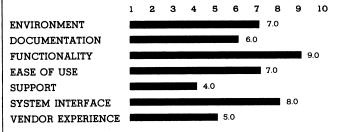
Along with the normal simple functions of a database system, KEYSTROKE has some very powerful options, such as the ability to merge with other Apple III programs and to cross-reference files. These more complex functions require extensive use of the manual and practice in order to understand and use them.

Some possible applications for KEYSTROKE Data Base include personnel files, budgets, sales records, parts lists, and mailing lists.

PURCHASE PRICE RANGE Software Price Range [   ]

KEYSTROKE Data Base $249
[   ] $100 to $600

$200 $400 $600 $800 $1,000

BROCK SOFTWARE PRODUCTS KEYSTROKE DATA BASE PRICING • open bar shows the typical range of prices for **DATA MANAGEMENT** software used in a corporate environment • the vertical line within the bar graph indicates the price of **KEYSTROKE Data Base**, the evaluated product, relative to the price range of similar products.

PRODUCT QUALITY RATINGS*

	1	2	3	4	5	6	7	8	9	10
ENVIRONMENT							7.0			
DOCUMENTATION						6.0				
FUNCTIONALITY									9.0	
EASE OF USE							7.0			
SUPPORT				4.0						
SYSTEM INTERFACE								8.0		
VENDOR EXPERIENCE					5.0					

*For an explanation of rating criteria, please refer to the Data Management Features section in the Software Evaluations (805) report. The Overall Package Average is 6.6.

□ Strengths

KEYSTROKE Data Base allows the user to design his own forms. After using a form, he may decide that changes need to be made. This can easily be done by using the redesign function on the maintenance menu. A form can be edited, fields rearranged, new fields and/or design enhancements added, without losing any of the file's data. A form can be redesigned at any time, even after information has been saved in the file.

Several functions make data entry very easy. A feature called the "hand" allows the user to move information from one area to another without retyping. A default or preferred response can be entered so that it will appear automatically when adding, reviewing, or updating records. This is helpful when a field will have the same response in a majority of records, for example, a city or state in a mailing list. Field formats give the user the ability to standardize the response format. For example, typing in the field format initial "P" next to the field description "Phone number" will automatically produce a screen format with the appropriate number of spaces, a dash, and parentheses to indicate phone number.

Computed fields give the user the ability to do arithmetic calculations using values from other fields. One possible use for this would be in preparing invoices, where quantity is multiplied by cost.

KEYSTROKE Data Base has the capability to link with other Apple III programs, such as VisiCalc, AppleWriter, and pfs:File. This allows the user to conveniently move over data files without retyping the information. It also allows him to take the output of the database and use if for generating such things as mailing lists, spreadsheets, form letters, etc.

The validate/cross-reference feature of KEYSTROKE, which is not found in many other database systems, is what makes it relational. This means that the user can work

BROCK Software Products KEYSTROKE Data Base
Data Management Package

with information from a number of different files. It helps eliminate the need for double entry of information and also enables the user to verify valid responses.

☐ Limitations

KEYSTROKE Data Base is not for the user who wants to be able to sit down at the computer and instantly use the program effortlessly. It is advertised as "easy to use," and it is, as long as the user is willing to consult the manual frequently and follow procedures step-by-step, particularly when attempting some of the more complex functions.

The menu structure in the program does not appear to be very logical; this can cause some problems. It is structured in such a way that it is difficult to exit from several points in the program. The user may become "trapped" and unable to exit without going through several menus.

■ HANDS-ON EVALUATION

KEYSTROKE Data Base is provided as 2 diskettes: a Loader diskette and a Program diskette. The Loader (or Boot) diskette is copy protected and cannot be backed up by the user. A free backup copy of KEYSTROKE Data Base will be shipped upon receipt of user registration. If the disk is destroyed before it is registered, then conceivably the user might have to wait for his backup copy to arrive.

Our staff knows of 2 program selector or hard disk boot programs for the Apple III: Quark's Catalyst and Haba Systems, Inc's Habanet. These programs allow the user to conveniently jump between programs that are stored on the hard disk. KEYSTROKE Data Base is supported on Catalyst but not on Habanet. Installation of copy-protected programs onto hard disks can be difficult and time consuming. Not so for KEYSTROKE Data Base! Installation of KEYSTROKE Data Base on Quark's Catalyst is automated by a file, QUARK.INSTALL, on the loader diskette. The program is quickly and automatically installed and then locked to the serial number of the Catalyst disk (so that other Catalyst users can't install it on their hard disk). The large base of Catalyst owners will appreciate this automatic installation feature.

Our staff discovered that just after installation of KEYSTROKE Data Base onto a hard disk via Catalyst, the user might have problems running it. The problem relates to KEYSTROKE Data Base's requirement that Pascal have no graphics space allocated to it. (KEYSTROKE is big!! It wants all the memory it can get on a 256K-byte machine.) If the user has a lot of drivers, and if 32K bytes of graphics space is allocated, the program can crash the machine with a stack overflow error. Pressing the Return key a few more times resulted in "SYSTEM ERROR = $06," a catastrophic stack overflow, and our machine was dead. We had to reboot with Catalyst, figure out the problem ourselves, and reallocate graphics memory. For smaller graphics space allocations, the program warns the user of insufficient memory space, requests permission to fix the problem, and then automatically reallocates the graphics memory space to zero. The program then works like a charm.

☐ User Interface

KEYSTROKE Data Base interface consists of simple menus for handling most function selections, along with a few specified commands and some user-determined sequence commands.

Menus: This program makes extensive use of menus. There are 6 main menus and the menu structure, which appears to be somewhat illogical, takes quite a bit of study and practical use before it is understood. Some menus appear on the screen when requested and some automatically appear when attempting a certain function. Selections are made by moving the selection bar over the desired choice and pressing enter or by typing in the first letter of the option.

Control Characters: Control characters are assigned by the user to access user-defined command sequences.

Function/Special Keys: The arrow keys are used for up, down, left, and right cursor movement. When designing an input form, shift-down arrow makes the cursor go to the top of the next screen page, and shift-up arrow makes the cursor go to the top of the previous screen page. When in the find/update function, the tab moves the cursor to the next field (return does the same), shift-tab moves the cursor to the previous field (shift-return does the same), shift-down arrow moves the cursor to the first field on the next page, and shift-up arrow moves the cursor to the first field on the previous page. The Open-apple key is also used in several different commands. "Open-apple ?" displays a brief Help Message or a Help message menu. "Open-apple L" is pressed to lookup (or leaf through) cross-referenced files. Open-apple V is used to turn auto-validate off and on; and an Open-apple P prints what is on the screen. A keyboard template showing function-key assignments is not provided.

Command Language: No command language is supported, but the user can assign a series of commands to one key and store this in memory for later use.

Positive Feedback: KEYSTROKE Data Base gives the user directions and keeps him informed as to what operations are occurring via messages on the screen. If the user is doing something potentially destructive; for example, destroying a form design, a large stop sign appears on the screen along with a warning and a solution to the dilemma. When an error occurs, a message number appears in the top left-hand corner of the screen. A list at the back of the manual explains the error and gives possible reasons for why it occurred.

Status Display: The status line is located on the bottom 2 lines of the screen during most functions. It indicates the current drawer (volume), folder (subdirectory), and file, along with the current function being performed and all the Open-apple keys that are active in this mode.

Help Facilities: KEYSTROKE Data Base has online Help messages accessed during any operation of the program by pressing the Open-apple and "?" keys simultaneously. Not only is a Help message, which briefly explains the function displayed, but also a page number in the manual is indicated so that the user can get more detailed

BROCK Software Products KEYSTROKE Data Base
Data Management Package

information if necessary. If, while viewing one Help message, the "Open-apple ?" is pressed again, a menu listing all available Help messages will appear on the left screen, and another topic can be selected for display. Also included with KEYSTROKE Data Base is a rather cryptic reference card called "Roadmap of Keystroke Menus."

☐ Environment

KEYSTROKE Data Base requires a 256K-byte Apple III and a second disk drive. Most of the memory is actually used, although part is, of course, relegated to the device drivers and the SOS operating system. (SOS is the Standard Operating System for the Apple III.)

☐ Documentation

The documentation provided includes a single, very professional-looking user manual in a binder, with chapters clearly marked by dividers. The manual begins with a brief discussion of what a database is and then progressively gets more complex. Chapters are labeled as being either basic or advanced. Although no tutorial manual or demonstration program is included in the package, there are many examples illustrated by screen pictures in the user manual.

More information is included at the back of the manual. Appendix A explains how to load KEYSTROKE Data Base onto a Profile. Appendix B is an explanation of various error messages, giving a probable cause for the problem and possible solutions for correcting it. Appendix C tells the user how to use a Keyboard Co Joystick with the program. A glossary gives definitions of many terms that the user needs to be familiar with.

Unfortunately, for such an impressive-looking manual that obviously involved a lot of work, there are an incredible number of typographical errors. Several errors were also found in the index, including an incorrect page number for the "Hand" and no page number listed for "Lookup."

A reference card called "Roadmap of Keystroke Menus" is also included with KEYSTROKE Data Base. It is a diagram of all the program menus and how they relate to each other. It is so complex, it would appear to be of dubious value.

☐ Functionality

Using KEYSTROKE Data Base, data entry screens are easy to design and redesign according to the user's specifications. Up to 90 fields, with a total of 4096 characters, can be used per record.

Records can be accessed numerically or alphabetically. Up to 4 rapid search fields can be assigned to a file for faster locating of a record or group of records.

Deletion of records is possible, but before doing so, the program warns the user that the specified records will be permanently eliminated. Escape will allow the user to return to the function menu without deleting the record.

Although KEYSTROKE Report Generator is a separate package, the database does provide derived/computed fields. This allows for computations within records, but not across records, such as subtotals and totals of records.

Mailing labels can be printed.

KEYSTROKE Data Base has the ability to access and test portions of alphabetic fields, for example, the first two letters in a name, and to search through an alphanumeric field looking for a specific character. The system also has the ability to copy all or a portion of an existing file to a new file or copy records to an existing file.

☐ Ease of Use

The menu-driven commands are written in simple everyday English terms for easy understanding. The few Open-apple commands used are logical in that the letter used is the first letter in the command; for example, Open-apple D stands for delete. Also, a series of commands can be assigned by the user to a control key, and this can be stored in memory for later use.

The Help facility provided with the program is quite useful. Help messages (along with a page number in the manual for a more detailed explanation) and a Help menu can be accessed during any operation of the program. Also, whenever an error occurs, a reference number is displayed on the screen. By looking this up in Appendix B, the user will be given a probable cause for the problem and possible solutions.

☐ Support

KEYSTROKE Data Base is copy protected, but BROCK Software Products, Inc will provide a backup diskette upon receipt of the registration card. For registered owners, defective diskettes will be replaced free of charge for a period of 90 days after purchase and for a charge of $15 after the 90-day period. A defective diskette must be returned to BROCK Software Products, Inc or an authorized BROCK dealer.

Registered owners of KEYSTROKE Data Base will be informed of enhancements and improvements via mail and will be eligible for updates at a reduced rate.

Customer support can be reached at 815-459-4210. An 800 number is not available at this time.

☐ System Interface

KEYSTROKE Data Base contains built-in interfaces for accepting or sending data to several other important programs. It can read or write Data Interchange Format (DIF) files. The DIF format is useful for connecting to VisiCalc, Advanced VisiCalc, III E-Z Pieces, Apple III Business Graphics, and other programs. Data can be sent directly to VisiCalc, but VisiCalc data files cannot be directly read. The inability to directly read data from a VisiCalc file means that the user must first generate DIF files each time the data is to be transferred to KEYSTROKE. Although understandable, we found this to be an annoying inconvenience. Data from Quick File III or pfs can be directly read and converted into a KEYSTROKE Data Base file. But KEYSTROKE Data Base does not write to these files. AppleWriter and Word Juggler Merge provide the user with an easy-to-use form letter capability.

☐ Vendor Experience

KEYSTROKE Data Base is first in a series of Apple III

BROCK Software Products KEYSTROKE Data Base
Data Management Package

business software by BROCK Software Products, Inc.

■ PRODUCT OVERVIEW

☐ Terms & Support

Terms ● KEYSTROKE Data Base is available for purchase from BROCK Software Products, Inc, through computer retail stores and software stores; it is not available for purchase from mail-order firms.

Support ● customer support can be reached at 815-459-4210; no 800 number exists at present; updates are made available to registered owners at a reduced rate.

☐ Component Summary

KEYSTROKE Data Base is comprised of 3 single-sided diskettes.

The loader diskette contains: SYSTEM.MISCINFO, SYSTEM.PASCAL, SOS.KERNEL (SOS operating system), SOS.INTERP (Pascal interpreter), SOS.DRIVE (contains SOS device drivers), SYSTEM.STARTUP, PRO.LIB, SYSTEM.STAR.LIB, SYSTEM.INFO, KEYDATA.A.LIB, and QUARK.INSTALL (automatically installs KEYSTROKE Data Base on Catalyst).

The program diskette contains: KEYDATA.CODE, CLEAN.DIR, SYSTEM.STARTUP, KEYDATA.LIB, ALLOCATE, KEYDATA.FONT, and KEYDATA.HELP.

The work diskette is blank.

KEYSTROKE Data Base:

$249 lcns

☐ Computers & Operating Systems Supported

Only Apple III computers with 256K bytes of memory are supported.

☐ Minimum Operating Requirements

The minimum memory requirement is 256K bytes. A video monitor and a second floppy disk drive or a Profile hard disk are also required. The program supports a wide variety of printers available and can make use of a joystick.

☐ Features

KEYSTROKE Data Base is a database management system that contains many special features that make it ideal for either home or business use. Some of its many capabilities include:

Rapid Search/Sort Fields ● an enhancement that makes for faster data retrieval and sorting; a sequential search in a large file

LCNS: license fee.

for a record (based on a field) can be a lengthy process, but if a field is assigned a rapid search/sort field, the response time to find specified records is almost immediate.

Derived/Computed Fields ● fields that can perform arithmetic calculations using values from other fields.

Defaults/Preferred Responses ● a field response that can be entered so that it will appear automatically when adding, reviewing, or updating records.

Field Formats ● enable the user to standardize the response format; the format for phone number can be entered so that it automatically appears on the form with parentheses and a dash in the appropriate positions.

Validate/Cross-Reference Capability ● allows the user to pull information into the current file from a second file, eliminating double entry of information and allowing the user to verify valid responses.

KEYSTROKE Sequence ● a feature which allows the user to assign a series of commands to one key.

Built-In Scratchpad ● used to store notes for later recall and to do calculations that would normally require a calculator.

Merge Capability ● allows the user to link KEYSTROKE with other Apple III programs.

File Size Limitations ● each file is limited to 32,000 records or the size of the disk; the manual recommends that only one large file (200+ records) be put on a diskette in order to reserve space for adding records.

Record Size Limitations ● there can be a maximum of 4096 characters per record; number of fields per record is limited to 90.

Field Size Limitations ● field size is specified by the user, with a maximum of 74 characters.

Key Field Limitations ● up to 4 key (or index) fields can be assigned to a file for rapid access to records.

File Type ● Pascal data, but internal structure is undefined.

☐ Other Facilities

KEYSTROKE Report Generator for the Apple III can be used to produce clear and accurate reports from data collected using KEYSTROKE Data Base. The data can be sorted, arranged in columns, and printed according to the user's own design. Calculations and statistics can be generated on the data.

KEYSTROKE Report Generator:

$149 lcns

● **END**

BROCK Software Products KEYSTROKE Report Generator

Report Generator Package

■ PROFILE

Function • to produce a variety of reports based on data collected using KEYSTROKE Data Base.

Computers/Operating Systems Supported • Apple III with 256K bytes of memory.

Configuration • minimum memory of 256K bytes, a video monitor, a second floppy disk drive or a ProFile, and a printer configured to work with the computer; a joystick is optional.

Current Version/Version Reviewed • no version number given.

Date of First Installation • August 1983.

Number of Installations • information not available.

Comparable Products • Software Publishing Corporation pfs:Report.

Optional Associated Software • KEYSTROKE Data Base is mandatory associated software.

Price • $149 retail price.

Vendor • BROCK Software Products, Inc; P.O. Box 799, Crystal Lake, IL 60014 • 815-459-4210.
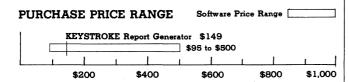
Canada • Central Micro Systems; 1460 City Councilors, Montreal, PQ H3A 2E5.

■ ANALYSIS

KEYSTROKE Report Generator for the Apple III is designed to produce clear and accurate reports from data collected using KEYSTROKE Data Base. With the variety of options available, the user can produce reports designed to suit his own needs. Simple list reports can be easily generated using the Set Columns Menu, while more complex reports can be produced with a little more effort.
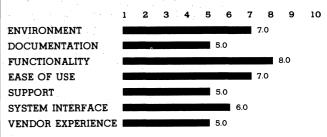
The first step in generating a report is to select a KEYSTROKE Data Base file and then to determine if all or some of the records are to be included. The user determines his record selection criteria and is given the option of saving this for later use.

The next step involves selecting and editing the fields to be included, using the Set Columns Menu. A simple list report, which includes all of the fields, can be generated or certain fields can be selected and sorted. Columns are

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PURCHASE PRICE RANGE   Software Price Range [   ]

| KEYSTROKE Report Generator $149 |
| $95 to $500 |

| $200 $400 $600 $800 $1,000 |

BROCK SOFTWARE PRODUCTS KEYSTROKE REPORT GENERATOR PRICING • open bar shows the typical range of prices for **DATA MANAGEMENT** software used in a corporate environment • the vertical line within the bar graph indicates the price of **KEYSTROKE Report Generator**, the evaluated product, relative to the price range of similar products.

PRODUCT QUALITY RATINGS*

	1	2	3	4	5	6	7	8	9	10
ENVIRONMENT							7.0			
DOCUMENTATION					5.0					
FUNCTIONALITY								8.0		
EASE OF USE							7.0			
SUPPORT					5.0					
SYSTEM INTERFACE						6.0				
VENDOR EXPERIENCE					5.0					

*For an explanation of rating criteria, please refer to the Data Management Features section in the Software Evaluations (805) report. The Overall Package Average is 6.1.

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automatically sorted numerically from lowest to highest and alphabetically from A to Z. The user can specify that they be sorted in descending order if he desires.

After choosing the data to be included and deciding how it is to be sorted, the format of the report can be designed using the Formatting Options Menu. Column titles and widths can be changed, subtitles, footers, and formats can be added, and information can be highlighted with boldface (if the printer being used supports this.) Information can be analyzed through the use of statistics, and computed columns can be added. If only the statistics of a report are primarily wanted, without all of the details, a summary-only report can be printed through this menu.

There are several print options available to the user. A report can be printed to the file, which is useful when merging a report with an AppleWriter file. A report can be printed to the screen for viewing a list or checking some statistics. And finally, the report can be printed.

□ Strengths

One of KEYSTROKE Report Generator's greatest strengths is its ease of use. Because it is almost entirely menu driven, the user is prompted through most phases of the program, and there are very few commands to memorize. The manual provides step-by-step instructions and many illustrations of screen pictures. A Help menu can be accessed during most functions, providing a handy source of information.

KEYSTROKE Report Generator has several of the same time-saving features that make KEYSTROKE Data Base convenient to use. A feature called the "hand" allows the user to move information from one area to another without retyping. KEYSTROKE Sequence gives the user the ability to assign several commands to a single key. Columns are automatically sorted alphabetically and numerically, and

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BROCK Software Products KEYSTROKE Report Generator
Report Generator Package

are automatically titled. Subtitles and footers are provided, but may also be selected by the user. Pre-defined report selection (from criteria saved by the user) can also save time.

KEYSTROKE Report Generator provides users with a great deal of flexibility. Simple reports can be easily generated, but functions are provided which allow users to design reports according to their own needs. For large numbers of records from which only statistics are needed (for example, sales totals and averages from different regions), summary reports can be generated.

☐ Limitations

Although no major limitations were noted with the package, a series of factors were present which made the package annoying to use.

The user manual is incomplete. Several functions are mentioned in passing and others are only briefly discussed. The user is expected to refer back to the KEYSTROKE Data Base manual when he needs a detailed explanation. There is no error message list included in the manual, which also means that the user must consult the other manual if an error number appears on the screen (assuming that the error codes are the same). Not only is there no glossary in the manual and no reference card included, it does not even have an index!

The way in which the program is structured can cause some problems. When first entering KEYSTROKE Report Generator, the user cannot exit the program until he has entered the date and selected a drawer (disk drive). Only on reaching the third menu is an option to exit given. The menu structure is not organized in a very convenient manner, and the user can spend a lot of time going back and forth in a maze of menus.

Although the manual states that help is available at all times in the program, it neglects to mention that sometimes a request for help is met with, "Sorry, no help is available in this portion of KEYSTROKE." It seems that the user must know when he is supposed to ask for help.

■ HANDS-ON EVALUATION

KEYSTROKE Report Generator is provided on 2 diskettes: a loader diskette and a program diskette. KEYSTROKE Report Generator may be used on floppies, as delivered, or it may be installed on a hard disk. Since the program is copy protected, Quark's Catalyst (a hard disk boot and program selector) is required for hard disk installation. (Catalyst may be purchased through Apple or directly from Quark.) The program interfaces smoothly with Catalyst for automatic installation onto a hard disk because of a file, QUARK.INSTALL. Automatic Catalyst installation is faster, easier, and less technical than manual installation under Catalyst. BROCK's forethought in providing QUARK.INSTALL, in cooperation with the Catalyst, makes the installation as easy as following a few simple instructions on the screen. The user is always kept apprised of what is happening and is prompted for necessary input. The installation only took a couple of minutes.

One of the first things that we discovered when using the program is that the user manual appears to be incomplete. Several functions are mentioned in passing and others are too briefly discussed. The user is expected to refer back to the KEYSTROKE Data Base manual when a detailed explanation is needed. This means that we had to juggle between 2 manuals for a number of functions, with one telling us the steps to follow and another explaining the details. This was a rather annoying inconvenience. We were especially perturbed when an error number appeared on the screen, and we consulted the KEYSTROKE Report Generator manual only to find that no error message list was included. We then looked up the number in the KEYSTROKE Data Base manual and hoped that it was also applicable to KEYSTROKE Report Generator. It is unacceptable to have a well-polished program, like KEYSTROKE Report Generator, without some sort of documentation on errors.

Another annoyance was encountered the first time we attempted to access a Help message. Although the manual states that help is available at all times in the program, the first time we attempted to use this function, our request for help was met with, "Sorry, no help is available in this portion of KEYSTROKE." This occurred at a point in the program where a message on the screen was informing us that we could obtain help by pressing the open-apple and "?" keys simultaneously.

On the positive side, this program is a good example of today's trend toward the use of forms, menus, and icons for easier human interface. KEYSTROKE Report Generator, like KEYSTROKE Data Base, uses a very impressive character set. It provides the screen with images of filing cabinets, stop signs, and other pictures which give the program a well-designed, polished appearance which is pleasing to the eye.

KEYSTROKE Report Generator also provides the user with great flexibility yet ease of use. We found simple reports were easily generated; and to our surprise we found that complexly formatted, customized reports were not much more difficult. We felt that the summary-only report was a nice additional feature.

KEYSTROKE Report Generator can be used with most printers. We found it easy to generate fancy reports, polished with double-width print, condensed fonts, bold printing, and the like. We felt that our reports looked more professional using these print enhancements.

☐ User Interface

KEYSTROKE Report Generator interface consists of simple menus for handling most function selections, along with a few specified commands and some user-determined sequence commands.

Menus: This program is almost entirely menu driven. Most functions are chosen from the Set Columns Menu or the Formatting Options Menu and its submenus. Some menus appear on the screen when requested and some automatically appear when attempting a certain function. Selections are made by moving the selection bar over the desired choice and pressing enter or by typing in the first letter of the option.

BROCK Software Products KEYSTROKE Report Generator
Report Generator Package

Control characters: Control characters are assigned by the user to access user-defined command sequences.

Function/special keys: The arrow keys are used for up, down, left, and right cursor movement. When formatting, tab and return keys move the cursor one column to the right and shift-tab, shift-return, and left arrow move it one column to the left. Up-arrow moves the cursor one option up and down-arrow moves it one option down. The open-apple key is also used in several different commands. The open-apple "?" displays a brief Help message or a Help message menu. Open-apple and K is used to display a KEYSTROKE Sequence (macros) menu. A keyboard template showing function key assignments is not provided.

Command language: No command language is supported, but the user can assign a series of commands (macros) to one key and store this in memory for later use.

Positive feedback: KEYSTROKE Report Generator gives the user directions and keeps him informed as to what operations are occurring via messages on the screen. If the user is doing something potentially destructive, such as destroying a form design, a large stop sign appears on the screen along with a warning and a solution to the dilemma. When an error occurs, a message number appears in the top left-hand corner of the screen. A list at the back of the manual explains the error and gives possible reasons for its occurrence.

Status display: The status line is located on the bottom 2 lines of the screen. It indicates what features of the report can be modified on the line that the cursor is on and provides the user with a list of available options.

Help facilities: KEYSTROKE Report Generator has online Help messages accessed during most operations of the program by pressing the open-apple and ? keys simultaneously.

☐ Environment

KEYSTROKE Report Generator requires a 256K-byte Apple III and a second disk drive. Most of the memory is actually used, although part is, of course, relegated to the device drivers and the SOS operating system. (SOS, the Sophisticated Operating System, is the standard operating system for the Apple III.)

KEYSTROKE Report Generator uses data generated by KEYSTROKE Data Base. Hence, KEYSTROKE Data Base is essentially required.

☐ Documentation

The documentation provided consists of a single, very brief manual in a binder. The chapters are clearly marked by dividers and there are many illustrations of screen pictures. The manual begins with a brief discussion of what a report generator is and then is organized logically, according to the sequence in which each aspect of the program will most likely be encountered. The manual concludes with a brief description of KEYSTROKE Sequence, the option which allows the user to assign a series of commands to one key.

For such an attractive, professional-looking manual, it seems to be rather incomplete. A number of functions are either briefly mentioned or not explained at all. The user is expected to refer back to the KEYSTROKE Data Base manual. There is also no error message list included, which means the user must again refer back to the other manual. Most annoying of all, there is no index! Considering the cost of the package, this is an incredible inconvenience. As an additional annoyance, no reference card is included.

☐ Functionality

When choosing which records are to be included in a report, the user designates the criteria he wants used to select the records. He is then given the option to save this record selection criteria for later use; up to 8 report specifications can be saved. When no longer needed, they can be easily deleted.

KEYSTROKE Report Generator allows the user to generate reports with up to 28 columns of information. Each report has a maximum width of approximately 400 characters using 2 pages.

Each field is printed as a column on the report. Reports can be sorted by up to 4 fields by placing an S next to the field on an input form. Columns are automatically sorted numerically in ascending order and alphabetically from A to Z. To sort columns in descending order, the user places a minus sign next to the S.

Formats are included to customize a report. Columns can be left, right, or center justified. Date formats include numeric (MM/DD/YY), day first with abbreviated month (30/Mar/84), and standard script date (March 30, 1984). Also available are dollar formatted numeric, parenthesis placed around negative numbers, and percent sign added to a value.

Calculations which can be made on information in the columns include totals, averages, and counts. Calculations can also be made on groups of information, depending on how the column is sorted. For example, if a sales analysis is sorted by regions, subtotals, subaverages, and subcounts can be made for each region, and then a grand total can be made and an average taken for all the regions combined.

A report generated by KEYSTROKE Report Generator can also include up to 10 computed columns. A computed column performs calculations using numbers from other columns.

☐ Ease of Use

Many factors help make KEYSTROKE Report Generator an easy program to use. It is, for the most part, menu driven, and the user is prompted for responses. The manual takes the user step-by-step through most functions in the program, and a Help message can be accessed during most operations. Commands are written in simple everyday English terms for easy understanding, and the few open-apple commands are logical in that the key letter used is the first letter in the command (e.g., open-apple K is used to access a KEYSTROKE Sequence Menu).

KEYSTROKE Report Generator automatically provides a

BROCK Software Products KEYSTROKE Report Generator
Report Generator Package

number of features (giving the user the option to change them if desired) which help make the program quicker and more convenient to use. When generating a report, field labels from the database become column titles. Subtitles and footers for the report are also provided. Columns are automatically sorted numerically in ascending order and alphabetically from A to Z. Calculations can also be performed on the columns through the use of statistics.

KEYSTROKE Sequence allows the user to assign a number of commands to a single key and store them in memory for later use. The user can also save up to 8 record selection criteria sets that he has designated. Both of these help save steps and help to generate reports more quickly.

☐ Support

KEYSTROKE Report Generator is copy protected, but BROCK Software Products, Inc will provide a backup diskette upon receipt of the registration card. For registered owners, defective diskettes will be replaced free of charge for a period of 90 days after purchase and for a charge of $15 after the 90-day period. A defective diskette must be returned to BROCK Software Products, Inc or an authorized BROCK dealer.

Registered owners of KEYSTROKE Report Generator will be informed of enhancements and improvements via mail and will be eligible for updates at a reduced rate.

Customer support can be reached at 815-459-4210. An 800 number is not available at this time.

☐ System Interface

KEYSTROKE Report Generator may be used on floppies, as delivered, or it may be installed on a hard disk. Since the program is copy protected, Quark's Catalyst (a hard disk boot and program selector program) is required for hard disk installation. The program interfaces smoothly with Catalyst for automatic installation onto a hard disk. In fact, KEYSTROKE Report Generator is best used on a hard disk. On a hard disk, the KEYSTROKE Data Base and KEYSTROKE Report Generator programs interface to each other. This allows the user to work back and forth with the database and report generator without the hassle of exiting the programs, swapping disks, etc.

KEYSTROKE Report Generator interfaces to most printers, although it comes preconfigured for only a couple of printers. Interestingly enough, the printer commands are stored in a database file that the user can edit with KEYSTROKE Data Base. It allows specification of the standard printer controls such as line feed after return, whether the printer supports a hardware form feed, the number of columns per page for regular and condensed formats, the control characters for engaging enhanced printing, and for double width or regular print.

The user can print to the screen, to disk files, or to the printer. The screen is useful for previewing reports and

quick edits. The disk files are useful for interfacing with other programs, such as AppleWriter.

☐ Vendor Experience

KEYSTROKE Report Generator is second in a series of Apple III business software by BROCK Software Products, Inc.

■ DETAILED PRODUCT DESCRIPTION

☐ Terms & Support

Terms ● KEYSTROKE Report Generator is available for purchase from BROCK Software Products, Inc, through computer retail stores, and software stores; it is not available for purchase from mail-order firms.

Support ● customer support can be reached at 815-459-4210; no 800 number exists at present; updates are made available to registered owners at a reduced rate.

☐ Component Summary

KEYSTROKE Report Generator is comprised of 2 single-sided diskettes: the loader diskette and the program diskette:
$149 lcns

☐ Computers & Operating Systems Supported

Only Apple III computers with 256K bytes of memory are supported.

☐ Minimum Operating Requirements

The minimum memory requirement is 256K bytes. A video monitor and a second floppy disk drive, or a ProFile hard disk, are also required, along with a printer. A joystick is optional.

☐ Features

KEYSTROKE Report Generator is a report generator that contains many special features that make it ideal for either home or business use.

Formats ● to customize a report, columns can be left, right, or center justified; date formats include numeric format (MM/DD/YY), date format with day first and abbreviated month (30/Mar/84), and standard script date format (March 30, 1984); other formats include dollar formatted numeric, parenthesis placed around negative numbers, and percent sign added to a value.

Data Source ● reports are based on data collected using KEYSTROKE Data Base.

Math/Stat Features ● calculations that can be made on information in a column include total, subtotal, average, subaverage, count, and subcount; computed columns can be added to a report to perform calculations using numbers from other columns.

Title Capabilities ● field labels automatically become column titles, but titles can be changed with the "Customize Report" option; titles, subtitles, and footers can be added to the report with the Title Menu.

KEYSTROKE Sequence ● a feature which allows the user to assign a series of commands to one key and store them in memory for future use; this allows the user the ability to print one or more reports by pressing only one key.

Built-In Scratchpad ● used to store notes for later recall and to do calculations that would normally require a calculator.

The Ruler ● a ruler, displayed at the top of the screen when designing reports, lets the user determine the width of a report before it is printed; he can see if a report will fit on the paper and determine how the printer must be set up.

LCNS: license fee.

● **END**

Broderbund Software Bank Street Writer
Word Processor Package

■ PROFILE

Function ● word processing, report production, correspondence.

Computers/Operating Systems Supported ● Apple II/II+/IIe (requires at least 48K bytes of memory with Applesoft), IBM PC.

Configuration ● minimum memory requirement is 48K bytes (64K is recommended); requires at least one disk drive and will support a variety of printers.

Current Version/Version Reviewed ● the Apple II/II+/IIe version was reviewed/review version number not specified.

Date of First Installation ● December 1982.

Number of Installations ● information not available.

Comparable Products ● Applewriter IIe, Easywriter, and Hayden Pie Writer.

Optional Associated Software ● none.

Price ● $69.95 retail price.

Vendor ● Broderbund Software, Inc; 17 Paul Drive, San Rafael, CA 94903 ● 415-479-1170.
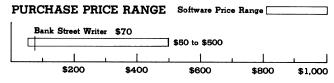
Canada ● Distributors: Citation; 1901 Logan Avenue, Winnepeg, MB R2R 0H6 ●Frantec; 1685 Russell Road, Ottawa, ON K1G 0N1 ● TC Data; 2140 Transcanada Highway, Dorval, PQ H9P 2N4.

■ ANALYSIS

Bank Street Writer is a menu-driven word processor designed for report, memo, and letter production. Its simplicity, ease of use, and low cost make it ideal for small businesses, unsophisticated computer owners, and/or occasional users.

Bank Street Writer consists of 3 modes: the Write mode to enter text; the Edit mode to make corrections or changes, and the Transfer mode to handle communications with the disk or printer. Most of the commands to use the program are found at the top of the screen. To enter the Write or Edit modes, ESC is pressed. To enter the Transfer mode, the Edit mode is entered then the Transfer Menu command is highlighted with the cursor and return is pressed. To leave any mode, the ESC is pressed.

The few commands that must be memorized are very logical and can also be found on the Quick Start reference card which comes with the program. In the Write mode, Control-I is used to indent 8, 16, 24 or 32 spaces; Control-C centers text; and Control-S shows how much

PURCHASE PRICE RANGE   Software Price Range ▭

```
  Bank Street Writer  $70
  ▭▭▭▭▭▭▭▭▭▭▭▭▭  $50 to $500
  └────┴────┴────┴────┴────┘
    $200   $400   $600   $800  $1,000
```

BRODERBUND SOFTWARE BANK STREET WRITER PRICING ● open bar shows the typical range of prices for **WORD PROCESSOR** software used in a corporate environment ● the vertical line within the bar graph indicates the price of **Bank Street Writer**, the evaluated product, relative to the price range of similar products.

PRODUCT QUALITY RATINGS*

	1 2 3 4 5 6 7 8 9 10
ENVIRONMENT	████████████████ 9.0
DOCUMENTATION	█████████████ 7.5
FUNCTIONALITY	█████ 3.0
EASE OF USE	█████████████ 7.5
SUPPORT	█████ 3.0
SYSTEM INTERFACE	███ 2.0
VENDOR EXPERIENCE	████████████ 7.0

*For an explanation of rating criteria, please refer to the Word Processor Features section in the Software Evaluations (805) report. The Overall Package Average is 5.6.

space is left in the file. In the Edit mode, text may be moved around by pressing B to go to the beginning, D to go to the end, U to jump up 12 spaces, and D to jump down 12 spaces. That's all the memorization required!

The text is displayed on a graphics screen (40 spaces x 24 lines with 38x18 available for text entry) so upper- and lowercase can be displayed on an Apple II or II+ even though these models generally do not support it. This also means that 80-column cards will not be of use for display purposes, but an extended memory, 64K-byte, 80-column card provides more memory space for editing larger files.

Bank Street Writer lacks many of the more sophisticated features of more expensive programs, but it was not really designed for professional use. The manual is written in non-technical terms, and the description on the box states that Bank Street Writer is a "home-oriented word processing system" for the "whole family."

□ Strengths

One of the most obvious points in this program's favor is its price. At $69.95, it is very affordable for home or small-business use where the complex functions of a more expensive program are not necessary.

Bank Street Writer is extremely easy to learn to use. It was designed so that it can be used almost instantly. Although most of the commands needed to use the program are displayed at the top of the screen, the package includes a tutorial on the back of the program disk. This has 5 very brief lessons for those who feel they need a little more practice. The 35-page manual includes an index/glossary which defines most terms a novice might be unfamiliar with. A reference card called "Quick Start" is also included. It briefly states how to use the program and lists the commands which are not displayed on the screen.

Bank Street Writer makes it very difficult to make a mistake, such as forgetting to save a program. If quitting is

Broderbund Software Bank Street Writer
Word Processor Package

attempted before saving a document, a reminder will appear on the screen stating, "You did not save this text. Are you sure you want to quit now (Y/N)?" When using the Erase or Move functions, the user is once again asked, "Are you sure?" If control-reset is hit, "Reset key pressed!" appears at the top of the screen, but text is not lost nor do you exit the program. These features are especially helpful to inexperienced users.

☐ Limitations

Bank Street Writer does not have a very good print formatter. It does not support right or full justification, giving a ragged appearance to the right margin. It also does not support tabbing, subscripts or superscripts, and embedding commands for things like underlining or boldface. Split-screen operation is also not supported.

Another disadvantage of Bank Street Writer is the short length of files. The Apple II+ with 48K bytes can store only 1300 words in memory, with every 6 characters counting as one word. Those with a 64K-byte card can store 3200 words. All 128K bytes of memory are used in an Apple IIe with an extended memory 80-column card possible. The problem of file length limits can be somewhat overcome by saving longer files in segments on the disk, linking them together and printing them out so they appear as one report.

Some problems exist in switching back and forth between the Write and Edit modes. It becomes quite tedious shifting between the 2 modes when making simple corrections. While in the Write mode, the user cannot move backwards without erasing text. Therefore, the Edit mode must be entered, the cursor positioned, ESC pressed to enter the Write mode, then the correction made. The same process is then followed to get back to where you started. There is also quite a time lag going between these 2 modes as text memory gets filled.

Another annoyance in working with the Bank Street Writer is the procedure for accessing the utility program. This program is used to change default values, such as margin sizes and line spacing to display a catalog and passwords and to convert Bank Street Writer files to standard text files and vice versa. It is accessed by pressing ESC while booting the program. Although the user will not frequently need to access the utility program while using the Writer, it seems an unnecessary hassle to have to reboot when you need to do so.

■ HANDS-ON EVALUATION

Users with little or no experience in word processing will tend to like Bank Street Writer's simplicity. The user can start writing documents almost immediately, even without reading the manual!

The operation of Bank Street Writer is dependent on which Apple computer it is booted on. It tries to use the IIe capabilities, if they are there. For Apple IIs and II+s, Bank Street Writer uses the standard diamond (I, J, K, and M) for cursor keys. For the Apple IIe, the arrow cursor keys are used to move within the document in the Edit mode; they are used as left/right delete keys in the Write mode. On the IIe, the delete key is also supported. Bank Street Writer uses the IIe's open-apple and closed-apple keys for selection within the menus.

Bank Street Writer does not incorporate a print spooler, but this would be quite unusual for such a simple word processor. Thus, the user cannot edit a document while a document is printing out.

Bank Street Writer is slow in responding to commands as memory fills. For some operations, the response time traverses from instantaneous to irritatingly slow, that is, seconds. The conversion utilities for transferring text files into Bank Street Writer also proved very slow: 903 words in 7 minutes.

☐ User Interface

Menus: The menus, which appear at the top of the screen, are succinct, clear, and easy to understand. The main menu appears in the Edit mode and accesses the only other menu, the Transfer menu. The Edit menu contains editing functions such as erase, unerase, move, find, replace, etc. The Transfer menu performs disk and printer transfers, such as print, save, delete, and quit.

Control Characters: Control characters cannot be embedded in a document. Hence, printer control is very limited. Three commands make use of the control key: Control-S for memory space, Control-I for indent, and Control-C for center.

Function/Special Keys: The open-apple, closed-apple, and arrow cursor keys are utilized on the Apple IIe. The open-apple and closed-apple keys provide selection within a menu. The cursor keys provide movement within the text.

Command Language: No command language is supported, since this is an easy-to-learn, simple word processor.

Positive Feedback: Bank Street Writer keeps the user informed as to what operations are occurring, generally with comments, questions, or mode designations at the top of the screen. Another positive feedback feature is its ability to provide "key clicks" as keys are pressed. This is especially helpful for touch typists.

Status Display: The top of the screen is used as a status display, indicating the present mode, showing how to get to other modes, and giving menus choices. While in the Write mode, space available in memory can be displayed by pressing Control-S. When space for only 50 words remains, it automatically is displayed at the top of the screen.

Help Facilities: Bank Street Writer does not have a Help menu. A reference card is provided.

☐ Environment

Bank Street Writer is supported on a wide range of personal computers. Its memory requirements of 48K bytes on an Apple II make it suitable for almost any user. Because the graphics screen is used to display the text, the Apple II and II+ display both upper- and lowercase letters.

Broderbund Software Bank Street Writer
Word Processor Package

Also, because of the use of the graphics screen, the Apple version works well on both monitors and TV screens. Bank Street Writer supports the use of the standard shift-key modification so that II and II+ computers can more easily support uppercase characters.

☐ Documentation

The documentation provided includes a slim, non-technical user manual and a reference card. After a brief, general description, the manual is organized in order of the operational modes of the program. This is followed by instructions on how to use the utility program and a list of how the Apple IIe version differs from the II+. The manual contains few screen image pictures, but because the program is so simple, these are not very necessary. It does give step-by-step directions on how to use the program. The entire manual is only 35 pages in length.

An unconventional index/glossary is found at the back of the manual. It gives definitions of terms as well as page numbers. While this information is nice to have, it is not particularly easy to read. Also, commands, rather than functions, are listed in the index. For example, how to center something is listed under "Control-C" instead of "center."

The tutorial diskette provides a quick, simple introduction to using Bank Street Writer. It contains 5 very basic and easy lessons.

☐ Functionality

Bank Street Writer does not have many of the sophisticated features that more complex and expensive systems have. It lacks many of the standard text editing features, such as overtyping, split screens, the ability to embed control characters, and glossaries. It also lacks many of the standard text formatting features such as "soft" or "sticky" spaces, right justification, underlining, subscripts, superscripts, boldface, etc.

Bank Street Writer does support many simple features such as, automatic word-wrap, center, left justification, block deletes, find, replace, block moves, and erase. Users will appreciate the unerase and moveback commands.

Almost any printer can be used with Bank Street Writer. The only unprinted, or control, characters used are formfeed, carriage return, and linefeed. Formfeed usage can be disabled.

☐ Ease of Use

Because most of the commands needed to use this program are displayed at the top of the screen, Bank Street Writer is quite easy to use. In fact, the manual and reference card are hardly needed at all.

The need to shift back and forth between the Write and Edit modes is somewhat annoying, particularly as memory gets filled and the process becomes slower and slower.

☐ Support

Support for this product is handled by the place of

LCNS: license fee.

purchase or Broderbund Software. Their warranty is quite nice: if it ever fails to boot, return the disk for free replacement. Physically damaged disks will be replaced for a $5 fee.

☐ System Interface

Bank Street Writer does not document the internal file structure of its data files. However, it provides a utility for converting to/from standard DOS 3.3 text files.

☐ Vendor Experience

Broderbund is an established software publisher, selling to computer dealers, software stores, and mail-order outlets.

■ PRODUCT OVERVIEW

☐ Terms & Support

Terms ● Bank Street Writer is available for purchase through computer dealers, software dealers, and mail-order firms.

Support ● Broderbund Software, Inc will provide a free replacement for a Bank Street Writer disk which fails to boot; if the disk has been physically damaged, a replacement will be provided for a $5 charge.

☐ Component Summary

Bank Street Writer is provided as a double-sided diskette, containing Bank Street Writer on one side and a tutorial on the other. A backup copy of Bank Street Writer is also provided.

Bank Street Writer:

$70 lcns

☐ Computers & Operating Systems Supported

Apple II/II+/IIe are supported with the package. At least 48K bytes of memory are required with Applesoft.

☐ Minimum Operating Requirements

Apple II/II+/IIe computers with 48K bytes of RAM with Applesoft, a display device (a monitor or television), and one disk drive are required for operation. Most printers are supported, via slot #1. Bank Street Writer also supports 16K-byte RAM cards, extended memory, and 80-column board. The extended memory, 80-column board is supported in that it will expand memory. However, the 80-column screen is not supported.

☐ Features

Bank Street Writer is a word processing package that contains special features designed for simplicity and ease of use. Some of the features include:

Easy Screen Editing ● simple and easy-to-master screen editing commands, such as block erase, find, replace, and the like, are supported via a menu.

Document Formatting Options ● simple formatting features are supported; these include automatic word-wrap, center justification, left justification, indent, and upper and lower margins.

Setup Menu ● setup menu determines the default settings for may common word processing functions; the beginner need not be troubled about the initial settings; the experienced user can use the utility to personalize his/her special printing needs.

Error Handling ● Bank Street Writer prevents most errors and is very forgiving; items moved can be unmoved; data erased can be unerased; these options must be invoked immediately, before more text is entered.

Merge/Print Functions ● allows the concatenation of several documents during printing.

● END

Bruce & James Publishers WordVision
Word Processing Package

■ PROFILE

Function ● word processing and report generator tool.

Computers/Operating Systems Supported ● IBM PC and XT; Compaq compatible; other dealer-specified compatibles ● WordVision is designed for use with PC-DOS or MS-DOS, Versions 1.0, 1.1 or 2.0.

Configuration ● minimum of 96K bytes of RAM; single- or double-sided disk system; compatible monochrome or 16-color, 80-column display; most printers.

Current Version/Version Reviewed ● no version number is indicated.

Date of First Installation ● November 1983.

Number of Installations ● 30,000.

Comparable Products ● with added Power-Pack packages, it is comparable to packages such as The Benchmark, EasyWriter, Perfect Writer, and Visiword.

Optional Associated Software ● Power-Pack software, including Spelling Checker and Electronic Thesaurus; there are plans to announce a Mailing List package this year.

Price ● $80 retail price.

Vendor ● Bruce & James Program Publishers, Inc; The Wharfside Building, 680 Beach Street, Suite 357, San Francisco, CA 94109 ● 415-775-8400.

■ ANALYSIS

WordVision is a color-oriented, menu-driven writing tool designed for new users and sophisticated word processing users alike in the preparation of general documents such as letters, memos, and short reports. The use of a variety of colors to represent different enhancements to text make it easy to learn and easier to remember special character treatment.

The document work area is primarily stored in RAM, but can be copied to floppies or hard disk, both manually and automatically. This means that the working space is limited. However, once final drafts are approved, they can be saved for incorporation into a final printed document of much larger size, although the printing must be done in steps, based on the amount of text stored in the various files.

PURCHASE PRICE RANGE

Software Price Range ▭

WordVision $80

▭ $80 to $425

$200 $400 $600 $800 $1,000

BRUCE & JAMES PUBLISHING WORDVISION PRICING ● open bar shows the typical range of prices for **WORD PROCESSING** software used in a corporate environment ● the vertical line within the bar graph indicates the price of **WordVision**, the evaluated product, relative to the price range of similar products.

PRODUCT QUALITY RATINGS*

	1	2	3	4	5	6	7	8	9	10
ENVIRONMENT										
DOCUMENTATION										
FUNCTIONALITY										
EASE OF USE										
SUPPORT										
SYSTEM INTERFACE										
EXPERIENCE OF VENDOR										

*For an explanation of rating criteria, please refer to the Word Processor Features section in the Software Evaluations (805) report.

WordVision supports a good variety of popular printers. It has built-in features which allow easy use of escape codes, stored as special characters, to enhance the use of supported functions. The package can be used as a DOS file editor.

The ease of use of WordVision truly makes it a candidate for use by secretaries, and especially those working for professional and/or technical personnel. As such, it can easily be placed in large and small organizations alike.

☐ Strengths

WordVision is very easy to use. Many writers do not wish to spend their time learning to use a computer or a word processor. Their real interest is in accomplishing the tasks at hand. These writers would prefer a system that allows them to type, but does not require more effort or time than the old eraser to correct their work. WordVision takes this attitude into account. Standard single-spaced print format with standard margin facilities are built into the package. The writer need not bother with formatting at all, except perhaps for setting tab stops and auto-indenting until the writing process is complete. Even then, should single spacing and standard margins be what is needed, the only task is to press the print key (F9), and then decide whether to view the text "on screen" by pressing the F6 key (on a IBM PC) or to print the text on paper by pressing the F4 key.

All of the IBM function keys, F1 through F10, are assigned a specific task by WordVision. In addition, the Escape key is defined as the Stop key, used to indicate the completion of any task, such as viewing a HELP menu or disabling a special function like underlining, bold-face type, marking text-excerpts for block moves, subscripts or superscripts, etc. The screen display itself is a wonder of color for those with a color monitor. Normal untreated text appears in green on a black background. Boldfaced type is changed upon implementation to light blue, underlined text ap-

Bruce & James Publishers WordVision
Word Processing Package

pears in a light yellowish brown and a combination of the 2 in a silvery white allowing the writer to know at a glance what enhancements will appear upon printing the text. For the computer using a black and white, or green phosphor monitor, the colors are replaced by higher intensity for boldface, inverse video for underlining, and both for the combined boldfaced and underlined text.

☐ **Limitations**

To use the special features of WordVision without continual reference to the documentation or HELP screens, the user must either paste on key overlays or fit on plastic key caps available from the publisher for an additional $5. The alternative is to memorize the 31 special keys available. This is really not as hard to do as one may think. Most of these keys parallel normal key functions. For example, the cursor movement keys remain the same, as does the erase key. The erase key has an advantage in that when depressed together with the shift key, it works in the reverse direction (to the right). The publishers decided to implement icons for the function keys, such as a diamond for F4, a clover for F2, and a heart for F6, among others. While this may be distracting to some, it is easy enough to change simply by entering the screen control panel and selecting the function number's option. This change must be effected every time the writer enters the system if the package is run under DOS 2.0. Under DOS 1.0 or 1.1 this parameter can be changed permanently.

Perhaps the most unnerving limitation of WordVision is the limits placed on the number of pages which may be stored. With a 96K-byte RAM, files are limited to about 16,000 characters or about 8 double-spaced, typed pages. However, with a 256K-byte RAM system this expands to about 100,000 characters or about 50 double-spaced, typed pages. If floppy disks are being used, about 80,000 characters, or 40 pages, can be stored. On the 96K-byte RAM system, however, it is critical that backup to disk be effected often.

■ **HANDS-ON EVALUATION**

There are 2 ways to install WordVision. The first and simpler method is to place the Master in Drive A and to make a backup copy, remove it, store it in a safe place, and then insert the backup copy in Drive A and begin using the program by typing "WV." With a hard disk system it is still advisable to first make a backup copy of any Master disk. Once done, the user can simply move to drive C and use the following DOS procedure: type "MKDIR /xxxxxxx," where xxxxxxx is the filename you wish to use for the directory; next type "CHDIR /xxxxxxx" or "CD /xxxxxxx" to enter the directory; finally, type "Copy A:*.*" after verifying that the WordVision backup disk is in Drive A. WordVision files will be shown as they are copied onto Drive C. Once completed, the program is ready to run. This is done simply by typing "WV" or "wv." Once accomplished, WordVision clears the screen and displays the Main menu, which allows entry to the Main Control Panel, and online tutorial called "How to use WordVision"; into direct writing mode; or into the Files mode, where you can recover stored text for edit.

The second method of installing WordVision allows entry of predefined computer and printer characteristics. This enables automatic start-up conditions upon "booting" the program. Unfortunately, this method does not work with DOS 2.0, and so some of the characteristics have to be reentered for each new file or new access to the program. Since this review is based upon an evaluation utilizing DOS 2.0, it is impossible to relate just what was missed.

In any event, installation is simple, and takes less than 5 minutes to execute. A writer able to touch type can learn to use WordVision adequately for most general purposes in less than one to 2 hours. To become expert with all of the program's features, a writer can expect it to take from 3 to 5 days, but should realize that writing is being accomplished more productively concurrent with the learning process.

☐ **User Interface**

WordVision utilizes a combination of function keys, special keys (enabled via a combination of key plus shift, or key plus control key), and menus to permit access to all of the program's facilities. The most frequently used facilities are accessed directly by depressing function keys (F1-F10), normal keys, and cursor keys. Smart characters, such as hard space (used to tell the system not to split 2 words between 2 lines) and soft hyphen, which allows a word to be hyphenated only if it must be split at the end of the line. The soft hyphen knows to eliminate itself if the word is to be moved completely to the next line due to adjustments made in page appearance via formatting commands. One particularly notable feature of the program is page formatting, which is itself a screen displaying a sample page (devoid of text) and a menu shown along the right margin. When a menu selection is made, and the characteristic changed, the sample page graphically reflects the change.

WordVision has no command language, but the control panels which allow the definition of characteristics are saved along with text when file storage is implemented.

Positive feedback begins at line zero with the page number, line number, and column number of the cursor being continually updated. Also shown on line zero is the percentage of memory space used (of that available in RAM) for the text and control features. Line 24 displays the particular mode in use (this is a summary heading of the subfunctions displayed below on line 25). Subfunctions, enabled by function and other keys, are displayed on line 25. These change relative to the message displayed on line 24. The status displays are all continually updated and do not require a "re-painting" of the screen displays as with some other packages. The HELP key is located to the far right and bottom of the keyboard, and replaces the "+" sign while working with WordVision.

☐ **Environment**

WordVision is quite tolerant of computer environment. It can run under DOS 1.0, 1.1, or 2.0 (with the single limitation already noted). Memory requirements are quite modest at 96K bytes of RAM, which only calls for 2 additional 16K-byte chips to be added to the basic PC configuration.

Bruce & James Publishers WordVision
Word Processing Package

No additional memory need be added to the basic 128K-byte RAM supplied with the minimally configured XT. As with VisiWord, one craves additional main memory since the entire document is initially stored in RAM. One nice feature of the package is the option to either automatically stop and save the file or simply generate a reminder to do so.

The publisher decided not to implement copy protection, apparently satisfied that the extremely low price of the product would be sufficient to attract users less interested in pirating. The program comes on a single disk.

☐ Documentation

The documentation supplied includes the paste-on key labels, and a user's manual designed to walk the new writer through the program's facilities in a functional manner. One begins with learning the keyboard layout, followed by installation instructions, the main control panel functions, and then gradually learns those features typically used first, followed by more exotic functions, such as subscripts, etc. The manual is full of screen image representations of the features being learned. As the student progresses through the manual, it becomes immediately clear that only half the pages are required. The even-numbered pages (for the most part) provide examples with instructions, while the odd-numbered pages provide details on the principles being learned.

Four appendices are provided: About Printers, which provides instructions on how to configure for a specific printer, and how to enter control codes into the text which will support special features (such as wide-print); Product Compatibility, which gives details on those operating systems and compatible micros that are supported; Using WordVision With DOS 2.0, which explains how to copy WordVision to a hard disk, use with Tree-structured directories, comments on incompatibilities, and other notes; Formatting Disks for Text Files, a straightforward approach to using the syntax "format a:".

☐ Functionality

Generating letters, memos, and reports presented no problem for WordVision. The writing tool has all of the standard features of a word processor, including full screen editing and cursor movement (up, down, left and right, end, and home). It also has cursor movement by word, but only to the left. It includes search and replace, text-excerpt for block movement, auto-indenting, centered text, right margin justification, and flush-right text. Insertion is automatic but calls for erasing of characters if the insertion is to be a replacement. Text which is inserted is automatically treated by the same characteristics as other text on the same line.

☐ Ease of Use

No one who has learned to type will encounter any difficulty using WordVision. The only complaint with the package is the use of the HELP screens. It seems that the only way to invoke the HELP screen required is to depress the Help key. This brings the user to a main HELP menu through which one must travel to find answers to specific problems. If the answer is not remembered upon return to the main text, it then would be necessary to make the trip once again, and this might be considered tedious except for the fact that HELP is normally needed only once in a great while after the learning curve of a few days.

☐ Support

The WordVision documenation recommends referring to both the HELP screens and the user's manual first. As a last resort, call the support hot-line 1-800-HELPTEL (435-7835). While the hot-line is only manned during normal business hours (Pacific Coast time), the assistance received is quite good.

☐ System Interface

Bruce & James provides no information on the file structure used by WordVision, and no utilities exist to support the exchange of files with non-WordVision products or with other computers. Files written onto an IBM DOS file rather than to a print image on disk can be imported and thus edited. WordVision files can also be written onto a DOS file for export to another program product.

☐ Vendor Experience

Bruce & James Program Publishers, Inc was founded by James Edlin and Bruce McLoughlin in early 1982. James Edlin, who recently vacated the presidency of the firm, was the designer of the EDLIN (line editor) program used in PC-DOS. He was the person responsible for overall development management of WordVision. The company experienced initial difficulties in bringing the product to market, but finally succeeded in November 1983. It has since shipped more than 30,000 copies and is into its second printing of disks.

■ PRODUCT OVERVIEW

☐ Terms & Support

Terms ● WordVision is available for purchase only from the publishers, through computer dealers, and software dealers throughout the U.S.

Support ● WordVision customer support is available to the registered user by calling 1-800-HELPTEL (435-7835), during normal working hours (Pacific Coast time).

☐ Component Summary

WordVision is packaged complete on one disk. The customer receives stick-on key overlays which indicate the original function as well as the WordVision function. Also included is the user manual. At present, WordVision is only available for the IBM Personal Computer, the XT, and certain compatibles.

WordVision:

_____$80 lcns

☐ Computers & Operating Systems Supported

At present, WordVision supports PC or MS-DOS 1.0, 1.1 and 2.0. It is designed to run on an IBM Personal Computer, but the system must have a minimum 96K-byte RAM. The IBM XT, which has as a minimum 128K-byte RAM exceeds this requirement. The Com-

LCNS: license fee.

Bruce & James Publishers WordVision
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paq personal computer is also supported. The Hyperion and Chameleon personal computers are not entirely supported, but full support is expected this year. Some other IBM compatibles may or may not have full support, and it is best to check with the computer dealer to find out for certain.

The package requires an 80-column display. WordVision operates best with a compatible color monitor. In the black and white or monochrome mode on a color monitor, scan lines appear which are quite distracting. The color monitor is not intended to run in such mode, and as a result, returning to the color mode causes the irritating scan lines to follow. They can be eliminated by saving the file to disk and then exiting the program. When entered again, the scan lines are gone.

☐ Minimum Operating Requirements

As mentioned, WordVision requires at least 96K bytes of RAM to operate. At 96K bytes, the package can support file sizes of up to 8 double-spaced, typed pages. With 256K bytes, this expands to about 50 double-spaced, typed pages. With 512K bytes (that used in this evaluation), approximately 130 double-spaced, typed pages can be accommodated in a single file.

☐ Features

Display Type ● full use of color for enhancements to text; graphic sample image of the page appearance; spaces can be represented either as dots or blanks.

Display Features Utilization ● audible feedback and "Sorry" messages appear when an unexpected or non-allowed function is attempted.

Command Structure ● no command language exists, but functions are executed as macros available in hierarchical form.

Error Recovery ● available on a file where automatic backup has been selected, but only if the text is on the backup file; the fre-

quency of automatic backup can be user selected; an "undo" command is also available.

Block Structure ● available via marked excerpts; moving is like cut and paste.

Merge/Print Function ● not available as a part of WordVision proper; this is a function of the Mailing List PowerPack (to be announced soon).

Spelling Check/Aid ● not available as a part of WordVision proper; this is a function of the Spelling Checker and Electronic Thesaurus PowerPacks.

Multiple Window/Multiple Document Support ● WordVision provides a limited windowing capability; a specific portion of text can be marked to appear in a window, while editing can continue on other text; however, one cannot move the cursor between the 2 windows; a window is also used to highlight the search and replace selections while being made ● multiple documents can be merged by sequentially copying them to scroll; separating a scroll into 2 or more files is not supported; it is possible to copy text only, phrases only, ruler and tab settings only, page appearance only, control panel selections only, or any combination to a new file.

☐ Other Facilities

WordVision has another feature called Quick Phrases, which allows the writer to define certain often-used phrases which are expected to appear in text, such as the phrases "WordVision" which appears many times in this report. A particularly good use of this feature would be storing special character parameters which control print routines not supported by WordVision. There is an easier way however; simply press "SHIFT:SPCL CHAR" and then the function key (keys) which represent the special characters desired.

● END

Business & Professional Software BPS Business Graphics
Computer Graphics Program

■ PROFILE

Function ● computer graphics program.

Computers/Operating Systems Supported ● IBM Personal Computer, Compaq, Seequa Chameleon, Bytec Hyperion/UCSD p-System.

Configuration ● 128K bytes of RAM, two 320K byte disk drives; color/graphics board and monitor, printer with appropriate interface, and plotter with appropriate interface are recommended.

Current Version/Version Reviewed ● 2.6/Version 2.6.

First Delivery ● 1980 as Apple Business Graphics; November 1982 for IBM PC.

Number of Installations ● information not available from vendor.

Comparable Products ● Lotus 1-2-3, Graphics Communications GraphWriter.

Optional Associated Software ● BPS Megatext provides graphs and charts for corporate management.
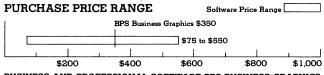
Price ● $350 retail price for BPS Business Graphics; $195 retail price for Megatext.

Vendor ● Business & Professional Software, Inc; 143 Binney Street, Cambridge, MA 02142 ● 617-491-3377.

■ ANALYSIS

BPS (Business & Professional Software, Inc) has produced a good business graphics package which includes facilities for the production of line, bar (both horizontal and vertical), pie, area point and composite graphs. In order to provide graphs and charts suitable for presentation to corporate management, a sister package, Megatext, should be purchased. This adds an additional $195 to the purchase price of the product and provides several additional fonts which add a great deal to the finished product.

The product operates under the UCSD p-System and is, at times, noticeably slow. For the most part the delays are short enough to be acceptable. Files may be transferred from p-System format to DOS format by a utility program provided with the package. An interface program is provided which allows the user to define input from the print files produced by many popular spreadsheet programs. Indeed, even word processors may be used to generate input to the program. Interfacing is not automatic, the user must first create the report in the source program which can be a non-trivial task, then define the output in terms that the Business Graphics interface program can under-

PURCHASE PRICE RANGE

Software Price Range ⬜

BPS Business Graphics $350

$75 to $550

| $200 | $400 | $600 | $800 | $1,000 |

BUSINESS AND PROFESSIONAL SOFTWARE BPS BUSINESS GRAPHICS PRICING ● open bar shows the typical range of prices for **GRAPHICS** software used in a corporate environment ● the vertical line within the bar graph indicates the price of **BPS BUSINESS GRAPHICS**, the evaluated product, relative to the price range of similar products.

PRODUCT QUALITY RATINGS*

	1 2 3 4 5 6 7 8 9 10
ENVIRONMENT	
DOCUMENTATION	
FUNCTIONALITY	
EASE OF USE	
SUPPORT	
SYSTEM INTERFACE	
EXPERIENCE OF VENDOR	

*For an explanation of rating criteria, please refer to the Graphics Features section in the Software Evaluations (805) report.

stand, and then the data can be extracted. Still, the steps listed are generally much shorter and certainly more accurate than re-keying the data. BPS also provides a means of saving commands on a "TAKE" file which means that, from the graphics side, any plot need be constructed only once. After the initial graph construction when the data changes, the scene can be replayed from the "TAKE" file and reflect the new information.

While there are some annoying aspects to the operation of the package, BPS offers a flexible way to produce graphic images for corporate applications.

☐ Strengths

The most impressive feature which we found with the package was the human engineering that went into making the tutorial fun and easy to use. We were particularly pleased to note that the tutorial does not allow you to key inappropriate data. Instead, it leads you through the practice session by first telling you what should be done, then ensuring that the data which you enter is what is expected.

A second feature which adds a great deal to the value of the product is the ability to create, store, and execute "TAKE" files of commands. These allow the user to save time and effort on repetitive functions and even provide for the creation of interactive presentations. The demonstration diskette accompanying the package is an excellent example of the usage of this feature in addition to its being the showpiece of the package.

As a means of preparing an automated "slide" show for presentations to upper management, BPS is outstanding. In combination with a projection TV system, excellent large-audience presentations can also be supported.

☐ Limitations

Although the product supports different fonts for the title data which accompanies each chart, none are included in the package. An additional product, Megatype, is available from BPS at additional cost. Without Megatype, the material created is adequate for presentation, but clearly computer

Business & Professional Software BPS Business Graphics
Computer Graphics Program

created. Work created with the font supplied with the BPS Business Graphics package was not suitable for upper management or external display.

The execution speed of the program is slow. This is probably because the programing is written in Pascal rather than in assembly language. Combining data files with alphabetic labels was painfully slow, much slower than those with numeric labels.

There is also one minor drawback in that the master diskette for the product is copy-protected. The vendor has chosen to include a backup copy with the product and to provide a means of installing the package on hard disk. These provided an acceptable although not optimum alternative to user-controlled duplication.

■ HANDS-ON EVALUATION

Our initial impression of this product was very favorable. It comes packaged in an impressive slipcase binder and possesses a large manual printed in color on quality paper. It is also equipped with a very fine demonstration diskette complete with on-line tutorial.

Our technical staff enjoyed installing this product. They found that the instructions provided with the product were complete and correct. The only problem was a printing flaw on one side of the "Before You Begin" replacement page which was difficult to read in an otherwise outstanding manual. The installation was completed without any difficulty.

Our staff was captivated by the on-line tutorial. It provided them with a quick and entertaining means of building confidence in their ability to create a graph and provided a brief overview of the capabilities of the system. They did notice, however, that as the novelty wore off, the time needed to display each graph became noticeable.

The production of "live data" charts quickly followed. We found that for the most part, each member on our staff was able to produce acceptable graphs for budgetary and statistical data within a day, and complex ones with input from spreadsheet packages within two days. We were able to interface with a mainframe system.

☐ User Interface

BPS Business Graphics uses a form of programming language for user interface. While this language is more difficult to relate to for beginners, and some users may in fact never use it comfortably, it offers considerable power in specification of graphs and processing of information. Within the context of free-form parameter/command input, BPS Graphics is easy to use, but many users will find this programming-oriented structure difficult to deal with.

Menus: Not used. BPS Business Graphics uses a free-form command input.

Control characters: Not used. All commands are entered in text or mnemonic formats. The ESC key is used to enter a number of repetitions to be applied to the following special key.

Function/special keys: Both function keys and some of the PC special purpose keys are used by BPS Graphics. Cursor

movement keys perform their traditional function, while HOME moves to the beginning of a file. Function keys are used for line movement, scroll control, movement to the beginning or end of a line, and deletion of lines. Users may not redefine key usage.

Command language: All functions and features are implemented by commands issued in a form of programming language. This language can control the selection of material for graphing, calculations, and preconditioning of the data, including complex statistical operations, color selection, and graph type selection, and drawing. Commands are placed in files and may be edited and updated through program control.

Positive feedback: The nature of the command language limits the amount of positive feedback available on a command-by-command basis, and limits the value of such feedback. In general, a set of commands can be verified only by execution.

Status display: None.

Help facilities: Help may be obtained by keying HELP as a command. Help, alone, will generate a list of help topics. In conjunction with a topic name, HELP will generate HELP on that topic. The displays are useful as reminders of features, but are generally not sufficient to permit the use of the commands without other reference.

☐ Environment

The version of the program which we tested is designed to function on the IBM PC/XT. At least 128K bytes of RAM and 320K-byte disk drives are required. We tested initially using an IBM XT with 256K bytes of RAM, the color/graphics board and monitor, the monochrome display and board, and the IBM Personal Computer Graphics printer. When this performed to our satisfaction, we tried it out on an IBM PC with 128K bytes of RAM, two 320K-byte disk drives, a color/graphics board and monitor and an Okidata Microline 92 printer. We had no difficulty on either system.

BPS Business Graphics supports a list of over eighty plotters, dot matrix printers, and letter quality printers which can be used as output devices. The descriptions for the cable pin configurations and appropriate commands are listed alphabetically by manufacturer in the Reference Manual. Both of our printers were supported without modification.

The product does not need a color monitor in order to function. A supported printer or plotter with the monochrome display will work, although the user will not be able to preview the plots. If both monochrome and a color/graphics monitors are attached to the system, the product is able to support text on the monochrome while displaying the graphs on the other.

☐ Documentation

The documentation which accompanies this product is excellent. Packaged in the now-familiar single slip-case binder, it provides a two-phased approach for conveying the commands and techniques. In the first section, chapters 1 through 4, the authors have provided an introduction to business graphics, a tutorial which demonstrates the basic

Business & Professional Software BPS Business Graphics
Computer Graphics Program

features of the product, an advanced tutorial, and finally a chapter of examples. The remaining three chapters cover the topics of command reference, hardware interfaces, and software interfaces. Rounding out the manual are three appendices covering fixed disk installation, I/O error explanations, and file formats. Also included with the package are a Pocket Reference Card and a Reference Chart (approximately 22 x 17 inches, suitable for framing).

In addition to the paper documentation, the product has an on-line tutorial which, although it does not exercise as many features as does the written one, provides an excellent introduction to the capabilities of the system. The system also possesses an on-line help function which provides assistance on various topics which we found to be helpful most of the time. The help feature operates more as a reminder of lessons already learned than as a learning device.

☐ **Functionality**

Our professional staff members were immediately drawn to the demonstration which our technical staff ran to check out the product. They noted that almost every type of chart normally used in the business world was represented: point, line, bar, horizontal bar, and pie charts.

Almost before the technicians were finished with the installation, the staff was fighting for the computer, exercising the extended capabilities of the product. One of the first areas which they investigated was the mathematical functions with which they were able to perform trend analysis.

For the actual application, our professionals set up a sample spreadsheet using Lotus 1-2-3 to prepare the data. They transported it to the graphics program using the interface program, and graphed the results. In order to assess the relative difficulty, they also performed the same data entry function within the Business Graphics package. Initially, it was easier to use the graphics package exclusively, but as the number of updates and level of complexity of the calculations increased, they found that the basic arithmetic functions of the Business Graphics were inadequate to satisfy their needs.

We noticed that most of the effort associated with BPS was concentrated in developing the interface criteria and defining the graph. After the first time that this was accomplished, updates were relatively easy. Using the techniques refined in the trend analysis project, we were able to develop a sample budgetary presentation which employed some of the curve fitting options available.

The designers of the product seem to have taken heed of earlier complaints and now provide five designs for filling bars and pie slices (our technical staff preferred type 6) in addition to solid and empty. There are also four different types of dashed lines allowed for the representation of multiple plots on the same graph.

Our technical staff was impressed by the number of devices which the product supports for displaying the graphs. Over sixty different printers and plotters are included in chapter six of the reference manual which deals with interfacing to hard-copy devices. We experienced no difficulties with the two matrix printers which were available. The software diskette itself is copy protected, but BPS did not copy-protect the device installation diskette, so that the support segments can be loaded to the hard disk should the printer or plotter configuration change in the future.

BPS also provides a sample framework program written in Pascal which demonstrates the manner for interfacing with the data files. This allows them to be used in applications other than BPS, and also creates a wide path for other applications to feed BPS without using the interface program. This supports only UCSD Pascal, and not the IBM Pascal which operates under PC-DOS.

☐ **Ease of Use**

Our secretarial staff had little difficulty in creating and updating simple charts and graphs with this product. They used it to record the number of calls received and plot them against the time. The result was a bar graph with a sine curve fit. Why does everyone call just before lunch or just before the end of the day?

They also used the product to project time involvement of each staff member on each aspect of their daily routine. They were able to again use the curve-fitting function to project the work capacity of the department.

Naturally, our technical staff was unwilling to allow the product to remain idle, so at off times they entered the winning lottery numbers for the past two years. So far, the graphs have looked pretty, but the accuracy of all projections have been within the statistical norm for random numbers. They mumbled something about a missing ingredient. . . .

The package provides an online Help facility, but the text is a form of summary of the manual rather than something unique to the circumstances for which Help is being requested. Not everything is covered in sufficient detail. It took us a trip to the manual to find that the "SET DEFAULT DIRECTORY" was satisfied by a drive letter, e.g. C:, and not the full path designation, such as C:\GRF\BPS. In the latter case, neither the error message nor the Help text were particularly helpful.

☐ **Support**

Business & Professional Software, Inc (BPS) is committed to providing quick and courteous support. They provide an 800 number with an unlimited period of support. We used it to find other dealers in our area. They were apologetic when they could not find a local distributor within our immediate area over the phone, took our name and number, and called us back later that same afternoon with the information! Their first line of defense is their local distributors, but if satisfaction is not obtained there, BPS makes every effort to satisfy the user.

In addition, BPS supplied us with all of the information which we requested concerning their companion product, Megatype, for the production of fonts in addition to the one supplied with the product. Use of this product adds to the presentability of the graphs, but also could be used to prepare overhead transparencies and for other applications where eye-catching lettering is needed.

We also learned through them that an upgrade to the PC version of the product was available for $125 which will

Business & Professional Software BPS Business Graphics
Computer Graphics Program

bring it up to functional compatibility with the PC/XT version.

☐ System Interface

The designers of this package have made an attempt to allow the product to interface with the rest of the world. It supports a direct extract capability from SYLK type files such as those used by MultiPlan. Through its interface program it extracts data from text files which may be produced by any of the popular spreadsheet programs or on mainframe computers.

The product is not directly invokable from any spreadsheet program.

☐ Vendor Experience

BPS was established in 1980, but BPS Graphics in conjunction with Megatext is apparently their only current microcomputer product.

■ PRODUCT OVERVIEW

☐ Terms & Support

Terms ● BPS Business Graphics is available on a license only basis from Business & Professional Software, Inc, through computer dealers, software dealers, or mail order houses throughout the United States and internationally ● an upgrade for the earlier version of the product is available from the same sources for $125.

Support ● local distributors provide technical information; BPS provides an 800 telephone number for follow-up information.

☐ Component Summary

The product is packaged on four diskettes. The first, entitled the Master Diskette, contains the program and help files; the second, entitled Demonstration, contains the on-line tutorial and sample files; the third, entitled Device Installation, contains the device-specific code needed for each device supported; and the fourth, entitled Master Program (Backup), is a copy of the first.

BPS Business Graphics:

	$350 lcns

LCNS: license fee.

An upgrade to the PC version is available. This version provides functional compatibility with the PC/XT.

Upgrade to PC Version:

	125

☐ Computers & Operating Systems Supported

The BPS Business Graphics package runs on the IBM PC. The PC version can be upgraded to run on the PC/XT. The package also supports the Compaq, Seequa Chameleon, and the Bytec Hyperion using UCSD p-System.

☐ Minimum Operating Requirements

The system requires a minimum memory of 128K bytes. It also needs two 320K-byte disk drives, a color/graphics board and monitor, a printer with appropriate interface, and a plotter with the appropriate interface are recommended.

☐ Features

Graph Formats ● point, line, vertical and horizontal bar, and pie.

Data Source ● popular spreadsheet programs such as VisiCalc, MultiPlan, or Lotus 1-2-3, or direct input.

Graph Size & Positioning ● variable.

Text & Label Support ● flexible generation of text and labels; multiple fonts available with optional Megatype package.

Image Processing Features ● slide show sequencing of images is supported; some direct editing of images is supported.

Math/Statistical Features ● full arithmetic capabilities, running summary, curve fits, exponential and moving average smoothing.

Text/Report Integration ● no specific features—does not integrate with most word processors on an output format basis because of UCSD file formats.

☐ Other Facilities

Business and Professional Software, Inc. also provides a software package, Megatext, which runs in conjunction with the BPS Business Graphics software. Megatext provides additional fonts and supplies a finished product which is suitable for presentation to corporate management.

Megatext:

	$195 lcns

● END