

The Guide

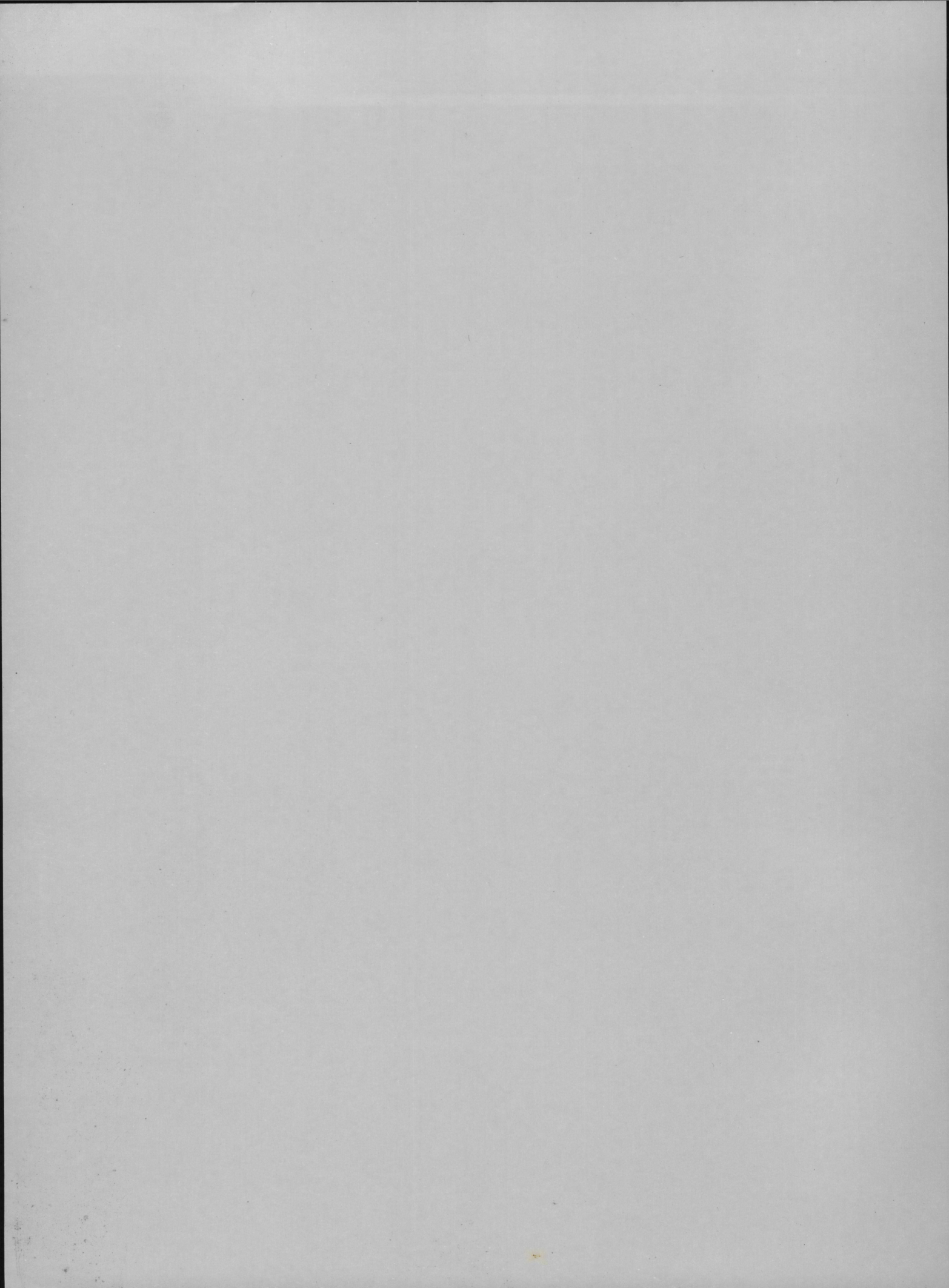
to personal computer offerings from IBM

Fall 1983
Winter 1984

Presenting the
IBM PCjr—
The easy one
for everyone
(See Page 10)

NOW FEATURING ★ IBM PCjr





The Guide
is for you

If you own an IBM Personal Computer or are thinking about buying one, you will find *The Guide* to be a valuable resource.

The Guide can help you identify the IBM PC hardware and software you need for word processing . . . planning and analysis . . . managing your information . . . communicating . . . programming . . . learning and playing.

Use this publication to determine the products you need to design and expand your IBM PC system—the system that can enhance your professional and personal productivity.

Table of Contents

Discover a world of possibilities with IBM Personal Computers

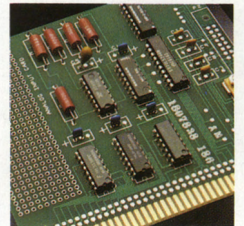
5



System Hardware

An expanded line of personal computer hardware products from IBM • IBM PCjr • IBM Personal Computer • IBM Personal Computer XT • IBM Expansion Units • Keyboard for the IBM PC and the IBM PC XT • Display options • IBM Color Display • IBM Monochrome Display • IBM Personal Computer Color Printer • IBM Graphics Printer • IBM PC Compact Printer • Hardware Reference Manuals • Six Sample Hardware Configurations

7



Software Products

A wide range of carefully selected programs

33



Productivity Programs

Tools for writing and editing... planning and analysis... data base management

Word-Processing Programs PeachText • EasyWriter 1.15 • HomeWord • Word Proof • Professional Editor • Personal Editor

Planning and Analysis Tools Multiplan 1.10 • VisiCalc 1.20

Data Base Management Tools pfs:FILE 1.05 • pfs:REPORT 1.05 • Mailing List Manager • FileCommand • Fixed Disk Organizer • Diskette Librarian • Time Manager 1.05 • Home Budget and Home Budget, jr

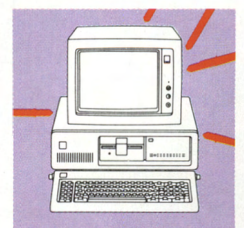
35



Communications

A range of products to support various communications capabilities • Asynchronous Communications Support 2.00 • 3101 Emulation • Binary Synchronous 3270 Emulation • Systems Network Architecture 3270 Emulation and RJE Support • Dow Jones Reporter • Personal Communications Manager

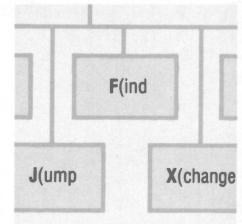
75



Operating Systems and Languages

Disk Operating System (DOS) 2.10 • DOS-supported languages • UCSD p-System • CP/M-86

85



Business Programs

Peachtree Accounting System: General Ledger 1.10 • Accounts Receivable 1.10 • Accounts Payable 1.10 • Inventory Control 1.10 • Payroll 1.10

BPI Accounting System: General Accounting • Accounts Receivable • Inventory Control • Payroll • Job Cost

95

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PEACHTREE SOFTWARE
INVENTORY CONTROL PROGRAM
STAR CORPORATION

1. MAINTAIN INVENTORY
2. PRINT PHYSICAL INVENTORY
3. PRINT PERIOD TO DATE
4. PRINT YEAR TO DATE

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Educational Programs

Logo • Bumble Games • Bumble Plot • Juggles' Butterfly • Turtle Power • Monster Math • Adventures in Math • Arithmetic Games • Fact Track • BASIC Primer • Typing Tutor • Private Tutor • Learning DOS 2.00 • Learning to Program in BASIC • Multiplication

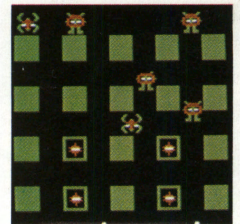
99



Entertainment Programs

Animation Creation • ScubaVenture • Adventure • Mouser • Mine Shaft • One-Hundred-and-One • Monochrome Mazes • Crossfire • Casino Games 1.05 • Strategy Games 1.05 • Decathlon • Adventure in Serenia

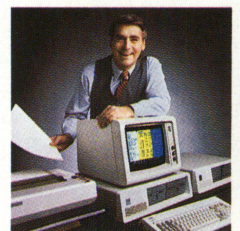
105



Sales and Service Support

Quality control • Dealer Service Options • Prompt, expert service • IBM Customer Support System

109



Alphabetical Index of Software Products

111



	12	13	14	15	16
Costs					
Profit					
	55,000	56,000	57,000	58,000	59,000

1ST QUARTER REPORT				16	17
	Jan	Feb	March	Total	Average
Material	5100.00	5200.00	5300.00	15600.00	5200.00
Labor	1500.00	1600.00	1700.00	4800.00	1600.00
Overhead	1300.00	1400.00	1500.00	4200.00	1400.00
Costs	7900.00	8200.00	8500.00	24600.00	8200.00
Sales	8200.00	8500.00	8800.00	25500.00	8500.00
Profit	300.00	300.00	300.00	900.00	300.00

COMMAND: [F1] Blank [F2] Copy [F3] Delete [F4] Edit [F5] Format [F6] Help [F7] Insert [F8] Move
[F9] New Options [F10] Print [F11] Quit [F12] Restore [F13] Status [F14] Storage
[F15] Table [F16] Type [F17] Window [F18] Zoom [F19] ZOOM [F20] ZOOM

Discover a world of possibilities with IBM Personal Computers

Every day, more and more people are discovering the exciting world of IBM Personal Computers.

It is a world of performance and speed... of convenience and personal creativity.

IBM Personal Computers are helping people become more productive in offices, classrooms and homes throughout the world. They're being used by corporate presidents and young children... by office workers and homemakers... by teachers and students.

Hardware for every need, every budget

IBM now offers three impressive IBM Personal Computers.

The IBM Personal Computer is the flagship of the IBM PC line. Powerful, versatile and affordable, the IBM Personal Computer has received widespread critical acclaim and has been credited with setting industry standards by such publications as *Time* magazine and *The Wall Street Journal*.

Its first extension, the IBM Personal Computer XT, is a more powerful and even more versatile version of the IBM PC. The IBM PC XT offers a large-capacity fixed disk drive for storing many programs and data files.

The most recent addition is the compact IBM PCjr. "Junior" offers the power, performance and convenience of IBM Personal Computers—all at a highly affordable price.

Two IBM PCjr models are available. The entry model contains 64KB of user memory and two cartridge slots for running IBM PCjr cartridge programs. The enhanced model contains two cartridge slots plus a double-



sided 360KB slimline diskette drive and 128KB of user memory. The diskette drive and additional user memory enable you to run many of the programs on Junior that are already available for the IBM PC and IBM PC XT.

Other recent hardware additions to the IBM Personal Computer product line include:

- The IBM Personal Computer Color Printer—a high-performance printer that allows you to print both color graphics and text at speeds of up to 200 characters per second
- The IBM PC Compact Printer—an affordable thermal printer whose compact size makes it an ideal addition to an IBM PCjr system

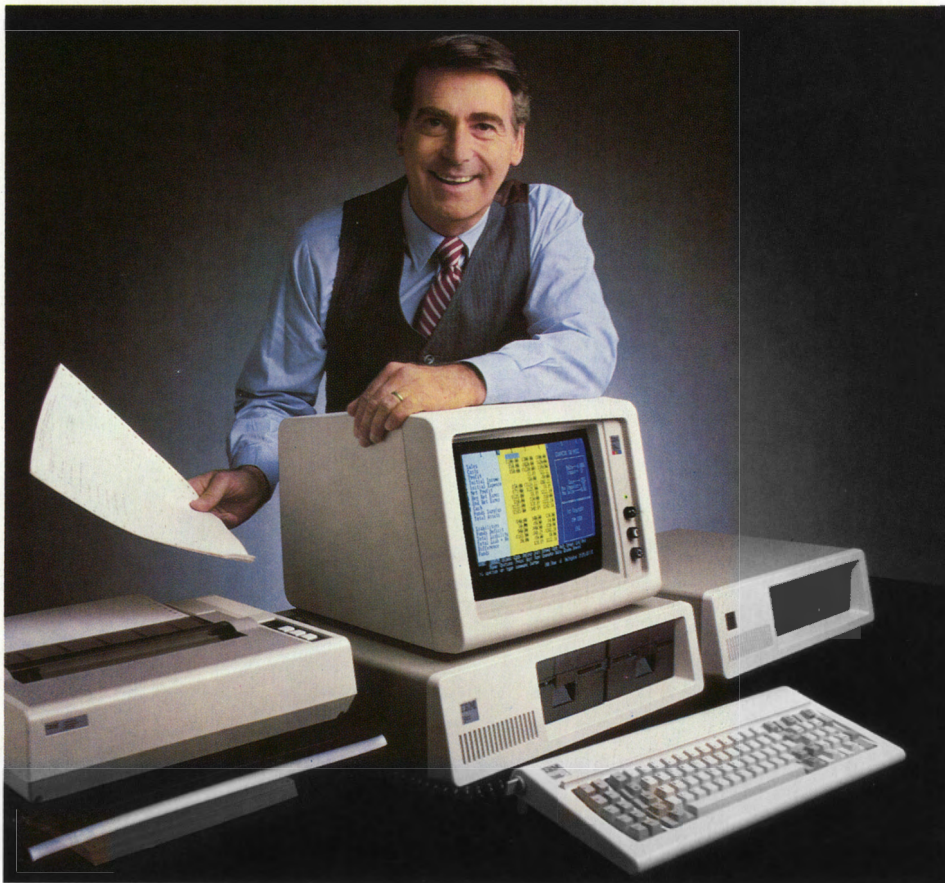
Discover a world of possibilities with these new additions and with all the IBM PC hardware products described in this guide.

Software for everyone

IBM offers a wide range of software products to help you increase your professional and personal productivity.

There are IBM PC software packages that can help you be more productive at work... learn or teach in school and at home... play games just for the fun of it. You'll even find programs that help you write your own programs.

Discover a world of possibilities
with IBM Personal Computers



Here are some of the most recent additions to the IBM PC software line:
HomeWord* This program enables users to select various word-processing functions simply by choosing the picture representing that function. Behind its simplicity lies the

capability to tackle many different kinds of writing assignments. HomeWord is a perfect companion product for the IBM PCjr.

Word Proof. Having Word Proof is like having a professional proofreader by your side. It can check your spelling against an

electronic dictionary of over 125,000 words. It can help you find synonyms... plus proof-read files you've created with other IBM PC word-processing programs like PeachText*, EasyWriter* or HomeWord. It even offers you some basic word-processing capabilities of its own.

Mailing List Manager. If your business depends on reaching people by mail, Mailing List Manager is for you. You can use it to create mailing lists and, in conjunction with IBM PC word-processing programs, to generate personalized form letters in a hurry.

Private Tutor. This versatile education program was designed to help teachers conduct lessons, administer drills and quizzes. Use it with a range of "courseware" programs created especially for use with Private Tutor. Or create your own course materials.

These are just a few of the newest IBM PC programs you can read about in this issue of *The Guide*. See *The Library of IBM Personal Computer software offerings*—a handy, fact-filled brochure—for even more information about IBM PC programs for business, education and entertainment.

*HomeWord is a trademark of Sierra On-Line, Inc. PeachText is a trademark of Peachtree Software Incorporated, an MSA company. EasyWriter is a trademark of Information Unlimited Software, Incorporated.

System Hardware



IBM Personal Computer



IBM Personal Computer XT



IBM PCjr

An expanded line of personal computer hardware products from IBM

More systems...more options...more ways to increase your productivity

The expanded line of IBM Personal Computer hardware products offers you a wide range of capabilities and options. Whatever your personal computing needs may be, you can design an IBM Personal Computer system to help you meet them.

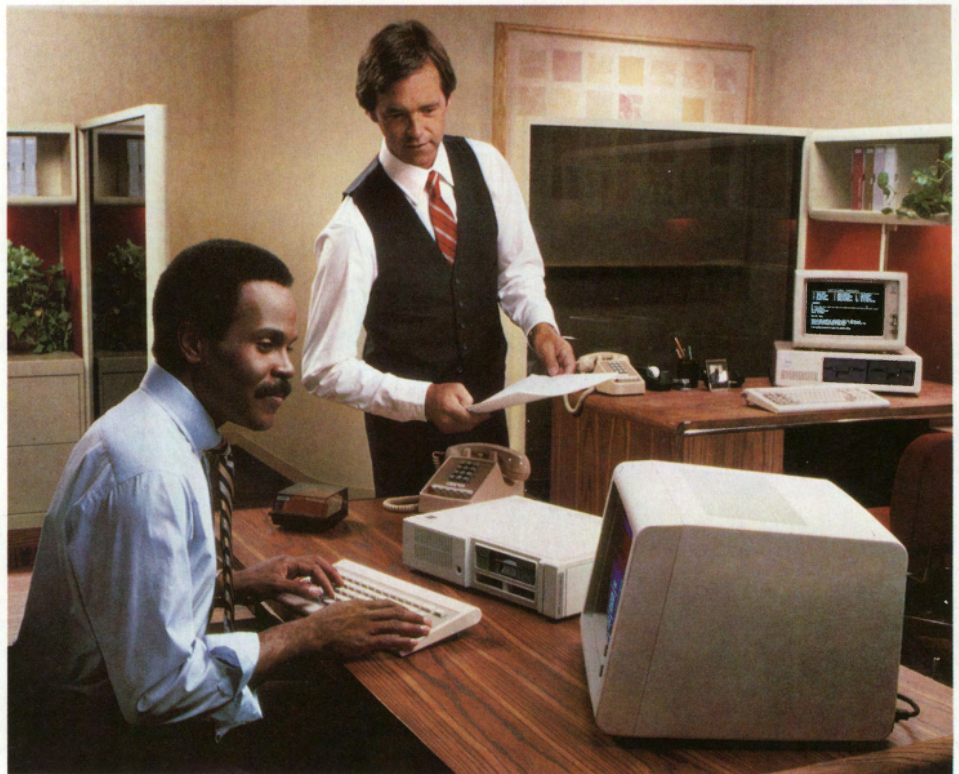
You can now choose from three IBM Personal Computers, two displays, three printers (including the new IBM Personal Computer Color Printer), and more.

Let's take a closer look at the IBM Personal Computers: the new IBM PCjr, the IBM PC, and the IBM PC XT. Each system offers you high performance and value for its price.

IBM PCjr. The IBM PCjr offers you IBM PC computing capabilities in an affordable, compact system. The System Unit and its cordless keyboard together weigh about 12 pounds. You'll find the IBM PCjr as easy to move as it is to use.

The IBM PCjr accepts a range of options—from printers to color displays, modems, and more. With Junior's System Unit, keyboard and the options of your choice, you can create a powerful personal computing system.

IBM Personal Computer. The IBM PC System Unit is a versatile and reasonably priced computer with many advanced hardware features. It comes with an easy-to-use, typewriter-like keyboard and other features that can help you save time and make computing more convenient. What's more, the IBM PC System Unit has five expansion slots in the rear panel for adding options to your system. To expand even further, you can add an optional IBM PC Expansion Unit for fixed disk performance and eight more expansion slots.*



IBM Personal Computer XT. The IBM PC XT System Unit offers you extensive memory capacity and information-handling capability. It comes with the same Intel 8088 microprocessor and familiar keyboard as the IBM PC. It also has a number of additional features—such as a 10MB fixed disk drive—as standard equipment.

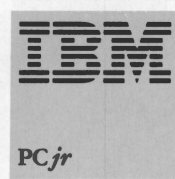
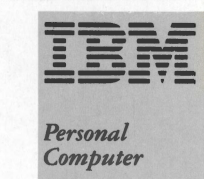
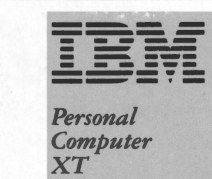
The IBM PC XT comes with 128KB of user memory and eight expansion slots.** To create an even more powerful system, you can install more user memory. You can also add an optional IBM PC XT Expansion Unit to gain an additional fixed disk drive plus eight more slots.**

Use the chart at the right to determine which IBM PC System Unit best satisfies your present and potential computing needs.

*When an Expansion Unit is added to an IBM Personal Computer, two expansion slots in the IBM PC System Unit are occupied by the attachment cards used to connect the System Unit to the Expansion Unit.

**Three expansion slots are occupied by adapters that come with the IBM Personal Computer XT System Unit. In addition, when an Expansion Unit is added, two slots are taken up by the attachment cards used to connect the IBM Personal Computer XT to the Expansion Unit.

IBM System Units at a glance...

		
Microprocessor High-speed, 16-bit (Intel 8088)	Microprocessor High-speed, 16-bit (Intel 8088)	Microprocessor High-speed, 16-bit (Intel 8088)
User Memory (RAM) Entry model: 64KB standard, expandable to 128KB addressable Enhanced model: 128KB standard (For both models, 16KB is taken up by the built-in video buffer)	User Memory (RAM) 64KB standard, expandable to 640KB addressable	User Memory (RAM) 128KB standard, expandable to 640KB addressable
Permanent Memory (ROM) 64KB; includes BASIC Interpreter, automatic Power-on Self-test and BIOS (includes Keyboard Adventure)	Permanent Memory (ROM) 40KB; includes BASIC Interpreter, automatic Power-on Self-test and BIOS	Permanent Memory (ROM) 40KB; includes BASIC Interpreter, automatic Power-on Self-test and BIOS
Auxiliary Storage Entry model: one optional 360KB capacity slimline diskette drive (standard with enhanced model)	Auxiliary Storage One or two 180KB or 360KB capacity diskette drives (using the IBM Disk Operating System 2.00 or 2.10) may be installed in the System Unit; by installing an Expansion Unit for the IBM Personal Computer, you may also add up to two 10MB fixed disk drives; total system capacity is 20,720KB of storage	Auxiliary Storage One 10MB fixed disk drive and one 360KB capacity diskette drive are standard (using the IBM Disk Operating System 2.00 or 2.10); one additional 10MB fixed disk drive and one diskette drive (180KB or 360KB capacity) may be added when attaching an Expansion Unit for the IBM PC XT; total system capacity is 20,720KB of storage
Built-in Connectors 18 standard	Expansion Slots* 5 standard; 8 more slots can be added with an Expansion Unit, for a total of 13 slots	Expansion Slots† 8 standard; 8 more slots can be added with an Expansion Unit, for a total of 16 slots
Adapters Optional	Adapters Optional	Adapters One Asynchronous Communications Adapter, one Diskette Drive Adapter, and one Fixed Disk Drive Adapter—all standard
Operating System IBM Disk Operating System 2.10	Operating Systems IBM Disk Operating System 2.00 and 2.10, UCSD p-System** and CP/M-86**	Operating System IBM Disk Operating System 2.00 and 2.10

*When an Expansion Unit is added to an IBM Personal Computer, two expansion slots in the IBM PC System Unit are occupied by the attachment cards used to connect the System Unit to the Expansion Unit.

**UCSD and UCSD p-System are trademarks of the Regents of the University of California. CP/M-86 is a trademark of Digital Research, Incorporated.

†Three expansion slots are occupied by adapters that come with the IBM Personal Computer XT System Unit. In addition, when an Expansion Unit is added, two slots are taken up by the attachment cards used to connect the IBM Personal Computer XT to the Expansion Unit.

IBM PCjr

*An affordable personal computer that
can grow with you . . . go with you*



Easy to use . . . easy to move. The IBM PCjr is both compact and powerful. The System Unit and keyboard combined weigh about 12 pounds.

But Junior is no lightweight when it comes to power: It features the same high-speed, 16-bit Intel 8088 microprocessor found in both the IBM PC and the IBM PC XT.

Use the IBM PCjr and the appropriate programs to organize your budget . . . analyze financial information . . . help your children with their schoolwork . . . send electronic mail by phone . . . play exciting computer games . . . and much more.

However you choose to use it, you'll find the IBM PCjr to be a versatile tool that can help you be more productive, more creative.

Choose from two Junior models. IBM offers both an entry and an enhanced IBM PCjr model.

The entry model offers 64KB of Read Only Memory (ROM), 64KB of user or Random Access Memory (RAM), and two cartridge slots for running IBM PCjr cartridge programs.

The enhanced model contains everything offered by the entry model plus a double-sided 360KB* slimline diskette drive for running diskette programs on Junior. This means you can use many of the programs on Junior that are already available for the IBM PC and IBM PC XT.

The enhanced model also comes with the IBM PCjr 64KB Memory and Display Expansion option, which increases user memory to 128KB and enables you to display 80—rather than 40—characters of text per line on your display screen.

The System Unit offers plenty of power. In addition to the Intel 8088 microprocessor, Junior's System Unit also contains a cassette version of the easy-to-use BASIC language. It provides support for a range of capabilities—such as editing and performing math functions, displaying and printing high-resolution graphics—and for various options such as light pens** and IBM PCjr Attachable Joysticks.

Add IBM PCjr BASIC for even more support. You can further extend the capabilities of your IBM PCjr by adding IBM PCjr BASIC. This optional cartridge has all the functions of Disk and Advanced BASIC—

*The IBM Disk Operating System (DOS) 2.10 increases the formatted capacity of double-sided 320KB diskettes to 360KB.

**Video monitors, TV sets, external modems, audio cassette recorder/players, light pens, game paddles and RF modulators are not part of the IBM Personal Computer offering and must be purchased separately.



as supplied on the DOS diskette—plus graphics, sound and communications enhancements. PCjr BASIC is the most advanced form of BASIC available for the IBM PCjr.

IBM PCjr BASIC provides Junior with support that enables you to:

- Use diskettes as well as cassettes if the IBM Disk Operating System (DOS) 2.10 is present
- Access outside information services, such as Dow Jones News/Retrieval[†] Service and THE SOURCE[‡], via standard phone lines and Junior's internal modem or any compatible external modem**

- Draw circles, paint, create windows and other advanced graphics
- Play and store multi-voice music
- Communicate with other systems
- Provide six different screen modes for displaying text and graphics in up to 16 colors

[†]Dow Jones is a trademark and Dow Jones News/Retrieval is a registered trademark of Dow Jones & Company, Incorporated. THE SOURCE is a service mark of Source Telecomputing Corporation, a subsidiary of The Reader's Digest Association, Incorporated.

IBM PCjr



◀ The IBM PCjr cordless keyboard is both convenient and comfortable to use. It communicates with the System Unit by infrared signals, similar to the way a remote control unit operates a TV set. So you can work up to 20 feet away from the unit, provided there are no obstructions.

The keyboard's 62 keys are arranged in a typewriter-like format familiar to many people.

The function keys are color-coded to help you quickly locate the right keys for each operation.



◀ A major feature of the IBM PCjr Keyboard is that each of its 62 keys is completely programmable. You can assign any letter, number, function or command to a key. You can arrange keys alphabetically, in letter groupings . . . whatever suits your specific computing needs. You can even color-code keys.

Write your changes on a blank overlay (optional), then just place it on your keyboard (as shown here).

Designing your own keyboard can be a great time-saver for both first-time users and experienced programmers.

Enjoy the freedom of a cordless keyboard. The innovative IBM PCjr 62-key keyboard uses infrared signals to communicate with the System Unit, similar to the way a hand-held remote control device can operate a TV set. The keyboard can be operated up to 20 feet away from the System Unit (provided there are no obstructions), allowing you to use Junior in a position that's most convenient for you.

The keyboard arrangement resembles the familiar typewriter format, so you can go from typing to computing quickly, easily. Another ease-of-use feature: The IBM PCjr function keys and math keys have been color-coded. Even if you are a computer novice, you should have no difficulty identifying and activating the right keys at the right time on the IBM PCjr Keyboard.

The keyboard also features one of Junior's most useful benefits. Every one of its 62 keys is completely programmable; that is, you can assign any letter, number, function or command to any key on the keyboard and label the keys using an optional keyboard overlay. It's possible to arrange the keys alphabetically, in letter groupings . . . whatever suits your specific computing needs.

Getting started is simple. IBM has made it easy for you to enjoy the IBM PCjr the very first day you use it. First, you're invited to take an on-screen "Keyboard Adventure"—a "guided tour" of the keyboard conducted by a cartoon character who introduces you to various keys and functions.

If you have questions afterward, you'll find the step-by-step operating instructions in the accompanying Guide to Operations easy to follow. And the system's Power-on Self-test,

which automatically checks out Junior's System Unit and elements each time Junior is turned on or restarted, will assure you that everything's operating correctly.

Color your information for clarity. You can choose from a number of display options for your system. The IBM PCjr supports the IBM Color Display as well as many other compatible color displays (but not the IBM Monochrome Display). Simply connect the display of your choice to your system with the appropriate adapter.

You can even use your color or black-and-white TV* as a display screen. Use the optional IBM PCjr Connector for TV to attach the computer to your set. When you're not computing, you can return to watching TV at the flip of a switch.

Options can help you do more. IBM has designed a wide range of options to go along with the IBM PCjr. . . options that can increase its versatility and increase your productivity and pleasure. Among them:

- *IBM PCjr 360KB Slimline Diskette Drive*—offers owners of the entry-level IBM PCjr the opportunity to run many software products that also run on IBM PC and IBM PC XT systems. (This product is included with the enhanced IBM PCjr model.)
- *IBM PCjr 64KB Memory and Display Expansion option*—doubles the computer's user memory to 128KB, so you can take advantage of software products requiring more memory. It also increases—from 40 to 80 columns—the amount of information you can display on your screen and offers sharper, more detailed graphics.
- *IBM PC Compact Printer*—a serial printer that operates at 50 characters per second (CPS); also features all-points-addressable (APA)

graphics. A parallel printer also can be attached to the IBM PCjr using the IBM PCjr Parallel Printer Attachment.

- *Internal modem*—accesses compatible computers over standard phone lines.
- *IBM PCjr Attachable Joysticks*—let you add to the fun of operating Junior's entertainment programs. The IBM PCjr System Unit can accommodate two joysticks.
- *Cassette interface*—enables you to use an audio cassette recorder/player* to run software products available on audio cassette tapes.**
- *Carrying case*—protects your IBM PCjr when you're on the go. The carrying case can also hold the power module, four cartridges, the IBM PCjr Connector for TV, five diskettes, and the IBM PCjr Parallel Printer Attachment.

If you've been waiting for a personal computer with the power to fit your needs and a price to fit a modest budget, your wait is over. The IBM PCjr is a high-performance computer with the power and versatility you need to handle a wide range of computing tasks.

With the IBM PCjr, you have a personal computer that can grow with you . . . go with you.

*Video monitors, TV sets, external modems, audio cassette recorder/players, light pens and game paddles are not part of the IBM Personal Computer offering and must be purchased separately.

**Requires the IBM Adapter Cable for Cassettes.

IBM Personal Computer

Advanced, versatile and easily expandable

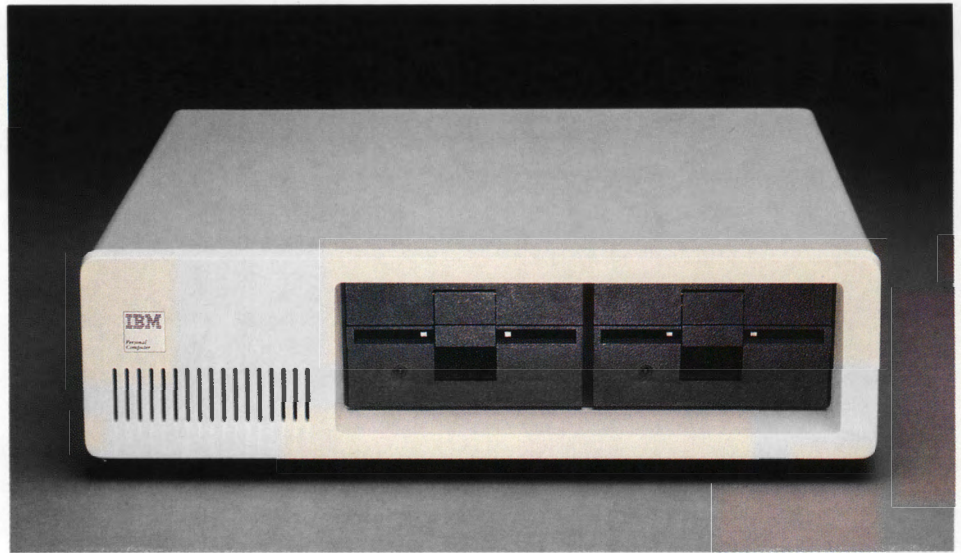
Cost-effective performance. The IBM Personal Computer is a versatile, affordable computer that you can put to use right away... at work, in the classroom, or at home. It offers many advanced hardware features that add to the rewards and enjoyment of having a personal computer of your very own.

The System Unit. The IBM Personal Computer System Unit houses the System Board—the main circuit board containing the advanced 16-bit microprocessor, the permanent or Read Only Memory (ROM), and the user memory or Random Access Memory (RAM). The System Unit also contains: five expansion slots that allow you to easily expand your system via optional plug-in adapters, space for one or two diskette drives, a speaker for audio and music applications, a power supply, and various connectors for attaching the components or peripherals that enable you to interact with the computer.

Configure a system to meet your individual requirements. The expansion slots in the System Unit permit you to expand your system in any of the following ways with optional plug-in adapters:

- Increase user memory up to 640KB
- Add one or two 180KB or 360KB capacity* diskette drives for faster, more convenient

*The IBM Disk Operating System (DOS) 2.10 increases the formatted capacity to 180KB for single-sided and 360KB for double-sided diskettes.

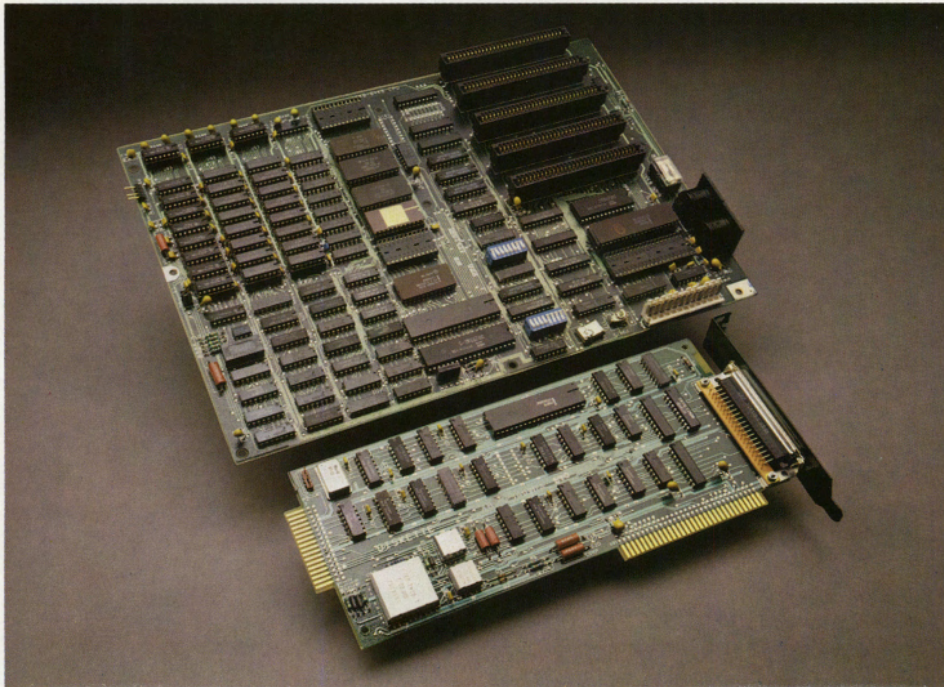


- access to as much as 720KB of information and programs stored on 5¼-inch diskettes
- Display up to 16 colors for text or 8 colors for graphics (two sets of 4 colors each) using the IBM Color Display** or another color video monitor
- Attach the IBM Monochrome Display for crisp, clear presentation of text and numerical data
- Attach the IBM Color Printer** or another printer to your system—you can even attach multiple printers for more demanding requirements
- Establish on-line synchronous, binary synchronous or asynchronous communications with a variety of host computers, other personal computers, and a growing number of public information networks
- Add an Expansion Unit** for the IBM Personal Computer, which provides you with one 10MB fixed disk drive and eight additional expansion slots†

Select from 64KB up to 640KB of addressable user memory. User memory, also called main memory or Random Access Memory (RAM), is where the IBM Personal Computer temporarily holds the program and information you are currently working with. The larger the user memory, the larger the task the computer can perform. Word-processing programs, for example, can directly edit larger documents faster and easier when the complete document is held in user memory.

**Additional electrical outlets are required when using the IBM Color Display, IBM PC or IBM PC XT Expansion Units, and/or IBM Personal Computer Color Printer.

†When an Expansion Unit is added to an IBM Personal Computer, two expansion slots are occupied by the attachment cards used to connect the System Unit to the Expansion Unit.

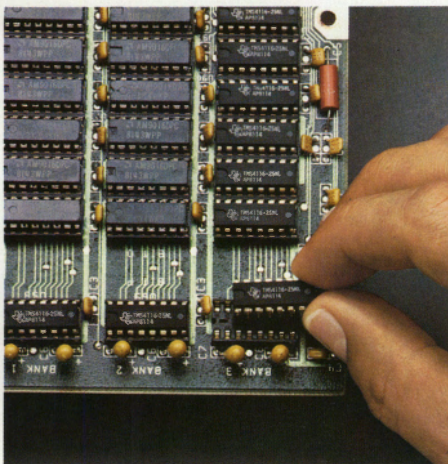


The IBM Personal Computer comes with 64KB of user memory installed on the System Board. Up to 192KB of memory can be added to the System Board.

Add up to 256KB of user memory. For larger memory requirements, you can easily expand user memory beyond the 256KB on the System Board. A 64/256KB Memory Expansion Option plugs into any one of the five expansion slots in the System Unit. This option comes with 64KB of user memory and is easily expandable by adding up to three 64KB Memory Expansion Kits. It's a flexible way to expand the total user memory to 512KB while using only one system expansion slot.

The IBM Personal Computer can address, or directly work with, more than 640KB of user memory, which is enough memory to efficiently handle even very large application tasks. If your applications grow to the point that you need your IBM Personal Computer to hold and manipulate a large amount of information all at once, it's important to know that you have a range of user memory available.

Select one or two 180KB or 360KB capacity diskette drives. Diskette drives provide a faster and more convenient form of mass storage than an audio cassette recorder/player. You can add one or two 180KB or 360KB capacity diskette drives to your IBM Personal Computer to support 5¼-inch, double-density diskettes.



▲ *The System Board (background) in every IBM Personal Computer System Unit contains the 16-bit micro-processor, 40KB of ROM and a minimum of 64KB of RAM. Up to two 180KB or 360KB capacity diskette drives are supported by the optional Diskette Drive Adapter (foreground).*

▲ *The amount of user memory contained on the System Board can be increased from 64KB up to 256KB with plug-in memory chips.*

IBM Personal Computer

The IBM Disk Operating System (DOS) 2.10 increases formatted diskette capacity to 180KB for single-sided and 360KB for double-sided diskettes. As a result, with DOS 2.10, more of the information files you create when using a program can be stored on each data diskette.

A 180KB capacity, single-sided, double-density diskette can store up to 184,320 characters of information—equivalent to approximately 92 double-spaced, 8½ by 11-inch typewritten pages. With a 360KB capacity diskette drive, you can use 360KB capacity, double-sided, double-density diskettes, which can store twice as much information per diskette. With two 360KB capacity drives in your system, you can have direct access to up to 720KB of information.

Powerful 16-bit microprocessor. Many of the IBM Personal Computer's performance advantages result from its central processing unit, the 16-bit Intel 8088 microprocessor. This incredibly powerful and capable device is actually a single computer "chip" no larger than a penny. It can address, or directly work with, more than *one million bytes* of memory.

The processing speed of the IBM Personal Computer's microprocessor is fast enough to complete up to 250,000 data transfers, additions, subtractions or other operations each second.

40KB of "built-in" memory. The IBM Personal Computer comes with 40KB of permanent or Read Only Memory (ROM). The contents of ROM remain when the computer is turned off or restarted (unlike RAM, which loses its contents). The ROM in the IBM Personal Computer contains three major programs: a set of subprograms called BIOS (Basic Input/Output System), an automatic Power-on Self-test program, and the cassette version of the easy-to-use BASIC language. With these permanently programmed in the IBM Personal Computer, you have a wide range of capabilities as soon as your system is turned on.

The subprograms in BIOS are vital to the computer's operation. They control the exchange of information between the microprocessor and other system components such as the keyboard, video display and printer. BIOS also includes a time-of-day clock. The Power-on Self-test program conducts a series of diagnostic tests of your IBM Personal Computer system every time you turn the computer on or restart it.

BASIC... an integral part of every IBM Personal Computer. The BASIC Interpreter offers you an enhanced version of the popular BASIC programming language. BASIC is a versatile language that's easy to learn and use. More advanced levels of BASIC are available with the Disk Operating System. (See the Operating Systems and Languages section.)

BASIC offers you the capability to store information and programs by using an audio cassette recorder/player*. BASIC also provides program support for drawing points, lines and even entire pictures in both the medium- and high-resolution graphics modes. It also enables you to make sounds through the internal speaker and to use light pens*, joysticks and game paddles*.

Add a fixed disk drive to your system. By adding an IBM Expansion Unit to your IBM Personal Computer system, you can add up to two 10MB fixed disk drives. The Expansion Unit comes with one fixed disk drive; a second one can be added. The 10MB fixed disk drive offers you faster, more convenient access to programs and large amounts of information that can be stored on the permanently sealed fixed disk.

For added versatility, the Expansion Unit for the IBM Personal Computer offers an additional eight expansion slots—providing you with more ways to expand your system. It also comes with the IBM Fixed Disk Drive Adapter in one of the expansion slots; you have to put the Expansion Unit attachment card in another slot.

**Video monitors, TV sets, audio cassette recorder/players, light pens, game paddles and RF modulators are not part of the IBM Personal Computer offering and must be purchased separately.*

IBM Personal Computer XT

Faster, more convenient access to programs and large amounts of information

More storage, more memory, more capacity for growth. The IBM Personal Computer XT has everything offered by the original IBM Personal Computer* . . . plus a range of standard features and design characteristics that make it especially suitable for handling large amounts of information. One of the most significant benefits it offers you is faster, more convenient access to programs and information files that can be stored on the system's integrated 10MB fixed disk drive.

Just turn on your IBM Personal Computer XT and you can begin to work with any of the programs and information files you have stored on the large-capacity fixed disk drive . . . no need to bother with diskettes. Of course, the system's 360KB capacity** diskette drive is always available for copying files from diskettes onto the fixed disk, and vice versa, and for using programs and data files that are kept on diskettes.

Designed to provide extra performance and added convenience. A 10MB fixed disk drive is just one of the special features that the IBM Personal Computer XT offers to provide you with extra performance and added convenience in a personal computer system. The IBM Personal Computer XT offers still more.

With 128KB of user memory included as standard, the IBM Personal Computer XT can handle most programs and data files quickly and efficiently. The larger the user memory, the larger the task the computer can perform.

*Except for an audio cassette interface.

**The IBM Disk Operating System (DOS) 2.10 increases the formatted capacity to 180KB for single-sided and 360KB for double-sided diskettes.



Eight expansion slots. The IBM Personal Computer XT also provides eight expansion slots for added versatility. They enable you to put together a more capable, more sophisticated system configuration . . . and provide your system with more room for growth. Six of these slots accept full-size feature cards. The remaining two accept smaller feature cards.

The IBM Personal Computer XT System Unit also includes two full-size feature cards—a Diskette Drive Adapter and a Fixed Disk Drive Adapter—which take up two expansion slots. In addition, it includes an Asynchronous Communications Adapter that you can use to support communications with host computers, information networks, other personal computers and various devices. The Asynchronous Communications Adapter takes up one of the two special expansion slots.

Plus a host of advanced features you'd expect from IBM. The easy-to-learn, easy-to-use IBM Personal Computer XT system

also offers you many advanced design features . . . features that people have come to expect of personal computer products from IBM. They include:

- The powerful, high-speed, 16-bit Intel 8088 microprocessor
- 40KB of permanent or Read Only Memory (ROM)
- A built-in Power-on Self-test that checks out key elements of your IBM Personal Computer XT system every time you turn it on or restart it
- An enhanced version of the popular BASIC programming language, also built in
- A feature-packed, multifunctional keyboard that includes function keys, cursor-control keys, and a numeric keypad

Advantages of the fixed disk drive. The IBM Personal Computer XT extends the storage capacity and information-handling capability of the IBM line of personal computers. The IBM Personal Computer XT

IBM Personal Computer XT

system's built-in 10MB fixed disk drive provides more than 27 times as much storage as a 360KB capacity* diskette and more than 55 times as much as a 180KB capacity* diskette. In other words, it's like having more than 55 diskettes (180KB capacity) in your computer at one time... or having the equivalent of up to 5,120 double-spaced, 8½ by 11-inch typewritten pages of information at your immediate disposal.

With this much centrally located storage capacity, you can use the IBM Personal Computer XT system to help build and manage large data bases more efficiently. Furthermore, some applications software can be stored on the fixed disk—such as the PeachText** word-processing program, the Multiplan** electronic spreadsheet program, and the pfs:**FILE and pfs:REPORT file management programs. The IBM Personal Computer XT system is compatible with a variety of software offerings already available for the IBM Personal Computer.

A fixed disk drive makes it easier to switch from one program to another than is possible with diskettes. It also makes it easier for you to integrate information from various programs and files into a single document. You could be using a word-processing program to write a report, for example, and incorporate sections from an electronic spreadsheet program and a file management program.

Another convenient advantage of the fixed disk drive is that it operates faster than a diskette drive... allowing you to access more information at greater speeds. As a result, both programs and information files may be quickly and easily retrieved to help you work more efficiently.

A vast range of applications. With an IBM Personal Computer XT system, executives can create and store business plans, management reports, correspondence, and much more on the fixed disk... and access any



document with just a few keystrokes. Product managers can use it as an efficient, computerized way to maintain a large inventory of products. Business owners or division managers can use it to store all the programs and data files needed to automate an entire accounting operation.

Your system can grow with you. The IBM Personal Computer XT offers you the flexibility to keep pace with growth in a number of ways as your information-processing needs change and develop.

For example, user memory can be expanded from 128KB to 256KB on the IBM Personal Computer XT's System Board... and from 256KB to 640KB by using optional plug-in adapters. For even greater storage capacity, you can attach an IBM Expansion Unit to your IBM Personal Computer XT system. With an Expansion Unit, the IBM Personal Computer XT's diskette storage can be increased up to 720KB, and you can add a second fixed disk drive to provide 20MB of

fixed disk storage... more than 110 times the storage capacity of a 180KB capacity diskette drive.

For added versatility, an Expansion Unit also provides an additional eight system expansion slots†. With a total of 16 expansion slots, your IBM Personal Computer XT system offers more ways to easily add features and devices with optional plug-in adapters.

*The IBM Disk Operating System (DOS) 2.10 increases the formatted capacity to 180KB for single-sided and 360KB for double-sided diskettes.

**PeachText is a trademark of Peachtree Software Incorporated, an MSA Company. Multiplan is a U.S. trademark of Microsoft Corporation. pfs: is a registered trademark of Software Publishing Corporation.

†Three expansion slots are occupied by adapters that come with the IBM PC XT System Unit. In addition, when an Expansion Unit is added, two slots are taken up by the attachment cards used to connect the IBM PC XT System Unit to the Expansion Unit.

Expansion Units for the IBM PC and the IBM PC XT

*More memory capacity,
additional expansion capabilities*

A cost-efficient solution to system expansion. A personal computer from IBM may be expanded in a variety of ways. If your requirements involve applications that call for more storage memory than your System Unit can support, you can add a convenient, cost-effective IBM Expansion Unit to your system.

Add 10MB of fixed disk storage plus eight expansion slots. There are two IBM Expansion Units available, one for the IBM Personal Computer and one for the IBM Personal Computer XT. IBM Expansion Units permit you to significantly increase the storage capacity and expand the capabilities of each system. Each includes, as standard equipment, one 10MB fixed disk drive and eight system expansion slots.

System compatibility. IBM Expansion Units attach conveniently to the respective System Units. Each provides its own power supply and plugs into a separate electrical outlet. The expansion slots provided by the Expansion Units are identical to those on the System Units, so the Expansion Units can accept any adapter card (and therefore support any component) that the System Units can, with the exception of memory cards, the IBM Diskette Drive Adapter, and the adapter supporting the primary display.

Six of the slots are full-feature slots, accepting full-size adapters. The remaining two are special slots that accept smaller adapters. One of the full-feature slots is used for the Fixed Disk Drive Adapter. In addition, one slot in both the Expansion Unit and System Unit is used for the attachment cards that connect the two units.

Expand your IBM Personal Computer system. The Expansion Unit for the IBM Personal Computer permits you to enjoy all the advantages of a 10MB fixed disk drive with an IBM Personal Computer. The fixed disk drive provides over 13 times more storage capacity than you have with an IBM Personal Computer equipped with two 360KB capacity* diskette drives. What's



more, you can add a second 10MB fixed disk drive to the Expansion Unit, thereby increasing the secondary storage capacity to 20,720KB of information... or more than 10,300 double-spaced typewritten pages.

The Expansion Unit adds eight more system expansion slots to the five slots built into the IBM Personal Computer, for a total of 13 expansion slots.** These slots allow the addition of feature cards to support a variety of features or devices.

Double your IBM Personal Computer XT storage memory. The Expansion Unit for the IBM Personal Computer XT adds a second 10MB fixed disk drive to your system. When you use an Expansion Unit with the IBM Personal Computer XT, you must move both the 10MB fixed disk drive and the associated adapter that come with the System Unit to the Expansion Unit. This provides you with a total of two fixed disk drives and 20MB of fixed disk storage.

When you remove the fixed disk drive from the IBM Personal Computer XT System Unit, you have the option of installing another 360KB capacity or 180KB capacity diskette drive in its place. With 20MB of fixed disk

storage and 720KB of diskette storage capacity in your XT system, you can store, access and manage massive amounts of information.

Double your IBM Personal Computer XT expansion opportunities. The eight system expansion slots provided by the Expansion Unit enable you to add many features and peripheral devices to your IBM Personal Computer XT system. The flexibility offered by 16 expansion slots is valuable when your personal computing needs go beyond the support provided by the eight slots in the IBM Personal Computer XT System Unit.†

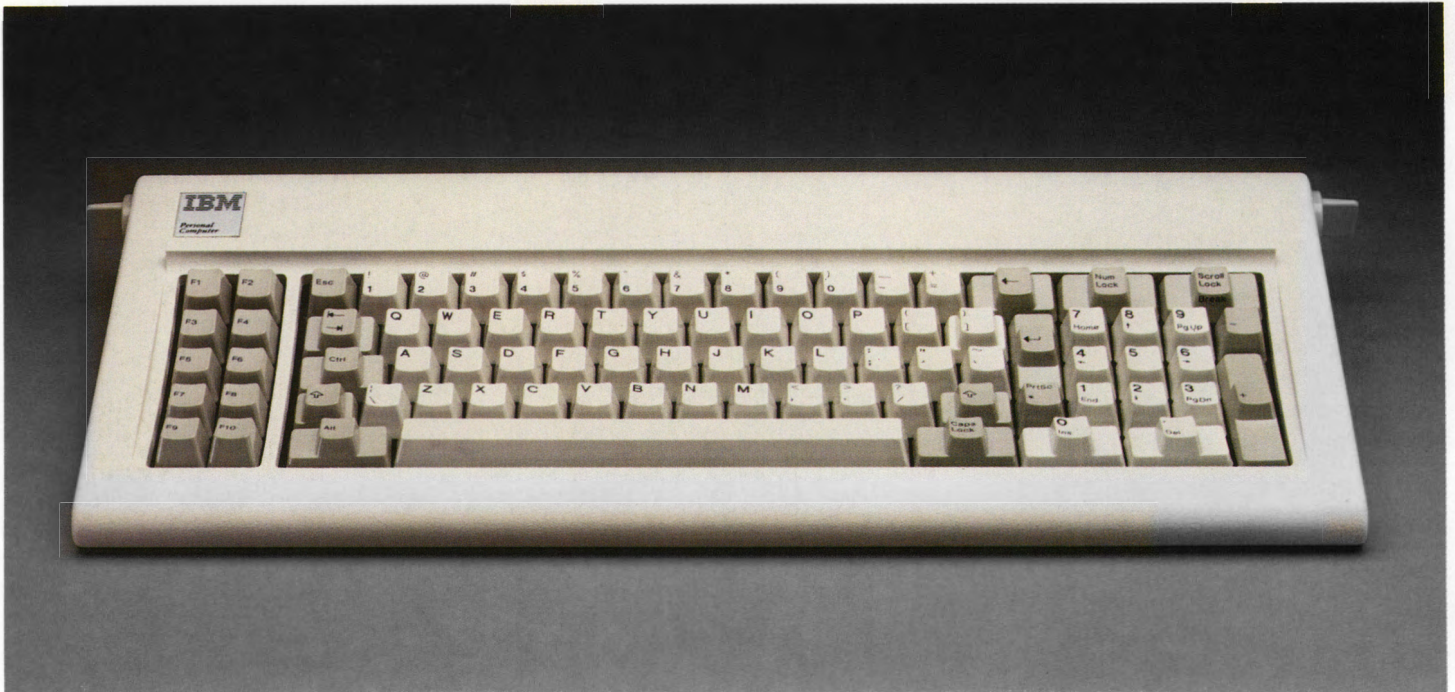
*The IBM Disk Operating System (DOS) 2.10 increases the formatted capacity to 180KB for single-sided and 360KB for double-sided diskettes.

**When an Expansion Unit is added to an IBM Personal Computer, two expansion slots are occupied by the attachment cards used to connect the System Unit to the Expansion Unit.

†Three expansion slots are occupied by adapters that come with the IBM PC XT System Unit. In addition, when an Expansion Unit is added, two slots are taken up by the attachment cards used to connect the IBM PC XT System Unit to the Expansion Unit.

Keyboard for the IBM PC and the IBM PC XT

A remarkable achievement in function, simplicity and esthetics



Designed for user convenience. The keyboard is one of the most important components of any microcomputer because it is the primary device through which you provide instructions and input to the computer. For this reason, a well-designed and easy-to-use keyboard—such as the IBM Personal Computer Keyboard—could have a significant effect on your operating efficiency.

Users of both the IBM Personal Computer and the IBM Personal Computer XT greatly benefit from IBM's decades of excellence in keyboard design. This lightweight and streamlined keyboard offers you features that are as practical as they are convenient.

The keyboard attaches to the System Unit with a six-foot coiled cable, permitting you to position it wherever it feels most comfortable. You can even place it on your lap. The typing angle of the keyboard can be adjusted up to a 15-degree angle or down to a 5-degree angle for added comfort and convenience.

Tactile and audio feedback. When you press a key on the IBM Personal Computer Keyboard, you can feel a slight amount of pressure build up and release, indicating that the keystroke has registered and the character or command has been sent to the computer. You can also hear a soft click similar to the click of a typewriter key striking the page. This tactile and audio feedback helps make the keyboard easy to use, especially when you are reading from notes while entering information. Try a keyboard without feedback to see the difference.

The keys themselves are curved to fit your fingertips, which gives them a nice "feel." They also have a matte finish to reduce glare. A ledge just above the top row of keys is convenient for propping an open book or reference manual between the video display and the keyboard.

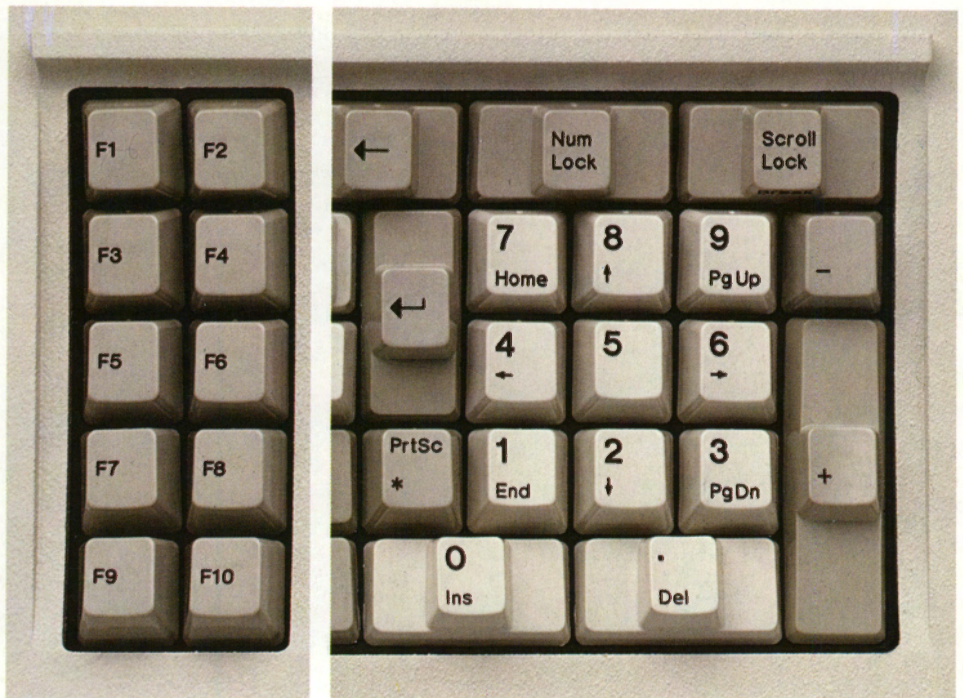
83 keys . . . including a special keypad for numeric entry and cursor control. The 83 full-function keys on the keyboard provide you with access to a set of 256 characters, including ASCII, special graphics and foreign language characters. The keyboard has a standard typewriter layout in the middle, a numeric keypad to the right (which doubles as a set of cursor-control keys), and 10 special function keys to the left.

The numeric, calculator-like keypad is especially convenient for entering numbers quickly. A key labeled "Num Lock" (Number Lock) acts as a "toggle switch." Press it once and you can use the numeric keypad for entering numbers. Press it again and you can use the same set of keys to control the cursor. You can move the cursor up, down, left, right, to the top of the screen, or to the end of the file you are working on.

Two cursor-control keys, labeled "Pg Up" and "Pg Dn," work with word-processing and other programs to permit you to view previous or succeeding sections of a document quickly and conveniently. Additional keys provide the ability to delete or insert characters at the cursor position—basic editing features not offered by many other personal computers.

10 programmable function keys. The 10 special function keys on the left-hand side of the keyboard have programmable functions that change with different applications. With the EasyWriter* word-processing program, for example, they offer you convenient access to three different command menus and perform a number of helpful editing functions. With BASIC, they can be used to perform a completely different set of functions. Some often-used BASIC commands—up to 15 characters long—can be entered by simply pressing a single function key each time you want to repeat the command in a program. You can even write your own applications and program the 10 function keys as you wish.

**EasyWriter is a trademark of Information Unlimited Software, Incorporated.*



▲ (Left) On the left side of the IBM Personal Computer Keyboard are 10 special function keys. Many of the IBM Personal Computer software products enable you to enter various commands simply and quickly by striking the appropriate function keys. (Right) On the right side of the keyboard is a group of keys that double as a numeric keypad and as cursor-control keys. The numeric, calculator-like keypad is especially convenient for entering numbers quickly. The cursor-control keys make it easy for you to position the cursor on the screen to enter, delete or revise information.

Special combinations and other features. Pressing special combinations of keys provides access to a range of other important and convenient capabilities. For example, pressing the shift key and "Prt Sc" key together enables you to generate a printout of the contents of the video display at any time.

Another useful feature of the keyboard is its 15-character, type-ahead buffer, which saves you from having keystrokes go unregistered if you type information or commands into your personal computer before it is ready to receive more information. Auto-repeat is still another helpful, time-saving feature. If held down, most keys on the keyboard will continue to repeat their characters or functions.

In all, these many special features add up to a keyboard that is a delight to use. It helps you quickly become comfortable and proficient with the capabilities of your personal computer from IBM.

Display options

The IBM Personal Computer Color Display, the IBM Personal Computer Monochrome Display, and more...

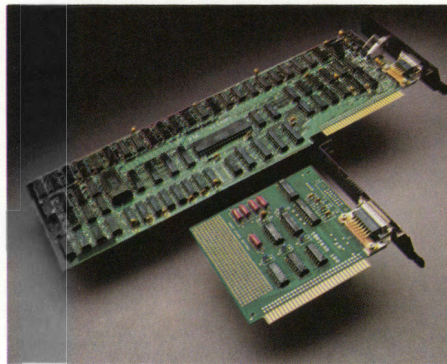
How to select the right display for your system. First, two important questions must be answered: What will the computer be used for? What display quality is sufficient for your needs and within your price range?

If your IBM PC or IBM PC XT* will be used primarily for viewing *textual* information for extended periods of time, the IBM Personal Computer Monochrome Display is your best bet. However, a video monitor** or your home TV set** equipped with an RF modulator** may also be used. In general, the IBM Monochrome Display presents sharper, clearer images than either a video monitor or a TV set.

If your IBM PC, IBM PC XT or IBM PCjr will be used mainly for *color and graphics* displays, the IBM Personal Computer Color Display or another RGB monitor is recommended although, again, a TV set with an RF modulator may be used. RGB monitors generally are more expensive than standard color monitors; however, they provide separate red, green and blue inputs for clearer, sharper images.

Display adapters. Your display selection must be supported by an appropriate adapter. IBM now offers four different types of adapters—two for your IBM PC or IBM PC XT and two for your IBM PCjr.

The two adapters for the IBM PC and IBM PC XT are the IBM Color/Graphics Monitor Adapter and the IBM Monochrome Display and Printer Adapter. The adapters for Junior are the IBM PCjr Adapter Cable for the IBM Color Display and the IBM PCjr Connector for TV.



▲ The IBM Color/Graphics Monitor Adapter (background) offers you a wide range of color and/or graphics capabilities. The Game Control Adapter (foreground) supports the use of joysticks and game paddles**

The IBM PC and IBM PC XT adapters each occupy one system expansion slot. The IBM PCjr adapters are built into cables that plug into connectors in the rear panel of the System Unit.

Color/Graphics Monitor Adapter. The IBM Color/Graphics Monitor Adapter plays a key role in enabling a personal computer from IBM to support the IBM Color Display and other color displays.

Two all-points-addressable (APA) modes. The IBM Color/Graphics Monitor Adapter offers two APA graphics modes: a high-resolution black-and-white mode and a medium-resolution color mode. In the medium-resolution mode, you can use two sets of colors at a time. Each set includes three colors that can be used against a fourth, background color.

The IBM Color/Graphics Monitor Adapter enables you to create eye-catching graphs, charts, diagrams and other graphic images in either of these modes.

In addition, a text mode enables you to display 256 characters in up to 16 foreground and 8 background colors. In this mode, you can also display up to 25 lines of text with either 40 or 80 characters per line.

Monochrome Display and Printer Adapter. As its name suggests, this adapter offers you the advantage of supporting both the IBM Monochrome Display and a parallel printer while only taking up one system expansion slot. The adapter supports a 256-character set and displays up to 25 lines of text with 40 or 80 characters per line.

IBM PCjr Adapter Cable for the IBM Color Display. This special connector cable has a built-in adapter for supporting the IBM Color Display on an IBM PCjr system. The connector cable enables the IBM PCjr to take full advantage of the color display's 16-color text and 8-color, all-points-addressable graphics modes.

IBM PCjr Connector for TV. This special adapter was designed to increase the portability of the IBM PCjr by allowing you to use a compatible color or black-and-white TV** as a display. It attaches easily to the VHF jack of a TV set and includes a two-way selector that permits you to view TV at the flip of a switch.

*The IBM PCjr does not support the IBM Monochrome Display, but it does support other black-and-white monitors and black-and-white TV sets.

**Video monitors, TV sets, RF modulators and game paddles are not part of the IBM Personal Computer offering and must be purchased separately.

IBM Personal Computer Color Display

*Displays appealing graphics
in a variety of colors*

High-quality color and graphics displays. The IBM Personal Computer Color Display is a high-performance RGB monitor that displays graphic images and text in a wide range of colors. With the IBM Color Display, you can view colorful and visually compelling graphs, charts, diagrams, drawings, and more with your personal computer from IBM.

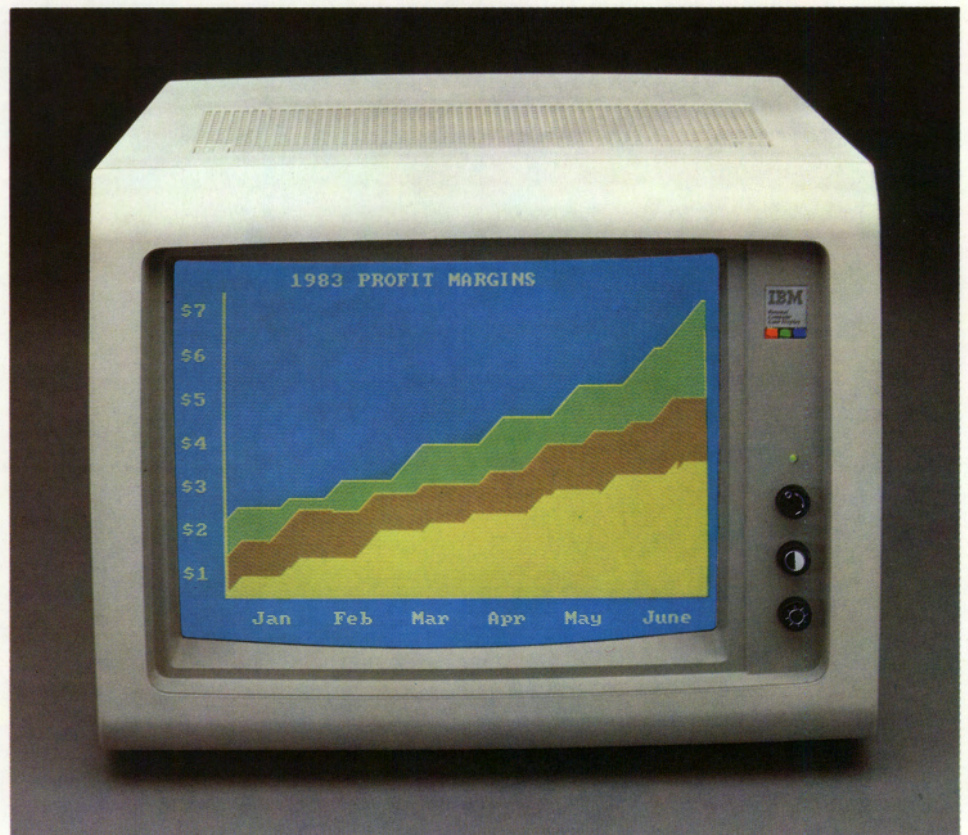
What's more, by adding the IBM Color Display to your system, you can enjoy a growing number of color video games and use programs that require or support a color display.

Colors are crisp... clear... vivid. The IBM Color Display features an 8 by 8-dot character matrix for sharp graphic images.

The display's three primary colors—red, green and blue—and the intensity signal all operate independently, offering you command of up to 16 colors for text or 8 colors for graphics (two sets of 4 colors each) when used with the IBM Color/Graphics Monitor Adapter. The sharp, clear color graphics are further enhanced by the black mask contrast feature.

The 16 colors attainable are:

- Red
- Dark Gray
- Light Red
- Blue
- Magenta
- Light Blue
- Light Magenta
- Green
- Brown
- Light Green
- Yellow
- Cyan
- Light Gray
- Light Cyan
- Black
- White



BASIC simplifies the creation of graphics. By using the BASIC programming language that is part of every personal computer from IBM, you can produce color graphics relatively simply.

BASIC (IBM PCjr BASIC for the IBM PCjr) enables you to issue simple, one-word commands to generate a wide variety of graphic shapes and designs. For example, you can type "CIRCLE" on the keyboard to command the computer to draw a full or partial

circle. You can enter the command "PAINT" to fill a given area with any of the colors available. Additional BASIC commands include "DRAW," "COLOR" and "LINE."

Images can be guided to their proper place on the display by directing the flashing white cursor under your control. You can also use a light pen (not supplied by IBM) to augment graphics in specific areas of your display.

IBM Personal Computer Color Display

Large viewing area. The IBM Color Display screen measures a full 12½ inches (diagonal measurement), providing you with a sizable viewing area. The IBM Color Display enables you to view up to 25 lines of text at once, with up to 80 characters per line. Being able to see so much text all at once means that large forms and documents can be handled more easily.

And, although personal computers from IBM have separate text and graphics modes, text can also be displayed while the graphics mode is in use.

Highlighting options. In addition to the broad highlighting capabilities available to you through the use of color, the IBM Color Display offers you a number of ways to make specific words, characters or images stand out even more.

For example, a character, dot or array of dots can be made to appear brighter than its surroundings. Images can also be displayed in reverse (interchanging foreground and background colors). You can also underline images and make them blink.

These highlighting features can be used to alert viewers to key information on various areas of the display. They are especially valuable for business, educational and scientific applications.



Controls at your fingertips. The brightness, contrast and power-on/off controls are conveniently located on the front panel of the IBM Color Display. A power-on indicator is also located on the front panel. Controls that are required less frequently—the vertical hold and vertical size controls—are located on the rear panel of the display.

A stylish addition to your system. The IBM Color Display offers the same attractive styling features as the rest of the IBM Personal Computer product line. Its smart two-tone gray housing makes the IBM Color Display a handsome addition to your system.

IBM Personal Computer Monochrome Display

A high-resolution video display designed for your viewing comfort

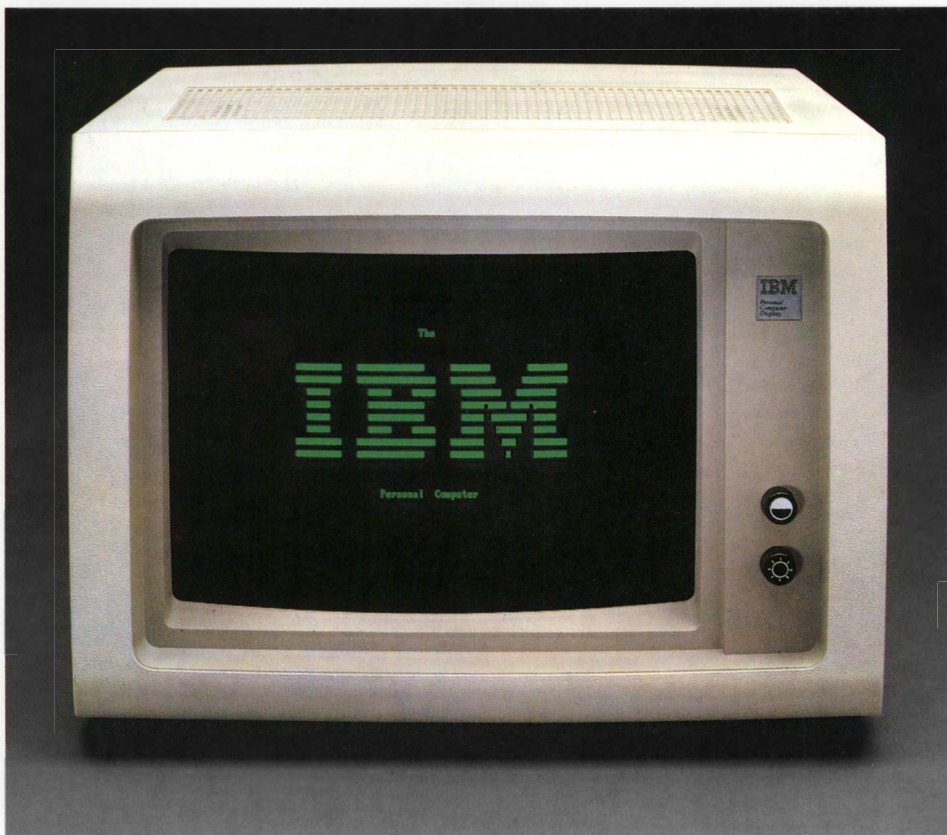
Displays 25 lines of 80 characters each. The IBM Personal Computer Monochrome Display is a high-quality, high-resolution display designed to provide a crisp, clear and easy-to-read presentation of text and numeric data. It permits you to view up to 25 lines of information with 80 well-formed characters per line.

The 256-character set supported by the IBM Monochrome Display includes both uppercase and lowercase characters, numbers, miscellaneous graphic characters, and more. For maximum reading comfort and visibility, each character is displayed in high-persistence green phosphor.

The IBM Monochrome Display makes a stylish fit atop or beside either an IBM PC or an IBM PC XT System Unit*. Since the display is powered by the System Unit, one on/off switch is sufficient to control both units. The display is compact and light, with an 11½-inch screen (diagonal measurement).

Brightness and contrast controls. Brightness and contrast controls, conveniently located on the front panel of the display, allow easy adjustment to accommodate your particular viewing preference and variations in room lighting. To reduce glare and soften reflections, the screen itself is coated.

High resolution for greater reading comfort. The high-resolution IBM Monochrome Display features a 9-dot-wide by 14-dot-high character box for easily discernible characters. Even character "descenders" are shown, giving letters such as "g" and "p" their proper appearance.



These important features help to provide increased eye comfort when you are using your personal computer from IBM—especially during periods of extended use.

Highlighting choices. With the IBM Monochrome Display, individual characters can be highlighted through a number of special features or characteristics. A character can be made brighter or displayed in reverse (displaying the background in green and the character in black). To attract extra attention, a character can be underlined or made to blink.

See for yourself. The only way to fully appreciate the high resolution and easy reading benefits of the IBM Monochrome Display is to see it for yourself. Compare it to others; we're confident that you'll notice a difference right away.

**The IBM Monochrome Display will not operate on an IBM PCjr.*

IBM Personal Computer Color Printer

A high-speed printer for producing color graphics and text

Enhance your printing capabilities. The versatile IBM Personal Computer Color Printer is a high-performance, dot-matrix printer that enables you to print charts, graphs, artwork and text in up to eight colors.

You can use an IBM Color Printer with an IBM PC or an IBM PC XT. The printer's 256 characters include 96 uppercase and lowercase ASCII characters and all the IBM PC special characters.

Once you see the printer's features, it's easy to see how much help the IBM Color Printer can provide—no matter where you plan to use it. The printer's range of performance features makes it especially valuable for heavy-use/high-productivity applications.

Add color and clarity to your work. The IBM Color Printer comes with an easy-to-change cartridge ribbon. The ribbon contains four separate color bands—cyan, yellow, magenta and black—that can be mixed to provide four more colors—green, violet, brown and orange—for a total of eight distinctive hues.

Use these colors individually or in combination to create eye-catching pie charts, bar charts and other graphic forms—to enhance the appearance of your reports and make the information you present even easier to understand.

In addition to the 4-color-band ribbon included with the IBM Color Printer, there are two other ribbon options: One has four true colors—green, red, blue and black; the second contains four black bands.

The IBM Color Printer features all-points-addressable (APA) graphics, enabling you to print color graphics that are even clearer and



sharper than they appear on your display screen. In the graphics modes, this printer can address more than 168 dots per inch horizontally and 84 dots per inch vertically.

It's programmable. The IBM Color Printer has a number of time-saving, programmable features, which allow you to automatically control:

- Print mode
- Line spacing
- Form length
- Proportional spacing
- Margin and tab setting
- Automatic underlining
- Automatic justification

These programmable features act as an extension of many software products—such as word-processing programs—and can be initiated with just a few quick keystrokes.

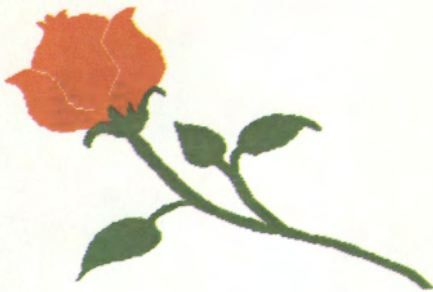
High-speed printing can help save time. The IBM Color Printer operates at printing speeds of up to 200 characters per second (CPS). It also operates at three other speeds:

- 120 CPS with proportional spacing between characters
- 110 CPS with fixed spacing between characters
- 35 CPS for near-letter-quality printing

All printing speeds can be set manually with control box switches or automatically with your program.

Vary printing elements to customize your documents. You can personalize your documents by varying the printing modes, character spacing and boldness. This allows you to differentiate among headlines, sub-heads and quotations—and even print math and science equations in their “real” forms.

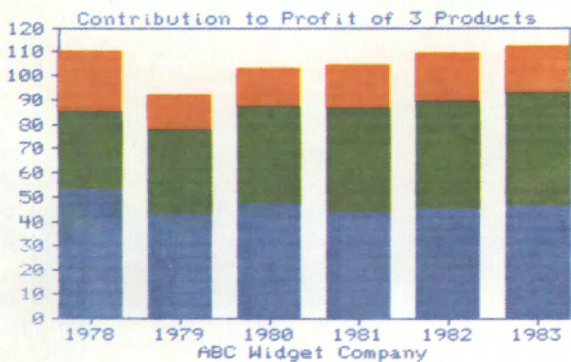
○ THE IBM
○ PERSONAL COMPUTER
○ COLOR PRINTER



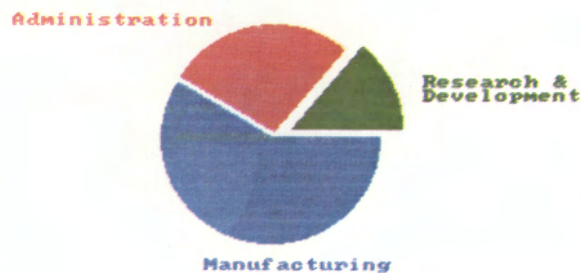
The IBM Personal Computer Color Printer can COLOR WORDS or UNDERLINE, EMPHASIZE important points, and DOUBLE-STRIKE text to attract the reader's attention.

It is ironic that one of the MOST CELEBRATED type designers to contribute to this development was himself a writing master. This was John Baskerville (1706-75), a Birmingham (UK) manufacturer who, in later life, made a significant contribution to the development of type design through the improvements he brought to the making of paper, type, and ink.

Over the succeeding centuries, type assumed forms that were less influenced by handwriting. The processes of refining the mechanics of printing - and its associated materials, such as paper, ink and type - eventually resulted in the creation of a separate identity for printers' type.



XYZ Company Expenditures



(shown 75% of actual size)

▲ The high-speed, dot-matrix IBM Personal Computer Color Printer lets you print artwork, complex graphics and even text in up to eight colors in the same document.

Among the elements you can control:

- Four printing modes—standard, double width, fixed and proportional—all with true lowercase descenders (i.e., letters such as “p” and “g” have their proper appearance)
- “Emphasis” and “double pass”
- Underlining
- Subscripting and superscripting

- Variable line spacing
- Pitch (choose among 10, 12 or 17.1 characters per inch for a maximum of 226 characters per 13.2-inch line)

Convenience features simplify your job.

The IBM Color Printer was designed to provide convenience as well as performance. Here are some of its convenience features:

- *Control panel*—touch-sensitive controls for feeding forms and testing. A special configuration switch on the panel allows the user to set such variables as lines per inch, auto perforation skip, form size and type font.

- *Automatic line buffer*—stores more than 6,000 characters in its memory to reduce the amount of time spent waiting for your printer to catch up with what you've entered.
- *Tractor-fed paper*—accepts forms from 4" to 16" wide and up to 4-ply thick.
- *Sensing device*—signals when the paper has run out.
- *Single sheet paper*—accepts manually fed paper from 7 to 12 inches wide.

IBM Graphics Printer

*A fast, versatile printer
for both graphic images and text*



Dependable and economical. The IBM Graphics Printer is a versatile, low-cost, quality dot matrix printer for your personal computer from IBM. Its graphics and text printing capabilities provide you with the flexibility to produce a wide range of attractive, customized documents.

This compact, all-purpose printer features four modes of all-points-addressable (APA) graphics, with up to 120 dots per inch horizontally and 216 dots per inch vertically—enabling you to print sharp, clear images.

Three character sets. Besides its graphics capabilities, the IBM Graphics Printer offers three separate sets of text characters. One set resembles the characters you see on your display screen, enabling you to print in English. The second set features international characters, allowing you to print

in four different languages: French, Spanish, Italian and German. The third set consists of miscellaneous characters and symbols.

Prints up to 80 characters per second. The IBM Graphics Printer operates in both directions—printing one line from left to right, the next line from right to left, and so on—at speeds of up to 80 characters per second (CPS). Most short documents can be produced and in your hands within a few minutes of your command.

For versatility, select from varied print styles and sizes. The printer forms characters with a 9 by 9-dot pattern in several styles and sizes of dot matrix print. You may select from 18 different printing styles. In addition, four sizes of print are available. These range from 5-pitch (5 characters to the inch), which permits up to 40 characters per horizontal line, to 16½-pitch, for up to 132 characters per line.

You can further customize your documents by choosing from normal, compressed and emphasized printing modes. Each of these modes may be enhanced by double-striking, subscript, underlining and superscript capabilities.

With the IBM Graphics Printer, you have the flexibility of mixing sizes and styles of dot matrix print—plus selecting the line spacing and line feeding you prefer—to create different formats for various documents. Also, these features are programmable. Many of the IBM Personal Computer software products take advantage of these special printer features in the diverse printed documents they produce.

Printer intelligence. Whenever the IBM Graphics Printer runs out of paper, a sensing device sets off a buzzer to alert you. Another automatic sensing device can position each sheet of perforated, continuous-form paper properly so that the printing starts and stops where you wish on each page, leaving suitable top and bottom margins.

The printer attaches to an IBM PC or IBM PC XT System Unit via an optional IBM Personal Computer Printer Cable. This durable, six-foot-long cable can also support various other printers. To attach this printer to an IBM PCjr, use the IBM PCjr Parallel Printer Attachment.

The printer is supported by the IBM Monochrome Display and Printer Adapter or by a separate printer adapter. It accepts forms up to three-ply thick and from 4 to 10 inches wide, with sprocket holes along the sides. Printing paper is easily loaded into the printer and feeds from behind.

Convenient printer stand. An optional IBM Personal Computer Printer Stand is available. This attractive, sturdy, smoked-plexiglass stand supports the printer and provides a convenient, space-saving lower level for storing a supply of printing paper or preprinted forms.

IBM PC Compact Printer

Compact, lightweight and low-cost

Small enough to take along. The IBM PC Compact Printer is a low-cost thermal printer that can be used with any IBM Personal Computer.

It is lightweight—under 7 pounds—and compact; it measures only 12.3 inches wide by 3.5 inches high by 8.7 inches deep. So it takes up very little space.

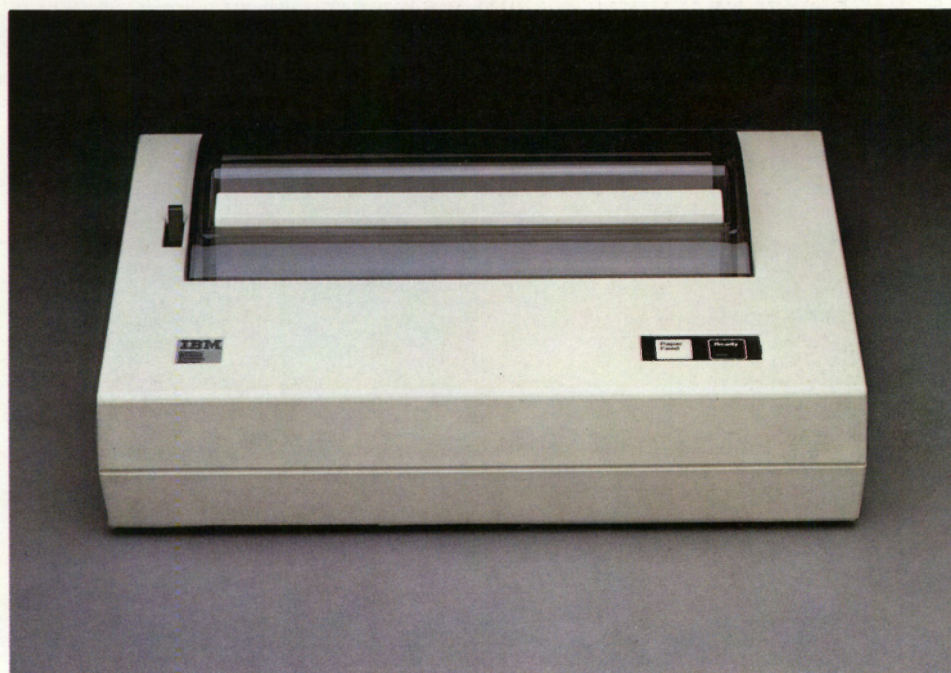
Print text and more. The IBM PC Compact Printer uses a 5 by 8-dot matrix format. The printer's permanent memory contains the full 128 ASCII character set and many special symbols and characters, for a total of 191 printable characters.

The printer also offers all-points-addressable (APA) graphics, making it possible to print text and tabulations just the way you see them on your screen.

50 characters per second. The IBM PC Compact Printer is a unidirectional printer that prints up to 136 characters per line. In addition, it is speedy enough—50 characters per second (CPS)—to print most short documents in just a few moments. The printer also has a 256-character buffer memory where it can store characters it hasn't printed yet.

Four print modes offer more versatility. The printer offers you four different printing modes:

- *Standard*—up to 80 characters per line
- *Double width*—up to 40 characters per line



- *Compressed*—up to 136 characters per line
- *Compressed/double width*—up to 68 characters per line

By varying these printing modes, you can add emphasis to special points, set off special elements such as quotes, create headings and subheads, and more. The result: documents that are easier to read.

Printouts can be made on standard-size, 8½ by 11-inch thermal paper, packaged either as single sheets or as perforated “fan-fold” sheets. Thermal paper is also available on continuous rolls (8½ inches by 89 feet).

Make the connection easily. If you're using an IBM PC or IBM PC XT, you'll need the IBM PC Compact Printer Connector Adapter to connect the IBM PC Compact Printer to your system.

If you have an IBM PCjr, simply attach the IBM PC Compact Printer Cable (included) to the serial port on the back of the System Unit.

Hardware Reference Manuals

*Comprehensive, well organized
and easy to understand*

IBM stands by you. Through years of experience introducing people to the powerful performance capabilities of computers, IBM recognizes the need for—and the value of—excellent hardware and software documentation.

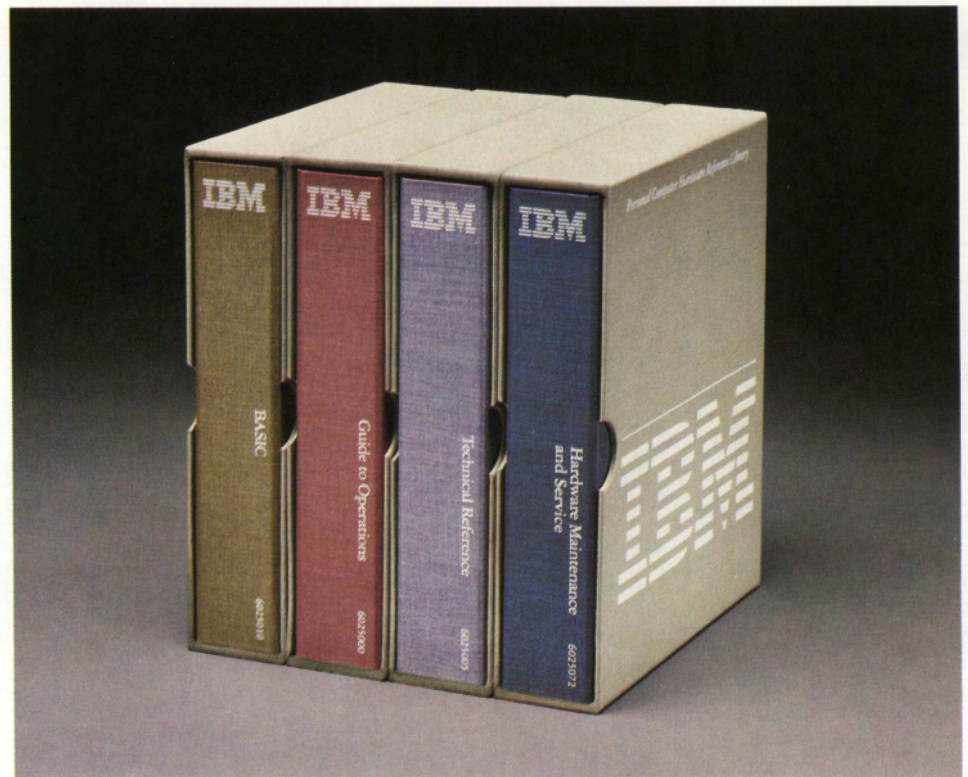
That's why each personal computer from IBM, regardless of configuration, comes with two important reference manuals: "Guide to Operations" and "BASIC." Two additional reference manuals are also available: "Technical Reference" and "Hardware Maintenance and Service."

These comprehensive and easy-to-understand reference manuals can help you achieve a working familiarity with your computer in a short time. They also provide a quick, direct reference source for most questions you may have.

Guide to Operations. The first reference manual you should review when you are considering a personal computer from IBM is "Guide to Operations." It summarizes the capabilities of the computers and explains the various options available. It also provides the information you need for setup and initial operation.

"Guide to Operations" includes a brief description of each component as well as an introduction to using the IBM Disk Operating System (DOS) and the BASIC programming language. It is written in a friendly, tutorial manner.

BASIC. The "BASIC" reference manual includes the information you'll need for learning about BASIC. It includes a comprehensive section that describes each



BASIC command, function, statement and variable. Other sections describe the use of the BASIC program editor, function keys, the diskette input/output options, and other topics. There is also a reference manual that describes in detail the cartridge and cassette versions of BASIC for the IBM PCjr.

Technical Reference. The "Technical Reference" manual for personal computers from IBM is intended for programmers, engineers involved in hardware and software design, and others who want to know in greater detail how the computers were designed and work.

This reference manual includes a functional specification for every piece of hardware in the IBM Personal Computer product line. One section describes the BIOS for personal computers from IBM. Another section includes highly detailed hardware specifications, pinouts for peripheral connectors, and more.

Hardware Maintenance and Service. This publication details many aspects of troubleshooting a personal computer from IBM. It includes a parts catalog, a section on preventive maintenance, and instructions for identifying the failure of a replaceable unit.

Four sample system configurations for personal computers from IBM

*This chart indicates which products are required
to support the following system configurations*

	64/256KB Memory Expansion Option	Diskette Drive Adapter	Fixed Disk Drive Adapter	Color/Graphics Monitor Adapter	Monochrome Display and Printer Adapter	Printer Adapter	Communications Adapter(s)†	Expansion Unit/System Unit Attachment Cards
IBM Personal Computer System Unit 64KB of User Memory One 180KB Capacity* Diskette Drive IBM Monochrome Display			YES			YES		
IBM Personal Computer System Unit 512KB of User Memory Expansion Unit for the IBM PC Two 360KB Capacity Diskette Drives One 10MB Fixed Disk Drive IBM Color Display IBM Personal Computer Color Printer External Modem (for communications)**	YES	YES	YES	YES	YES		YES	YES
IBM Personal Computer XT System Unit 128KB of User Memory One 360KB Capacity Diskette Drive One 10MB Fixed Disk Drive IBM Monochrome Display IBM Personal Computer Color Printer External Modem (for communications)			YES	YES		YES		YES
IBM Personal Computer XT System Unit 512KB of User Memory Expansion Unit for the IBM PC XT Two 360KB Capacity Diskette Drives Two 10MB Fixed Disk Drives IBM Color Display IBM Monochrome Display IBM Personal Computer Color Printer External Modem (for communications)	YES	YES	YES	YES	YES	YES		YES

*The IBM Disk Operating System (DOS) 2.10 increases the formatted diskette capacity to 180KB for single-sided and 360KB for double-sided diskettes.

**"Modem" stands for MODulator DEModulator. External modems are not part of the IBM Personal Computer offering and must be purchased separately.

†The Communications Adapter(s) may be the Asynchronous Communications Adapter, the Binary Synchronous (BSC) Communications Adapter, and/or the SDLC Communications Adapter, depending on your requirements.

Two sample system configurations for the IBM PCjr

This chart indicates which products are required to support the following system configurations

	64KB Memory and Display Expansion	Adapter Cable for the IBM Color Display	Connector for TV	Adapter Cable for Serial Devices
IBM PCjr 64KB of User Memory Cordless Keyboard Black-and-White or Color TV* Attachable Joysticks			YES	
IBM PCjr 128KB of User Memory One 360KB Capacity** Diskette Drive IBM Color Display Cordless Keyboard IBM PC Compact Printer IBM PCjr BASIC Cartridge Internal or External Modem (for communications)*	YES	YES		YES†

*TV sets and external modems are not part of the IBM Personal Computer offering and must be purchased separately.

**The IBM Disk Operating System (DOS) 2.10 increases the formatted capacity of double-sided 320KB diskettes to 360KB.

†Required for external modem only.

Software Products



Software Products

A wide range of carefully selected programs

Software can open your world. IBM Personal Computer software is a resource for personal growth and enrichment. It becomes an extension of your own capabilities. It can help you work, plan, analyze, organize, learn, create and even play. Software can open your world.

Software products enable you to take advantage of the many capabilities of your personal computer from IBM.

A growing library of carefully selected programs. When the IBM Personal Computer was announced, it was accompanied by a range of program packages to satisfy a variety of business, professional, educational, entertainment and personal needs. Since then, many new programs have been added to the library of IBM PC software products.

Some programs, such as those on cartridge, were designed to run exclusively on the IBM PCjr. Many other programs run on all three IBM Personal Computers.

For your convenience, at the beginning of each of the following software articles, you'll find the following symbols representing the various IBM PC systems:

PC IBM Personal Computer

XT IBM Personal Computer XT

PCjr IBM PCjr

To be sure that a program works on the IBM PC system of your choice, just check to see that the appropriate symbol accompanies the article about that program.

It's smart to use software offered by IBM. IBM software products are offered only after they have passed a series of rigorous tests.

Two of these tests check the intelligence of the program design and the clarity of the accompanying documentation.

Intelligently designed. Each IBM PC program meets demanding specifications that make use of the advanced IBM PC hardware features. For example, enhanced versions of some IBM PC programs offer improved screen design, clearer sound and more vivid color.

Easy-to-follow documentation. Great emphasis has been placed on making reference manuals, instruction booklets and cards easy to follow—to make programs easy to learn.

These instructional aids provide you with the guidance you need; they advance your familiarity with the program one step at a time.

What's more, there are on-screen Help menus and quick-reference cards that help make IBM PC software easy to learn and use.

In short, IBM PC software products can help you get the most productive, most creative use out of your high-performance, 16-bit personal computer from IBM.

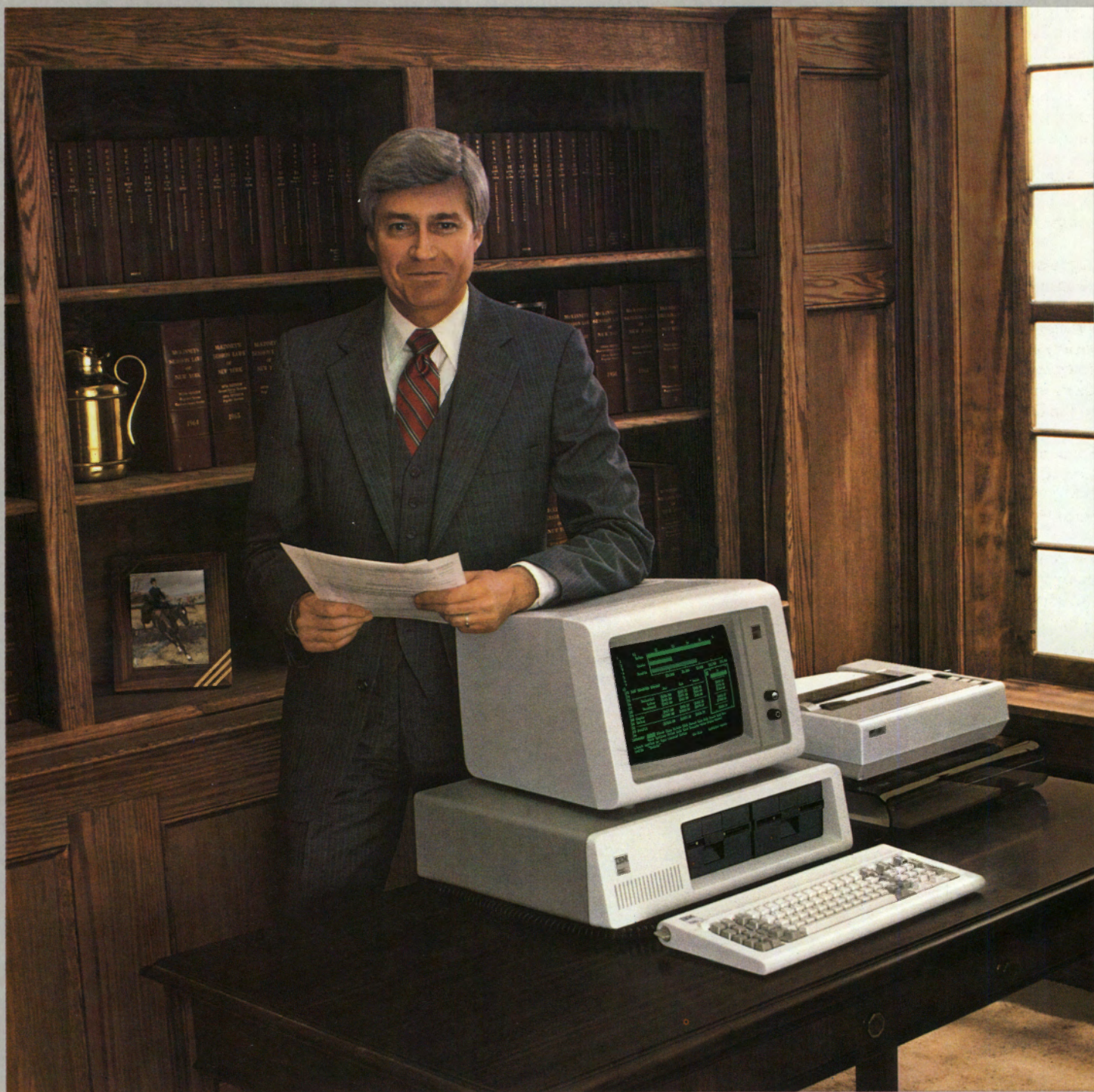


Software compatibility. Software compatibility means that many programs that operate on an IBM Personal Computer will also run on an IBM Personal Computer XT and an IBM PCjr equipped with a diskette drive*.

IBM software compatibility helps protect your software investment. If you have an IBM PC XT in the office and an IBM Personal Computer at home, for example, you can run many of the same programs at both locations.

**Programs are compatible provided that you use the appropriate program version and the IBM Disk Operating System and provided that each computer has the memory/storage capacities required to support the programs.*

Productivity Programs



Productivity Programs

*Tools for writing and editing . . . planning
and analysis . . . data base management*

Enhance your personal productivity. IBM Personal Computer software products can help you become more productive on the job, at home, and in school.

With a personal computer from IBM and the appropriate programs, you can write and edit with speed and ease . . . analyze problems and plan solutions . . . organize information in your data base for greater efficiency.

Tools for writing and editing. IBM now offers several word-processing programs to help you prepare various types of documents: from notes to novels . . . recipes to research papers . . . letters to legal briefs.

The programs offer you a range of capabilities. Some, like PeachText* and EasyWriter* are all-purpose word-processing programs. One new program, HomeWord* is highly versatile and especially easy to use: Its functions are shown by pictures instead of words. Another new program, Word

Proof, helps you check spelling, find synonyms and even perform some basic word-processing functions.

Tools for planning and analysis. Multiplan* and VisiCalc* are highly innovative and versatile planning and analysis programs. Each can help simplify most kinds of financial planning and analysis—from making complex cost projections to keeping track of your family budget.

Tools for data base management. You can select from an array of IBM PC software products to help you manage information. For example, pfs:FILE and pfs:REPORT together form an electronic filing and report generating system. You can use pfs:FILE to organize information and pfs:REPORT to present it in custom-formatted summaries.

Programs such as FileCommand, Fixed Disk Organizer, and Diskette Librarian help you organize your diskettes or fixed disks for faster access and greater control.

Another program, Mailing List Manager, makes it easy to create mailing lists and, with an IBM PC word-processing program, to generate customized form letters, too.

Also available are programs to help manage your time and money more efficiently: Time Manager* enables you to automate your personal calendar. Home Budget (and Home Budget, jr) could help you achieve greater control over your personal finances.

IBM PC products can help boost your productivity. The programs discussed above represent some of the dozens of ways you can improve your productivity with personal computers from IBM.

*PeachText is a trademark of Peachtree Software Incorporated, an MSA company. EasyWriter is a trademark of Information Unlimited Software, Incorporated. HomeWord is a trademark of Sierra On-Line, Incorporated. Multiplan is a U.S. trademark of Microsoft Corporation. VisiCalc is a trademark of VisiCorp. pfs: is a registered trademark of Software Publishing Corporation. Time Manager is a trademark of The Image Producers, Incorporated.

Word-Processing Programs



PeachText

A word-processing program to help you write with speed and ease

PC XT PCjr

PeachText at a glance...

Write quickly and easily. Simple menu commands allow you to write, edit, highlight, store, display and print documents.

Edit on your screen. Avoid typing drafts or retyping corrected text.

Type over errors. Just backspace to any typographical error and type the correct character, word or phrase over it.

Move sentences, paragraphs or pages. Simply press a few keys if you want a block of text moved elsewhere in a document; even transfer text from one document to another.

Revise text neatly. Delete text, and PeachText will close any gaps left in the copy; insert text, and PeachText will move the existing text to make room for it.

Personalize your documents. Retrieve names, dates and addresses automatically and insert them into text; change all multiple references at the touch of a key.

Print to your specifications. Insert formatting commands as you type, and PeachText follows those instructions during printing.

Edit one document while printing another. You don't have to wait for one document to be printed before going on to edit another.

For beginner and expert alike. PeachText* is a high-performance word-processing program designed to help you write and edit text quickly and easily—and to help you become more efficient as your skills develop.

If you are not familiar with the speed and convenience of word processing, you'll find that PeachText will show you the timesaving advantages of word processing over ordinary typing. And, as the program tutorial helps guide you through the basic, intermediate and advanced levels of instruction, it can help you realize just how easy writing and editing can become.

Editing made easy. By offering you a range of advanced editing capabilities, PeachText can help you write and edit with speed and ease. Simple commands from a multiple-choice menu allow you to write, correct, store, display and print your text.

You can edit out single characters or entire pages of text. You can move sentences, paragraphs or pages to other locations in the text. You can also insert sections of one document into another, and you can make all your revisions before the text is printed.

PeachText includes a Help menu that offers you easy access to information about various capabilities of the program. For example, you can use the Help menu to learn about the function of each command on the main menu.

Designed for business and professional word processing. PeachText enables you to produce finished documents quickly and conveniently by placing a wide range of editing capabilities at your fingertips.

PeachText also offers you the capability to produce personalized form letters and documents. You can set up the program to get data such as names and addresses from a diskette file and place it at specific locations in a document... automatically.

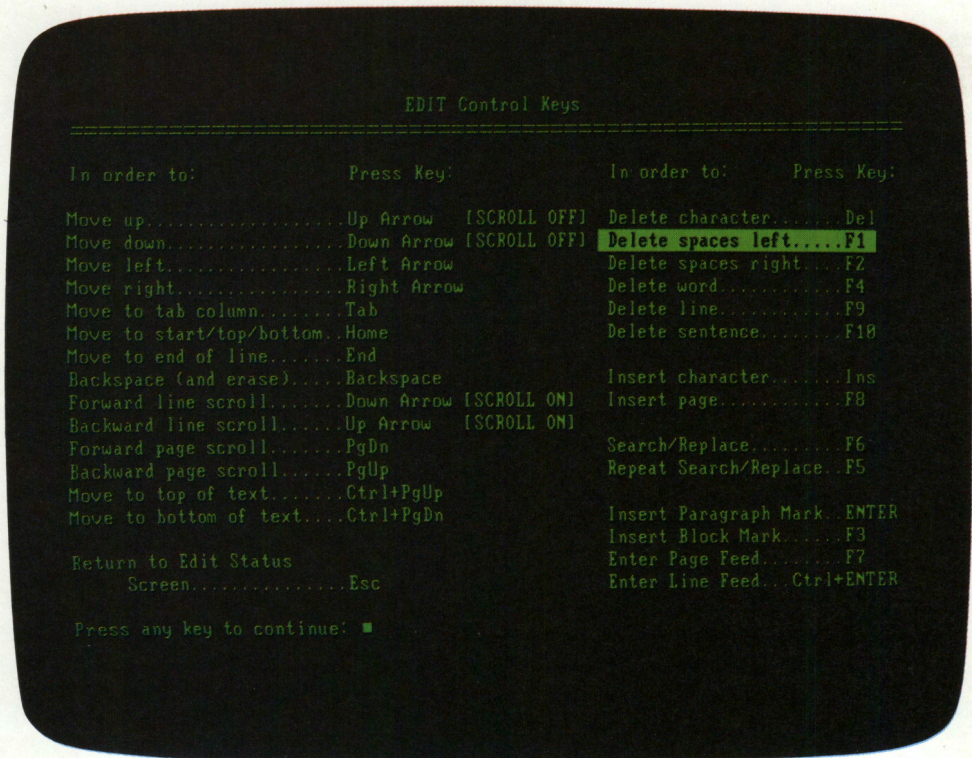
Furthermore, if your personal computer from IBM is equipped with 128KB of user memory, PeachText will take advantage of the additional memory. It provides up to 55,000 characters of memory, or the equivalent of approximately 44 pages of type-written text, as available document work space. As a result, you can directly edit a large document faster and easier.

How it works

Writing with PeachText. When you begin to use PeachText, remind yourself that what you'll be doing essentially is typing. To enter text, just type; the text will appear on the display screen.

Benefits you'll appreciate. The benefits of word processing with PeachText should soon become apparent. First of all, there's no need for a carriage return key; text continues onto the next line automatically. The "word wrap" function keeps the text within the margins, so you can just keep typing. If you make an error, just return to the error with the cursor-control keys and type the correct character(s) over the error.

If you forget a word or sentence while working on a draft, simply move the cursor to the appropriate location, press the "insert" key, and type the additional text. PeachText will



▲ PeachText's editing commands enable you to position the cursor where you want it; scroll to previous or following sections of a document; insert or delete a character, space, word, line or sentence.

move the existing text to make room for the insertion. Also, when you delete information, PeachText automatically closes any gaps.

PeachText also features a safeguard system that helps prevent accidental erasure. It even provides you with the opportunity to change your mind about making a deletion.

Speed and convenience. The PeachText function keys and simple commands allow you to perform a number of detailed editing tasks quickly and easily. By simply pressing the appropriate keys, you can:

- Move sentences, paragraphs or entire pages of text. When editing a document, if you

find that a particular paragraph should be deleted or moved to another place in the text, PeachText can do it for you.

- Insert a block of text from one document to another. For example, if you want to incorporate information from your interoffice memo into a form letter for the regional sales personnel, you can do it with PeachText.
- Locate and edit specific references throughout a document. "Search and replace" allows you to selectively locate and change all or some of the references to a specific character, word or phrase in a body of text.

*PeachText is a trademark of Peachtree Software Incorporated, an MSA company.

PeachText



Special features. PeachText also includes a number of special features that emphasize convenience in editing.

“The Editor” enables you to load a document that has been stored on a diskette or fixed disk and enter it into the computer’s memory. You may then continue working on the document, edit it and return the revised document to storage.

“The Formatter” takes a document in edited form and prints it according to your formatting instructions. For example, while you are editing text, you may wish to indent a direct quote and arrange a list of items in a column-and-row format.

Another feature enables you to edit one document while others are being printed. You don’t have to wait for one project to be printed before beginning to edit another.

Other features of PeachText include underlining, automatically printed headings and footlines, boldface type and a variety of printer functions and commands.

Easy to learn. The organized, easy-to-read PeachText reference manual offers a self-teaching system that ranges from basic to advanced. Lessons are presented in a tutorial format that takes the beginner from the elementary through the more sophisticated program functions. Error messages are clear and informative, providing the user with suggestions concerning available options.

In addition, the PeachText program itself acts as a visual learning aid whenever you need it. With the PeachText Help screen, you have an added feature to guide you through any rough spots.

A program that grows with you. PeachText accommodates beginners and experts alike. It can start as simple as you want it to and keep pace with you as your skills develop, or it can be ready for demanding word-processing projects immediately.

What you get. The PeachText software package includes:

- Program Diskette
- Demonstration Data Diskette
- Users’ Reference Manual
- Users’ Quick Reference Card

System requirements: A minimum of 64KB of user memory and one diskette drive (two are preferred), an 80-column display, a printer, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 is required for operation on the IBM PCjr. However, since two diskette drives are preferred, operation on the IBM PCjr and on other single-drive IBM PC systems is not recommended. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

EasyWriter 1.15

Turn your computer into an easy-to-use word processor

PC XT PCjr

EasyWriter 1.15 at a glance...

Quickly move the cursor anywhere in a document—left, right, up, down, to the end of a file or the top of the screen.

Type as fast as you want. “Word wrap” lets you automatically continue type onto the next line; no need for a carriage return key... just keep typing.

Write and edit simultaneously. Insert, delete and change text as you type—or at a later time—right on the screen.

Find and edit all multiple references at once. Find and automatically replace specified characters, words or phrases that recur throughout a document.

Skip to another page instantly. “Scroll” to the preceding or following page of text at the touch of a key.

Store your documents on diskettes. Then delete, revise, copy, add, link, protect or print them; even store one document and switch to another.

Keep an organized filing system. Use program files to track the progress of projects... to maintain lists... to store documents and data for future reference.

Tell EasyWriter how to print your document. Set margins and spacing, justify text, center lines, number pages, and more.

An easy way to put words to work.

EasyWriter* is a versatile program that provides you with the capability to write, revise, edit and print many types of documents quickly. You can perform many editing procedures—from correcting errors to inserting phrases to moving entire paragraphs from one part of a document to another—before your work is even printed. You can easily store what you have written and switch from one document to another.

Perhaps the most significant benefits of EasyWriter may be realized when you are editing and revising. With EasyWriter, you can make any changes as you are writing, or at a later time, right on the display screen of your personal computer.

EasyWriter may help improve your writing and working: no more waiting as a finished document is being typed; no more editing comments and arrows all over a page; no more retyping a complete page or document to accommodate a few changes. Typing workloads may be significantly reduced. Paper and copying costs may also be reduced. Most important, the time saved may be spent on more productive work.

Convenient word-processing features.

The following is a summary of just a few of the many features and capabilities that are available with EasyWriter:

- *Cursor movement:* You can move the cursor up, down, left, right, to the end of a file, or to the top of the screen with single keystrokes; you can move the cursor to the beginning of a file by pushing two keys simultaneously.

**EasyWriter is a trademark of Information Unlimited Software, Incorporated.*

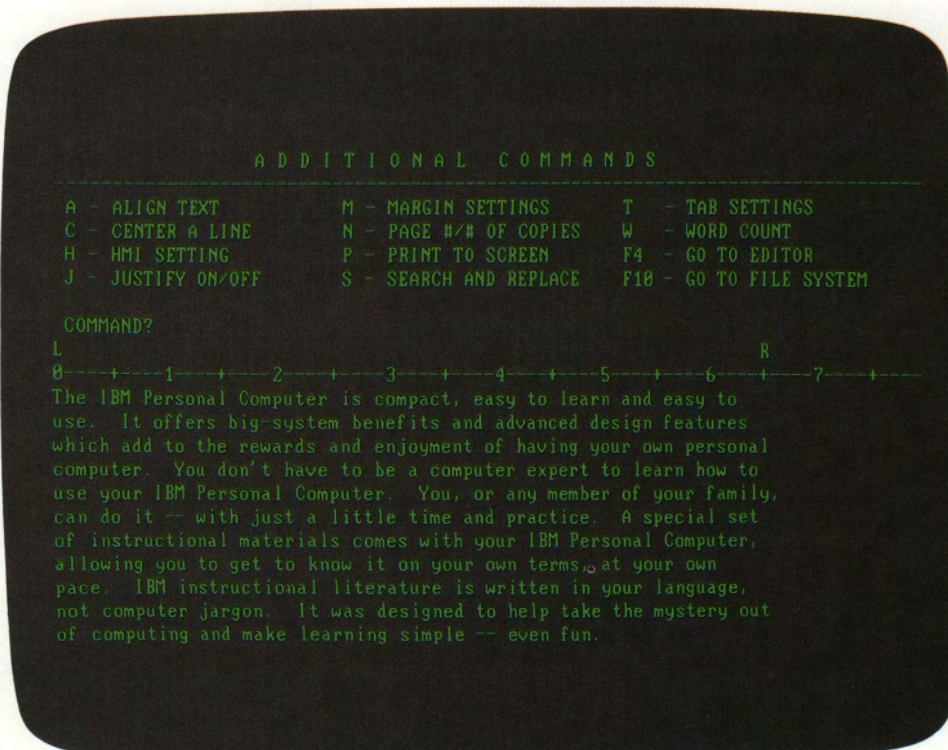
EasyWriter 1.15

- *Insertion/deletion:* You can insert or delete a character, word, line, space, paragraph or an entire section of text anywhere within a document.
- *Search and replace:* You can have the program automatically search and replace specified single characters or strings, including words, phrases, sentences, etc., up to a maximum of 49 characters. Or you can have it stop at each occurrence of a specified string so you can replace or edit at each location.
- *Diskette access:* You can save, delete, revise, copy, append, link, protect, unprotect or print diskette files.
- *Formatting printed text:* You can set right, top and bottom margins; set single, double, triple or incremental spacing between lines; justify text; center lines; and repeat standard headings and/or footlines on each page of a document.

Electronic files at your fingertips.

EasyWriter is not only a new way to write but also a fast, convenient way to maintain and access files. Files can be used to note the progress of various projects, to maintain a dynamic "to do" list, to store documents and related information you may need for future reference, to list addresses and phone numbers, and to facilitate many other filing tasks. You can then switch from file to file, add to, edit or print out a complete file.

A revised, improved and updated EasyWriter. EasyWriter 1.15 is a revised and improved version of EasyWriter 1.10. This newer version significantly enhances the usefulness of the program.



▲ *EasyWriter's three command menus help you choose the single-letter command you need to perform any one of various tasks. The Additional Commands menu, shown here, appears above the text of the document you are working on. It displays commands that enable you to set different margins or tabs and align or justify the text you have written.*

How it works

EasyWriter lives up to its name. Most people will find that EasyWriter can be learned quickly even without prior word-processing experience. All EasyWriter functions—text entry, filing, editing and

printing—are performed by selecting the appropriate single-keystroke commands from multiple-choice menus displayed on the computer's screen.

The EasyWriter reference manual is clearly written and well organized. The manual takes you through practice sessions to help you become comfortable with the program as quickly as possible. A Quick Reference Card is also included to provide you with convenient instructions about commands used most often.

EasyWriter features an organized three-level structure that is easy to master: the File System menu level, the Edit level, and the Additional Commands menu level. A Help menu is also available to assist you if you're ever confused about how to continue or if you forget which command to use.

The File System menu. This menu lists 20 available commands that enable you to save, retrieve, delete, print, revise and link entire texts or sections of text. It also provides reference information, such as a full list of the documents on the storage diskette currently being used and the number of characters in—or size of—each document.

The Edit mode. The EasyWriter Edit mode is where all entry and revision of text are done. If you want to start a new document or create a file, just start typing. The text you type will appear on the display screen as it is typed—similar to text filling a page as you type on a standard typewriter. But, unlike typewriting, you can type as fast as you wish; the EasyWriter "word wrap" feature automatically starts writing on the next line when the preceding one is full.

Whether your computer includes a high-resolution IBM Monochrome Display or another 80-character display, it will enable you to view up to 25 lines of 80 characters each, in both uppercase and lowercase. This provides you with the capability to easily review previous sections of your work as you are writing. You can also view the preceding or following page at the touch of a key.

The Additional Commands menu. This menu can be displayed above the text on your screen. It lists 12 different single-keystroke



commands that perform a variety of formatting procedures, such as setting margins or tabs and aligning or justifying text.

Extensive print formatting flexibility. EasyWriter also places at your service a useful array of what are termed Imbedded Commands. These permit you to custom-format each document by: adjusting three margins; numbering pages; adding up to three separate headings to each page of a document; and providing for single or double spacing, variable sheet length, and single-sheet feed.

The net result: a great investment in yourself. If you write letters, notes to yourself, lists, reports, papers, articles, etc., EasyWriter could be a great investment in your personal time and productivity. It can help you write faster, easier and better . . . today and for years to come.

What you get. The EasyWriter software package includes:

- Program Diskette
- Users' Reference Manual
- Users' Quick Reference Card

System requirements: A minimum of 64KB of user memory and one diskette drive, an 80-character display, a printer, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 and IBM PCjr BASIC are required for operation on the IBM PCjr. When the program's data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required. The program itself cannot be stored on a fixed disk.

HomeWord

A word-processing program for everyone from novice to pro

PCjr

HomeWord at a glance...

Save time. Easy-to-use word-processing features can help shorten writing time.

Learn word processing quickly. Simple enough for anyone to learn, even the inexperienced.

Follow the pictures. Descriptive pictures illustrate each operation.

Edit with ease. Change sentences, correct spelling, insert punctuation simply.

Change words in a hurry. You can "search and replace" to alter words, names, dates and phrases quickly.

Refer to the small on-screen outline to see what your final, formatted document will look like.

Revise your format. Quickly rearrange margins, center text, create headings, and more.

Add emphasis. Boldface and underlined printing styles help you accent key points.

Word processing made simple.

HomeWord* is so easy to use that it's the perfect program for introducing most anyone to the ease and power of word processing with an IBM PCjr.

The key to HomeWord's ease of operation is the use of pictures or symbols—instead of words—to represent functions. For example, a filing cabinet stands for file functions. A printer represents printing. To perform many HomeWord operations, start by selecting the appropriate picture. Of course, as you gain experience in word processing, you can bypass the symbols and select HomeWord's functions by using keys designated for issuing commands.

The benefits of HomeWord are twofold: Although the program is simple to use, it can help you perform many complex word-processing tasks. And that can help make you more productive as both a writer and an editor.

How it works

Pictures prompt you at every step. With HomeWord, your text is displayed in the upper half of the screen. Beneath the text is the prompt menu area that displays various function pictures. To the right of the pictures is a small outline of your document's format that will give you an idea of how the document will appear after it's printed.

To select a function, simply move the cursor to the picture that represents that operation—no need to type in commands or hard-to-remember code words. To print a document, move the cursor to the printer picture. To open your file menu, move the cursor to the filing cabinet picture. And to leave the program, just head for the "exit" sign.

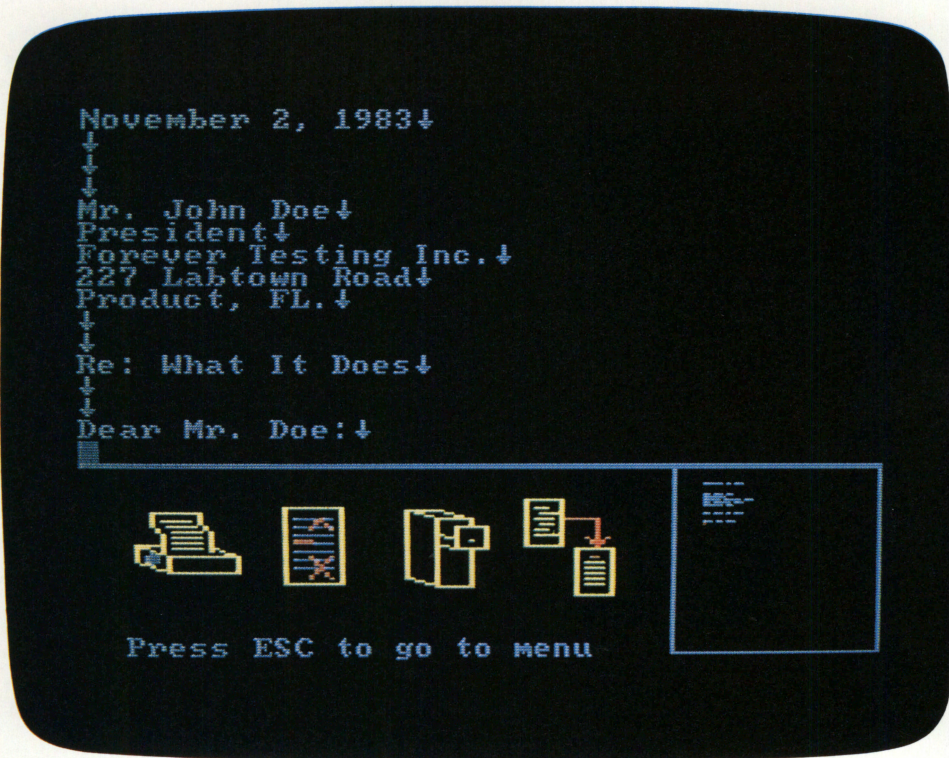
Edit your work with ease. No matter what type of writing you do, you'll undoubtedly want to rephrase a sentence, change punctuation, or even move or copy a block of text. You can do all that with HomeWord.

To delete a word or phrase, move the cursor to the picture that represents deletion and perform the simple steps that are found right on the screen. The gap caused by the deletion is closed automatically. And, if you want to merge text from a file with the text on your screen, you can begin to do so by moving the cursor to the appropriate picture and following the on-screen instructions.

Search and replace words. This important editing function can save time and trouble. It helps you locate and change frequently repeated names, dates, words and short phrases throughout your document. HomeWord can locate every repeated reference you wish to change—in even the longest documents—in just a few seconds.

Give your document a distinctive look. HomeWord provides you with several layout capabilities. With them, you can change the appearance of your document to make it easier to read and understand. As with all the other HomeWord functions, you just select the appropriate picture of the layout step you want to take. HomeWord's operations include:

- Margin setting
- Headings and footings
- Line spacing
- Tab setting
- Text centering
- Text justification
- Right and left alignment



Add weight to your words. With HomeWord, you can vary the look of your printing to add special emphasis, for example, or to set off such elements as headings and quotes. You can do this with the program's boldface and underlining type styles (if your printer is equipped to print them).

HomeWord also allows you to number pages automatically, make backup documents, and work in either 40- or 80-column formats to accommodate your display screen.

What you get. The HomeWord software package includes:

- Program Diskette
- Users' Reference Manual (including Tutorial)
- Customized Keyboard Overlay

▲ Here's a HomeWord screen divided into three parts. The upper part shows what you're typing. Below the typing area are symbols representing printing, editing, filing and layout functions. To the right of the symbols is an outline showing how your document will look once it's printed. As you become more advanced, you can extend the size of the typing area by using word commands instead of pictures; the pictures will no longer occupy space on your screen.

System requirements: An IBM PCjr with 128KB of user memory and one diskette drive, a display, a printer, and the IBM Disk Operating System (DOS) 2.10.

*HomeWord is a trademark of Sierra On-Line, Incorporated.

HomeWord

HomeWord's pictures simplify word processing on Junior

HomeWord makes word processing on an IBM PCjr easy to learn and easy to do.

HomeWord enables you to use pictures instead of words for selecting various functions. To perform any key step in the writing and editing process, start by moving the cursor to the appropriate picture.

As you become more experienced with the program, you can use words instead of the

pictures, thereby freeing up space on your display screen that was previously taken up by the pictures.

Here are the pictures found in HomeWord's main menu, along with a description of the function each picture represents.



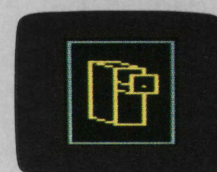
Print—a printer and paper.

Choosing the Print picture lets you print your document on the printer or on the screen and set the first page number.



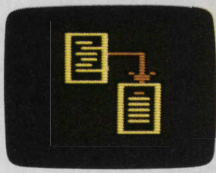
Edit—a page with lines representing text or words. The page is being edited.

Choosing the Edit picture lets you move, copy and delete text. You can find certain words or phrases in your text and, if you want, replace them with others.



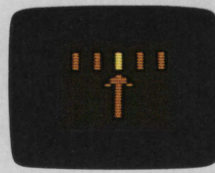
File—a file cabinet. A file cabinet is like a diskette in that both hold documents.

Choosing the File picture lets you save your document on diskette and get it when you want to use it. You can also erase a document from your diskette and insert one document into another.



Layout—a page that has been laid out, or formatted, in a different way.

Choosing the Layout picture lets you determine how your text will look when it is printed. For example, you can set your margins and elect to have them uneven or straight. You can also set line spacing and tab positions. You can choose any of three print styles (boldface, underlined or normal). What's more, you can choose when to start a new page, and you can number your pages.



Preset values—a row of slots with an arrow pointing to one of them.

Choosing the Preset values picture lets you specify the type of printer you are using, whether you want backup copies of your documents made, and whether you want to display 40 or 80 columns on your screen.

You can also change the preset margins, line spacing and tab stops.



Exit to DOS—an exit sign.

Choosing the Exit to DOS picture lets you leave HomeWord and use the DOS functions that are on your diskette. Use the Format function to format your diskettes so they can be used. Use the Diskcopy function to make copies of your document file diskettes.

Word Proof

A spelling-checker, synonym-finder, and more

PC XT PCjr

Word Proof at a glance...

Check for misspelled words in an entire file you've created or check the spelling of a single word you're not sure of; the program's word list contains more than 125,000 words.

Get the right spelling of a misspelled word as the program displays likely candidates for the word you're looking for.

Expand your vocabulary and spice up your writing style by having access to synonyms for many words.

Benefit from versatile word-processing functions like full-screen editing, word wrapping, margin setting, and "search and replace."

Use Word Proof's capabilities to review files created with other IBM PC word-processing programs.

Get help whenever you need it with explicit on-screen directions, menu prompts, and Help screens.

Highlight in color. Use your color display to review options in a variety of colors.

Print out anything you write, edit and proof with an optional printer.

Add proofreading capabilities to your IBM PC. If you want to help eliminate spelling errors in your copy—and add some sparkle as well—you want Word Proof.

Word Proof can identify misspelled words throughout a file and show you how to spell them correctly. What's more, Word Proof can enhance your writing capabilities—and your vocabulary—with a feature that lets you replace words with more colorful synonyms.

Beyond its proofreading skills, Word Proof also has a full-screen editor for performing several simple word-processing functions.

How it works

An electronic dictionary with more than 125,000 words. Word Proof can verify the spellings of more than 125,000 words. And, unlike many other proofreading programs, it can even differentiate between root words and their derivatives (such as "responsible" and "responsibilities") to pinpoint misspelled words with accuracy. Word Proof works by "proofreading" each file and stopping at words it doesn't recognize. It can then present a list of similarly spelled words. You simply select the proper spelling and make your correction accordingly.

You can also create your own personalized list of words and names you use frequently but find hard to spell.

Word Proof

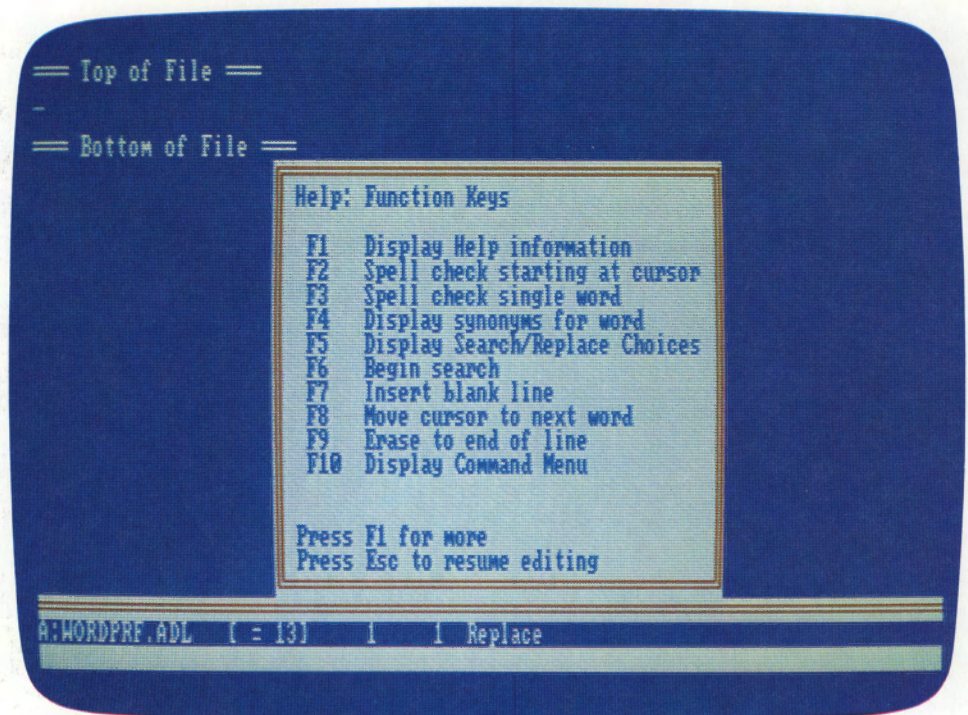
Support for other word-processing programs. Word Proof can work on files created with its own editor or on those created with more sophisticated word-processing programs such as PeachText,* EasyWriter,* HomeWord,* Personal Editor and Professional Editor. This interactive support can help simplify and enhance your writing and editing and is especially useful in the preparation of lengthy reports and documents.

It's easy to learn. The Help menu displayed on the screen leads you through each operation. The Users' Reference Manual and Quick Reference Card highlight most operations in clear, concise language. And the Keyboard Aid, an overlay, provides a map of the function keys to help you complete operations more quickly.

Perform simple word-processing functions. You can use Word Proof for performing many word-processing functions, including:

- Full-screen editing
- Word wrapping
- Margin setting
- Line length reformatting
- Search/replace capability

Improve your prose . . . expand your vocabulary. With Word Proof, you can review a list of synonyms and select the one that makes your point in a bold, refreshing way. More than improve your writing, Word Proof's synonym-finding capability can even help you enlarge your vocabulary: You may soon find yourself substituting new words for those you normally use.



What you get. The Word Proof software package includes:

- Program Diskette
- Users' Reference Manual
- Quick Reference Card
- Keyboard Aid (overlay)

System requirements: A minimum of 96KB of user memory and one diskette drive (two diskette drives or one 320KB diskette drive is required for using the synonym-finder), a display, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 is required for

Word Proof's Help menu offers on-screen prompts to help you check spelling, find synonyms and even perform simple word-processing operations.

operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, DOS 2.00 or 2.10 is required.

*PeachText is a trademark of Peachtree Software Incorporated, an MSA company. EasyWriter is a trademark of Information Unlimited Software, Incorporated. HomeWord is a trademark of Sierra On-Line, Incorporated.

Professional Editor

A full-function, menu-driven editor

PC XT PCjr

Professional Editor at a glance...

Streamline editing. Professional Editor helps simplify the editing of complex text and programs.

Use multiple-choice menus and displays at the bottom of the screen to select files and program options.

Select tab, margin and other settings for one document... save and automatically recall them for subsequent documents.

Avoid accidental deletions. Temporarily save deleted text in memory for immediate recovery if needed.

Use the word-processing features. Reset margins, justify text, center lines, redefine tabs, and more.

Scroll in all directions. Move forward or backward, left or right, or from top to bottom of the screen.

Find and change all recurring words or phrases within text by using the "search and change" function.

Add frequently used phrases and data structures to the screen with a single keystroke.

Streamline editing tasks. Professional Editor is a full-screen editor that can help streamline word processing and program development on a personal computer from IBM. This versatile software package offers professional editors and programmers more efficient ways to handle complex editing projects.

With Professional Editor, you can display up to 24 lines of data on your screen at one time. You can move from one point in your text to another, go back, rework and revise lines of text.

How it works

A full-feature editing program.

Professional Editor lets you perform many editing procedures with a few quick keystrokes. Among them:

- **Insertion and deletion:** Professional Editor makes it simple to insert and delete characters or lines anywhere in the text. As a precaution, deleted characters or lines are temporarily saved in memory and may be recovered if a deletion is made in error.
- **Scrolling:** Professional Editor offers extensive scrolling capabilities—forward and backward through files, up and down, across lines of displayed text. In addition, it has an optional scrolling capability that automatically "turns the page" whenever the cursor moves off the display screen.
- **Search and change:** Professional Editor helps you find and change specific words, phrases or numbers located throughout a document.

Professional Editor

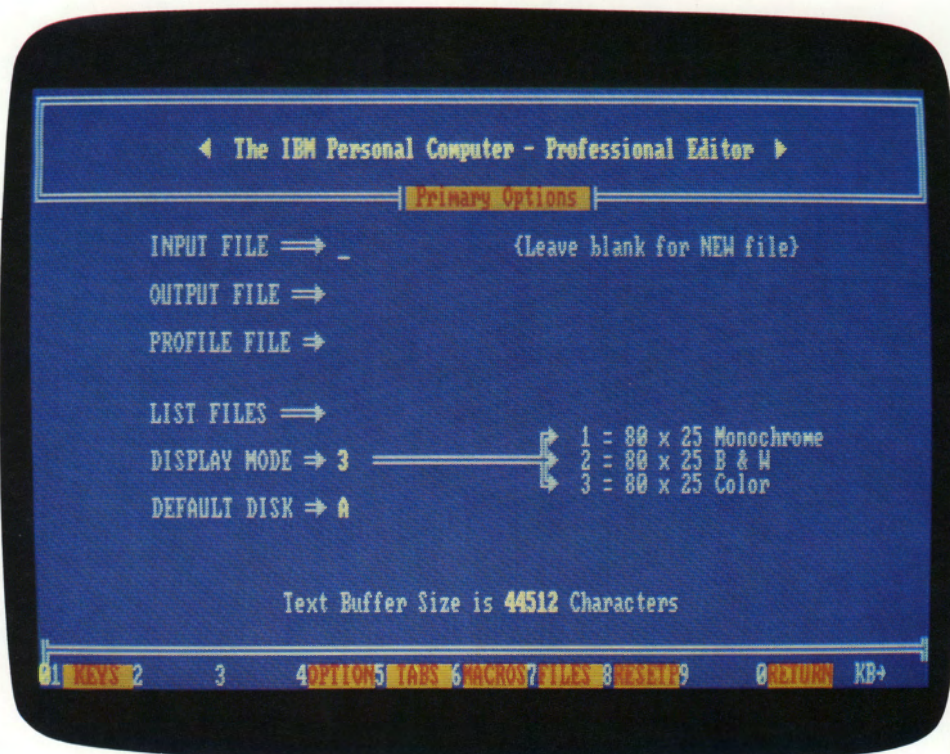
Word-processing functions. In addition to its editing features, Professional Editor offers the following useful word-processing features to help you prepare readable, finished texts:

- *Automatic word wrapping*—eliminates the need to press a “return key” at the end of each line. As the text reaches your preset margin, it automatically advances to the beginning of the next column.
- *Indentation*—allows you to specify and set off paragraphs and special passages.
- *Tab settings*—automatically arrange the screen into a column format.
- *Margins*—define the width of your page. You can align—or justify—both margins or just the left side.
- *Text formatting*—allows you to move and rearrange text and center lines within text.

See what you’re doing. All the information you’ll need to edit text or create programs is displayed on the appropriate Professional Editor screen. Each screen is divided into several sections, the largest of which is the data area. In effect, this is a “window” for you to view your text. The current line of text is highlighted in the data area. Another section—the line command column—runs along the left side; it is where different commands are indicated for each line.

Complex operations made simple.

Professional Editor was designed to be easy to learn. For assistance, the Users’ Reference Manual contains directions that take you through each step of the program. The Users’ Quick Reference Card gives a quick refresher on Professional Editor commands,



the keyboard and its functions. What’s more, a helpful reminder of each program function is displayed at the bottom of the screen.

What you get. The Professional Editor software package includes:

- Program Diskette
- Users’ Reference Manual
- Users’ Quick Reference Card

System requirements: A minimum of 64KB of user memory and one diskette drive, an 80-column display, and the IBM Disk Operating System (DOS). 128KB of user memory is

▲ *This Professional Editor screen provides access to the program’s files. It also identifies the function keys and tells how many characters are contained in the text buffer.*

required for DOS 2.00 or 2.10. DOS 2.10 is required for operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Personal Editor

A full-screen, command-driven editor

PC XT PCjr

Personal Editor at a glance...

Create your own text and programs. The screen acts as a blank piece of paper—you can begin writing right away.

Enjoy the benefits of word processing with such features as tab and margin settings, word wrapping and text reformatting.

Move, copy, erase and overlay text with paragraph, line and sentence markers.

Receive assistance from the start with a comprehensive Help text and a tutorial section provided in the program manual.

Edit up to 20 files in memory at one time.

Customize any or all keys to address your needs. Redefine up to 99 keys and key combinations to make them conform to your editing style.

Revise in seconds. Quickly scroll through large files to find any text you wish to edit or review.

Save up to five of your latest revisions in a special storage file to double-check recent changes.

Full-screen capability for writing short documents and programs. Personal Editor is a reasonably priced software package designed for writing and editing short documents and programs. It provides many word-processing and editing functions that can help you edit text and programs with speed and ease on your IBM Personal Computer. It can help you do this even if you haven't had much previous computer experience.

How it works

Personal Editor performs a wide range of word-processing procedures:

- Automatic word wrapping
- Text reformatting
- Tab and margin adjusting
- Block shifting
- Paragraph, line and sentence marking—to help you move, copy, erase and overlay text
- Editing of up to 20 text files at one time
- Locating words—to help you make word changes throughout a document

To execute any of these functions, simply move the cursor to the appropriate text and press the designated command key on the IBM PC Keyboard. Personal Editor will complete the operation automatically.

If you wish, you can develop your own personal editing style by customizing keyboard designations. You can redefine up to 99 different key and key combinations for executing your own commands.

"Search and change" speeds editing. A special benefit of Personal Editor is that it can help you find words, names, dates and phrases anywhere throughout the document you are editing.

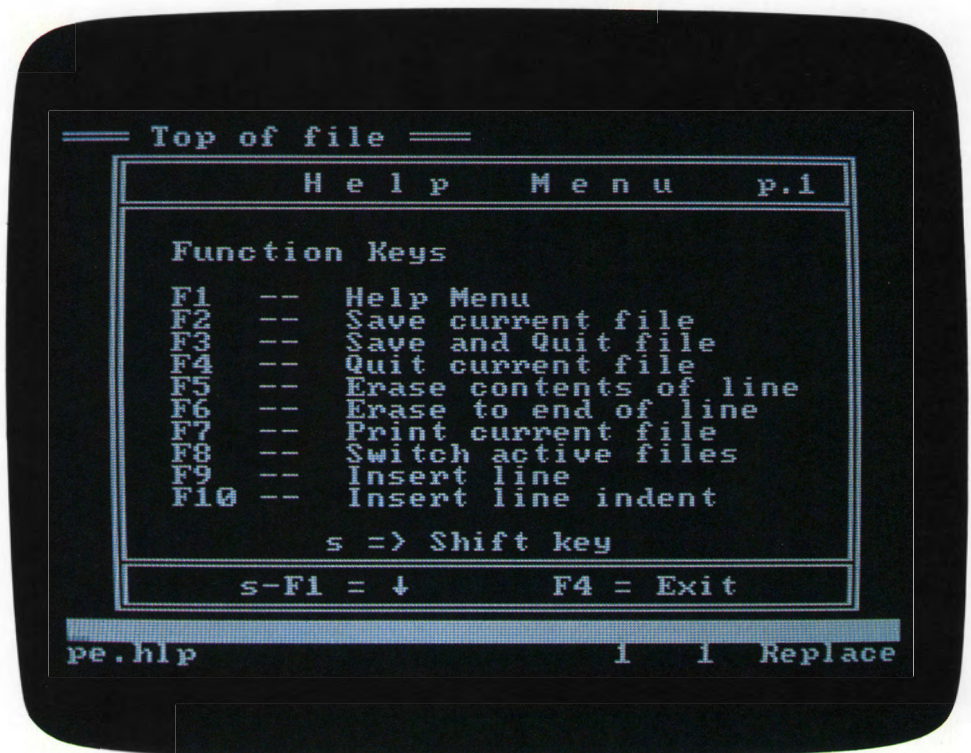
Personal Editor

Suppose you want to check a reference or verify a spelling that appears a number of times. Just enter the word or phrase and press the "Ctrl-Enter" keys on your keyboard. Personal Editor will locate the first occurrence of the word. Press "Ctrl-Enter" again, and Personal Editor will move to the next mention. In this manner, you can use Personal Editor to locate each occurrence of a word or phrase in your document.

Four files organize your work. Personal Editor contains several different files that can help you accomplish your editing tasks more efficiently:

- *Definition file*—tells what every key does. If you wish to personalize your keyboard, you can change the definition file to reflect your new key designations.
- *Storage file*—saves up to five of your latest revisions so you can go back, for example, and restore a deleted line or return a paragraph to its original format.
- *Directory file*—provides a listing of all the files on your data diskette.
- *Spill file*—a special file, of up to 128KB, that temporarily stores any overflow information unable to fit in memory. It also erases files, at your command, if your disk or diskette is full.

Find the appropriate help. To make your editing job even easier, Personal Editor includes an extensive Help menu. With a couple of keystrokes, you can access any of its five pages to receive assistance and information on cursor movement, key functions, text marking, and more. You can also amend the Help menu to reflect your own special use of Personal Editor. There's also a special tutorial section in the Users' Reference Manual that helps simplify the learning process.



A well-designed program editor. Personal Editor is easy to operate. Simply start the program, and the screen acts as a blank piece of paper, ready to accept your text. You can just begin writing.

In short, Personal Editor provides writers and programmers with an efficient method for creating and editing short documents and programs.

What you get. The Personal Editor software package includes:

- Program Diskette
- Users' Reference Manual
- Users' Quick Reference Card
- Users' Keyboard Guide

▲ *Personal Editor offers you a five-page Help menu. You can quickly scroll through the Help menu to learn how to perform such functions as changing your text.*

System requirements: A minimum of 64KB of user memory and one diskette drive, a display, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 is required for operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Planning and Analysis Tools



Multiplan 1.10

A powerful problem-solving tool

PC XT PCjr

Multiplan 1.10 at a glance...

Activate functions with one keystroke. Use single-keystroke commands and functions to help speed problem-solving.

Converse with Multiplan in English. Avoid obscure symbols or codes; assign English names to cells and cell groups.

Solve a wide range of math equations automatically... from simple arithmetic to complex trigonometric equations.

Recalculate an entire worksheet instantly. Change one figure or formula, and Multiplan automatically recalculates all related values.

Make room for entries. If an entry is too large for a cell, simply let the text spill into an adjacent cell.

View up to eight windows at once. Simultaneously display up to eight sections of a worksheet to compare data.

Create detail and summary reports. "Link" worksheets and consolidate primary and secondary worksheet data.

Highlight with color. Use up to 16 colors to add borders to and "paint" each window of a worksheet.

Ideal for planning and forecasting.

Multiplan* 1.10 is a versatile software package that enables you to create electronic worksheets on your personal computer from IBM. It can help you arrive at solutions to a wide variety of problems... quickly, easily.

Multiplan offers you many advantages over "paper and pencil" calculating methods. Designed for people with little or no computer experience, Multiplan permits you to create customized electronic worksheets—up to 255 rows long by 63 columns wide.

Multiplan is especially useful for financial modeling, planning and forecasting. It can also be used to calculate engineering and scientific formulas.

Multiplan enables you to perform a wide range of calculations automatically. And whenever you change a figure or formula that is part of the calculation, the program will automatically recalculate the entire worksheet—and linked secondary worksheets—based on the revised information. This capability simplifies the process of solving "What if...?" problems.

An enhanced version of Multiplan 1.00, Multiplan 1.10 offers new benefits to make your planning and forecasting responsibilities even more simple to handle. For example: Worksheet storage has been increased; math accuracy has been improved to 14 significant digits; and print width has been expanded to 512 characters.

Easy to learn. Although Multiplan offers you many powerful, advanced features for organizing and manipulating information, it was designed to be easy to learn and use.

IBM provides you with a tutorial diskette that features sample worksheets, explains commands and shows you how to move around the worksheet. Furthermore, the tutorial program directs you to appropriate sections in the reference manual for more detailed information.

The manual's first eight chapters form a detailed training guide that provides you with step-by-step instructions for using the program. The balance of the manual tells you how to construct more sophisticated models. As an added benefit, a color-coded keyboard template is included with the product.

Help is always at hand. Multiplan constantly displays frequently used commands, so you don't have to remember them.

What's more, an on-line Help text is just a keystroke away. The Help text can provide you with information about the command or function you are using at the moment. It can be accessed at any time, offering you immediate and specific aid. You may then return to your worksheet right where you left off.

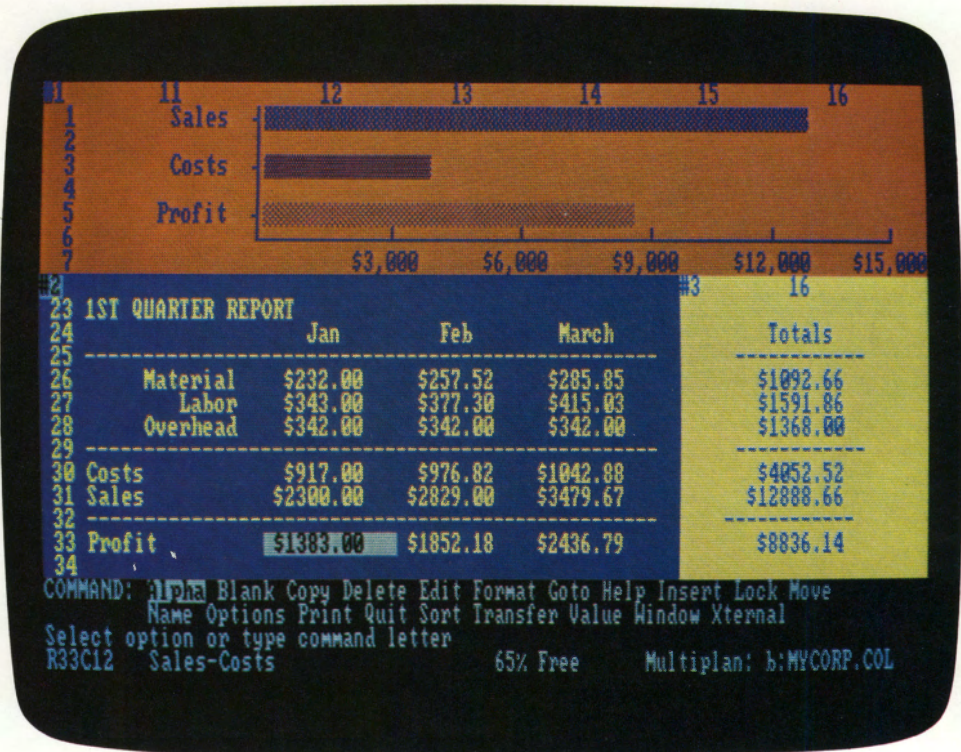
You can also review the Help text in its entirety to find answers to a wide variety of questions that may arise as you operate Multiplan. In addition, Multiplan comes with a Quick Reference Card—another helpful tool that offers you fast answers for fast problem-solving.

How it works

Your keyboard is your key to fast operation. IBM's Multiplan has been customized specifically for use with the familiar, typewriter-like keyboard provided with both the IBM Personal Computer and the IBM Personal Computer XT. It can also be used with an IBM PCjr Keyboard.

Your knowledge of the function keys and numeric keypad on your keyboard for the IBM PC or IBM PC XT should simplify your ability to learn and use various functions—many can be invoked with a single keystroke.

Multiplan also helps make it easy for you to create formulas and perform a number of text-processing operations, such as inserting and deleting data, rows and columns.



Each Multiplan worksheet provides you with useful information, such as the row/column indicator—which tells you where the cursor is currently located—and the worksheet name. Multiplan also displays frequently used commands for easy reference, including:
Help—to invoke an on-line Help text
Lock—to help protect cell contents
Sort—to arrange data to your specifications
Xternal—to consolidate worksheets

Automatic calculation simplifies financial planning. With Multiplan, tedious and repetitive financial paperwork can be greatly simplified. Let's say that you have created the sample worksheet shown above to project a product's sales, costs and gross profits for each month during the first quarter of next year.

This display features three windows. The upper window displays a bar chart that provides a graphic overview of the projected profit picture. The chart reflects profits after costs have been subtracted from sales. The

lower window on the left breaks out the major cost categories plus the sales figures month by month and the resulting profit prediction. The lower right window shows a projection of combined totals for the first quarter of next year and the last quarter of the current year.

Think of all the ways Multiplan can help you quickly perform projections and analyses that might take far longer if you were to attempt them manually.

Multiplan commands are full English words. You do not have to memorize cryptic phrases. The commands include Sort, Insert, Delete and Format, among others. A list of frequently used commands is displayed below each worksheet.

*Multiplan is a U.S. trademark of Microsoft Corporation.

Multiplan 1.10

Simply enter your information into cells. Each worksheet starts as an arrangement of intersecting rows and columns. The ultimate size and appearance that each worksheet takes is up to you. You are able to vary the widths of individual columns, type long lines of text, and more.

Each space created by the intersections—one column wide by one row high—is called a cell. You fill out the worksheet by entering words, numbers or formulas into the cells. In this respect, the electronic worksheet is much like a ledger that can contain headings, values and/or formulas.

Each cell can possess a value that appears on the screen and a formula for computing that value. A formula may be as simple as "Sales-Cost," or it may be more complex, containing functions and references to other cells (for example, "previous cells times a number"). The potential for the value of one cell to depend on the values of other cells is a key benefit of Multiplan.

Cell-pointing speeds you to any cell. Multiplan simplifies the process of returning to a cell. Rather than enter a cell's coordinates, all you have to do is "point" to the cell you wish to return to. Pointing is accomplished by pressing the cursor-control keys on the keyboard. You can also use cell-pointing to generate formulas and refer to cells for other purposes.

Use English words to name cells. Multiplan also enables you to assign an English-word name to a cell or group of cells. For instance, you can identify a whole row of cells with one word, say, "Profits." Many other electronic spreadsheet programs require you to use numerals instead of words.

Once you've entered information into a cell, you can protect that information from loss. As a built-in safety factor, Multiplan

provides you with the ability to "lock" cell information, helping to prevent unintentional editing.

Automatic reformatting. If your text entries exceed cell boundaries, no problem: Multiplan's built-in reformatting feature automatically lets text spill over into adjacent cells to accommodate text entries that are longer than the width of a cell. This can be accomplished quickly and easily.

Combine data from several worksheets. Multiplan enables you to "link" worksheets that are stored on the same diskette or fixed disk. Linking allows secondary worksheet calculations to be automatically updated as you revise the primary worksheet. This feature is especially useful for consolidating worksheets to create detail and summary reports, for example.

View up to eight windows at once. When you form a worksheet that is too large to be displayed in its entirety on your display, you can view up to eight worksheet "windows," or sections, at one time. You can also "scroll" any window.

These features enable you to make a recalculation in one area of the worksheet and study its effects in other sections.

Solve mathematical equations—even circular references. Multiplan enables you to solve a wide range of mathematical equations—from simple arithmetical problems to complex statistical, logical, trigonometric and string equations.

In addition, Multiplan—unlike most other electronic spreadsheet programs—helps you solve circular references with computer speed and accuracy.

For example, you may want to calculate the amount of a bonus based on net profit. Net profit, however, depends on the size of the bonus. The bonus size, in turn, must be subtracted from gross profit to determine net profit... a seemingly endless circle.

Multiplan's "iteration" capability helps you evaluate the problem, convert it into a workable equation, and solve the equation—all with a few keystrokes.

Color your world of information. Each Multiplan window can be separated from the others through the use of up to 16 foreground and background colors.** Color-highlighted windows are not only more attractive, they also save you from having to add borders that take up usable working space.

A separate color can be used for each window to highlight information throughout the worksheet. You can create customized graphics and add attractive borders to your printed reports.

Multiplan puts the full ASCII character set at your disposal. What's more, Multiplan enables you to obtain a wide variety of special print effects by capitalizing on capabilities of the IBM Graphics Printer or IBM Color Printer—and the variety of dot matrix print styles and sizes the printers offer.

What you get. The Multiplan software package includes:

- Program Diskette
- Tutorial Diskette
- Users' Reference Manual
- Users' Quick Reference Card
- Keyboard Template

System requirements: A minimum of 64KB of user memory and one diskette drive, a display or TV, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 is required for operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

**Requires an IBM Color Display, an IBM Personal Computer Color/Graphics Monitor Adapter, or compatible equivalent products.

VisiCalc 1.20

*An efficient tool for
planning and analysis*

PC XT PCjr

VisiCalc 1.20 at a glance...

Learn VisiCalc's commands quickly. Use 15 easy-to-memorize, single-letter commands... "B" is Blank, "C" is Clear, "D" is Delete, and so on.

Check and compare data on the display screen. You can move the window in four directions to view any part of your worksheet; even split the screen to easily compare any two worksheet sections.

Customize a worksheet to your needs. Alter its format easily—change column width, align text left or right, adjust decimal places, and more.

Revise your information. Edit the contents of any worksheet entry; add or delete information quickly and easily.

Combine various worksheet entries by using simple comparisons, complex scientific formulas, or even VisiCalc's own functions; store formulas for recall whenever you need them.

Explore "what-if" situations. Replace a figure in a worksheet, and VisiCalc automatically recalculates the worksheet to show the effect on all other values.

Store formulas for fast recall whenever you need them.

File worksheets for future use. Create as many worksheets as you need for problem-solving, then file worksheets, parts of worksheets, or only worksheet data for immediate retrieval.

A multipurpose problem solver.

VisiCalc* 1.20 is a versatile planning and problem-solving program for business executives, professionals, accountants, analysts, home budget managers and planners of all kinds.

From financial and statistical analyses to cash flow projections, from market analyses to home budget planning, VisiCalc can help simplify the solving of analytical problems.

This updated version offers two new benefits to help speed and simplify your problem-solving. One of the new benefits, extended addressing, increases the amount of available worksheet space. The other allows the program itself to be stored on a fixed disk (only data files could be stored in the past).

Electronic worksheets. VisiCalc turns your IBM PC display screen into a "window" through which you can create electronic worksheets up to 63 columns across by 254 rows down—large enough to accommodate most problems and charts. You can move—or scroll—this window in all four directions to view any part of a worksheet and even split the screen horizontally and vertically to compare two worksheet sections at one time.

The intersections of columns and rows define thousands of entry positions, each identified by its row-column coordinates. The cursor can be scrolled to any of these entry positions, and any value or label you type will be displayed within the cursor box. By entering values on the worksheet in this way, you can set up charts, tables and records. And, by using the simple formatting commands, you can make your VisiCalc worksheet look just like a checkbook register, profit-and-loss statement, or almost any type of column-and-row document.

*VisiCalc is a trademark of VisiCorp.

VisiCalc 1.20

How it works

Start using this powerful tool right away. You can begin taking advantage of VisiCalc's capabilities almost immediately—even if you don't know a great deal about programming or how computers work. A five-lesson tutorial in the VisiCalc reference manual takes you through each operation in a step-by-step manner, showing you how to create worksheets and use all the simple-to-understand programming commands. In addition, the Users' Quick Reference Card, which lists all major commands and features, provides you with a handy aid in mastering the program and all its capabilities.

Creating and manipulating your worksheets. Most worksheets you create will probably have headings for each column and row. These headings can be "locked" into place so that you can scroll to any section and still retain the headings that identify the data.

The formulas you use can be as simple as comparing one sales figure to another or as complex as recalculating a series of values based on one or more variables. Formulas can be used to relate data from various parts of the worksheet to each other in very flexible ways. They can also use the standard VisiCalc functions, such as summation, net present value, average, trigonometric functions, and more.

An important "shortcut." One especially convenient shortcut the program offers is the Replicate command, which allows you to repeat a formula automatically, substituting different values. You can compute a year's worth of weekly budgets by entering the formula just once.

C128 (U) @INT(C126+C127) C 32

	A	B	C	D	E	F	G	H
1	-----							
2	RECEIPTS 9/29/83 Receipt Handling-Cost Estimates							
3	-----							
4		1983	1984	1985	1986	1987	TOTAL	
5	-----							
116	A	B	C	D	E	F	G	H
117	C Receipts -----							
118	TOTAL/MO	348	1899	2593	1991	1832	7863	
119	EMPLOYEES	0.65	3.56	4.06	3.73	1.93		
120	-----							
121	D Receipts -----							
122	TOTAL/MO	275	1445	1946	1572	959	6197	
123	EMPLOYEES	1.14	5.98	8.06	6.51	3.97		
124	-----							
125	Management & Costs -----							
126	EMPLOYEES	4.30	12.88	16.32	13.50	8.49		
127	MANAGEMENT	0.43	1.29	1.63	1.35	0.85		
128	TOT ENPL	5	14	10	15	10		
129	COST/YEAR	57960	631812	938494	832556	551700	3811722	
130	CST/RECPT	72.30	134.97	141.56	152.44	153.00	142.38	

Once you become familiar with VisiCalc, chances are you'll find yourself using it to create many different worksheets to help you plan, analyze and solve problems—for professional and personal needs.

"What if" allows you to explore alternatives. A major benefit of VisiCalc is that it allows you to examine various alternatives without having to refigure your entire worksheet. Whenever you change a value, VisiCalc automatically recalculates and displays all the related values. For example, you may wish to examine how different variables—such as additional personnel—might affect your sales projections. Or you may wish to see how long a new manufacturing process will take to become cost effective.

What you get. The VisiCalc software package includes:

- Program Diskettes (2)
- Users' Reference Manual
- Users' Quick Reference Card
- Users' Support Plan Card

System requirements: A minimum of 64KB of user memory and one diskette drive, a display, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 is required for operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Data Base Management Tools



pfs: FILE and pfs: REPORT 1.05

*A computerized information
management system*

PC XT PCjr

pfs:FILE and pfs:REPORT at a glance...

Computerize your filing. Enter, store and retrieve information in a logical, orderly manner.

Design simple forms on the screen. Enter data, save it in a file, then revise the data quickly.

Retrieve your files easily. Select any files you've stored from an on-screen, multiple-choice menu.

Specify how you want your data recalled. Order up a *direct match*, such as all clients living in California, or a *range*, such as all clients with orders between \$300,000 and \$500,000.

Sort and calculate your data alphabetically or numerically; make calculations right on the screen.

Create reports quickly. Print comprehensive, customized reports in minutes.

Print forms or mailing labels. Convert any display to hard copy with an optional printer; even print mailing labels.

Title and number your pages. Automatically print a specified heading on every page of a report; number every page, too.

An easy way to organize information. With pfs:*FILE and pfs:REPORT, your personal computer from IBM can provide you with an easy, efficient way to store and retrieve information and create reports. These programs were designed to help improve your ability to manage information—to help you perform your job more efficiently.

pfs:FILE can help you handle your information storage and retrieval requirements and can operate as a stand-alone program. pfs:REPORT enables you to prepare tabular reports from the information contained in pfs:FILE. pfs:FILE is a prerequisite for operating pfs:REPORT. Each program comes with its own reference manual and diskette and may be purchased separately.

Electronic files at your fingertips. pfs:FILE and pfs:REPORT can be useful in business and professional offices, at home and at school, or anywhere you wish to use a personal computer from IBM.

For example, inventory managers may find pfs:FILE an effective way to store, update and process information regarding current inventories. By adding pfs:REPORT, you can compile this information in a wide variety of useful ways and print attractive tabular reports.

Personnel managers can use the programs to search their files and generate reports, such as a list of employees who have been employed by the firm less than five years, from five to ten years, and so on. Or the programs can be used to break out a list of all employees by salary, by department, by title.

In short, pfs:FILE and pfs:REPORT can provide you with tools that can help you manage information more productively.

How it works

A computerized filing system. pfs:FILE enables you to enter and retrieve information in a logical, orderly manner. You design simple forms on your display screen that satisfy your information management requirements, then save them on a file. Information is then entered in the appropriate places on each form, which makes finding information and scanning files a simple matter. Of course, you can add, revise or delete any information whenever you wish.

The pfs:FILE reference manual provides you with step-by-step instructions that make form design a simple process.

For example, suppose you have designed an employee history in pfs:FILE of all personnel working in the Southeast. The blank form might look like the screen shown at the right.

Information retrieval—accomplished by making simple selections from multiple-choice menus—is fast and reliable and is not limited by the order in which information is stored.

▲ With pfs:FILE, you can design forms right on your display screen. The forms permit you to enter your information in an organized manner; then you can store, retrieve and revise the information as needed.

Selective recall. Information can be selectively retrieved in a variety of ways. For instance, you can specify *matches*—e.g., all your clients living in the southeastern United States. Or you can use pfs:FILE to

provide you with matches plus *ranges*—such as all accounts with revenues between \$150,000 and \$500,000.

You also have the ability to print forms as they appear on the display. You can even print mailing labels.

*pfs: is a registered trademark of Software Publishing Corporation.

pfs:FILE and pfs:REPORT 1.05

For example, if you manage information for a professional or social organization, you may categorize your membership by such criteria as address and years of membership. Then you can use pfs:FILE to print labels for targeted mailings.

Computer-generated reports save you time. pfs:REPORT enables you to print tables that consist of up to 16 vertical columns and as many rows as you like. Each column can correspond to an item in your file, and each row can contain the information from a single form.

pfs:REPORT can sort the rows alphabetically or numerically and do calculations on the numerical information in columns or rows. Think of the time and trouble it could save.

If, for example, you are using pfs:FILE to maintain purchase history information, you could use pfs:REPORT to generate a report listing all items purchased in the last month, week or even the last few days.

Using the same information filed in pfs:FILE, you could also print a report that shows the parts currently in stock, another report indicating the total value of parts currently in your inventory, and a variety of other reports.

A title you select will appear at the top of each page in the report, and the pages will be numbered in sequence automatically.

A powerful combination. pfs:FILE by itself is a valuable tool for organizing data that you need to keep at your fingertips. When



you add pfs:REPORT, you can produce customized summaries that enable you to present pfs:FILE data in a variety of clear and attractive formats.

Together, pfs:FILE and pfs:REPORT form a powerful combination that can help you manage your information more easily, more effectively.

What you get. pfs:FILE and pfs:REPORT both include:

- Program Diskette
- Users' Reference Manual
- Users' Quick Reference Card

System requirements: Both programs require a minimum of 64KB of user memory and one diskette drive, an 80-column display, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 is required for operation on the IBM PCjr. When these programs and their data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required. A printer is optional for pfs:FILE and preferred for pfs:REPORT.

Mailing List Manager

An efficient tool for handling lists

PC XT PCjr

Mailing List Manager at a glance...

Create your own mailing lists. Store, update, retrieve, print and even combine lists.

Retrieve information according to *your* specifications.

Combine several lists. Combine data from several different lists to generate highly selective sublists.

Decide what's important to you. Customize data formats to highlight information of special interest.

Be selective. Powerful sorting capability allows you to create subsets containing any specific information you want.

Design your own labels. Use the display to design labels exactly the way you want them to be printed.

Create form letters. Use Mailing List Manager with PeachText*, EasyWriter* or other IBM PC word-processing programs to write and print personalized form letters.

Get help when you need it. On-line Help text offers quick aid that's only a few keystrokes away.

Create, print, even combine mailing lists. Mailing List Manager is a software package that allows you to create, retrieve, print, update and even combine mailing lists—and other data lists—easily and efficiently.

Mailing List Manager offers great versatility because it permits you to custom-design your own data forms and label formats to include any information you consider important. This means you can create very specialized sublists based on the information you've included in your data lists.

You decide which information is important. With Mailing List Manager, you decide which information you wish to store on a fixed disk or diskette, then design your data lists accordingly.

Perhaps you'd like to include an individual's job title as well as name and address on a specific list. Or you might want to add the last time a client placed an order with your company.

You can rely on Mailing List Manager to generate a specific sublist based on whatever information you decide to include in your data form.

Mailing List Manager also allows you to merge—or cross-reference—several different lists. Suppose you need to know the total quantity of a specific part in all your inventory locations. Mailing List Manager's combine feature can quickly provide you with the total count as well as the number of parts in each location.

*PeachText is a trademark of Peachtree Software Incorporated, an MSA company. EasyWriter is a trademark of Information Unlimited Software, Inc.

Mailing List Manager

How it works

Print your own labels. You design your own labels right on the screen of your IBM Personal Computer. The information you display on your screen will be printed automatically on each label. And, if you use either the IBM Personal Computer Color Printer or IBM Graphics Printer, you can even give your labels an individualized look by mixing different type styles.

Create your own form letters. You can produce customized form letters by adding information stored on Mailing List Manager data files to files you create with IBM PC word-processing programs such as PeachText and EasyWriter.

This capability makes Mailing List Manager especially useful for mail order businesses, fund-raising organizations, and other companies or individuals that frequently send out multiple mailings.

It's easy to learn. To simplify learning, the Mailing List Manager program package includes the Users' Reference Manual and a Quick Reference Card, both of which spell out instructions simply and clearly. In addition, an on-line Help text is always accessible from the main menu with just two quick keystrokes.



▲ *Mailing List Manager's main menu provides you with a quick overview of the program's capabilities. After selecting commands from the menu, you can create and update lists, define label formats, combine lists and update or combine address files.*

What you get. The Mailing List Manager software package includes:

- Program Diskette
- Tutorial Diskette (includes DOS 2.00)
- Users' Reference Manual
- Users' Quick Reference Card

System requirements: A minimum of 128KB of user memory and one diskette drive (two are recommended), an 80-column display, and a printer. The IBM Disk Operating System (DOS) 2.10 is required for operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

FileCommand

A powerful file-management program

PC XT PCjr

FileCommand at a glance...

Organize your files. Gain increased control over your fixed disk or diskette data base.

Use a single keystroke to run programs and issue DOS commands; FileCommand assigns your designated commands to function keys.

Issue several DOS commands at once with the touch of a key.

Combine file information from several drives and bring together the information you need.

Sort your on-screen directory alphabetically, by file size, by file date or by drive.

Review every file by scrolling the on-screen directory.

Check storage space. The screen displays how much memory is available on disk, on diskette, and in the computer.

Display the contents of DOS 2.00 subdirectories and the directory path associated with each file.

A better way to organize and access data. FileCommand is a versatile file management program that provides you with an efficient way to organize and access the data base files you've stored on fixed disks or diskettes.

By displaying a directory of all your files, FileCommand helps you quickly sort through the specific file or subdirectory file you need when you need it. What's more, FileCommand permits you to issue complex DOS commands or chains of commands—and even execute entire programs—with a single keystroke.

FileCommand offers you a reliable method for organizing your files more efficiently... to help you save time.

How it works

The screen holds a wealth of information. On the screen, you can sort through your FileCommand files by size, by date, by alphabetical order, and even by drive or directory path. And you can scroll up or down through a directory to review its entire contents.

The FileCommand screen provides you with more information than file size, date and time. It shows how much space is on your fixed disk or diskette and how much of it is still available. The screen also tells you how much computer memory is left, how many sectors are occupied by each file, and how many files are in the currently displayed directory.

FileCommand

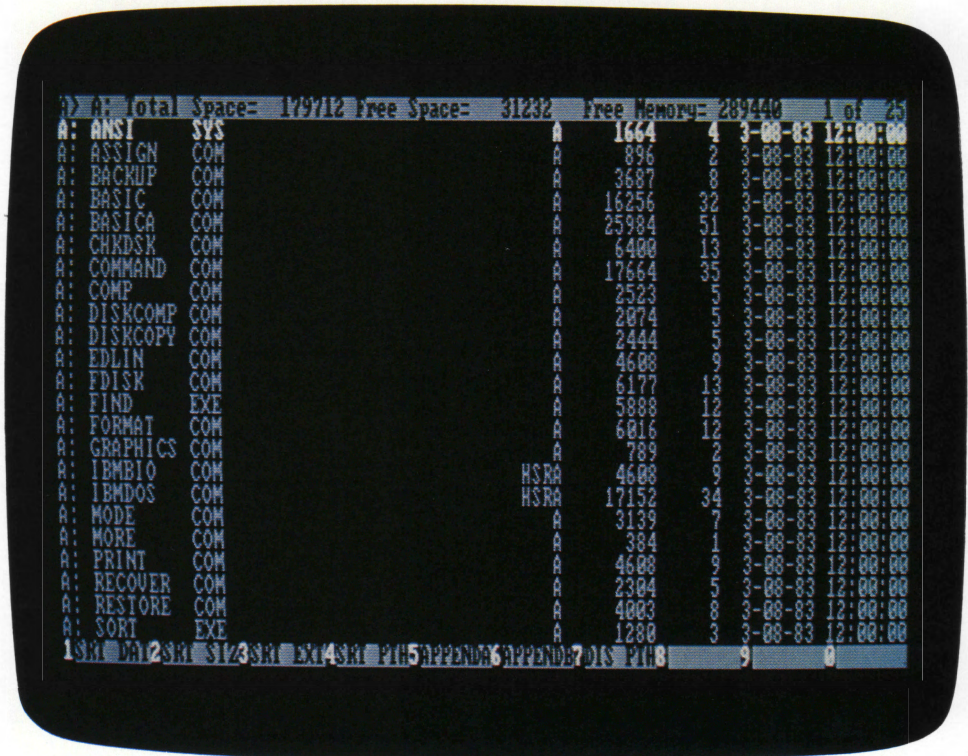
All this information is easily accommodated on the FileCommand screen, which is 80 columns wide and 25 lines deep. Each "page" of the screen can hold up to 23 file entries. If you need to see more than 23 entries, you can easily scroll the directory to see them.

Issue commands with single keystrokes. With FileCommand, you can assign the commands you use most frequently to the special function keys on your IBM PC or IBM PC XT Keyboard—or to any keys on your IBM PCjr Keyboard. By modifying FileCommand to fit your needs—and your own special use of DOS—you can issue complex commands and even execute entire programs at the touch of a key. You can also repeat a command as many times as you wish by using the equal sign. Then, simply by pressing the "Plus" key on your keyboard, you can issue all of the commands as they appeared on the FileCommand screen.

Whenever you want to use a file name in a command, you can enter the command next to the file name in the directory. Commands can use the file names already displayed—you don't need to type them. This FileCommand feature can be a great time-saver.

You can change your command designations whenever you wish—for quick access to your most frequently used files.

Get started right away. Taking advantage of FileCommand doesn't take a lot of effort. For example, a guide to the various function keys runs across the bottom of the screen. And the Users' Reference Manual spells out every FileCommand operation in a clear, step-by-step manner.



▲ FileCommand's screen displays: names of files you've stored on your fixed disk or diskette, total disk or diskette space, amount of free memory in your computer, and a listing of function key assignments.

When you look at FileCommand's features, it's easy to see how quickly they can be translated into improved productivity for you.

What you get. The FileCommand software package includes:

- Program Diskette
- Users' Reference Manual

System requirements: A minimum of 64KB of user memory and one diskette drive, an 80-column display, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 is required for operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Fixed Disk Organizer

A powerful software management system

PC XT

Fixed Disk Organizer at a glance...

Speed access to programs stored on a fixed disk. Compile program names onto menus for fast access to stored files.

Go from program to program without passing through DOS. Save time by issuing DOS commands without leaving the application.

Keep hundreds of programs just keystrokes away. Access programs stored on your fixed disk with just a few quick keystrokes.

Create your own batch files. Execute complex strings of DOS commands with one or two keystrokes.

Tailor the program to your needs. Add new menu options, revise or delete existing ones, and change titles.

Help yourself to achieve greater control. Produce your own on-line Help text for each menu option.

Assign passwords to protect your work. Prevent unauthorized access by using your own passwords.

Use either a color or a monochrome display. Fixed Disk Organizer supports both types of displays.

Organize your IBM fixed disk drives. If your IBM PC system has one or more fixed disk drives, you can benefit from Fixed Disk Organizer. This unique software package helps you organize all the information on your fixed disk drive for faster access and greater control.

Use Fixed Disk Organizer to create simple menu screens to help access hundreds of programs.

You'll find that Fixed Disk Organizer speeds you through operations by simplifying the way you've been issuing detailed DOS commands. You can even use Fixed Disk Organizer to create your own Help texts, passwords, batch files, and more.

With Fixed Disk Organizer, you have a versatile organizational tool... one that can increase the productivity of your fixed disk drive operations.

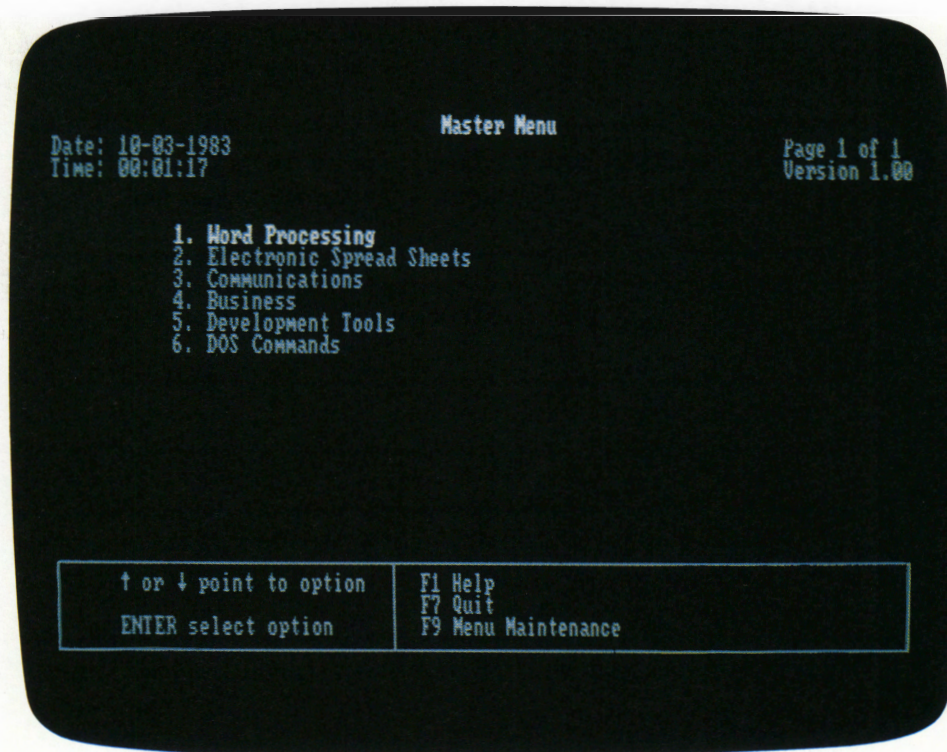
How it works

Fixed Disk Organizer contains a master menu to help you get started. This menu divides the most common types of applications into categories:

- *Word processing*—programs such as PeachText*, Personal Editor, Word Proof, and others
- *Electronic spreadsheets*—Multiplan*, VisiCalc*, and more

*PeachText is a trademark of Peachtree Software Incorporated, an MSA company. Multiplan is a U.S. trademark of Microsoft Corporation. VisiCalc is a trademark of VisiCorp.

Fixed Disk Organizer



- *Communications*—Asynchronous Communications Support 2.00, IBM 3101 Emulation, and others
- *Business*—the Peachtree Accounting System and others
- *Development tools*—programs such as BASIC Compiler and COBOL Compiler

Organizing your files into categories makes it easy to switch from one program to another related program. If you're using the word-processing menu, for example, you can switch easily from your text editor to your spelling checker to your text formatter in seconds.

Of course, you're free to organize your menus any way that will help you work best. As your workload and files change, you'll probably make many changes in the Fixed

▲ *This Fixed Disk Organizer menu can help you organize your files. Simply divide your programs into the six categories shown above. Fixed Disk Organizer menus can be revised at any time.*

Disk Organizer menus—adding new menu options, revising or deleting existing ones, changing titles or menu color.

You may store up to nine program names per screen and up to five pages per menu.

Simplifies DOS commands. Fixed Disk Organizer contains a built-in menu with the most frequently used DOS commands. The menu allows you to access and implement these commands with just a few simple keystrokes—without dropping out of the program.

In addition, you may add your own DOS options to the menu to further customize Fixed Disk Organizer to your own needs and your own special uses of DOS.

Edit with ease. By following the simple IBM PC Keyboard layout in the Users' Reference Guide, you can perform such tasks as paging, repeating options, deleting command lines, and more—quickly and accurately.

Create your own Help texts. Another advantage of Fixed Disk Organizer: It lets you create your own Help text for virtually any menu. Using an ASCII text editor such as Personal Editor, you can create on-line text, link it to the proper program, and place it in the right directory. This allows you to quickly obtain any necessary prompting.

More capabilities mean even more benefits. With Fixed Disk Organizer, you can increase your productivity in several ways:

- *Define your own passwords* to protect your data from unauthorized access
- *Create batch files* to ease access to even the most complex strings of DOS commands
- *Use color or monochrome displays*—Fixed Disk Organizer supports both

Fixed Disk Organizer includes several features to simplify the learning process: A menu template on the display screen demonstrates how to set up your menus. The easy-to-follow reference manual takes you through the various operations in a clear, step-by-step fashion. Information messages on the display screen prompt you if you try to perform an operation that can't be done—such as adding more data to a full page or searching for data on an empty one. There's even an audible warning tone to gently remind you if you use a key incorrectly.

What you get. The Fixed Disk Organizer software package includes:

- Program Diskette
- Users' Reference Manual

System requirements: A minimum of 128KB of user memory and one diskette drive, one fixed disk drive, an 80-column display, and the IBM Disk Operating System (DOS) 2.00 or 2.10. This program and its data files can be stored on a fixed disk.

Diskette Librarian

*A cataloging system for
your diskette library*

PC XT PCjr

Diskette Librarian at a glance...

Find data fast. Diskette Librarian can help you find the diskette you're looking for quickly.

Spend time more productively. With Diskette Librarian, you no longer have to insert diskette after diskette in search of information you need.

Display a list of individual files... An alphabetical list of filenames indicates the file's diskette, date and size.

...or a list of diskettes. An alphabetical list of diskette names indicates each diskette's last update, number of files on each, and the space remaining on each.

Revise your catalog. After you create a catalog of your files and diskettes, you can easily update, add to, delete or save all or any portion.

Identify files that need attention—those without backup copies and those with newer versions in the catalog.

Create printouts for backup. Use your printer to print out a record of your diskette catalog.

Learn to use in a short time. The instruction booklet helps you get started right away.

Helps you find diskettes fast. Diskette Librarian was created to help you organize all your diskettes and find the ones you need quickly. It is a computerized catalog of file and diskette names. Each entry can include information that documents the date and size of each file and the filenames stored on each diskette.

Diskette Librarian can be extremely useful to users who maintain a sizable diskette library. If you fall into this category, you know that a label often is not enough. It's easy to forget the contents of each diskette and what information you've stored under each filename.

Diskette Librarian saves you the time and trouble of putting each diskette in your personal computer from IBM to locate the information you need. In addition to your primary program and storage diskettes, Diskette Librarian can also help you keep track of backup files and diskettes and the memory space available.

How it works

The Diskette Librarian instruction booklet explains how to catalog your diskette library through a system of simple commands.

Your diskette catalog is just a keystroke away. With Diskette Librarian, your catalog of diskettes can be readily available on your display screen; it can also be printed. Lists of filenames, arranged alphabetically, can be displayed with information indicating which diskette each file is on, the date that file was

Diskette Librarian

```

Files:
 1 2
AUTOEXEC.BAT
 * LIBRARIAN          9/24/82      128
CATALOG.BAT -- Batch file which runs Librarian.
 * LIBRARIAN          9/24/82      128
CATALOG.CAT -- Stores this consolidated catalog.
 * LIBRARIAN          9/24/82     1,152
CATHLP3.TXT
 * LIBRARIAN          9/24/82     1,996
CATHLP4.TXT
 * LIBRARIAN          9/24/82      537
CATHLP5.TXT
 * LIBRARIAN          9/24/82     2,456
CATMAIN.BAS -- Main Diskette Librarian program.
 * LIBRARIAN          9/24/82    26,880

Command:
 4 5
 1 MENU 2 UPDATE 3 LIST 4 PRINT 5 LOAD
 6

```

created, and the size of the file. Diskettes can also be arranged alphabetically by name, showing the number of files on each, the date that diskette was last updated, and the space remaining.

Regardless of the number of diskettes you have, you can use Diskette Librarian to help find a letter, report or any document—even if you filed it weeks or months ago.

Set up a program to meet your requirements. Diskette Librarian enables you to create and update your files; add, delete or save files; and add comments to describe the contents on the diskettes. Using SETUP commands, you will learn to control how Librarian saves, lists and prints your catalog.

The program also helps you select the display that meets your particular needs. For example, you can display only the diskette or the file portion of the catalog, look for one specific file or diskette, enter a diskette name to see a list of the files on that diskette, or

◀ If your diskette library is large, Diskette Librarian can be extremely useful. You can use it to electronically "catalog" your diskette files for quick location of specific data.

Diskette Librarian enables you to list your files alphabetically, find their locations, and include brief descriptions, dates and file size:

- 1 Alphabetical listing of filenames
- 2 Diskette name
- 3 Brief description of contents
- 4 Last time the file was updated
- 5 File size
- 6 Command listing

generate a selective printout. And the CHECK command helps you identify files without backup copies or identify files containing a newer version in your catalog.

What you get. The Diskette Librarian software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, a display, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 and PCjr BASIC are required for operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Time Manager 1.05

*An efficient, automated way to plan,
organize and keep track of your activities*

PC PCjr

Time Manager at a glance...

Manage your time more efficiently. Time Manager's electronic calendar can help you gain greater control over your professional and personal time.

Create a dynamic "to do" list. Specially designated priority activities that are not completed one day will automatically appear on your screen the next day.

Never overlook an important activity. List and assign priorities to your professional and personal activities—meetings, deadlines, lunch dates, and so on.

Specify "permanent" events. Mark annual events—such as holidays, birthdays and anniversaries—to be included on the next year's calendar.

Compile lists of important information. Assemble and store phone numbers, addresses, meeting notes and other information, then display them in seconds.

Maintain files on companies, clients, projects, events, and much more . . . and refer to them by pressing a few keys.

Create accounting reports. Classify daily entries into nine categories, then order up a complete report from any of them.

Manage your money as you manage your time. Use the program's cross-referencing capability to study hourly wages, expenses, sales call patterns, even phone bills.

Organize your time more effectively.

Time Manager* can help you plan and organize all your daily and monthly activities . . . and compile accurate records for analysis or accounting purposes.

Time Manager offers you a great way to keep on top of each day's activities. You can record the dates of meetings, deadlines, birthdays, even golf appointments—in order of priority—on the program's electronic calendar.

Ideal for anyone whose time means money. Time Manager is more than an automated personal calendar. It also provides you with useful data indexing capabilities.

Daily entry information can be automatically filed for cross-referencing later. It's an effective way to maintain complete and accurate files on companies, people, projects, accounts, expenses, and much more—all of which can be displayed with a few quick keystrokes.

How it works

Learn Time Manager in a short time.

The Time Manager program package includes instructional aids that help speed and simplify the learning process.

The Reference Manual carefully guides you through each step of operation. Data diskettes showing sample entries help you quickly understand all the program's features. The program's commands and operations match the readily identifiable symbols on your keyboard. And you won't have to memorize anything . . . it's all spelled out on the Quick Reference Card you can keep alongside your IBM PC.

*Time Manager is a trademark of The Image Producers, Inc.

Time Manager 1.05



Be on time... all the time. With Time Manager, you can pass easily from month to day and entry displays.

Select a day and create a dynamic "to do" list of all your appointments, meetings, deadlines—both professional and personal activities. You can arrange them from top to bottom according to your priorities. Special activities not completed on one day will automatically appear on the next day's agenda.

Entries you mark "permanent" (such as birthdays, anniversaries or other events that fall on the same date annually) can be recorded and saved on your next 12-month diskette.

Time Manager also serves as an electronic "note pad" for phone numbers, addresses, meeting notes and casual jottings you wish to save.

Time Manager can help you manage money, too. As you make an entry on your personal calendar, you can label it for cross-reference into one of 26 separate categories. The categorization makes it possible for you to create useful breakdowns, such as time and expenses related to particular subjects.

You can also enter the total number of hours logged on individual projects, for cataloging and studying business expenses or sales call patterns, or simply for verifying your telephone bills.

It's even an automated accounting tool. With Time Manager, you can create a variety of business and personal accounting reports. You also can maintain numerical data stored in your daily entries in nine categories, such as accounts payable and receivable, expenses and commissions.

◀ Time Manager's "day" displays a great deal more than your daily agenda:

- 1 The current month, day, year and time are displayed at the top of the screen.
- 2 A "Priority" column displays the class of priority you have assigned to each entry.
- 3 The letter "P" in the "Permanence" column is used to mark important events that fall on the same day every year, such as birthdays and anniversaries.
- 4 A "Category" column permits you to assign a code to each entry, such as "T" for tax-deductible expenses. You can command the system to search through months of entries to create reports listing entries with a specific code.
- 5 A menu appears at the bottom of the screen to remind you of the keys that enable you to move from day to day or month to month or to make an entry.

In addition, you can generate tax reports on all your deductible expenses throughout the year. (Add a printer to provide hard-copy verification of each expense.)

Use Time Manager to issue expense reports, project evaluations, internal accounting reports, billing records, and more. Each of these types of reports uses Time Manager's capability to scan and select numerical data to form totals over a finite number of days or months.

What you get. The Time Manager software package includes:

- Program Diskette
- Sample Data Diskettes (2)
- Users' Reference Manual
- Users' Quick Reference Card

System requirements: A minimum of 64KB of user memory and one diskette drive, a display, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. DOS 2.10 is required for operation on the IBM PCjr. Neither the program nor its data files can be stored on a fixed disk. To make more effective use of Time Manager, you may want to add an IBM Color Printer or IBM Graphics Printer with a printer interface, and a second diskette drive.

Home Budget* and Home Budget, jr

An accurate and easy way to manage your home finances

PC XT PCjr

Home Budget at a glance...

You don't have to be a CPA. Even without bookkeeping or accounting experience, you should be able to use Home Budget quickly and effectively.

Take advantage of many functions. Use keyboard functions to record refunds, payments, expenses, account transfers, and more.

Create your own accounts for income and expenses, then enter, view and change your accounts as needed.

Balance your budget. Determine exactly how much you've spent in each account and how much you have left; Home Budget does all the math for you.

Keep tabs on your spending. Rely on Home Budget to tell you on a monthly or yearly basis when you've gone over budget.

Maintain a complete expense history. Check budget status information and make month-to-date and year-to-date comparisons.

Revise the expense accounts you create. Adjust them monthly or yearly and print revised status reports.

Balance your budget with computer ease. Home Budget provides you with a simplified, systematic way to make budgeting decisions.

Even without any bookkeeping or accounting experience, you should be able to use Home Budget quickly and effectively.

Keep on top of your household expenses. Using Home Budget, you can organize your personal finances on a storage diskette and,

with a few quick keystrokes, you should know where you stand. Home Budget helps you decide how to use your money to meet your financial goals more effectively by providing you with a better way to keep track of them. It's more than just a record-keeping system. It's an easy way to form a money plan that can help you manage your expenses as they relate to your income.

Information that you enter into the system on a monthly basis can keep you informed of the status of as many as 48 accounts, including charge accounts and savings accounts, as

well as standard budget items such as food, auto expenses and utilities. This information can also be used to assist you in planning for once-a-year expenditures and even in coping with unexpected financial burdens.

How it works

Using the Home Budget reference manual, you can learn to create monthly records of income and expenses and then form your own money plan. The manual tells you what the program can do for you and carefully guides you through step-by-step instructions for its use.

Create your own accounts. First, you create an account for your income called the cash account. You then enter, change and view your account categories. Once these procedures are performed, you should be able to enjoy the full benefits that Home Budget offers: the ability to itemize, total and reconcile your budget.

Reconciling your budget simply means balancing it. You may use the program to find out exactly how much you've spent in each account and how much you have left. Of course, Home Budget does all the addition and subtraction and tells you if you've gone over or under budget, on a monthly and yearly basis.

Review your budget status at any time. All commands and operations correspond with symbols on your IBM PC or IBM PC XT Keyboard. For example, the function keys make it simple to record transactions, such as transferring funds into and out of expense accounts, recording refunds to expense or charge accounts, recording payments and expenses, and more. There's even a function key that presents a Help menu.

**This program cannot operate on the PCjr.*

Home Budget and Home Budget, jr

As daily expenses are entered into the system, a complete expense history is automatically recorded. Budget status information is available to you at any time, and month-to-date and year-to-date comparisons may be made.

Approximately 4,000 entries may be recorded on a single-sided 180KB capacity* diskette (8,000 on a double-sided 360KB capacity diskette), which could provide the average household with the capability to maintain one year's worth of budget records.

Control your expenses. If expenses come in at a higher or lower rate than expected, you can make budget changes as needed. In addition to budget status, details of individual or all accounts for one month or all months to date can be displayed and adjusted, and a status report can be printed.

You can make additional notes at expense entry time, and detailed information can be displayed or listed. This capability is especially useful for keeping track of such items as tax-deductible expenses.

A personal home manager. The Home Budget program can inform you of your charge account status as well as the status of your medical, clothing and other expenditures. If such expenses as baby-sitting, travel, entertainment, cleaning, housekeeping services or golf fees exceed what you might normally include in miscellaneous, you can enter them in separate accounts. By doing so, you may be able to gain greater control over such expenses in the future.

What you get. The Home Budget software package includes:

- Program Diskette
- Users' Reference Manual

*The IBM Disk Operating System (DOS) 2.10 increases the formatted diskette capacity to 180KB for single-sided and 360KB for double-sided diskettes.

-----BUDGET STATUS-----			
AS OF 10/18			
M O N T H T O D A T E			
ACCOUNT NAME	BUDGET AMOUNT	ACTUAL SPENT	ACCOUNT BALANCE
FOOD	300.00	92.95	207.05
AUTO	125.00	201.75	76.75-
MISC	300.00	107.13	192.87
MORTGAGE	300.00	300.00	0.00
UTILITY	200.00	98.46	101.54
INSURE	75.00	0.00	75.00
MEDICAL	50.00	0.00	50.00
SAVINGS	100.00	0.00	100.00
CLOTHES	50.00	0.00	50.00
TOTALS ...Press any key (Esc to quit)			

System requirements: A minimum of 64KB of user memory and one diskette drive, an 80-column display, and the IBM Disk Operating System (DOS). Neither the program nor its data files can be stored on a fixed disk. To make the most effective use of Home Budget, you may want to add an IBM Graphics Printer with a printer interface, and a second diskette drive.

Home Budget, jr

This version of Home Budget was created for use on the IBM PCjr. All operations are custom-tailored to the IBM PCjr Keyboard. What's more, you can create up to 47 new accounts, enter data, and more while using only one diskette drive.

▲ With Home Budget, jr, you can create up to 47 separate accounts to track your monthly income and expenses.

What you get. The Home Budget, jr software package includes:

- Program Diskette
- Users' Reference Manual

System requirements: A minimum of 128KB of user memory and one diskette drive, a display or TV, and the IBM Disk Operating System (DOS) 2.10. IBM PCjr BASIC is required for operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, DOS 2.00 or 2.10 is required.

Communications



```
© Copyright IBM-Integration, Inc.  
1989.  
Program: BMC 3270 Configuration  
*****  
MAIN MENU  
*****  
1) Create Profile  
2) Change Profile  
3) Delete Profile  
4) Run Job  
5) Quit  
Enter selection: 4  
Enter J Accept selection and display J  
Exit screen.
```

A range of products to support various communications capabilities

Establish interactive, on-line communications with a wide variety of computers and information networks

Access to the resources of data networks . . . right from your desk. The performance and storage capabilities of a personal computer system from IBM make it a highly effective tool for managing information. When you add communications support, that same computer enables you to access and interact with a range of information networks, mainframe computers and other data network resources . . . as well as with other personal computers.

A personal computer from IBM can be equipped to emulate a variety of asynchronous, binary synchronous and SNA/SDLC terminals and to communicate over switched or leased lines.

A dual role . . . which could more than double your benefits. A personal computer from IBM has the capabilities to function both as an intelligent terminal and as an independent computer, a dual role that could increase productivity and enhance performance.

In medium and large corporations, for example, important information that is maintained in a corporate data center can be accessed by key managers throughout the organization with personal computers from IBM equipped for communications. The information can serve a range of specialized needs at the operational level. Finance people could use it to plan budgets. Marketing people could analyze data and prepare profitability studies. Sales managers could use it to track sales and manage districts.

At each operational level, applications software—which offers you capabilities such as electronic spreadsheet analysis, word processing and data base management—can be used to process and manipulate data to better serve

the specialized needs of each discipline. In this way, the communications value of a personal computer from IBM is multiplied. Furthermore, procedures may be set up so that all this can be done while preserving the all-important factors of central data base security and integrity.

Improving productivity. Personal computers from IBM equipped for communications can help speed the flow of information throughout an organization. Important, up-to-the-minute data from a central computer can be copied and stored locally, analyzed and processed to serve a variety of operational needs, compiled into management plans and reports, and sent back to the central computer to serve as a resource for the entire organization. It can also be distributed to other departments and network resources.

The communications applications that a personal computer from IBM may be used for include:

- Message transmission
- Electronic mail
- Data collection, formatting, checking and editing
- Interactive data entry
- Searching and updating files
- Batch data transmission
- Transaction processing
- Inquiry and update
- Creation of source files
- Interactive program development

In short, personal computers from IBM are among those helping to change the way medium and large businesses store, process and distribute their data.

Information services serve professional and personal needs. A personal computer from IBM with asynchronous communications support enables you to take advantage of the many information retrieval services

and commercial information networks now being offered to personal computer users on a subscription basis.

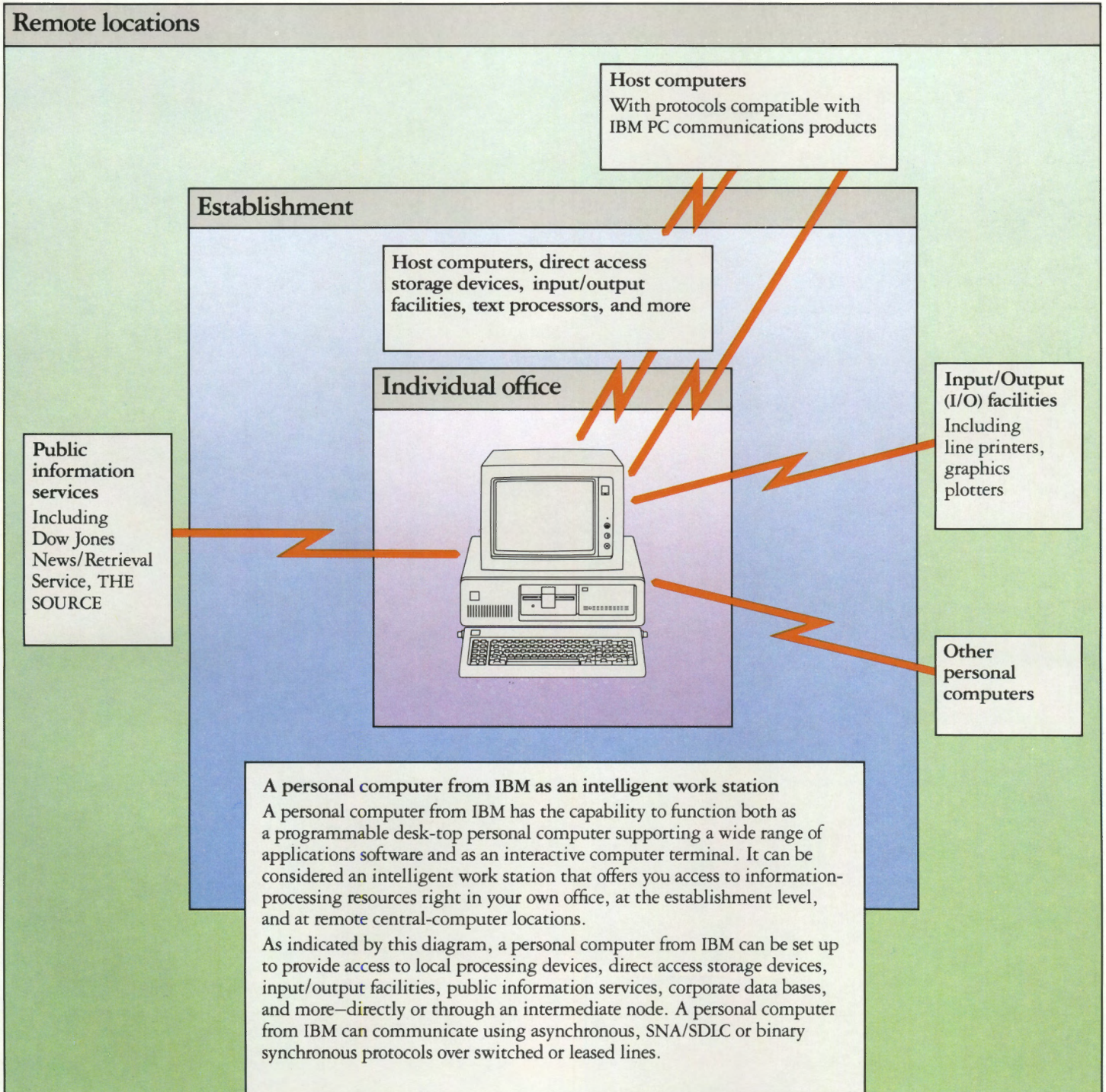
The Dow Jones News/Retrieval* Service. One such network is the Dow Jones News/Retrieval Service. It offers you current information on stocks, bonds, commodities and options. You may also obtain news articles from *Barron's*, *The Wall Street Journal* and the Dow Jones News Service* as well as corporate profiles and 10-K extracts.

THE SOURCE*: There is also THE SOURCE, America's Information Utility, which communicates such diverse information as news, airline schedules, restaurant guides, stock prices and classified ads.

THE SOURCE can be accessed through a local telephone call in over 400 cities around the world. One of its most popular services is an automatic search of UPI news stories, which enables you to select topics related to the keywords you specify. THE SOURCE also offers a special data base about personal computers from IBM.

Information services are growing in scope and number as more people become involved with personal computing. Some serve highly specialized users, and many also offer an electronic mail service that allows you to communicate with other points along the network.

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Asynchronous Communications Support 2.00

At home or at work, you can have ready access to needed information

PC XT

A personal communications network. The IBM Asynchronous Communications Support program allows you to link your personal computer from IBM to networks and input/output devices. It offers you personal access to an expanding universe of information . . . quickly and easily.

The Asynchronous Communications Support program provides your personal computer from IBM with the operating characteristics of an asynchronous (start/stop) Teletype* ASR 33/35, a teletypewriter with automatic send/receive features.

The program enables you to communicate with a wide variety of computers that utilize ASCII (American Standard Code for Information Interchange), which is used by most host processors and terminals. The dimensions of use multiply, since the program not only supports the system as an interactive terminal but also allows personal computers to communicate with one another and to exchange data and program files with larger host computers equipped with the appropriate interface hardware.

The program also provides software support to enable you to take advantage of many information retrieval services and public information networks.

Transferring files upstream and downstream. The ability of a personal computer from IBM to exchange data and program files with most IBM mainframe systems is a key element in a large company communications environment. In effect, with the Asynchronous Communications Support program, your personal computer from IBM can provide access to the more powerful processing capabilities and the extensive storage capacities of larger time-sharing systems.

Major program features:

- Conversing interactively with another computer on the network, a user may specify:
 - Transmission bit rate, from 75 to 9,600 bps
 - Parity, to analyze any error or loss of bits during transmission



- Number of stop bits
- Line turnaround characters
- ECHO or no-ECHO for the local or host computer
- Once the specifications for a particular host have been established, they can be stored and automatically retrieved for later use
- Binary files can be converted to ASCII format, and the reverse
- If two IBM Asynchronous Communications Adapters are installed in your computer, you may use either of the two ports
- Menu-selectable options for:
 - Dow Jones News Service**
 - THE SOURCE**
 - VM/370
 - TSO

What you get. The Asynchronous Communications Support 2.00 software package includes:

- Program Diskette
- Users' Reference Manual

System requirements: A minimum of 64KB of user memory and one diskette drive, the IBM Asynchronous Communications Adapter, a display, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required. The user is responsible for providing the necessary cabling and a full duplex modem† for connection to a host computer. The user must also obtain subscriptions and passwords required for host access.

*Teletype is a trademark of Teletype Corporation.

**Dow Jones is a trademark and Dow Jones News Service is a registered trademark of Dow Jones & Company, Incorporated. THE SOURCE is a service mark of Source Telecomputing Corporation, a subsidiary of The Reader's Digest Association, Incorporated.

†External modems are not part of the IBM Personal Computer offering and must be purchased separately.

3101 Emulation

Provides function similar to an IBM 3101 Display Terminal

PC XT

Provides specification files for popular 3101 configurations. The 3101 program offering includes several specification files that support popular uses of a 3101 terminal, saving you the trouble of creating your own specification files. Simply select the specification options you want—such as line characteristics and keyboard mapping—and the program is ready to use. If you have unique requirements, you may create your own specification files.

The specification files allow you to operate with the following popular systems and services:

- VM/370, MVS/TSO
- IBM 7426 Terminal Interface Unit (TIU) for the IBM 8100 series mainframes
- Yale IUP for Series/1
- ASCII Pass-through (PVM)
- Extended information services such as:
 - Dow Jones News Service*
 - THE SOURCE*
- Communications with another personal computer
- IBM Information Network

Transfer ASCII files to and from host computers. The IBM 3101 Emulation program provides your personal computer from IBM with characteristics similar to those of an IBM 3101 Display Terminal, Model 20, with some differences.

Thus, it enables you to access and transmit ASCII format files from host computers to local storage on your personal computer, and vice versa. In addition, ASCII files may be converted to and from binary format.

This program also supports access to external information networks and enables you to communicate and exchange files with another personal computer.

Your system can emulate a 3270 terminal. The 3101 Emulation program, used along with compatible host support, can also make your personal computer seem to be a 3270 terminal. The IBM 3270 Infor-

mation Display System is a very popular series of products that offers a great variety of features and performance capabilities.

What you get. The IBM 3101 Emulation software package includes:

- Program Diskette
- Users' Reference Manual

System requirements: A minimum of 64KB of user memory and one diskette drive, the IBM Asynchronous Communications Adapter, an 80-column display, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required. The user is responsible for providing the necessary cabling and a full duplex modem** for connection to a host computer.

Besides providing the hardware requisites, the user must also obtain the subscription(s), password(s) and communications protocol information for host access and must perform the setup procedure. New specification files may be created as host communications requirements change or are added.

Asynchronous Communications Adapter

With the IBM Asynchronous Communications Adapter and a communications support program, you can link your personal computer from IBM to a wide range of outside devices or networks. These can be connected by telephone using a modem or directly by cable when the device is nearby.

Features of the adapter:

- Speeds of from 50 to 9,600 bps
- Character lengths of 5, 6, 7 or 8 bits
- Error detection by parity generation of additional odd or even bit, mark or space; alternatively, no parity generation or error check
- Modem and data transfer control
- Complete status reporting

Support for special peripheral devices. With the Asynchronous Communications Adapter, you can also attach various peripheral devices to your IBM Personal Computer. Among them are plotters, voice recognition devices, electronic keyboards and printers.

Some applications software packages provide the option of sending program output via the Asynchronous Communications Adapter to "letter quality" printers. This permits the use of a personal computer from IBM for correspondence without program modification.

Up to two Asynchronous Communications Adapters may be installed in a single IBM Personal Computer. The IBM Personal Computer XT includes one Asynchronous Communications Adapter as an added feature.

What you get. The Asynchronous Communications Adapter package includes:

- EIA RS-232-C interface (25-pin male "D" shell connector), the standard for inter-connection between data terminals and data processors
- Instructions for the installation of options

System requirements: A minimum of 32KB of user memory and one diskette drive. The user is responsible for providing the necessary modems, cables and communications options for connection to peripheral devices or compatible personal computers.

You may select from a variety of software options to support asynchronous communications. Among the software you may use are the IBM Asynchronous Communications Support program, the IBM 3101 Emulation program, and a sample support program named COMM that comes with your IBM Disk Operating System.

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**External modems are not part of the IBM Personal Computer offering and must be purchased separately.

Binary Synchronous 3270 Emulation

Supports communications with a host system as a BSC 3270 terminal

PC XT

Provides you with access to a BSC network. Your personal computer from IBM may be used for interactive communications with a Binary Synchronous (BSC) host system. The IBM Binary Synchronous 3270 Emulation program allows you to interact with a host system as one of the following IBM 3270 type terminals:

- 3271-2/3277-2 (over leased lines)
- 3274-51C/3278-2 (over leased lines)
- 3275-2 (over switched and leased lines)
- 3276-2 (over leased lines)

Support for a BSC interface. Some basic requirements for this program are a hardware option called the IBM Binary Synchronous Communications Adapter and a modem*. The BSC program supports the use of both for transmission at speeds of up to 9,600 bps over switched or leased lines. The program also offers constant line trace, error logging and communications statistics accumulation.

BSC 3270 Emulation features:

- 12 program function keys
- Local print key
- Audible alarm
- EBCDIC (Extended Binary Coded Decimal Interchange Code) line transmission support
- Keyboard numeric lock
- Status line messages
- IBM 3279 Base Color Mode support
- Nonbuffered or separately addressable buffered printer support

Tailor the communications environment. A Configuration Utility is provided to help you tailor the program to your needs. It provides menus to prompt you for the various options available, using default values for the most common configurations.

What you get. The BSC 3270 Emulation software package includes:

- Program Diskette
- Users' Reference Manual
- Keyboard Template



System requirements: A minimum of 128KB of user memory and one diskette drive, an IBM BSC Communications Adapter, an IBM Communications Adapter Cable or equivalent, an 80-column display, and the IBM Disk Operating System (DOS). When this program and its data files are stored on a fixed disk, DOS 2.00 or 2.10 is required. The user is responsible for providing a synchronous modem with modem clocking, the necessary cables and the required support from a host system with compatible IBM 3270 Display System support.

BSC Adapter

Program-controlled data transfer. The IBM Binary Synchronous Communications Adapter, when used in conjunction with the BSC 3270 Emulation program, offers you the ability to access a network using BSC protocols. The network may be either switched or leased line.

The BSC Adapter plugs into one of the system expansion slots in your personal computer. An IBM Communications Adapter Cable or equivalent is required to connect the Adapter to a modem. This double-shielded, ten-foot-long grounded cable ensures high integrity of data.

What you get. The BSC Adapter package includes:

- EIA RS-232-C interface
- Installation instructions

System requirements: A minimum of 128KB of user memory and one diskette drive, an IBM Communications Adapter Cable, and the IBM BSC 3270 Emulation program. The user is responsible for providing the necessary modems, cables and communications options for connection to compatible host computers.

**External modems are not part of the IBM Personal Computer offering and must be purchased separately.*

Systems Network Architecture

3270 Emulation and RJE Support

High-speed, high-performance communications in one of two SNA modes

PC XT

A dual-mode program. The IBM Systems Network Architecture (SNA) 3270 Emulation and Remote Job Entry (RJE) Support program was designed for high-speed synchronous data communications. It permits you to use a personal computer from IBM as an intelligent terminal to communicate with a host computer in one of two modes: SNA 3270 or SNA 3770 RJE.

As a result of the widespread popularity and flexibility of SNA networks, this program offers you many significant communications advantages. It enables you to use your personal computer from IBM for applications ranging from data entry to inquiry and update to transaction processing.

Support for the IBM SDLC Adapter. A basic requirement for this program is a hardware option called the IBM Synchronous Data Link Control (SDLC) Communications Adapter. The SNA 3270 Emulation and RJE Support program contains, first of all, the access method software to support the SDLC Adapter when used for either SNA mode. The program supports both switched and leased lines, a modem* and on-line diagnostics.

SNA 3270 Emulation. This program was designed to make your personal computer from IBM appear to a host computer as an IBM 3274 Model 51C Control Unit. The 3274 is widely used to direct the operations of a 3278 display station and printers.

A personal computer from IBM, therefore, will emulate many 3278 display station features:

- Same screen formats, substituting status line messages for status line
- 24 program function keys, local print key
- Audible alarm
- Line transmission support for EBCDIC used in mainframes
- IBM 3279 base color (4-color) mode support
- User-definable 3270 keys

- IBM 3287-1 and -2 Printer support
 - for local copy
 - for host-initiated screen print

SNA 3770 Remote Job Entry Support. This program offers users of personal computers from IBM the ability to enter batch processing jobs into the host system. Instead of collecting jobs and taking them to a host processor location for entry by a network operator, you can submit the same data, or job batches, through your personal computer.

RJE Support allows your personal computer to interact with the host computer as an IBM 3770 communications terminal with the following features:

- Functional Management (FM) Header Type 1
- Transmission Subsystem (TS) Profile 3 and FM Profile 3
- Decompression of data outbound from host; blank truncation of data sent to host
- Transmission support for ASCII or EBCDIC
- Support of console, card/punch and printer

In addition, you can transmit and receive source and object data in a format compatible with your IBM Disk Operating System (DOS). You can also control printing format by channel control, page size, tab setting and line density.

What you get. The SNA 3270 Emulation and RJE Support software package includes:

- Program Diskette (contains both modes)
- Users' Reference Manual
- Keyboard Template

System requirements: A minimum of 128KB of user memory and one diskette drive, an SDLC Communications Adapter, the IBM Communications Adapter Cable, a synchronous modem with modem clocking, an 80-column display, and the IBM Disk Operating System (DOS). When this program and its data files are stored on a fixed disk, DOS 2.00 or 2.10 is required. The user is responsible for providing the necessary modem, cables and support from a host system with compatible 3270 Display or 3770 RJE System Support.

SDLC Adapter

Support for synchronous data communications. Working with extensive information files maintained in powerful central processors may be done more efficiently by communicating in a synchronous, rather than asynchronous, mode, through either switched or leased lines. This can be accomplished with a personal computer from IBM equipped with an IBM SDLC Communications Adapter and the appropriate hardware and software support.

The SDLC Adapter plugs into one of the system expansion slots in your personal computer; only one may be installed. An IBM Communications Adapter Cable or equivalent is also required to connect the adapter to a modem. This double-shielded, ten-foot-long grounded cable ensures high integrity of data.

Features of the SDLC Adapter:

- EIA RS-232-C interface
- Speeds of up to 9,600 bps
- Modem control functions
- Program-controlled data transfer
- Electrical wrap and error status reporting
- Field-installable and replaceable
- Interrupt system controls
- Complete status reporting

What you get. The SDLC Communications Adapter package includes:

- EIA RS-232-C interface
- Instructions for the installation of options

System requirements: A minimum of 128KB of user memory and one diskette drive, the IBM Communications Adapter Cable, and the IBM SNA 3270 Emulation and RJE Support program.

*External modems are not part of the IBM Personal Computer offering and must be purchased separately.

Dow Jones Reporter

A fast, on-line source for business and investment information

PC XT PCjr

A world of financial information only a phone call away. Dow Jones* Reporter can help you make fast, accurate financial decisions based on information that is updated every few minutes.

This helpful program provides you with quick access to the massive information resources of Dow Jones, publisher of *The Wall Street Journal*. Investors can request current-day quotations on stocks, corporate bonds, Treasury issues, mutual funds and much more. (Federal Trade Commission regulations require current stock quotations to be delayed by at least 15 minutes.)

In addition to the day's stock quotations, you can get daily quotations from the past 24 days, plus monthly and quarterly summaries spanning several years. Furthermore, to help you make accurate business and investment decisions, you can review or receive profiles and 10-K extracts that describe all companies listed on either the New York or American stock exchanges. You can also request additional statistics on up to 3,200 leading companies and 180 industries.

How it works

Your Dow Jones Reporter reference manual provides easy-to-follow, step-by-step instructions. So does the Operating Guide and Directory of Symbols from Dow Jones, which is included with the manual.

You'll quickly learn how to select the information you require from multiple-choice menus displayed on your computer screen. You'll learn how to issue commands by using keyboard symbols at your fingertips. You'll also receive your own personal password from Dow Jones. This will enable

you to access the information you need while assuring that only you and those you designate can utilize the service with your password.

Turn your personal computer from IBM into an electronic newspaper. To help you make the right decisions—right away—Dow Jones Reporter enables you to uncover happenings within 90 seconds of the time they're reported by the Dow Jones News/Retrieval* Service. You can gain access to late-breaking news, or news from weeks before, from *The Wall Street Journal*, *Barron's* and the Dow Jones News Service* (the "Broadtape," America's business newswire). If a news item breaks after the publications' deadlines, you may learn about it before the next editions.

You can review headlines about specific companies, industries or anything indexed during the past 90 days. If you want to read the full story behind any headline, just issue the appropriate commands, and the complete text of the article will appear within seconds. (Some stories are abbreviated.) You also have the option of simply requesting the most current story on a given subject.

Study long-term stock performances. Dow Jones Reporter also provides you with historical stock quotations to help you make informed investment decisions based on performance patterns.

Simply select the stocks, the exchanges and the time period. You can research the last few weeks—from the most recent 12 days to the previous 13-24 days. Plus, you can request monthly or quarterly summaries from several prior years.

Receive in-depth profiles on thousands of companies. Dow Jones Reporter's DISCLOSURE ONLINE offers you profiles and 10-K extracts on all publicly owned companies listed on the New York and American exchanges, plus over 6,000 major OTC-traded companies.

In addition to profiles and extracts, Dow Jones Reporter also provides access to extensive corporate data—including fundamental and technical statistics on 3,200 important companies and 180 industries.

On-target investment decisions. Combined with your judgment, experience and intuition, Dow Jones Reporter can provide you with information you can use to make on-time, on-target business and investment decisions.

What you get. When you buy Dow Jones Reporter, you will receive:

- Users' Reference Guide, published by IBM
- Dow Jones News/Retrieval Service Operating Guide and Directory of Symbols, published by Dow Jones & Company, Incorporated
- Dow Jones News/Retrieval Information Services Agreement (tells how to receive your password)
- Program Diskette
- One free hour of connect time during non-prime hours

System requirements: A minimum of 64KB of user memory and one diskette drive, a display, an IBM Asynchronous Communications Adapter, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. IBM PCjr BASIC and DOS 2.10 are required for operation on the IBM PCjr. Neither the program nor its data files can be stored on a fixed disk. The user is responsible for providing either an IBM PCjr Internal Modem or an appropriate external modem,** cable and IBM Asynchronous Communications Adapter. If the IBM PCjr Internal Modem or another auto-dial modem is used, the user must log on in manual entry mode.

*Dow Jones is a trademark and Dow Jones News Service and Dow Jones News/Retrieval are registered trademarks of Dow Jones & Company, Incorporated.

**External modems are not part of the IBM Personal Computer offering and must be purchased separately.

Personal Communications Manager

*An interactive communications program
for electronic mail...and more*

PC XT PCjr



Your personal communications link.

Personal Communications Manager is a versatile communications program that enables any IBM PC to exchange information with other compatible computers over standard telephone lines.

Personal Communications Manager permits you to send electronic mail and messages to a number of locations—at any time of day or night. It even makes it possible to transmit electronic worksheets, files and graphic images—virtually anything you can store on your IBM PC—to other computers.

Personal Communications Manager is an important and versatile communications tool that can increase the productivity of anyone who has been communicating primarily by regular mail.

How it works

The main menu opens the door to improved productivity. Personal Communications Manager's main menu can help you get started quickly. It presents you with a list of program functions that you can use to access large mainframe computers of public information services, exchange electronic mail with compatible computers, and create message text with your IBM PC word-processing program.

Day or night, the mail goes through—electronically. Personal Communications Manager's electronic mail capability provides you with quick and easy access to customers, branches and other departments. By using electronic mail for memos, news flashes and sales updates, you can be sure everyone whose system includes this program and a supported auto-dial modem receives vital information quickly.

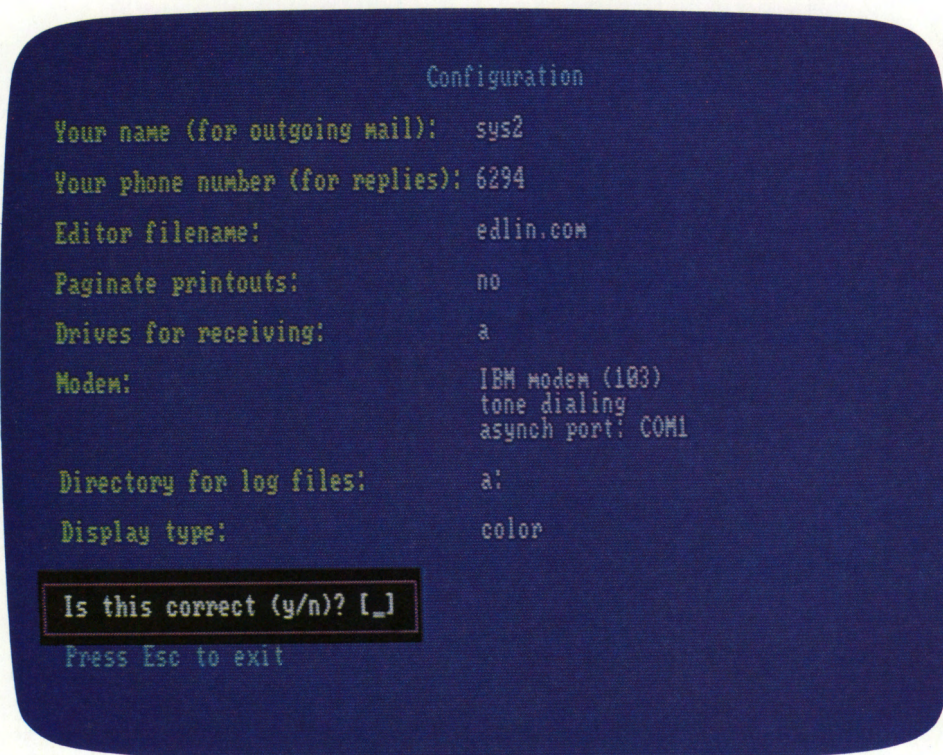
Personal Communications Manager's electronic mail function can help improve your productivity in a number of ways. For example, it lets you exchange mail over phone lines—automatically, and at any time of day or night—provided that all systems involved are in the electronic mail mode. With this capability, you can distribute important information quickly yet during “off hours” when telephone rates are the lowest. You can also free up your computer to perform more critical tasks during regular working hours.

With Personal Communications Manager, you can create an address book listing everyone you wish to communicate with via electronic mail. This file can contain up to 10 different mailing lists, each of which has room for as many as 40 different individual addresses or mailboxes. A mailbox spells out its address with name, description, phone number and modem speed (how fast the other party's phone interface works).

In addition, Personal Communications Manager's electronic mail feature offers you:

- *Mail logging*—tags all outgoing mail with sender's name and time of transmission
- *Mail review*—allows you to have messages either printed or displayed

Personal Communications Manager



▲ *Personal Communication Manager's Configuration screen makes it simple for you to enter the information required to send or receive electronic mail.*

Easy access to outside sources. Personal Communications Manager's "Terminal Emulation"* capability facilitates direct communications between your IBM PC and other computers. It allows you to access outside information services, such as Dow Jones News/Retrieval** Service, THE SOURCE** and CompuServe,** and to exchange information and data with other computers.

With Personal Communications Manager, you can personalize the function keys of your IBM PC and IBM XT Keyboard or any IBM PCjr Keyboard keys. With your own coded keys, you can reduce a complex command to a single keystroke. For example, you can chain together a series of instructions that enable you to dial Dow Jones automatically, sign on, access the needed information, store it on diskette or print it, sign off, and hang up—all with one keystroke.

Send files, graphs, more. Personal Communications Manager's communications channels can help improve your productivity in at least two other ways. You can exchange

important data, such as Multiplan** worksheets, between two computers in two different locations. And you can transmit graphic images, mailing lists, reports, and more to any other compatible computer.

Learning aids help speed use. Personal Communications Manager's easy-to-read reference manual contains step-by-step instructions plus simple-to-understand tutorials on every operation. In addition, on-screen instructions direct you to the next step of a particular operation.

What you get. The Personal Communications Manager software package includes:

- Program Diskette
- Users' Reference Manual

System requirements: A minimum of 128KB of user memory and one double-sided diskette drive, a display, and either the IBM PCjr Internal Modem or an Asynchronous Communications Adapter and supported auto-dial modem†. An 80-column printer is recommended. When this program and its data files are stored on a fixed disk, the IBM Disk Operating System (DOS) 2.10 is required.

*With the operating characteristics of an asynchronous (start/stop) Teletype ASR 33/35. Teletype is a trademark of Teletype Corporation.

**Dow Jones is a trademark and Dow Jones News/Retrieval is a registered trademark of Dow Jones & Company, Incorporated. THE SOURCE is a service mark of Source Telecomputing Corporation, a subsidiary of The Reader's Digest Association, Incorporated. CompuServe is a trademark of CompuServe, Inc. Multiplan is a U.S. trademark of Microsoft Corporation.

†External modems are not part of the IBM Personal Computer offering and must be purchased separately.

Operating Systems and Languages



Disk Operating System (DOS) 2.10

System control made simple

PC XT PCjr

A range of program support capabilities. The IBM Disk Operating System (DOS) 2.10 is a master program that provides the required support between hardware for personal computers from IBM and a wide range of applications programs. This updated version of DOS 2.00 was developed to provide support for the IBM PCjr as well as the IBM PC and IBM PC XT.

DOS 2.10 and 2.00 support one or more 5¼-inch, single- or double-sided 160KB or 320KB diskettes and increase their formatted capacity to 180KB and 360KB, respectively, thus allowing more information to be stored on each data diskette. What's more, DOS 2.10 and 2.00 also support one or two fixed disk drives on the IBM PC and IBM PC XT.

The DOS 2.10 diskette contains two programs, Disk BASIC and Advanced BASIC, that help you write your own programs on an IBM PC. (IBM PCjr BASIC—a separate, optional cartridge—provides this support for Junior.) In addition, the DOS diskette contains utilities and sample programs, including one that enables your personal computer to communicate with other computers.

Advanced program development made easy. If you're interested in developing and modifying programs to meet a variety of needs, DOS is for you.

DOS offers you fast input/output performance so that most diskette operations can be executed quickly. The DISKCOPY and DISKCOMP commands use all available memory, so diskettes can be copied and compared quickly and with minimal diskette handling. Also, the MODE command provides Asynchronous Communications setup and serial printer support, so you can redirect parallel printer output to a serial printer or a remote printer with the Asynchronous Communications Adapter. These and other important features provided with DOS 2.10 make the IBM Disk Operating System responsive to your needs.

DOS also provides an input/output interface for programs written for the BASIC Interpreter. In addition, DOS provides the support you need to develop and run programs using the IBM Personal Computer Macro Assembler, FORTRAN Compiler, COBOL Compiler, BASIC Compiler or Pascal Compiler.*

DOS also offers you a range of advanced capabilities that helps simplify program design. You can write on or read from the 5¼-inch diskettes.

A line editor enables you to create, display or change source (text) files. With the debug utility, you can display, change or trace a program in memory. A linker is included to allow you to combine the object output of the compilers and Macro Assembler into relocatable modules, which can then be loaded and run on your IBM PC. DOS also offers background printing, which enables you to print data files while you perform other functions.

In addition, DOS permits the "chaining" of a series of commands to produce a predetermined sequence of programs. You can also designate a single program or a series of programs to begin automatically whenever the system is turned on or restarted.

Among the enhancements that DOS provides for applications development is support for converting some of the output (EXE) files from the LINK program to command (COM) format to reduce the size of the files and speed loading. In addition, enhancements to Disk and Advanced BASIC include faster program loading.

Disk and Advanced BASIC. By providing a high-level interface for the IBM PC and IBM PC XT, DOS brings you numerous programming language capabilities.

Disk and Advanced BASIC are extensions of the BASIC language that comes with every personal computer from IBM. These extensions provide additional instructions, commands and functions.

Disk BASIC adds DOS file support, date, time of day and communications capabilities to the BASIC language. Advanced BASIC adds advanced key trapping, advanced graphics—including viewports, windows and paint tiling—plus music and other capabilities. Both extensions also offer tree-structured directories (that also support DOS tree-structured directories) and double-precision transcendental functions.

A higher memory requirement. DOS 2.10 and 2.00 offer functions not available in DOS versions 1.00 and 1.10 and therefore have a higher user memory requirement (DOS 2.10 and 2.00 are each approximately 12KB larger than DOS 1.10). However, most DOS 1.00 and 1.10 programs will run under DOS 2.10 or 2.00 without change.

Since DOS 2.10 and 2.00 use more memory, some programs may no longer be able to fit in the same size machines. The program still will require the same amount of user memory but, with DOS 2.10 and 2.00 taking more memory, the amount remaining for the program will be less. In these cases, a program may have to be divided into segments, or more memory may have to be added to the system.

What you get. The IBM Disk Operating System includes:

- DOS Diskettes (2)
- Users' Reference Manual
- Users' Guide

System requirements: A minimum of 64KB of user memory and one diskette drive, and a display. 128KB of user memory is required for operation on the IBM PCjr and for systems with a fixed disk drive.

*BASIC Compiler and Macro Assembler will run on the IBM PCjr. The IBM PCjr does not support FORTRAN, COBOL and Pascal Compilers. However, most of their output will run on Junior if there is sufficient storage.

A summary of IBM BASIC statements

BEEP—beep the internal speaker
CALL—call machine-language subroutine from BASIC
CHAIN—execute a new program, retaining values of program variables
CHDIR—change directory
CIRCLE—draw circle, ellipse, arc or wedge
CLOSE—set foreground and background colors
COM...ON/OFF/STOP—enable/disable activation of ON COM...GOSUB
COMMON—mechanism to pass variables to CHAINED program
DATA—standard DATA statement
DATES—set date
DEF FN...—user-defined function
DEF SEG—define current segment of memory
DEF USR—define starting address for USR call
DIM—dimension arrays
DRAW—draw a graphics command string
END—end program
ERASE—reclaim memory from arrays no longer being used
ERROR—simulate a given error condition
FIELD—define fields within a file buffer
FOR...TO...STEP—standard FOR loop
GET (disk I/O)—get a record from a random-access file
GET (graphics)—put graphics information from screen to array
GOSUB—execute subroutine
GOTO—continue execution at specified line
IF...THEN...ELSE—standard IF statement
INPUT—read data from keyboard or data file
KEY—redefine one of ten function keys
KEY...ON/OFF—enable/disable activation ON KEY GOSUB
LET—standard assignment statement
LINE—draw line, box, solid box or graphics screen
LINE INPUT—read an entire line from keyboard or data file
LOCATE—position cursor
LPRINT—print to printer
LPRINT USING—print to printer according to given format
LSET—left-justify a string within a field
MIDS—substring substitution statement
MKDIR—make directory
NEXT—end FOR loop
ON COM/KEY/PEN/STRIG...GOSUB—interrupt by given event to BASIC subroutine
ON ERROR GOTO—enable error-trapping routine
ON...GOSUB—standard computer GOSUB statement
ON...GOTO—standard computer GOTO statement
OPEN—open a disk or communication file
OPTION BASE—allow array subscripts to start at 0 or 1
OUT—output a byte to a port
PAINT—fill an area of the graphics screen with color
PEN ON/OFF/STOP—enable/disable activation of ON PEN GOSUB
PMAP—map physical and world coordinates
POKE—put a specified value into a byte
PRINT—print to video display or file
PRESET—plot a graphics point in the background color
PSET—plot a graphics point in a given color
PUT (disk I/O)—write a record to a random-access file
PUT (graphics)—draw a stored image on the graphics screen
RANDOMIZE—start a new pseudo-random number sequence
READ—read information from DATA statements
REM—standard remark statement
RESTORE—reset pointer to DATA statements
RESUME—return from an error routine
RETURN—return from a subroutine
RMDIR—remove directory
RSET—right-justify a string within a field
SCREEN—choose text or graphics screen for video display
SOUND—generate sound from the speaker

STOP—stop program execution
STRIG ON/OFF—enable/disable joystick button
STRIG...ON/OFF—enable/disable activation of ON STRIG...GOSUB
SWAP—exchange the values of two variables
TIMES—set time
VIEW—define viewports
WAIT—standard Microsoft WAIT statement
WEND—end WHILE loop
WHILE—program loop that executes as long as given condition is true
WINDOW—redefine coordinates of screen
WRITE—output data to video screen or file

A summary of IBM BASIC commands

AUTO—generate line numbers automatically
BLOAD—load machine-language (binary) program
BSAVE—save machine-language program
CLEAR—clear program variables
CONT—continue interrupted program
DELETE—delete a range of BASIC lines
EDIT—edit a line of BASIC
FILES—list all or selected files on disk
KILL—delete a disk file
LIST—list BASIC lines
LLIST—list BASIC lines to printer
LOAD—load a BASIC program file
MERGE—merge a BASIC program file into an existing program
NAME—rename a disk file
NEW—erase current program
RENUM—renumber BASIC program
RESET—close all disk files
RUN—load and run program
SAVE—save current program
SYSTEM—exit BASIC and return to DOS
TRON, TROFF—turn tracing option on and off

▲
A summary of BASIC statements and commands. DOS includes Disk and Advanced BASIC, which feature many easy-to-use English-like commands and statements.

DOS-supported languages

A selection of programming tools

BASIC Programming Development System

PC XT PCjr

The BASIC Programming Development System package consists of two programs, with a total of four utilities, that can simplify the writing and editing of sophisticated BASIC programs. The first program includes a Text File Editor and a Structured BASIC Preprocessor; the second includes a BASIC Formatter and a BASIC Cross-Reference.

Text File Editor. The Text File Editor helps you create and edit BASIC programs by providing you with both line and full-screen editing capabilities. It offers a full range of line editing commands plus formatting commands for text processing. The Text File Editor also enables you to create DOS files in the popular ASCII format.

Structured BASIC Preprocessor. The Structured BASIC Preprocessor enables you to process structured BASIC source files. It expands structured macros into actual BASIC statements and converts labels into line numbers. It also combines lines automatically and removes remarks to save storage space.

BASIC Formatter and Cross-Reference. These two utilities work together on ASCII files to produce formatted and cross-referenced listings of unstructured BASIC source programs. Although they are options on the same menus, they can be used separately.

In short, this system can help enhance the development of complex programs written in BASIC.



What you get. The BASIC Programming Development System software package includes:

- Program Diskette
- Users' Reference Manual

System requirements: A minimum of 96KB of user memory and one diskette drive, a display, a printer, and the IBM Disk Operating System (DOS). 128KB and DOS 2.10 are required for operation on the IBM PCjr. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required. Access to data files must be within the current subdirectory.

APL Interpreter

PC XT

The APL Interpreter enables you to write and edit your own programs in APL—a highly-structured programming language—and apply them in commercial data processing, teaching, system design, scientific computing, and other fields. APL also can be used to help you exchange data files and work space between your IBM PC and many mainframe computers.

What you get. The APL Interpreter software package includes:

- Program Diskette
- Users' Reference Manual
- APL Keyboard Decals

System requirements: A minimum of 128KB of user memory and one diskette drive, the IBM 8087 Math Co-Processor, an 80-column display, and the IBM Disk Operating System (DOS). This program and its data files can be stored on a fixed disk.

8087 Math Co-Processor

PC XT

The IBM 8087 Math Co-Processor option for APL significantly speeds up floating-point arithmetic, logarithmic and trigonometric functions. It can multiply 32-bit and 64-bit decimal numbers up to 80 times faster than the 8088 Processor, for example. The 8087 Math Co-Processor also has 80-bit registers that offer five times the precision of the 8088's 16-bit registers.

What you get. The IBM 8087 Math Co-Processor option includes:

- 8087 and 8088 Processors
- Thermal Protector (for the 8087 Processor)
- Removal Tool (for the existing 8088 Processor)
- Installation Instructions
- Diagnostic Diskette
- Problem Determination Procedure Update Package

BASIC Compiler

PC XT PCjr

The BASIC Compiler permits you to run BASIC programs—written and tested with the BASIC Interpreter—on your personal

computer from IBM. The BASIC Compiler yields benefits in terms of faster run times and is highly compatible with the BASIC Interpreter. An added benefit is that programs can be distributed without source code, thus safeguarding the design.

What you get. The BASIC Compiler software package includes:

- BASIC Compiler Diskettes (2)
- BASIC Compiler Manual

System requirements: A minimum of 64KB of user memory and one diskette drive to produce the final load module. DOS is required to support program input/output. 128KB of user memory and DOS 2.10 are required for operation on the IBM PCjr. A minimum of 128KB of user memory and DOS 2.00 or 2.10 are required for fixed disk storage.

Macro Assembler

PC XT PCjr

The IBM Personal Computer Macro Assembler is an optional software product that offers you the capability to develop and assemble programs. Assembler-produced programs can be called from BASIC programs as well as from other high-level languages such as Pascal, COBOL and FORTRAN. You may create an assembler language program by using the text editing capabilities of DOS, then using the Macro Assembler to assemble the program.

As on larger computers, programs written in assembler language are assembled into machine code that can run several times faster than equivalent BASIC Interpreter routines. Additionally, the assembler permits you to utilize more than 75 internal functions provided by DOS that can help you do more complex programs.

What you get. The Macro Assembler software package includes:

- Macro Assembler Diskette
- Macro Assembler Manual

System requirements: A minimum of 96KB of user memory and one diskette drive, and DOS. 64KB of user memory is required for the subset assembler, which is provided with the Macro Assembler diskette. 128KB of user memory and DOS 2.10 are required for operation on the IBM PCjr. A minimum of 128KB of user memory and DOS 2.00 or 2.10 are required for fixed disk storage.

FORTRAN Compiler

PC XT

As a FORTRAN user, you can take advantage of the power of DOS to develop and run FORTRAN programs. The FORTRAN Compiler for personal computers from IBM is an optional software product that enables you to develop programs in a version of FORTRAN-77, a popular computer language for scientific and engineering applications. These programs can then be compiled down to native object code and run on your personal computer from IBM.

What you get. The FORTRAN Compiler software package includes:

- FORTRAN Compiler Diskettes (3)
- FORTRAN Compiler Manual

System requirements: A minimum of 128KB of user memory and two diskette drives, and DOS. A minimum of 192KB of user memory, one diskette drive, and DOS 2.00 or 2.10 are required for fixed disk storage.

DOS-supported languages

COBOL Compiler

PC XT

The COBOL Compiler permits you to develop your own programs in COBOL, a language designed specifically for business applications. This COBOL is a version of the popular ANSI 1974-level standard, with extensions that support color and screen formatting.

What you get. The COBOL Compiler software package includes:

- COBOL Compiler Diskettes (2)
- COBOL Compiler Manual

System requirements: A minimum of 64KB of user memory and two diskette drives, and DOS. A minimum of 128KB of user memory, one diskette drive, and DOS 2.00 or 2.10 are required for fixed disk storage.

Pascal Compiler

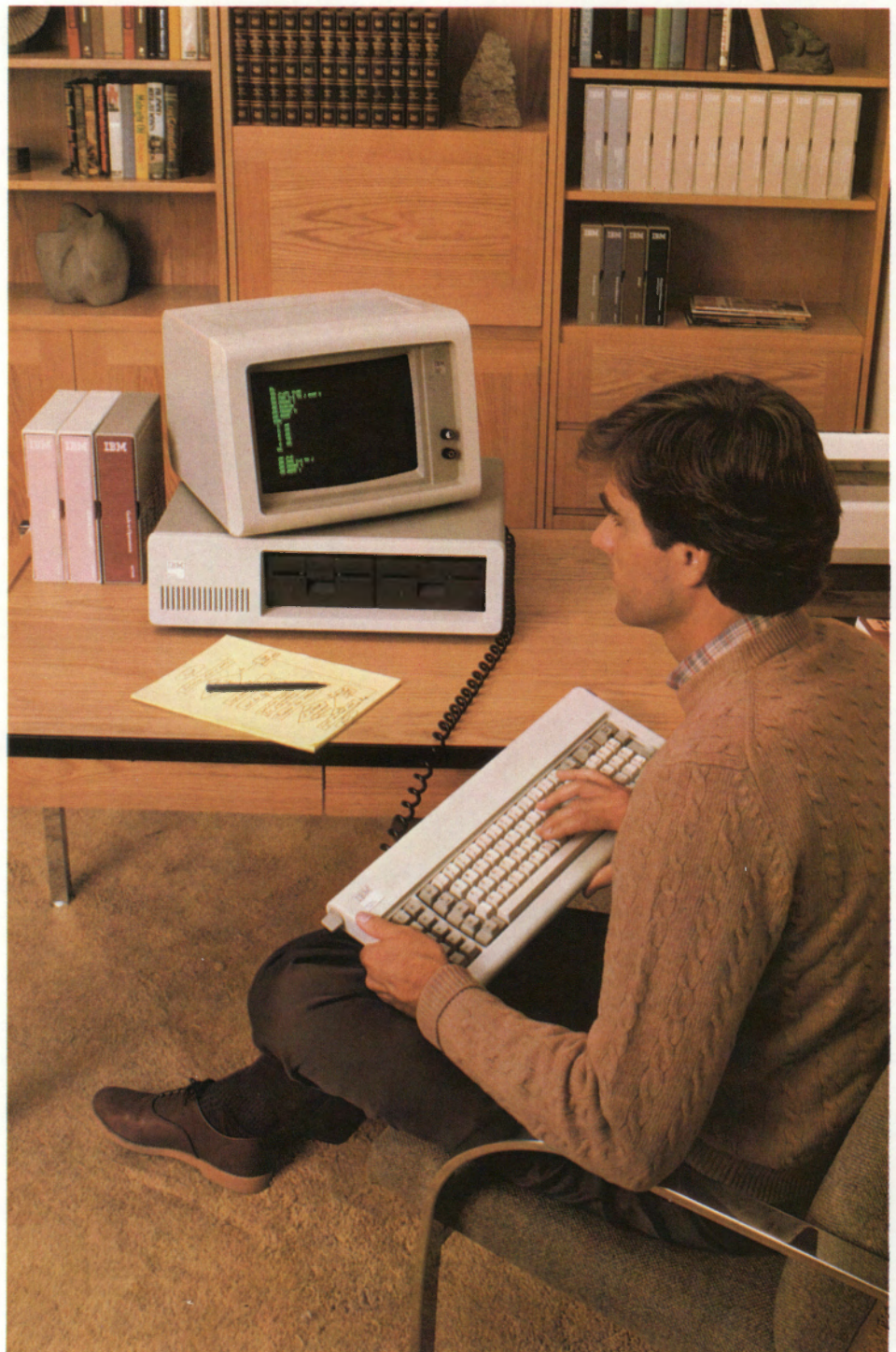
PC XT

This product provides you with a system development environment for the creation and execution of Pascal programs. The compiler produces object code. The structured programming facilities and extensive data structures make Pascal useful for large applications programs.

What you get. The Pascal Compiler software package includes:

- Pascal Compiler Diskettes (3)
- Pascal Compiler Manual

System requirements: A minimum of 128KB of user memory and two diskette drives, and DOS. A minimum of 192KB of user memory, one diskette drive, and DOS 2.00 or 2.10 are required for fixed disk storage.



UCSD p-System

A professional software development system

PC

The UCSD p-System* is a widely accepted software system that can help everyone—from the sophisticated programmer to the student—use a personal computer from IBM as a software development tool. Or it can be used by nonprogrammers with packaged programs designed to operate on the UCSD p-System.

A general-purpose software package. Though designed for program development, the UCSD p-System can also be used for many special-purpose applications. Examples include word processing, computer-assisted instruction, interactive business data processing, communications, process control and scientific analysis.

The UCSD p-System is composed of several distinct programs, often called “segments.” Each segment is written in UCSD Pascal.* The major segments are the filer, editor, compilers, assemblers, linker and debugger. These programs perform the various house-keeping tasks for program development and execution on a computer system.

Menu-driven command structure. Two significant advantages of the UCSD p-System are that it’s easy to learn and simple to use.

The UCSD p-System Operating System, filer and editor are all menu-driven. A promptline is continually displayed at the top of the screen, with nearly all of the current commands visible. These commands are invoked by a single keystroke, and the organization is hierarchical. That is, striking a key generally causes either an action to be performed or another promptline to be displayed that details new commands at a different and “lower” level.

The “command level,” the highest level of the operating system, is visible to you as a promptline that appears when the system is turned on or restarted. These commands are straightforward and self-explanatory.

A favorite application development vehicle. One reason the UCSD p-System is a favorite application development vehicle is that the compilers, assemblers, editor, linker and file handler may be integrated within a single, powerful system. In this way, you get a comprehensive set of software tools to help improve your programming productivity.

The complete UCSD p-System for your personal computer from IBM includes:

- An interactive microcomputer operating system with program chaining, standard input and output redirection (including command files), dynamic overlays, and dynamic memory allocation
- Diskette file-handling capabilities, single-keystroke commands, runtime support routines, block I/O service routines, and support for asynchronous processes
- Your choice of either a Pascal or a FORTRAN Compiler or both (optional)
- A powerful, screen-oriented editor, which runs in both programming and text-editing modes
- A very powerful file handler to manipulate diskettes and diskette files
- A Macro Assembler for personal computers from IBM that produces code that can be linked to your FORTRAN or Pascal programs
- A linker for link-editing assembly code into Pascal or FORTRAN modules
- Dynamic runtime binding of separately compiled or linked modules into a host program, so one copy of the object code for a library module may be shared by many programs
- An efficient, compact interpreter for executing p-code
- A library of program modules and other utilities
- A native code generator to convert p-code to native machine code for improved performance
- Advanced turtle graphics, offering extended capabilities and graphics displays
- A print spooler that queues printed output
- A symbolic debugger for UCSD Pascal
- A complete set of documentation

Choice of high-level languages. One measure of the excellence of an operating system is its ability to support your choice of high-level languages. Naturally, a system that supports more than one language can be more useful—and offers you more diverse programming support—than a system that supports only one.

The UCSD p-System is this kind of advanced operating system. It enables you to use your personal computer as a convenient development system that can include fully integrated Pascal and/or FORTRAN Compilers. And the unique p-code format produced by the system may be transported to other computers with the p-System.

UCSD Pascal. This widely accepted, high-level language has all the key features of Pascal as defined by its developer, Niklaus Wirth. Users will appreciate its structured programming approach that enhances program writing.

With the UCSD p-System, you may also take advantage of separately compiled Pascal modules that may be available in existing program libraries. These modules can be large and can contain numerous overlays so that very large application systems may be built.

Learning to solve complex problems with UCSD Pascal. UCSD Pascal is coming into widespread use for writing complex programs in almost all fields where computers are applied to practical problems. The extensions beyond the standard language in UCSD Pascal have been included to facilitate teaching by using non-mathematics-oriented problem examples and to facilitate writing a variety of large interactive programs.

*UCSD p-System and UCSD Pascal are trademarks of the Regents of the University of California.

UCSD p-System

Easy-to-use UCSD p-System
command structure

▲ The UCSD p-System features a menu-driven command structure of single-keystroke commands that are straightforward and self-explanatory.

FORTRAN... a popular language for scientific and engineering programming. Your UCSD p-System can also include a FORTRAN-77 Compiler. FORTRAN users may take advantage of the power, portability and completeness of the p-System on their personal computers. What's more, this is an up-to-date ANSI-77 FORTRAN.

With the UCSD p-System, FORTRAN-77 and UCSD Pascal are fully integrated and compatible. So you may develop systems that are part Pascal and part FORTRAN, taking advantage of the best features of both languages. You may also utilize the many programs already written in these languages.

What you get. The complete UCSD p-System includes:

- Program Diskettes (5)
- Pascal Diskette (shipped only with UCSD Pascal)
- FORTRAN Diskette (shipped only with FORTRAN-77)
- Operations Guide for the UCSD p-System
- Users' Guide for the UCSD p-System
- Beginners' Guide for the UCSD p-System
- Internal Architecture for the UCSD p-System
- UCSD Pascal Reference for the UCSD p-System (shipped only with UCSD Pascal)
- FORTRAN-77 Reference for the UCSD p-System (shipped only with FORTRAN-77)

System requirements: The UCSD p-System, with FORTRAN-77 or UCSD Pascal, or both, requires a minimum of 64KB of user memory, two diskette drives, and a display. Neither the programs nor their data files can be stored on a fixed disk.

UCSD p-System Runtime Support

The UCSD p-System operating system. This software package is the operating system for the UCSD p-System. With this operating system in place, you do not have to purchase the full p-System to run UCSD p-System programs that have been written in UCSD p-System BASIC,* UCSD Pascal or FORTRAN-77.

System requirements: A minimum of 64KB of user memory and one diskette drive. Neither the program nor its data files can be stored on a fixed disk.

*The UCSD p-System Runtime Support package does not support IBM Personal Computer BASIC or Display-writer UCSD p-System BASIC.

CP/M-86

A 16-bit CP/M operating system

PC

CP/M and your personal computer from IBM. CP/M-86* is a 16-bit generation of the widely used CP/M* operating system, one of the earliest 8-bit microcomputer operating systems available.

CP/M is one of the common operating systems in the microcomputing field. Because of hardware differences, all CP/M systems are not the same; therefore, conversion is required if programs that run on non-IBM versions of CP/M are to run on the IBM Personal Computer.

CP/M-86 operates similarly to CP/M-80; the major difference is that CP/M-86, which uses the more powerful commands available through the 8088 microprocessor in your personal computer, can operate much faster. The extended memory space available with the 16-bit 8088 microprocessor enables CP/M-86 to be more powerful than the 8-bit microprocessor.

A full set of control and programming utilities. An efficient and powerful operating system, CP/M-86 is a set of programs that can help you operate your personal computer and perform routine work functions. The system contains programs that allow you to create, erase, rename and copy files. You can also create, test and run assembler language programs; format diskettes; print data from files; display the directory of a diskette; and so on. Of course, CP/M-86 allows you to run applications programs developed or converted for use with CP/M-86 and your personal computer from IBM.

**CP/M is a registered trademark and CP/M-86 is a trademark of Digital Research, Incorporated.*

Built-in commands

DIR—displays a list of file names from a diskette directory
DIRS—displays a file name list of those files marked with the SYS attribute
ERA—erases a file name from a diskette directory and releases the storage occupied by the file
REN—enables you to rename a file
TYPE—writes the content of a character file to your console output device
USER—enables you to change from one user number to another

Transient utility commands

ASM86—translates 8086 assembly language programs into machine code form
ASSIGN—enables you to direct input and output to the peripheral devices attached to your computer
COPYDISK—creates a copy of a diskette that may contain CP/M-86, program files, and data files

DDT86—helps you check out your programs and interactively correct “bugs” and programming errors
ED—enables you to create and alter character files for access by various commands and application programs
FUNCTION—programs the function keys and the numeric keypad on your keyboard
GENCMD—uses the output of ASM86 to produce an executable command file
HELP—displays information on how to use CP/M-86 commands
NEWDISK—formats a factory-fresh diskette for use with CP/M-86
PIP—combines and copies files
PROTOCOL—establishes the “handshaking protocols” used by the serial interfaces
SPEED—sets up your computer’s Asynchronous Communications Adapter to communicate with other machines
STAT—enables you to examine and alter file status
SUBMIT—sends a file of commands to CP/M-86 for execution
TOD—sets the date and time displayed in the status line at the bottom of your display

▲ *There are two types of CP/M-86 commands. If a command keyword identifies a program in memory, it is called a built-in command. If a command keyword identifies a program file on diskette, it is called a transient utility or simply a utility. A command keyword identifies a program that resides either in memory as part of CP/M-86 or on a diskette as a program file.*

The device-handling capabilities of CP/M-86 are ready to control various system devices as soon as the operating system is loaded into your computer’s memory. CP/M-86 can support up to two physical drives or four logical drives, the IBM Graphics Printer, the IBM Asynchronous Communications Adapter, the IBM Monochrome Display, and the IBM Color/Graphics Monitor Adapter (including light pen—not supplied by IBM).

CP/M-86 also includes dynamic memory management capabilities that control the allocation of memory and assign specific memory areas to applications programs.

The operating system manages up to a full megabyte (1,048,576 bytes) of main memory, so it can allow applications programs to take full advantage of the 16-bit microprocessor address space. In addition, through a user-defined memory configuration table, CP/M-86 manages noncontiguous memory locations. This feature allows multiple programs to reside in memory simultaneously.

Helpful features. CP/M-86 is, in several respects, very communicative about what it is doing. When you start it up, it counts off “READING 1 . . . 2 . . . 3 . . . 4” as it loads the four disk sections of its main program into memory. It then displays a list of the hardware components it detects as installed and working in your personal computer, providing you with a quick check that the system is working properly.

CP/M-86

When you command CP/M-86 to format a disk, the first result is a screen message stating which disk drive you've ordered to perform the formatting procedure. The message warns, "ALL DATA WILL BE ERASED FROM THE DISK," and asks, "Is this what you want (y/n)?" If "yes," the program then displays a running progress report as data tracks are written and verified.

When CP/M-86 is operating on your personal computer, it uses the bottom line of the screen for a "status" display—which includes a status message written by the system, followed by the current user number and the actual or elapsed time and date.

Advanced software development benefits

CP/M-86 offers a range of advanced programming utilities to help you create or modify programs for personal computers from IBM. It contains 13 programs, or "command files," including assembler, editor and debugger programs.

ED, a line-oriented and context editor. The ED utility enables you to create and edit a diskette file. You can create and change character files line by line or by referencing individual characters within a line. You can also create or alter the file named in the file specification.

The ED utility uses a portion of your user memory as an active text buffer where you add, delete or alter the characters in the file. You interact with ED in either "command" or "insert" mode. Single-letter commands can be used to read text from the buffer, move the CP—an imaginary "character pointer"—in the buffer, or change the ED mode of operation.

The ASM86 Assembler. The ASM86 utility converts 8088 assembly language source statements into machine-code form that will run on your personal computer. It typically produces three output files from one input file. The output files are given the following file types: an LST file contains the annotated source listing; an H86 file contains the 8086 machine code in "hex" format; and an SYM file contains all programmer-defined symbols with their program-relative addresses.

You control the assembly process by including optional parameters in the parameter list. Each is a single-parameter letter followed by a single-letter device name.

DDT-86, a Dynamic Debugging Tool. The DDT-86 program allows you to test and debug programs interactively in a CP/M environment. After displaying its sign-on message and prompt character "-", DDT-86 is ready to accept operator commands.

Various DDT-86 commands enable you to enter assembly language statements, compare blocks of memory, display memory in hexadecimal and ASCII, trace program execution, and much more. A command can have up to 64 characters and must be terminated with the return key.

CP/M-86 puts you in control. With the CP/M-86 assembler, line-oriented text editor and debugging tool, you have the development tools you need to write high-performance assembly language programs... programs that may help to offer users full control over the advanced capabilities and impressive speed of the 16-bit personal computers from IBM.

Other program development utilities include programs to produce command files, to display a file directory, to define function keys, and more.

CP/M-86 compatibility. CP/M-86 files are compatible with the versions of CP/M for the 8080, 8085 and Z-80* based microcomputer systems. CP/M-86 includes additional facilities to account for the increased address space of the higher-speed 16-bit processor. Utility programs such as ED, PIP and STAT operate in the same manner as their CP/M-80 counterparts. This makes CP/M-86 especially convenient for programmers already familiar with the CP/M system, and it simplifies conversion of software developed to run under CP/M to your computer's 16-bit system.

Unless conversions are made, CP/M-86 does not automatically provide support for existing CP/M-80 applications programs for 8-bit CPUs. CP/M-86 programs running on other 16-bit microcomputers will run on your computer once the files have been converted to the appropriate diskette format and the machine-specific code has been changed.

CP/M-86: a time-tested operating system. CP/M-86 offers you the advantages of a time-tested, modular operating system as well as a system that enables you to command the wide range of capabilities available with your personal computer from IBM.

What you get. The CP/M-86 software package includes:

- CP/M-86 Diskette
- Users' Reference Manual

System requirements: A minimum of 32KB of user memory and one diskette drive, and a display. Neither the program nor its data files can be stored on a fixed disk.

*Z-80 is a registered trademark of Zilog.

Business Programs



Peachtree Accounting System

- *General Ledger 1.10*
- *Accounts Receivable 1.10*
- *Accounts Payable 1.10*
- *Inventory Control 1.10*
- *Payroll 1.10*

PC XT

General Ledger 1.10

General Ledger 1.10 keeps the accounting data you need at your fingertips. This versatile and efficient business management program can help you record and monitor income and expenses more effectively and, at the same time, significantly reduce the time and labor usually associated with manual accounting.

By offering you fast access to a large amount of current and historical financial data, General Ledger can prove to be a valuable tool for managing finances today... and planning for tomorrow.

What you get. The General Ledger software package includes:

- Program Diskettes (2)
- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card

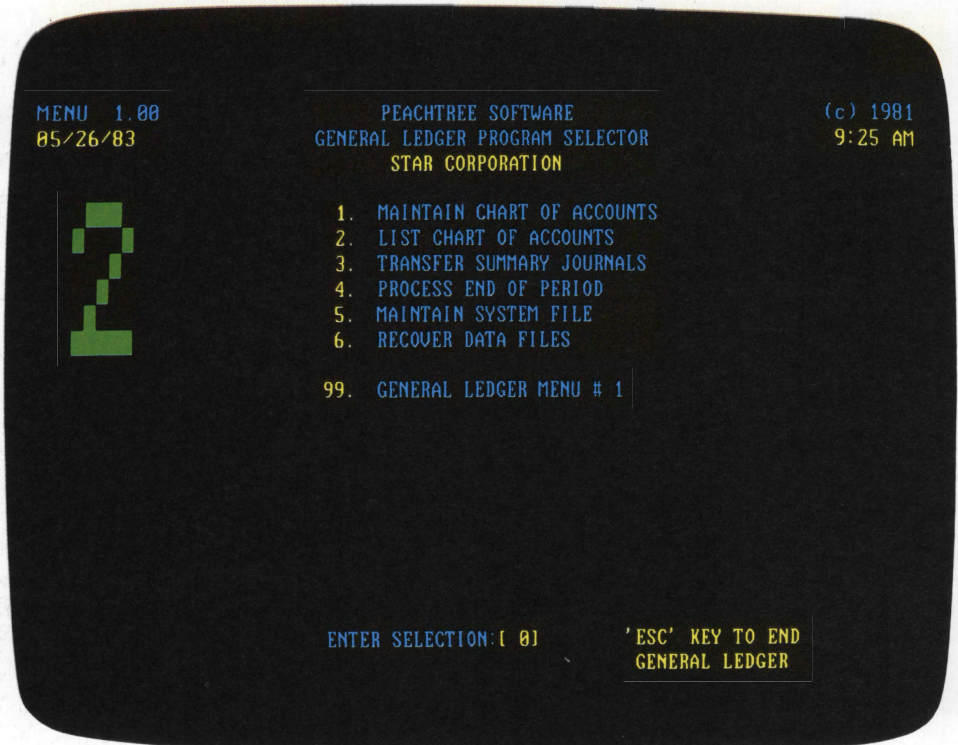
Accounts Receivable 1.10

Accounts Receivable 1.10 helps you gain control over cash flow and receivables. Use it to streamline your accounting procedures and keep track of both current and aged accounts. This advanced program assists you in billing accurately and making timely collections.

With Accounts Receivable, you can maintain up-to-date files; provide customers with complete records; print invoices, statements and aging reports; and save time over manual accounting methods.

What you get. The Accounts Receivable software package includes:

- Program Diskettes (3)
- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card



Accounts Payable 1.10

Accounts Payable 1.10 was designed to help you improve and simplify the management of outgoing cash. It is an automated, flexible system for keeping purchase information current.

The program provides information on vendors, discount and due dates, cash requirements, and other important factors to help you analyze your cash position and determine which bills to pay and when.

What you get. The Accounts Payable software package includes:

- Program Diskettes (2)
- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card

▲ *General Ledger enables you to set up and maintain your own Chart of Accounts; accounts can be added, reviewed, changed or deleted as you wish.*

Inventory Control 1.10

Inventory Control 1.10 is a fast and efficient method for managing inventory. The program was designed to help a small business increase merchandise control and reduce inventory investment. It is an easy way to keep accurate, consistent records and reduce the errors and redundancies associated with manual record-keeping.

By offering fast access to inventory information, Inventory Control can help you maintain high standards of customer service and response.

(continued on page 98)

BPI Accounting System

- *General Accounting*
- *Accounts Receivable*
- *Inventory Control*
- *Payroll*
- *Job Cost*

PC

General Accounting

General Accounting brings computerized accounting within easy reach of the small business.

Even without prior computer experience, you can quickly learn to use this versatile program to perform day-to-day accounting tasks—journalizing, posting and maintaining records. In addition, you can prepare timely reports to monitor your business as a by-product of your daily accounting transactions.

What you get. The General Accounting software package includes:

- Program Diskettes (3)
- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card

Accounts Receivable

Accounts Receivable is an automated cash management tool that can help you control current and past due receivables more closely. It also can help you improve your cash flow, budget more effectively, reduce bad-debt losses, detect poor credit risks, and maintain customer goodwill.

The program offers efficient ways to post invoices and payments, print statements, and perform many other functions more quickly and accurately than if done by hand.

What you get. The Accounts Receivable software package includes:

- Program Diskettes (3)
- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card

Inventory Control

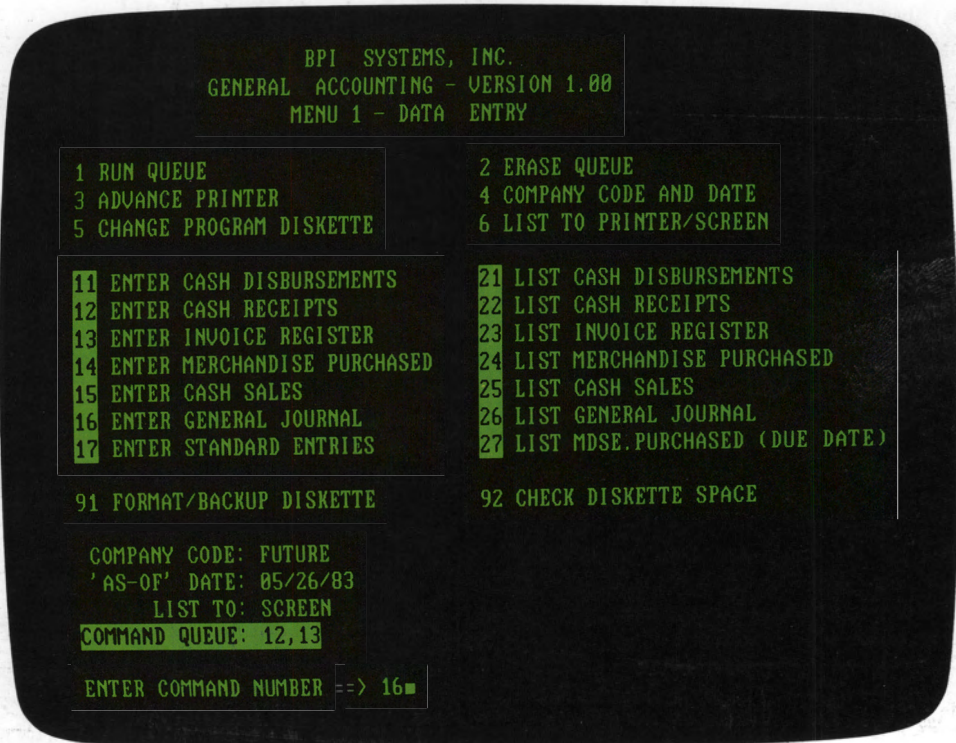
Inventory Control can help you manage your business more efficiently. This automated system of record-keeping enables you to bypass much of the tedious paperwork and often imprecise filing inherent in manual methods.

▲ *The Data Entry Menu contains all commands for entering data in your journals.*

With Inventory Control, small businesses and departments can enjoy the benefits and increased productivity that once were available only from larger, more expensive computer systems.

What you get. The Inventory Control software package includes:

- Program Diskettes (4)
- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card



Peachtree Accounting System (continued from page 96)

What you get. The Inventory Control software package includes:

- Program Diskettes (2)
- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card

Payroll 1.10

Use Payroll 1.10 to computerize your company's payroll procedures for greater speed and accuracy. Payroll not only calculates your payroll and prints checks but even creates management reports.

Payroll's full range of functions offers you the opportunity to streamline your payroll operation for greater cost control.

What you get. The Payroll software package includes:

- Program Diskettes (3)
- Tax File Diskette
- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card.

System requirements: Each program in Peachtree's Accounting System requires a minimum of 64KB of user memory and two diskette drives, an 80-column display, a printer, and the IBM Disk Operating System (DOS). When these programs and their data files are stored on a fixed disk, a minimum of 128KB of user memory, one diskette drive, and DOS 2.00 or 2.10 are required.

BPI Accounting System (continued from page 97)

Payroll

Payroll is a comprehensive program that can help you meet your payroll cost objectives. The program automates your company's payroll process to reduce the costly errors often associated with manual entry.

Payroll can turn your payroll operation into a valuable source of timely data that can be analyzed, controlled and printed in report form.

What you get. The Payroll software package includes:

- Start-up Diskette
- Program Diskettes (3)
- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card
- Tax Table Diskette

Job Cost

Job Cost was designed to help speed and simplify bid preparation, track job costs, and provide several useful management reports that help to control costs and maintain planned profit margins.

This versatile program is especially valuable to such job-costing businesses as contracting, subcontracting and multiple rental properties.

What you get. The Job Cost software package includes:

- Program Diskettes (4)



- Demonstration Data Diskette
- Users' Reference Manual
- Users' Quick Reference Card

System requirements: Each program in BPI's Accounting System requires a minimum of 64KB of user memory and two diskette drives, a display, a printer, and the IBM Disk Operating System (DOS) 1.10. Neither these programs nor their data files can be stored on a fixed disk.

Educational Programs



Logo

by Logo Computer Systems, Incorporated

*A powerful programming language
that's simple enough for children*

PC XT PCjr

Logo is flexible, interactive and easy to use. Logo is a unique educational language simple enough for computer novices to master yet powerful enough to help programmers solve complex problems.

With the Logo Language Interpreter, you can develop learning tools such as tutorials and demonstrations and develop applications using graphics, mathematics, text handling, file manipulation and assembly subroutines.

Logo simplifies program development. Logo's innovative turtle graphics, interactive instructions and easy-to-follow directions make it simple to use Logo to develop programs... regardless of age or previous computer experience.

Although it can simplify programming, Logo also offers you the power you'll need to handle more complex procedures and programs.

Designed to take advantage of the IBM PC. This special IBM PC version of the Logo language offers a number of features that help you take advantage of the power and versatility of your IBM PC. Among them:

- *Graphic editing.* You can change the colors of characters used in text or graphics.
- *Defining math accuracy.* The floating-point decimal arithmetic allows you to select an appropriate degree of accuracy for all calculations.
- *Switching screens.* Function keys make it easy to pass among screens.
- *File handling.* Advanced capabilities allow reading from and writing to data files as well as program files.
- *Full-screen editing.* Edit both Logo and ASCII files. An automatic backup file facility is also provided.
- *Assembly language subroutines.* Logo's power enables it to handle subroutine calls.
- *"Dribble files."* Record every character displayed on the screen to help you analyze students'—and your own—progress.
- *Automatic loading.* STARTUP files help you begin immediately, without performing lengthy loading procedures.

- *Support for two displays.* Display text on a monochrome display,* graphics on a color display.
- *Support for joysticks and game paddles.*** Logo supports these game/graphics controls when you have an IBM Game Control Adapter attached to your personal computer.

How it works

Logo is procedural. As a procedural language, Logo teaches you programming with a series of small, logical steps. Each step can then be incorporated into a larger procedure, and these procedures can be combined to solve even more complex problems.

As each procedure is written, it becomes part of the program's overall knowledge, just as if it were a simple command. Whenever the problem reappears, it can be solved in seconds with just a few quick keystrokes.

Follow the friendly turtle. Logo uses a friendly graphic device, a "turtle," to introduce children to procedural thinking. The turtle is a triangular pointer that tracks its way across the screen in response to your directions. The turtle can be directed to draw squares, rectangles and other shapes. Once a shape is completed, it becomes part of the program and can be repeated as often as desired—and with only a single keystroke.

In this way, you learn how to create and link procedural "building blocks" to solve more complex problems.

Logo offers advanced file and list-handling capabilities. Once you establish a procedure, you can store it in Logo's files for use whenever you need it. You can also create and modify data files.

Logo's list-handling capabilities are equally beneficial. Unlike other simple programming languages, Logo can perceive two types of information: *words* (strings of characters) and *lists* (data structures or segments). This versatility can help speed complex operations by

permitting you to work on larger modular segments instead of individual characters.

What's more, Logo doesn't restrict variables to one type of data. They can represent numeric values in one procedure or a list of words in another, depending on your programming needs.

Logo works with you at every step. Logo is interactive; it responds directly to you. Via the display screen, it can carry on a step-by-step exchange to answer commands or prompt you to the next step. And, if you make an error, Logo's error messages are helpful in describing what went wrong.

The easy-to-follow Users' Reference Manual, a Quick Reference Card and the step-by-step introduction to turtle graphics help you get going and keep going. And a set of function key decals helps you identify and locate Logo's special command keys.

What you get. The Logo software package includes:

- Logo Diskette (includes DOS 2.00)
- Users' Reference Manual
- Users' Quick Reference Card
- Turtle Graphics Manual
- Set of Function Key Decals

System requirements: A minimum of 128KB of user memory and one diskette drive, and a display.† The IBM Disk Operating System (DOS) 2.10 is required for operation on the IBM PCjr. This program and its data files can be stored on a fixed disk.

*The IBM PCjr does not support the IBM Monochrome Display.

**Game paddles are not part of the IBM Personal Computer offering and must be purchased separately.

†The IBM Color Display—with the IBM Color/Graphics Monitor Adapter—is recommended since a TV set or composite color monitor may not produce true color images. A color or composite monitor or TV set, with the IBM Color/Graphics Monitor Adapter, is required to support turtle graphics.

Bumble Games

PC XT PCjr

Bumble Games* is a fun-packed educational software package designed to help children age 4 to 10 improve their math skills.

It includes six programs that use a game format—complete with color graphics, sound effects and music—to teach students how to plot a graph and to understand such math concepts as “greater than” and “less than.” Bumble Games even helps children learn how to design color graphics.

What you get. The Bumble Games software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, and a color display or TV. 128KB of user memory and IBM PCjr BASIC are required for operation on the IBM PCjr. This program cannot be stored on a fixed disk.

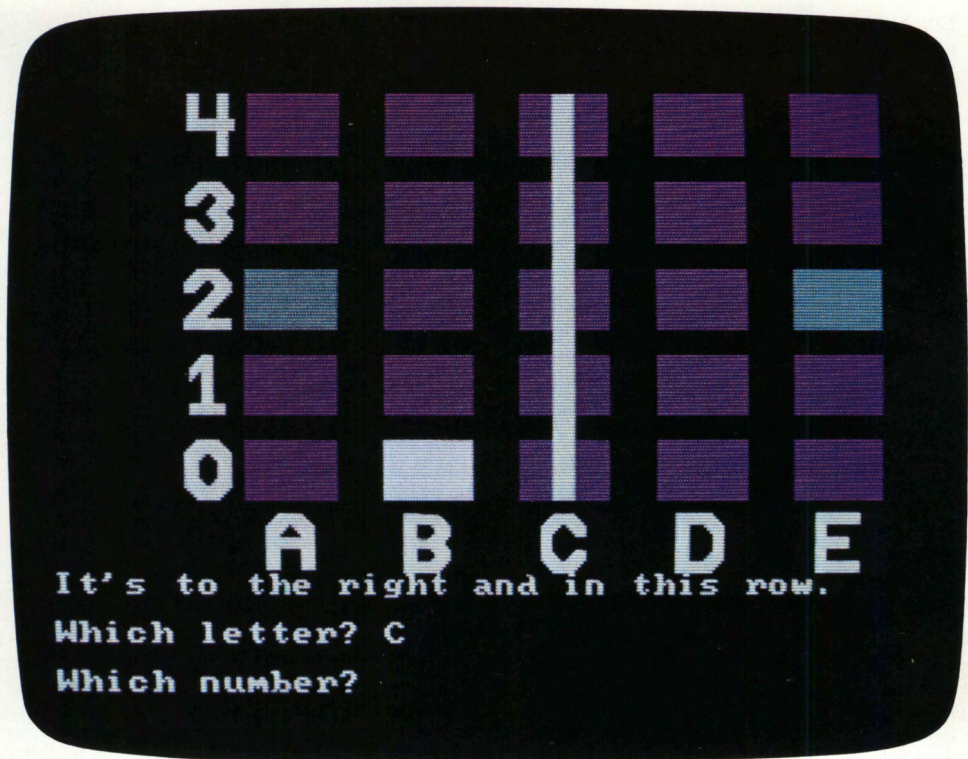
Bumble Plot

PC XT PCjr

Bumble Plot* is a set of five entertaining programs designed to help children age 8 to 13 learn mathematics and computer skills.

Among the skills covered: how to use positive and negative numbers to name grid points, how to plot numbers to understand and build computer charts and graphs and to locate places on a map, and how to design computer graphics.

Music and sound effects enhance the learning experience; so do the programs' color graphics.



What you get. The Bumble Plot software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, and a color display or TV. 128KB of user memory and IBM PCjr BASIC are required for operation on the IBM PCjr. This program cannot be stored on a fixed disk.

Juggles' Butterfly

PC XT PCjr

Juggles' Butterfly* is a set of three educational programs designed to help 3- to 6-year-olds begin to develop reading and math skills. The programs concentrate on teaching spatial concepts with the help of Juggles, a colorful clown. Music and sound effects help maintain the children's interest.

With Bumble Games, four- to ten-year-olds can improve their math skills while hunting for a butterfly hidden in the grid.

What you get. The Juggles' Butterfly software package includes:

- Program Diskette
- Keyboard Template (for IBM PCjr)
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, and a color display or TV. 128KB of user memory and IBM PCjr BASIC are required for operation on the IBM PCjr. This program cannot be stored on a fixed disk.

**Bumble Games, Bumble Plot and Juggles' Butterfly are trademarks of The Learning Company.*

Programs for learning

Turtle Power

PC XT PCjr

Here's an affordable learning program to help children become computer literate. The program has a "computer drawing board" that allows children to create video art and music by using simple commands. They even learn to use the program's full-screen editor to write, review and change programs to store their artwork.

The program's Logo turtle graphics, color and sound effects help stimulate young imaginations and speed learning.

What you get. The Turtle Power software package includes:

- Program Diskette
- Users' Reference Manual

System requirements: A minimum of 128KB of user memory and one double-sided diskette drive, and a color display or TV. This program cannot be stored on a fixed disk.

Monster Math

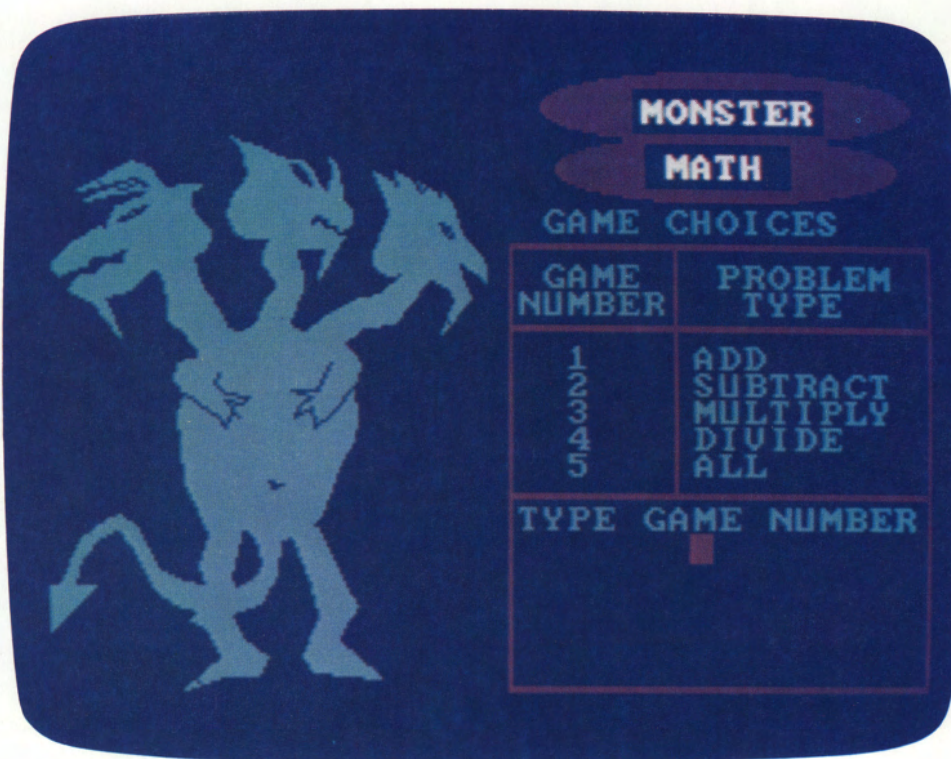
PC XT PCjr

Monster Math turns math drills into challenging games. The program features colorful graphics and electronic sounds to help make learning math an enjoyable activity.

Monster Math offers six different levels and five different kinds of drills—addition, subtraction, multiplication, division, or a random mixture of all four.

By solving problems, students make a menacing monster disappear from the screen.

After each 60-second round, each student receives a score. The time clock becomes a scoreboard that displays both that round's score and the student's best score in the current session.



What you get. The Monster Math software package includes:

- Program Diskette
- Users' Instruction Card

System requirements: A minimum of 64KB of user memory and one diskette drive, and a display or TV. 128KB of user memory and IBM PCjr BASIC are required for operation on the IBM PCjr. When this program is stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Adventures in Math

PC XT PCjr

Learning math could be more fun for children who find themselves lost in a castle loaded with hidden treasure. To find the way

▲ *With Monster Math, students can brush up on their math skills while trying to make a three-headed monster disappear.*

out—and to uncover as many treasures as possible along the way—children have to solve basic math problems.

This unique program package incorporates math drills into an action-packed adventure game with vivid color graphics of a castle, its passageways and treasures. The program's difficulty level increases as children solve math problems.

What you get. The Adventures in Math software package includes:

- Program Diskette
- Users' Instruction Card

System requirements: A minimum of 64KB of user memory and one diskette drive, and a display or TV. 128KB of user memory and IBM PCjr BASIC are required for operation on the IBM PCjr. When this program is stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Arithmetic Games

PC XT PCjr

Arithmetic Games is a great way for children to sharpen their math skills while they play. They'll familiarize themselves with computers as they develop and refine their arithmetic skills... and enjoy hours of entertainment. The program provides continuous audio feedback and animated color graphics for added enjoyment.

Arithmetic Games is available in two separate packages; there are two games in each package. Each game includes beginning, intermediate and advanced levels of play.

What you get. There are two sets of Arithmetic Games. Set 1 includes BEANO and ROCKETS. Set 2 includes DISCOVERY MACHINE and NUMBER CHASE. Each set is packaged and sold separately, and each package includes:

- Program Diskette
- Users' Instruction Card

System requirements: Both sets of Arithmetic Games require a minimum of 64KB of user memory and one diskette drive, a color display or TV, and the IBM Disk Operating System (DOS). 96KB of user memory is required for DOS 2.00 or 2.10. 128KB of user memory, DOS 2.10, and IBM PCjr BASIC are required for operation on the IBM PCjr. These programs cannot be stored on a fixed disk.



Fact Track

PC XT

Fact Track* makes learning basic math skills an enjoyable experience. It was designed to help children learn simple addition, subtraction, multiplication and division of single- and double-digit numbers.

This program, which measures accuracy and speed, is organized according to levels of difficulty, making it ideal for use in the classroom by children of various grade levels.

What you get. The Fact Track software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, a color display or TV, and the IBM Disk Operating System (DOS). 96KB of user memory is required for DOS 2.00 or 2.10. This program cannot be stored on a fixed disk.

*Fact Track is a trademark of Science Research Associates, Incorporated.

BASIC Primer

PC XT

BASIC Primer is a helpful software package that teaches the popular BASIC programming language to beginners. It shows the user how to write and edit BASIC programs on IBM Personal Computers.

The program provides the user with an "electronic workbook" filled with lessons that combine keyboard practice with easy-to-follow BASIC programming exercises.

What you get. The BASIC Primer software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, a display or TV, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. Neither the program nor its data files can be stored on a fixed disk.

Programs for learning

Typing Tutor

PC XT

Typing Tutor is a fast and easy way to improve typing speed and accuracy. The program constantly monitors your progress, then creates drills specifically tailored to your skill level.

Typing Tutor can teach touch-typing to a beginner, sharpen the skills of an out-of-practice typist, and even improve the speed and accuracy of a good typist.

What you get. The Typing Tutor software package includes:

- Either a Program Cassette Tape or a Program Diskette, depending on whether you are using an audio cassette recorder/player[†] or a diskette drive to run the program
- Users' Instruction Booklet

System requirements: A minimum of 48KB of user memory and one diskette drive (or 32KB of user memory and an audio cassette recorder/player), a display, and the IBM Disk Operating System (DOS). 64KB of user memory is required for DOS 2.00 or 2.10. Neither the program nor its data files can be stored on a fixed disk.

Private Tutor

PC XT

Private Tutor can make instruction more dynamic and learning more fun. This program turns your IBM Personal Computer into an instructor that gives lessons, drills and quizzes. It features a record-keeping system for tracking students' progress.

The Private Tutor package includes: the Private Tutor Presenter diskette—which has the IBM Disk Operating System (DOS) 1.10—for running Private Tutor courseware and the Private Tutor Author/Preparer diskette for creating your own courses.

System requirements: A minimum of 64KB of user memory to take a course or 96KB to write a course and one diskette drive, a display or TV, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Here are three Private Tutor courses:

Learning DOS 2.00

PC XT

Learning DOS 2.00 introduces students to the IBM Disk Operating System (DOS) 2.00. It explains how to set up and manage files on diskettes and fixed disks as well as how to use DOS commands effectively.

In addition, the program demonstrates the setting up of directories and frequently used files of DOS commands or programs.

Learning DOS 2.00 illustrates DOS operations clearly through simple graphics and on-screen directions.

What you get. The Learning DOS 2.00 software package includes:

- Program Diskette
- Users' Reference Manual

System requirements: A minimum of 64KB of user memory and one diskette drive, a display or TV, and the Private Tutor Presenter diskette. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Learning to Program in BASIC

PC XT

This Private Tutor course teaches BASIC programming skills in a systematic way. Clear graphics and on-screen directions lead the user step-by-step through the course.

In the process, the user learns how to use special features of IBM PC BASIC to program more efficiently.

What you get. The Learning to Program in BASIC software package includes:

- Program Diskettes (2)
- Users' Reference Manual

System requirements: A minimum of 64KB of user memory and one diskette drive, a display or TV, and the Private Tutor Presenter diskette. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Multiplication Tables

PC XT

This Private Tutor course relies heavily on on-screen practices and quizzes to teach children the multiplication tables.

Multiplication Tables incorporates colorful graphics, geometric shapes and musical tunes to make the learning experience interesting and challenging.

Since no previous computer experience is required for this course, even relatively young children can develop computer literacy while learning their multiplication tables.

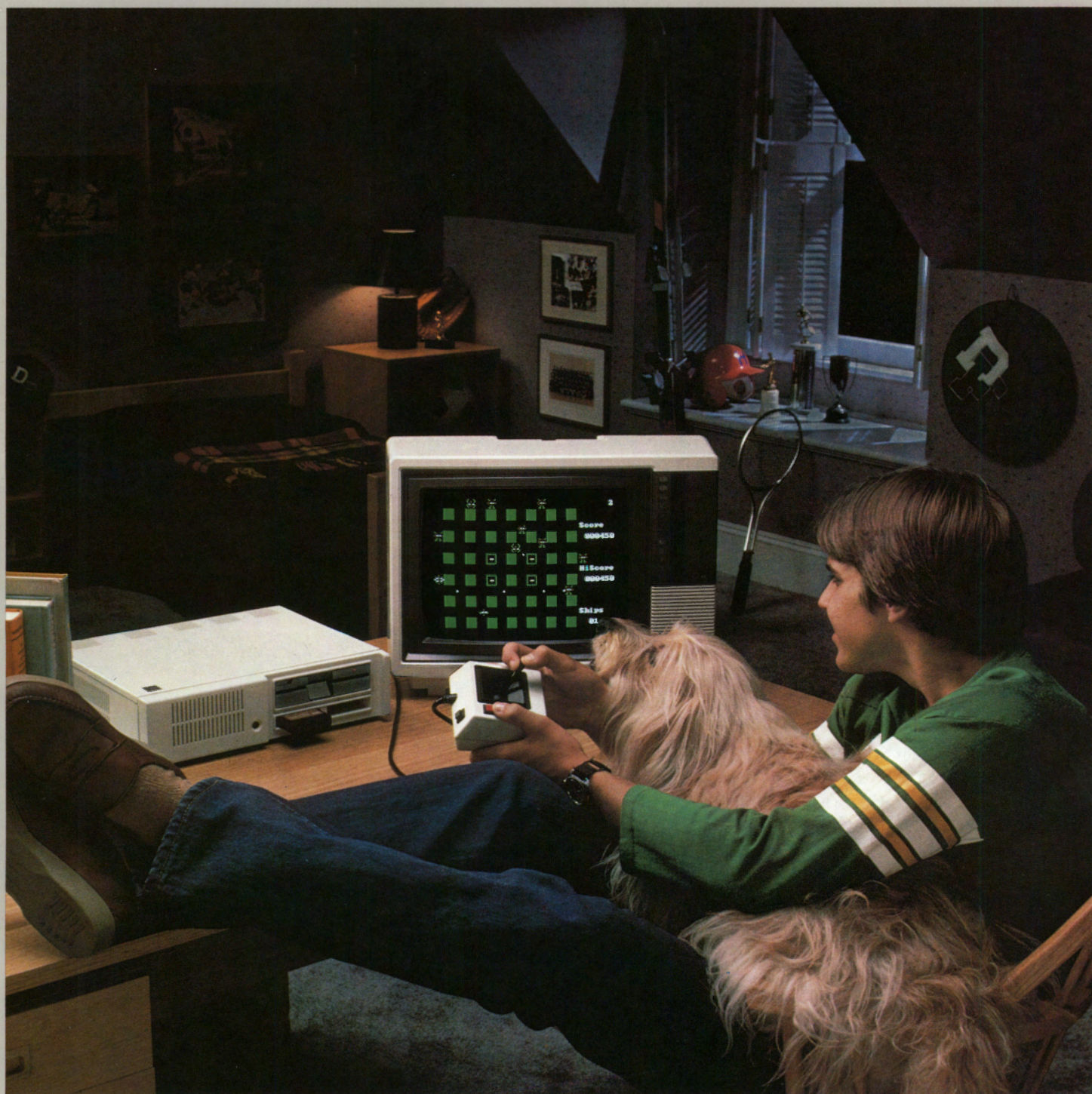
What you get. The Multiplication Tables software package includes:

- Program Diskettes (4)
- Users' Reference Manual

System requirements: A minimum of 64KB of user memory and one diskette drive, a display or TV, the Private Tutor Presenter diskette, and the IBM Disk Operating System (DOS). 128KB of user memory is required for DOS 2.00 or 2.10. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

[†]Audio cassette recorder/players are not part of the IBM Personal Computer offering and must be purchased separately.

Entertainment Programs



Programs for fun and entertainment

Animation Creation

PC XT PCjr

Draw your own pictures and watch them come to life with Animation Creation, a stimulating entertainment package.

To "draw" the pictures, you select from 254 computer characters, then position them on your display screen. Add color by choosing any of 16 foreground and 8 background colors. Then, by slightly repositioning the images, you can create animation.

You can vary the effect of the animation by playing back the animation sequence at different speeds. You can even save each sequence on diskette to enjoy your animation creation over and over again.

What you get. The Animation Creation software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, and a color display or TV. When this program and its data files are stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

ScubaVenture

PCjr

Go on a fun-filled, deep-sea treasure hunt with your IBM PCjr. In ScubaVenture, a fast-paced game package, you dive in search of untold riches nestled in the fathoms below.

Dive by yourself or with another... and watch out! Dangerous creatures concealed in the murky deep thrive on daredevil divers. Strong currents and jagged coral reefs make your search even more treacherous.

Your score increases with each treasure you find and each rare fish collected.

What you get. The ScubaVenture software package includes:

- Program Cartridge
- Users' Instruction Booklet

System requirements: An IBM PCjr with a minimum of 64KB of user memory, and a display or TV. This program cannot be stored on a fixed disk.

Adventure

PC XT PCjr

Adventure will lead you into the deepest part of the forest in search of a mysterious cave filled with hidden treasures.

True adventurers cannot resist its challenge, though they know that the cave also harbors terrifying monsters and hazards.

This fantasy/logic game offers you the chance to explore uncharted territory—with all its enticement and danger—without having to leave your living room.

What you get. The Adventure software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 32KB of user memory and one diskette drive, and a display or TV. A minimum of 64KB is required for operation on the IBM PCjr. This program cannot be stored on a fixed disk.

Mouser

PCjr

De-mouse a farmhouse by playing Mouser, a fast-paced cartridge game featuring vivid graphics.

Create traps with the house's movable walls. The more mice you catch in the allotted time, the higher your score. But be careful! The mice can multiply, hide in the dark, and even bite.

You can share the fun with another player and, as your skills and speed improve, you can move on to a more difficult level and become a master mouser.

What you get. The Mouser software package includes:

- Program Cartridge
- Users' Instruction Booklet

System requirements: An IBM PCjr with a minimum of 64KB of user memory, and a display or TV. This program cannot be stored on a fixed disk.

Mine Shaft

PCjr

You're so close to the diamonds you can almost see them glitter. So close yet so far away. Ever since you drilled into that underground stream, you've run into nothing but trouble. The resulting flood short-circuited your dependable team of robot miners, and now they're running amok.

You survived the flood, but will you survive the runaway robots to enjoy all those diamonds? Find out by playing Mine Shaft, a fast-paced game for the whole family.

What you get. The Mine Shaft software package includes:

- Program Cartridge
- Users' Instruction Booklet

System requirements: An IBM PCjr with a minimum of 64KB of user memory, and a display or TV. This program cannot be stored on a fixed disk.

One-Hundred-and-One Monochrome Mazes

PC XT

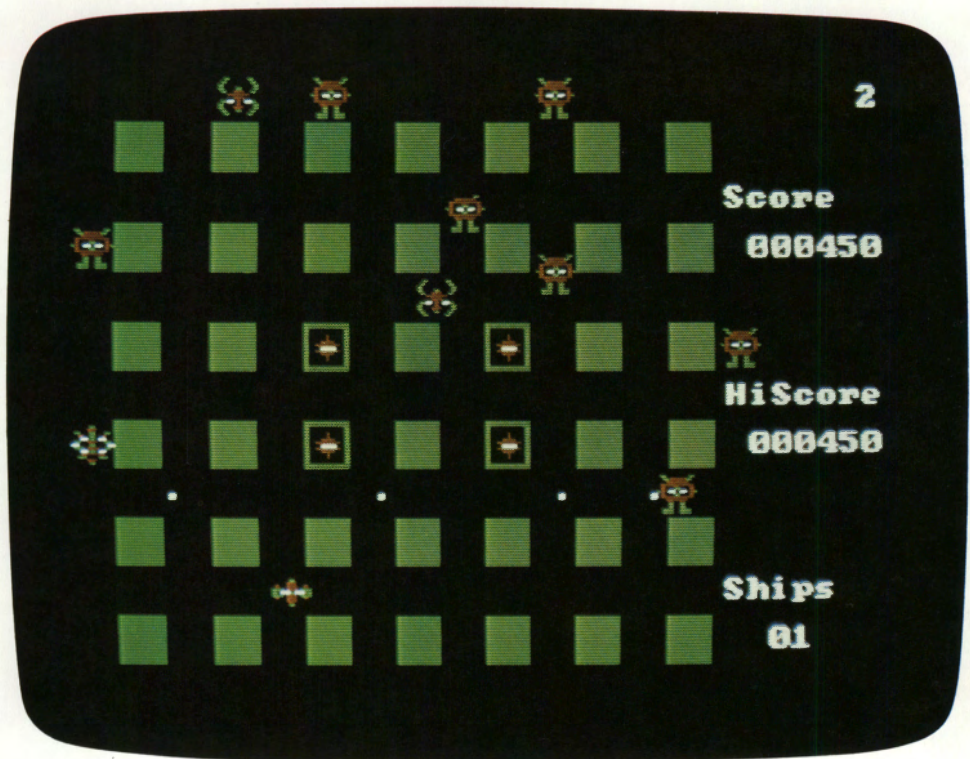
You'll embark on an a-maze-ing journey when you play One-Hundred-and-One Monochrome Mazes. This game of logic challenges you to find the way through your choice of 101 labyrinths. It allows you to start with an easy maze and keep progressing to harder ones to test your skills.

There's more to getting through these mazes than just choosing the correct routes. You've got to be ready to jump over black pools, react to pop-up walls, and avoid the trap doors that obstruct your path.

What you get. The One-Hundred-and-One Monochrome Mazes software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, and an IBM Monochrome Display. When this program is stored on a fixed disk, 96KB of user memory and the IBM Disk Operating System (DOS) 2.00 or 2.10 are required.



Crossfire

PCjr

A swarm of insects is attacking the city from all directions. Your mission: to protect the city with only three spaceships and a limited supply of insecticide missiles.

Your reward for annihilating the insects? Hero status for saving the city.

Quick reflexes and good eye-hand coordination are your greatest assets as you play Crossfire, an exciting program for the IBM PCjr.

▲ In Crossfire, insects are attacking your city; it takes quick reflexes to repel them.

What you get. The Crossfire software package includes:

- Program Cartridge
- Users' Instruction Booklet

System requirements: An IBM PCjr with a minimum of 64KB of user memory, and a display or TV. This program cannot be stored on a fixed disk.

Programs for fun and entertainment

Casino Games 1.05

PC XT PCjr

Beat the odds in the alluring world of chance. Pit your skill against the house. Go for a showdown against the dealer. Cup your hands for a payoff from a one-armed bandit. Casino Games creates a fast-paced, competitive casino atmosphere in which you can test your skill against the odds.

Take your chances at three of the most popular casino games—Blackjack, Poker and Slot Machine. The only thing missing is the financial risk.

What you get. The Casino Games software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, and a color display or TV. 128KB of user memory and IBM PCjr BASIC are required for operation on the IBM PCjr. When this program is stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Strategy Games 1.05

PC XT PCjr

Add Strategy Games to your IBM software library to challenge your reasoning powers. Choose from four exciting games to test your ability to devise the strategies and counter-strategies necessary to emerge victorious over a friend or the computer.

The Strategy Games package contains four challenging games—a beginner's version of Checkers; Elusion, a capture-the-squares adaptation of Checkers; Battleship, the search-and-destroy war at sea; and Reversi, a cousin of Chinese Checkers.

What you get. The Strategy Games software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, and a color display or TV. 128KB of user memory and IBM PCjr BASIC are required for operation on the IBM PCjr. When this program is stored on a fixed disk, a minimum of 128KB of user memory and DOS 2.00 or 2.10 are required.

Decathlon

PC XT

Find out if you are a world-class champion. Go for the gold, silver or bronze medals in this computerized simulation of the famous track-and-field competition that has been called the truest test of an athlete: the decathlon.

In Decathlon, you'll run the 100-meter dash, leap the broad jump, put the shot, attempt the high jump, and race 400 meters. But that's only the half of it. You'll also compete in the 110-meter hurdles, the discus throw, the pole vault, the javelin throw, and the 1500-meter run. Let the games begin!

What you get. The Decathlon software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 64KB of user memory and one diskette drive, and a color display. This program cannot be stored on a fixed disk.

Adventure in Serenia

PC XT PCjr

Mystery and danger abound as you seek to rescue the beautiful Princess Priscilla, who has been kidnapped from Serenia by the wicked Wizard Harlin. She has been locked away in his remote castle hidden behind the mountains to the north. Of course, you must travel to this enchanted land to rescue her.

It won't be easy. To reach the castle, you must cross deserts, swim oceans, climb mountains, learn magic, dig for treasure, and fend off deadly snakes and scorpions. They're all part of your Adventure in Serenia.

What you get. The Adventure in Serenia software package includes:

- Program Diskette
- Users' Instruction Booklet

System requirements: A minimum of 48KB of user memory and one diskette drive, and a color display or TV. 64KB of user memory is required for operation on the IBM PCjr. This program cannot be stored on a fixed disk.

Sales and Service Support



Sales and service support for personal computers from IBM

*IBM and your Authorized IBM
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stand for quality*

Quality: an IBM hallmark. Quality is the word most often associated with IBM and its personal computers: quality in IBM's design and manufacturing processes . . . and in sales and service provided by your Authorized IBM Personal Computer Retail Dealer.

Quality control

IBM is dedicated to providing you with a personal computer system that is in proper working condition. Toward this end, many quality control steps are taken to help ensure that your IBM PC performs correctly and provides you with the high level of quality service you expect from IBM.

For instance, components and assemblies are carefully tested at numerous points throughout the manufacturing process. Prior to shipping, units are randomly selected, assembled and thoroughly retested. These are just two of the many steps taken in IBM's conscientious quality control program.

IBM is committed to achieving the highest level of quality in its personal computer product line. We constantly strive to maintain the standards of excellence that IBM customers have come to expect . . . and deserve.

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Each IBM PC is engineered to provide years of dependable service. However, there is always a possibility that some repairs may be required over the system's life.

IBM offers two reasonably-priced Dealer Service Options to help you avoid unanticipated cost . . . to help protect your investment.

The 9-Month Dealer Service Option extends the original warranty coverage period included with your system purchase. (The

IBM PC and IBM PC XT are sold with a 90-Day Limited Warranty; the IBM PCjr is sold with a 12-Month Limited Warranty.)

The 12-Month Dealer Service Option extends the warranty and/or the 9-month coverage period by one full year and may be renewed annually.

Both options cover most IBM-manufactured hardware. What's more, the 9-Month Dealer Service Option also covers software product media offered by IBM.

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To help you determine the IBM PC products that are right for you, many Authorized IBM PC Retail Dealers now offer the chance to operate the IBM PC Customer Support System.

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- Product demonstrations
- Assistance in configuring a system that meets your specific needs

The IBM PC Customer Support System represents still another way in which IBM and your Authorized IBM PC Retail Dealer strive to provide you with superior support.

Make a quality buying decision today

Visit your Authorized IBM Personal Computer Retail Dealer. Ask for a hands-on demonstration to see how easy it is to operate an IBM PC. Your dealer is ready to listen, analyze your needs and budget, and recommend the system configuration that fits your requirements.

For information about an Authorized IBM Personal Computer Retail Dealer near you (or information from IBM about quantity purchases), call toll-free:

1-800-447-4700

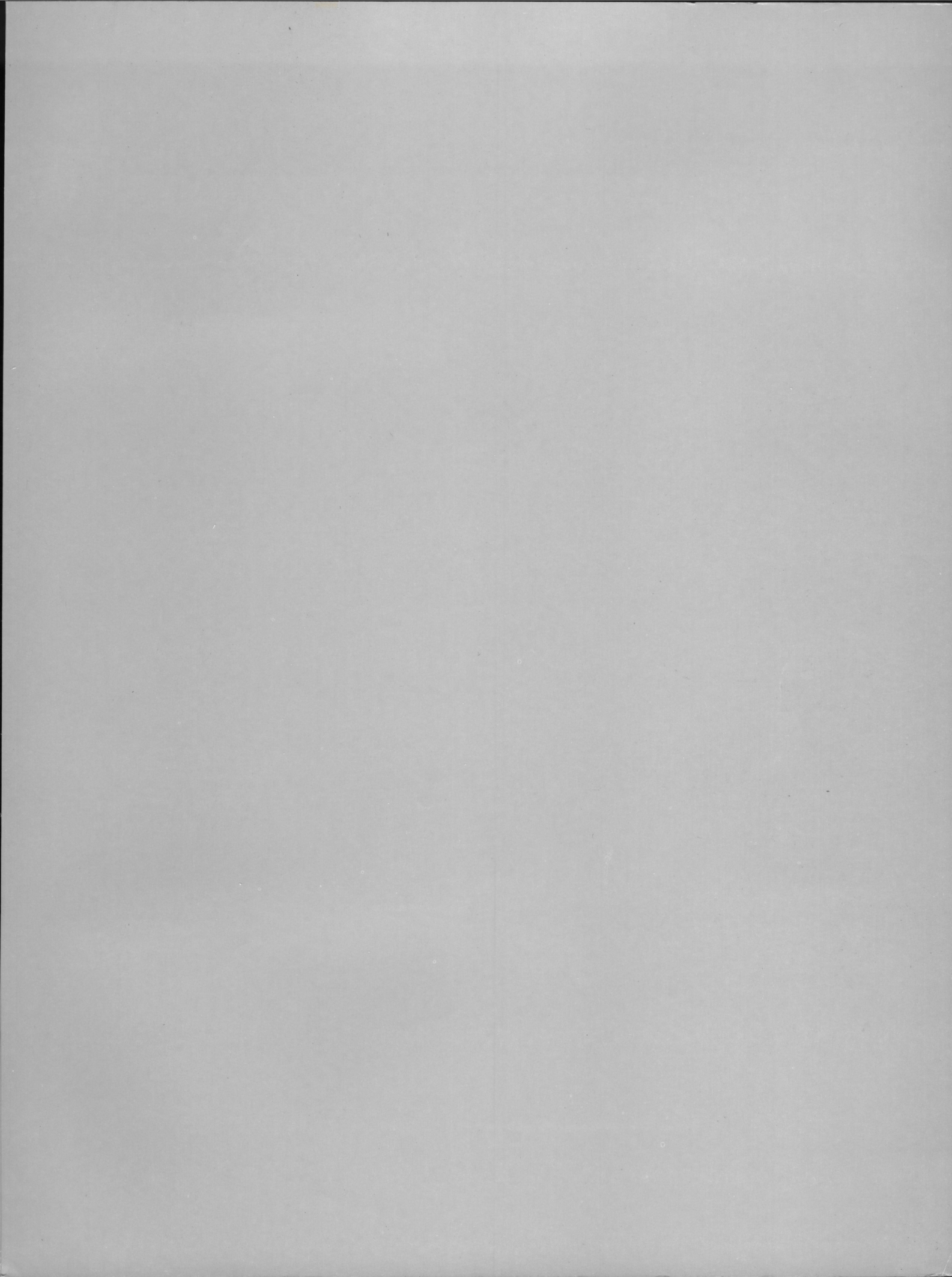
In Illinois, call: 1-800-322-4400. In Alaska or Hawaii, call: 1-800-447-0890.

Alphabetical index of software products

<hr/>		<hr/>		<hr/>	
A		Binary Synchronous (BSC) 3270 Emulation	80	F	
Accounts Payable 1.10 by Peachtree	96	Bumble Games	101	Fact Track	103
Accounts Receivable by BPI	97	Bumble Plot	101	FileCommand	65
Accounts Receivable 1.10 by Peachtree	96			Fixed Disk Organizer	67
Adventure	106	C		FORTTRAN Compiler	89
Adventure in Serenia	108	Casino Games 1.05	108	FORTTRAN-77 Compiler	92
Adventures in Math	102	COBOL Compiler	90		
Animation Creation	106	CP/M-86	93	G	
APL Interpreter	88	Crossfire	107	General Accounting by BPI	97
Arithmetic Games	103			General Ledger 1.10 by Peachtree	96
Asynchronous Communications Support 2.00	78	D			
		Decathlon	108	H	
<hr/>		Disk Operating System (DOS) 2.10	86	Home Budget	73
B		Diskette Librarian	69	Home Budget, <i>jr</i>	74
BASIC Compiler	89	Dow Jones Reporter	82	HomeWord	44
BASIC Primer	103				
BASIC Programming Development System 1.05	88	E		I	
		EasyWriter 1.15	41	Inventory Control by BPI	97
		8087 Math Co-Processor	89	Inventory Control 1.10 by Peachtree	96

Alphabetical index
of software products

<hr/>		<hr/>		<hr/>	
J		O		T	
Job Cost by BPI	98	One-Hundred-and-One Monochrome Mazes	107	3101 Emulation	79
Juggles' Butterfly	101			Time Manager 1.05	71
<hr/>		<hr/>		<hr/>	
L		P		Turtle Power	102
Logo	100	Pascal Compiler	90	Typing Tutor	104
Learning DOS 2.00	104	Payroll by BPI	98		
Learning to Program in BASIC	104	Payroll 1.10 by Peachtree	98	U	
<hr/>		PeachText	38	UCSD Pascal	91
M		Personal Communications Manager	83	UCSD p-System	91
Macro Assembler	89	Personal Editor	51	UCSD p-System Runtime Support	92
Mailing List Manager	63	pfs:FILE/REPORT 1.05	60		
Mine Shaft	106	Private Tutor	104	V	
Monster Math	102	Professional Editor	49	VisiCalc 1.20	57
Mouser	106				
Multiplan 1.10	54	S		W	
Multiplication Tables	104	ScubaVenture	106	Word Proof	47
		SNA 3270 Emulation and RJE Support	81		
		Strategy Games 1.05	108		



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