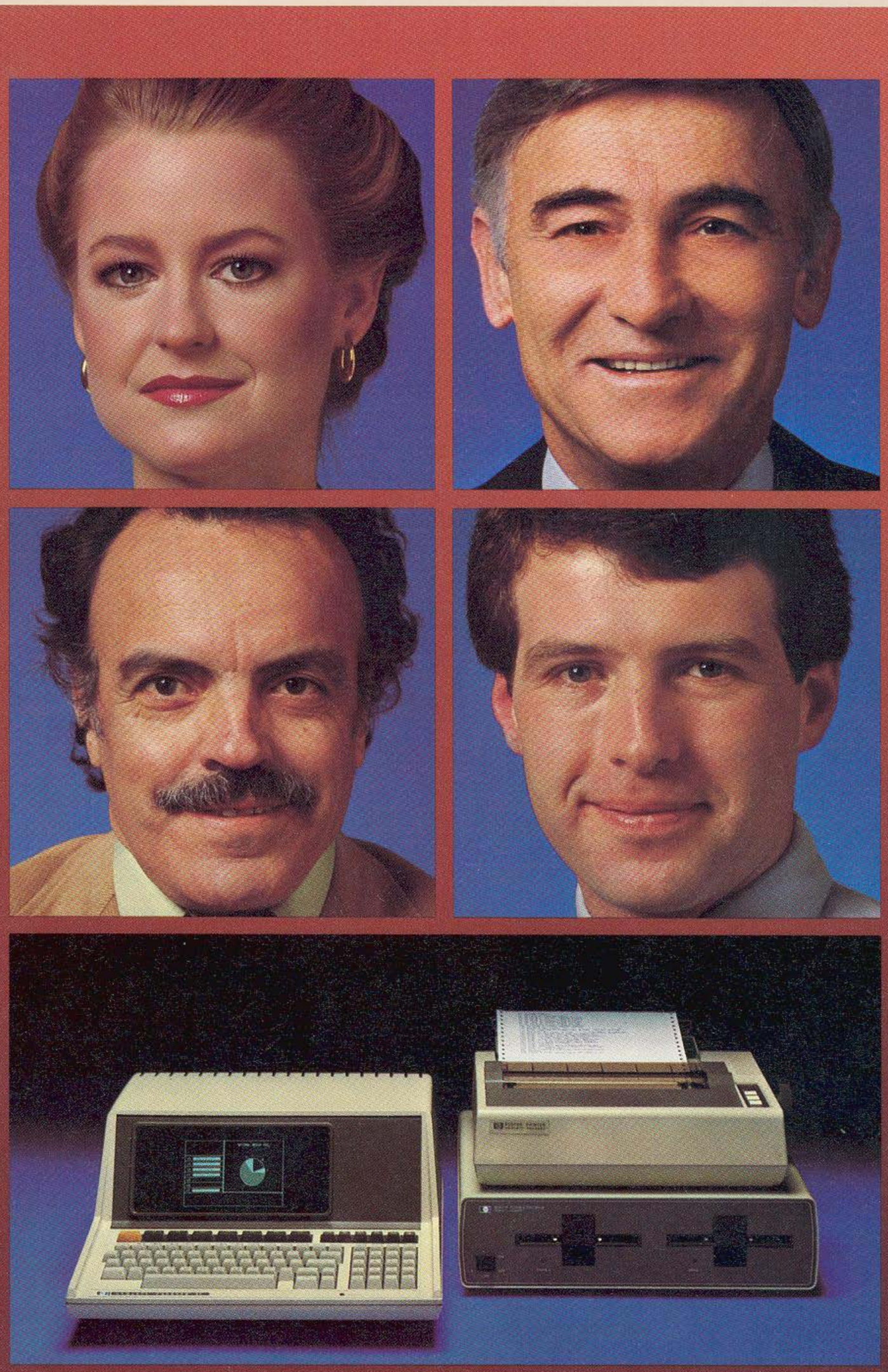
HEWLETT PACKARD

Series 80 Personal Computers

Problem solvers for professionals



Discover The Answers For Tomorrow's Problems... Today

Imagine analyzing large amounts of information and organizing your data in a meaningful way. Imagine storing this information and being able to call it up in a matter of minutes for updates and further analyses. Imagine creating charts, graphs, and printed reports to display your results.

With a Hewlett-Packard Series 80 Personal Computer system, you can accomplish all of this in a fraction of the time it used to take. The hours you spend working through tedious calculations can now be free for decision making and problem solving. That means increased productivity and savings in time and money.

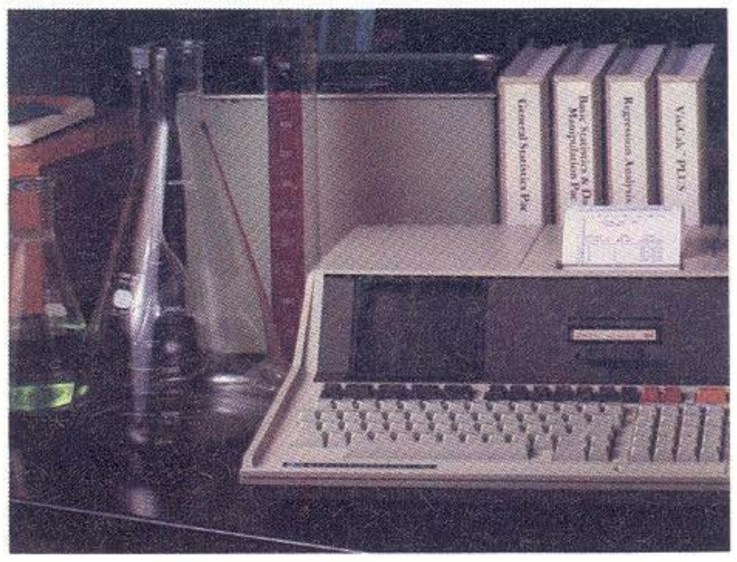
These savings can be yours, whatever your occupation. With a broad range of application software and a variety of peripherals and system configurations, the HP Series 80 Personal Computer family gives all types of professionals the computing power they need to find, analyze, and report information.

For the busy professional who travels frequently and likes to carry big computer power in one small package, Hewlett-Packard offers the HP-85, a 20-lb. portable personal computer. The HP-85 includes a tape drive, thermal printer, built-in memory, CRT screen, and built-in HP BASIC language commands. For even more programming options, you can link the HP-85 to Series 80 peripherals that give you capabilities for extended memory, four-color hard-copy graphics and printouts.

Professionals who must run long, complicated programs will want to consider HP-87 Personal Computer systems. These systems combine the HP-87 Personal Computer with a Series 80 mass storage unit to give you as much as 5.0M bytes of storage.

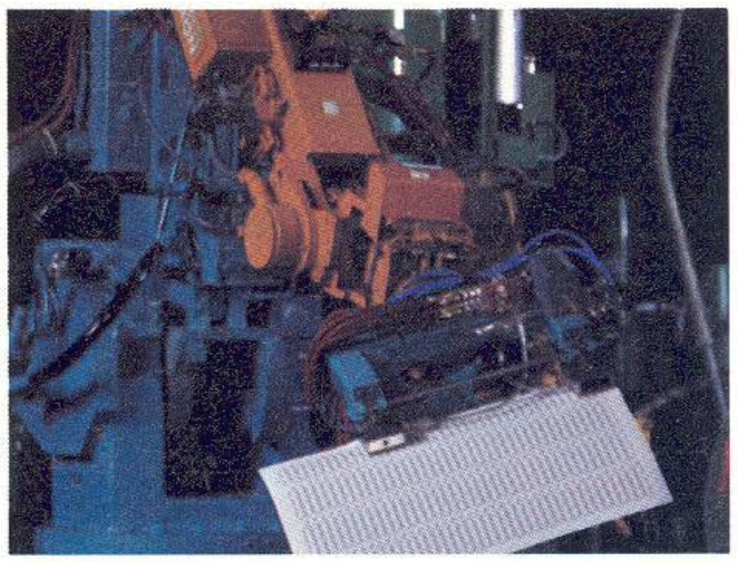
Whether you choose the portable HP-85 Personal Computer, or one of the powerful HP-87 Personal Computer systems, you'll get the quality and reliability that's traditional at Hewlett-Packard. Now take a look at how you can count on HP Series 80 Personal Computing systems to help you solve your problems every day.

An HP-85 is your analytical assistant in the lab, where you can use the portable personal computer and HP software to store data and study trends in chemical reactions. *See page 4.*

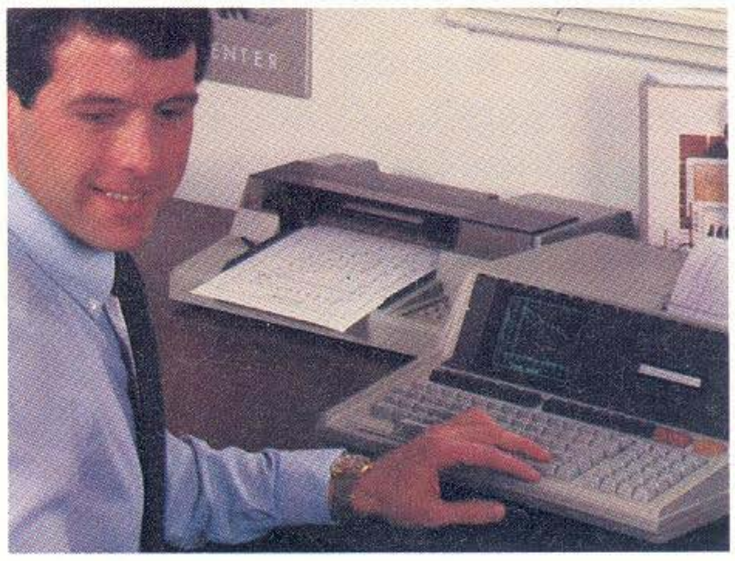


Stretch your advertising dollars with an HP-87 System 10 and the powerful Linear Programming Pac. You'll be able to devise an effective media plan to advertise your company's product. *See page 5.*

Use an HP-87 System 10 to make you a more efficient and effective manufacturing manager. Analyze material costs, production rates, even profit trends. *See page 6.*



Capture the energy of the sun with the help of an HP-85 Personal Computer! Use the computer to consolidate information gathered in tests of prototype solar heating panels. *See page 7.*



Make An HP-85 Part Of Your Lab

You are a chemist conducting complex experiments that involve spectrum analyses of chemical reactions. You need an assistant to help record data quickly, work through hypotheses, and keep track of calculations. An HP-85 Personal Computing system can help you do all this and more. You can use the system to store information and organize data. Then, create charts, graphs, and tables that accurately display your results.

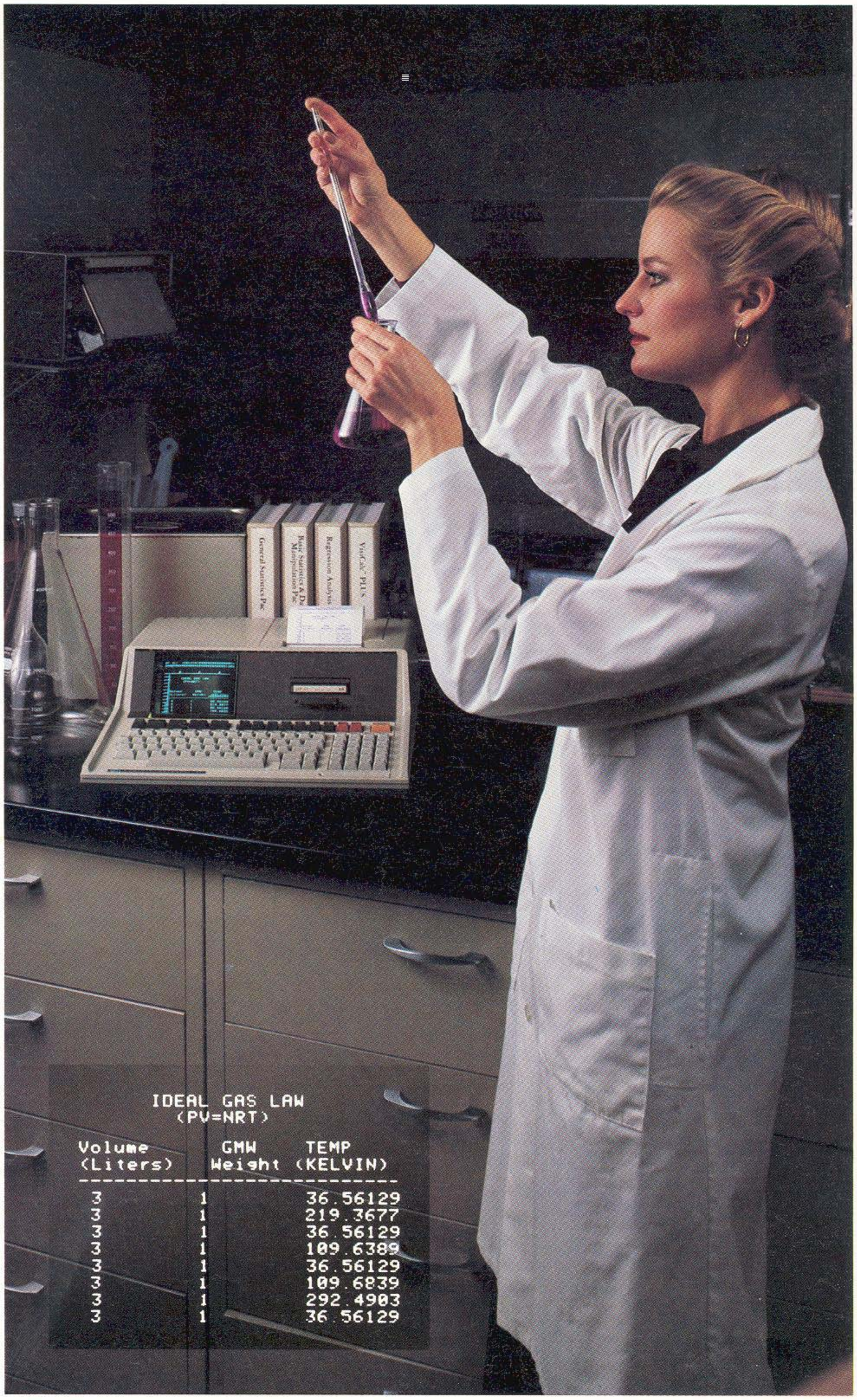
If you're setting up an experiment that involves a series of chemical reactions, the electronic worksheet of VisiCalc® PLUS software will be a convenient means of tracking and updating results. Set up a worksheet based on your hypothesis. Then, determine the path of the reaction by comparing new data with checkpoints on the VisiCalc PLUS worksheet.

As your experiment progresses and values change, you can use the recalculation function of VisiCalc PLUS to update your worksheet. Just type in a new value, input a simple command, and watch as all related values on the sheet are automatically adjusted.

Next, use the built-in programming functions of the HP-85 to determine the ratios of products and reactants resulting from your experiment.

You can accomplish these tasks right at the bench in the laboratory, while the experiment is in progress, because an HP personal computer is so compact you can operate it easily at your workstation.

VisiCalc® is a registered trademark of Personal Software Inc.



Stretch Your Advertising Dollars

As a marketing analyst for a growing company you must plan an effective advertising campaign for the next six months. You want to use your limited budget to reach a large audience of potential customers through a variety of media. To do this, you must determine the media mix that will give you the optimum return for your advertising dollars. Your HP-87 System 10 and an HP Linear Programming Pac can help.

You know the advertising rates for the media you're considering. You also know that you want to run a minimum of 12 one-minute commercials on daytime television and at least four one-page ads in a regional monthly magazine. Other media options include local newspapers and radio stations.

With this information you can set up a series of linear constraint equations and an objective function. Working through these equations could take hours of pencil scratching. But with your HP-87 System 10 (HP-87 Personal Computer and an HP 82901M Flexible Disc Drive) you can program up to 281 combined variables and constraints and have the answer in a fraction of the time.

Now use the graphics capabilities of your HP-87 to show the results in an easy-to-read pie chart on the display screen. With the Graphics Presentations Pac and the HP 7470A Graphics Plotter, you can put this information onto paper or overhead transparencies. Use these graphs when you present your advertising plan to other managers and staff members.

Put A Versatile Series 80 System To Work For You

Imagine that you are a manager in a manufacturing plant. It is your responsibility to document production rates and make forecasts of daily output from your area. With an HP-87 System 10 (HP-87 Personal Computer and an HP 82901M Flexible Disc Drive), your task is easy.

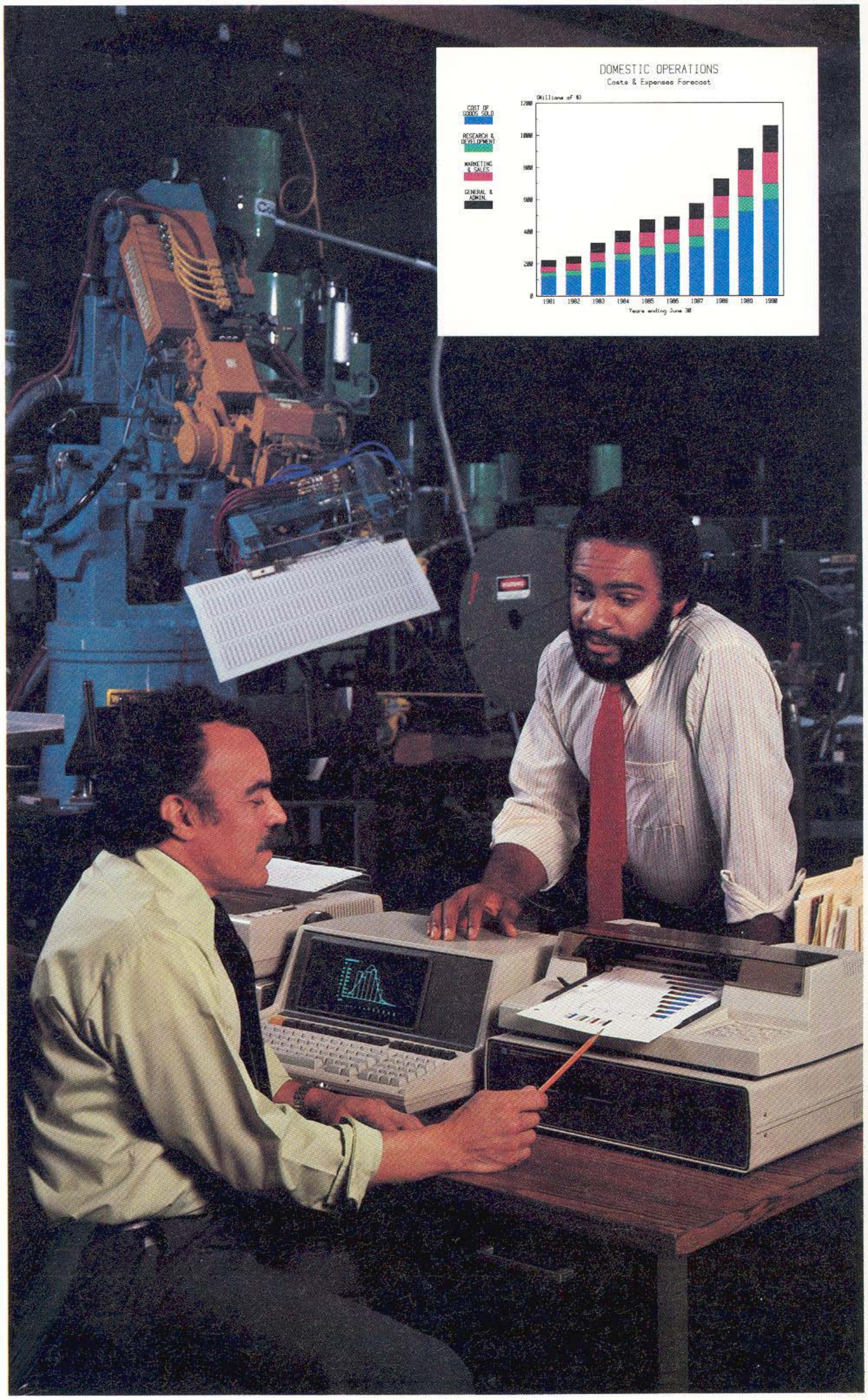
The expandable memory and powerful programming tools of the HP-87 let you store information and call it up any time with just a few simple commands. Analyze material costs, production rates, and profit trends with the help of HP's VisiCalc PLUS, the amazing electronic worksheet that helps you work through data efficiently.

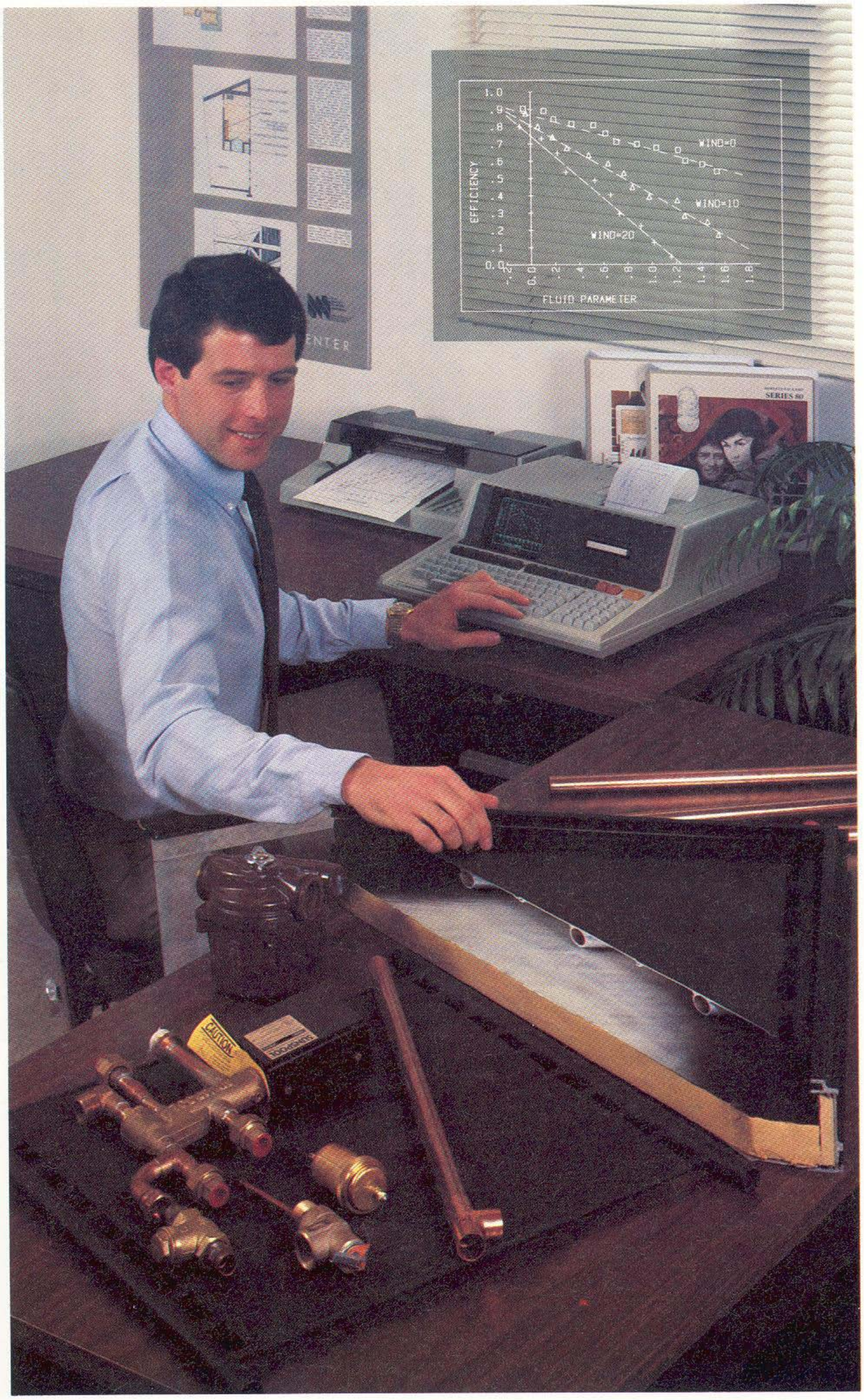
When you need to write memos, letters, and reports, your HP-87 Personal Computer with an HP 82901M Flexible Disc Drive can reduce the time you spend editing and rewriting from hours to minutes.

Simply insert the CP/M® system module into your computer and load the CP/M operating system from disc. You'll put yourself in a whole new world that gives you access to programs for word processing, data base management, and even other computer languages, such as PASCAL and FORTRAN.

With its analytical power, peripherals, and wealth of software available, your HP-87 System 10 has the flexibility to handle the wide range of tasks you face every day. That's the kind of computer partnership you need!

CP/M® is a registered trademark of Digital Research, Inc.





Capture The Energy Of The Sun!

As engineer for a solar research company, you're testing prototype solar heating panels. Your instruments have recorded amounts of sunlight, temperature levels, and rate of water flow through the panels. Now you can transmit the information from the recording instruments to an HP-85 Personal Computer by writing a short program in HP BASIC.

Using the computer's programming commands (more than 150 commands and statements are built in), you organize the data and chart a family of curves that show efficiency of the solar collector under different conditions.

First, show the chart on the HP-85's built-in CRT screen. Then you can prepare a printout of the same chart with the built-in thermal printer of the HP-85. Next, you can reproduce the chart in minutes on paper or an overhead transparency by linking the HP-85 to the HP 7470A Graphics Plotter. It's accurate, colorful, and readable. Picture perfect. And so easy.

If your solar research continues over a period of several months or years, or if you need to compare data on a day-to-day basis, you'll find Hewlett-Packard's Statistical Analysis Pac gives you software programs that will help you analyze and compare data. This new pac combines the General Statistics, Basic Statistics & Data Manipulation, and Regression Analysis pacs in one convenient binder. With these software solutions, you'll be able to track progress of your research with more detail and greater confidence.

The Powerful HP-87

- Expanded memory
- Fast graphics
- 80-column CRT display
- Built-in HP-IB interface
- 14 user-definable keys

The All-In-One HP-85

- Complete portability
- Built-in thermal printer
- Integrated graphics
- Full-screen editing
- Built-in tape drive

Meet
The HP Work Force

You've seen just a few examples of how a variety of professionals could use Series 80 systems to solve analytical problems. Now meet the ingenious personal computers that can help you become more effective, productive, and efficient every day.

The Powerful HP-87

If you need to do extensive programming, the HP-87 should be your choice. With the ability to expand to 608K bytes of total memory, the HP-87 Personal Computer lets you run long, complex programs. The expandable memory also lets you prepare analyses and reports that reduce stacks of information to a workable form. Analyze those data-crunching problems you face every day with concise charts, tables, and easy-to-read printouts of your notes and reports.

Whether you're a computer novice or an experienced programmer, you can learn to use the HP-87 quickly and easily. The alphanumeric keyboard is so similar to that of a typewriter that it's a snap to type statements and commands. With the 14 user-definable keys you can assign special functions and commands that make your HP-87 a truly *personal* computer.

The characters and numbers you display on the 80-column width CRT display will be crisp and easy to read. And, when preparing charts and graphs, you'll find you can create graphics on your HP-87 screen rapidly.

The CRT display is versatile, too. A simple command changes the 80-column width display from 16 lines to 24 lines. Use the 16-line mode when you want more spacing between lines. The 24-line mode is helpful when you're working with longer programs or reports and need to have more information visible on the screen. And, with the inverse video cursor, you can highlight titles or important lines by displaying dark characters on a light background.

Completed reports or graphics can be transferred from the screen to a printer or plotter easily. A built-in HP-IB interface and built-in printer and mass storage commands simplify data transfers and leave all four expansion ports on the back of the machine free for memory and other enhancements.

At the heart of the HP-87 is HP's enhanced BASIC language—a language that's simple to understand, yet powerful enough to handle difficult technical problems. HP BASIC on the HP-87 features string arrays, multi-character variables, line labels, multi-parameter functions, multiple binary programs, formatted program listings, and graphics, printer, and mass storage commands.

The HP-85

Combine an alphanumeric keyboard, CRT screen, thermal printer, tape drive unit, and 56K bytes of total memory, and you have the HP-85, Hewlett-Packard's completely portable personal computer.

This all-in-one package weighs only 20 pounds and is compact enough to take wherever you go. Make the HP-85 your analytical partner in the office, at home, in the lab, in the factory, or in client offices.

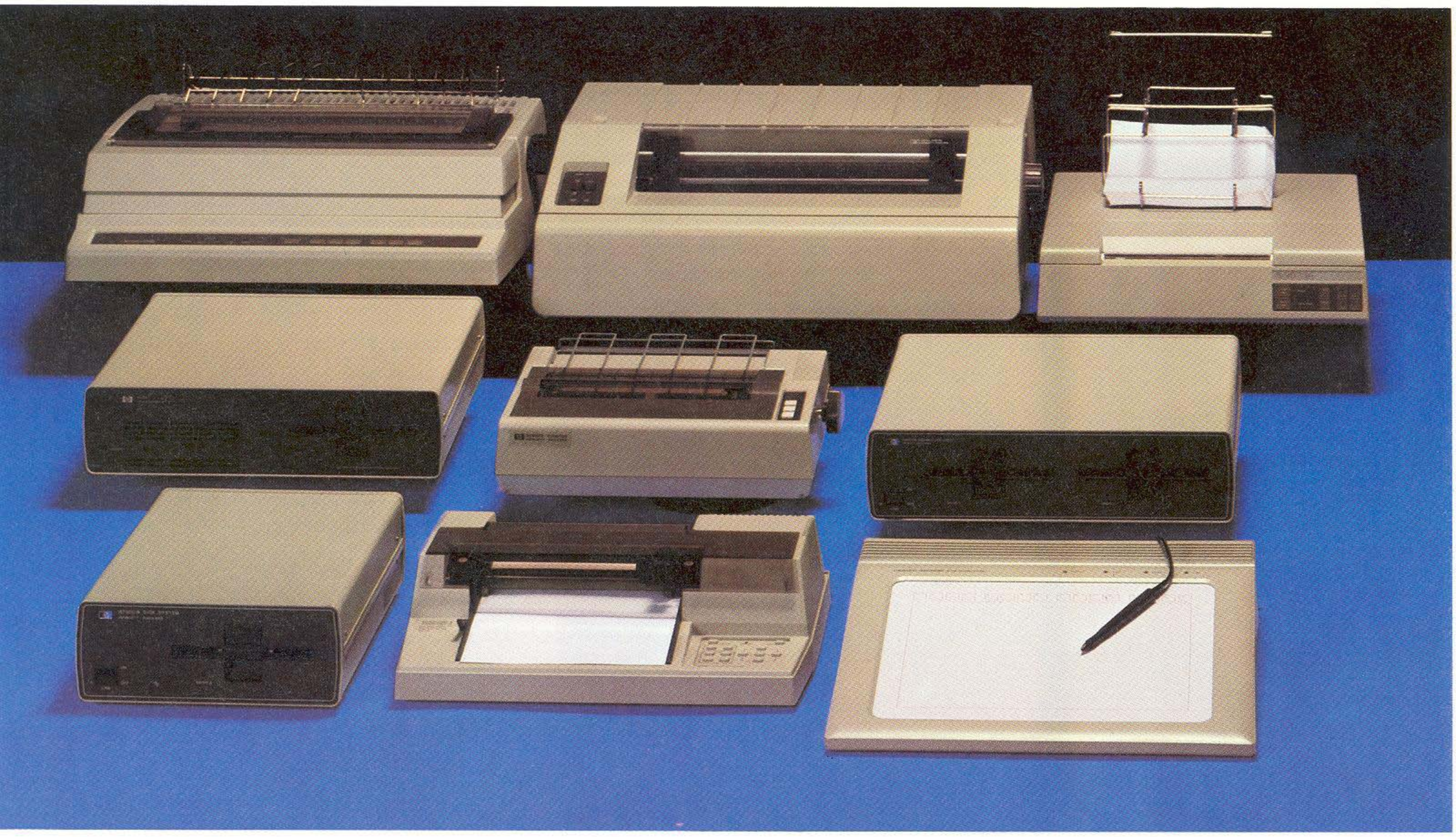
Like the HP-87, the HP-85 operates with enhanced HP BASIC, a computer language with more than 150 commands and statements designed to make your problem solving easier. With this programming power, you can write programs on the HP-85, store them on magnetic tape cartridges, and use them again, whenever you need them, wherever your job takes you. If you want hard copy from your program, print the information with the help of the fast, quiet thermal printer.

With the addition of an HP-IB interface, you can connect the versatile HP-85 to peripherals for hard-copy graphics, full-width printouts, or expanded mass storage. You can even link the HP-85 to instruments and the HP-87 Personal Computer.

Whatever use you choose for your HP-85, you'll find this personal computer combines all the elements you need for fast, efficient problem solving. The compact HP-85 fits easily into your work area, but you won't want to leave it there. You'll want to carry it with you as your portable, friendly analyst.

Series 80 Compatibility

If your work calls for the use of more than one personal computer, and you own an HP-85 Personal Computer, you can still add the HP-87. You will find the two systems upwardly compatible, with interchangeable interfaces and data files. HP-87 BASIC is a superset of HP-85 BASIC, so programs written on the HP-85 will load on an HP-87 and run with little or no modification.



Build A *Personal* Computer System

You can enhance the already powerful analytical capabilities of the HP-85 and HP-87 by connecting a variety of versatile peripherals. Use these peripherals to build a personal computing system that matches your specific needs. Your HP dealer or representative and HP's clear, concise manuals will help you create a system that can give you a competitive edge in your professional career.

Mass Storage

If you must access large amounts of data quickly, add a mass storage unit to your Series 80 computer. The HP 82901M and HP 82902M Flexible Disc Memory units offer over 270K bytes of on-line storage on each 5¼" flexible disc. That means you can have easy access to dozens of programs stored on discs.

Or, choose Hewlett-Packard's newest mass storage unit, the HP 9135A. It combines the high speed and large storage capacity of a fixed Winchester disc drive with the back-up capability and convenience of a flexible disc. With the Winchester drive, you can have continuous access to your stored information. The unit features 4.6M bytes —enough storage for complicated analyses that would take hours to work through without the help of your Series 80 system.

Printers

HP offers a large choice of printers to meet your needs for professional printouts. The HP 82905B, a low-cost, dot-matrix impact printer, provides you with high-quality hard copy of graphic or alphanumeric displays. Or, you may want to link your personal computer to one of the fast, quiet, thermal printers in the HP 2670 Series. For high-volume printing, consider the HP 2631B Impact Printer. If your job involves extensive correspondence and report generation, you will find the HP 2601A Daisy Wheel Printer best for letter-quality output.

Experience The Extensive Range Of Series 80 Software.

Hewlett-Packard personal computers and peripherals are only the beginning of the HP Series 80 story. A wide range of software solutions makes your Series 80 system more powerful and adaptable to your specific tasks. From the electronic worksheet of VisiCalc PLUS to the programming power of the Statistical Analysis Pac, HP has the software solutions you need to make your everyday problem solving easier.

Add impact and professionalism to your oral and written presentations with colorful charts and tables that you can create with the Graphics Presentations Pac.

With VisiCalc PLUS, you can evaluate dozens of alternatives in minutes. Its electronic worksheet function will recalculate a whole column of figures when you change one value. That means less pencil scratching for you and more time to consider what-if calculations.

HP Data Communications software will help you link your personal computer to larger data bases or other computers.

Other software pacs from Hewlett-Packard help you solve problems in engineering, linear programming, math, statistics, and regression analysis. Solution books will assist your analyses of stocks and bonds, budgets, real estate, math, science, and probability.

In addition to the powerful application pacs and solution books, you have access to a large selection of independently supplied Series 80

Graphics

Increase the impact of your reports and presentations with graphics created on the HP 7470A Graphics Plotter. Transform long columns of numbers on your printouts into colorful, easy-to-read charts and graphs that clarify your results. With a few simple commands, the plotter will create graphics so quickly that you can prepare an entire series of diagrams and tables in the time it used to take a graphic artist to prepare just one.

The HP 9111A Graphics Tablet takes you one step further into the graphics world by letting you interact with the graphics display on your HP-85 Personal Computer. As you move a pen-like stylus around the tablet, it translates your movements into digital code and transmits this code to the computer. Utility software programs for the tablet let you trace existing documents, design pictures, add text, trace maps, create a data base, or plot.

All of these peripherals can be easily and quickly integrated into your Series 80 system with the help of HP ROM's. These firmware modules, which fit into the back of an HP-85 or HP-87 via an HP ROM Drawer, enhance the capabilities of Series 80 software. In addition to ROM's, a variety of Series 80 interfaces is available to help you link other devices to your personal computer.

software programs and hundreds of programs in Hewlett-Packard's Users' Library.

And, with the CP/M system in the HP-87 Personal Computer, you can take advantage of even more software programs. The plug-in CP/M module replaces the CPU and memory of the HP-87 with a dedicated Z80 operating system and 64K bytes of memory. Just insert the module, load the CP/M system from a disc, and discover the world of CP/M software.

A list of Hewlett-Packard software is shown below. For details, see the Hewlett-Packard Series 80 Software brochure. Or, consult the Series 80 Software Catalog at your nearest HP dealer or sales office.

HP Application Pacs
VisiCalc PLUS
Graphics Presentations
Financial Decisions
Linear Programming
BASIC Training
General Statistics
Basic Statistics & Data Manipulation
Regression Analysis
Math
Waveform Analysis
AC Circuit Analysis
Surveying
Games
Games II
Information Management
Text Editing
Data Communications
Electronics Engineering*
Statistical Analysis*

Solution Books
Stocks & Bonds
Securities & Investment Analysis
Budgeting & Finance I
Budgeting & Finance II
Management Science
Real Estate
Math Learning
Science Learning I
Science Learning II
Electrical Engineer Learning
Electrical Engineering Math
Numerical Analysis
General Probability
Decision Analysis
Games

Series 80 Software From Independent Sources
Electrical/Mechanical Engineering
Accounting
Structural Design
Chemical Engineering
Real Estate Finance
Linear Systems
List Management

*Includes three software pacs in one package

See your HP dealer or sales representative for details about software available through Hewlett-Packard's Users' Library and CP/M compatible software programs.

Service You Can Depend On

When you buy a Series 80 Personal Computing system, you get the quality and reliability that is a tradition at Hewlett-Packard. In addition to a 90-day warranty, you have a choice of service programs.

1. If your dealer is an HP Dealer Repair Center, just contact him when you need servicing for your personal computer and peripherals. The repair centers offer both maintenance agreements and per incident service. No matter which option you choose, you can be sure your computer system will be back to work for you promptly.

2. HP's On-Site Product Maintenance Agreements let you plan your maintenance costs in advance and give you a choice of on-site and field repair center service programs. The on-site agreement guarantees you'll receive prompt service right at your location from trained HP personnel. The HP Field Repair Center option assures you of quick, economical service at your nearest Field Repair Center.

3. HP's per incident service gives you the option of paying for maintenance as you need it. As with the maintenance agreements, you have a choice of on-site or Field Repair Center service.

These service programs are in keeping with Hewlett-Packard's commitment to meet our customers' many and varied needs.

HP Helps You Become Acquainted With Your System Quickly!

To help you get the most from your Series 80 system right from the start, HP classes and technical support programs are available from Hewlett-Packard and your local dealer or sales representative. You can take a beginner's course in BASIC Operating and Programming or more advanced classes in Assembly Language and Interfacing. And, if you need application assistance, System Information Service and consulting services are available to answer specific questions and keep you up to date on software and documentation status.

When you buy an HP Personal Computer, our job is just beginning. HP and your local dealer or sales representative will be there long after the sale to help you develop and maintain a personal computing system that grows with your needs.

You've seen how professionals in many different fields can use Series 80 systems to solve problems every day. Now you can discover for yourself how to use a Series 80 Personal Computer system in *your* profession. See your local HP dealer or call your nearest HP sales office today and get your hands on a Series 80 Personal Computer.

For the dealer nearest you call TOLL FREE 800-547-3400 in the U.S. (except Alaska and Hawaii). In Oregon, call 758-1010. TTY users with hearing or speech impairments, please dial 503-758-5566.

5953-7205

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