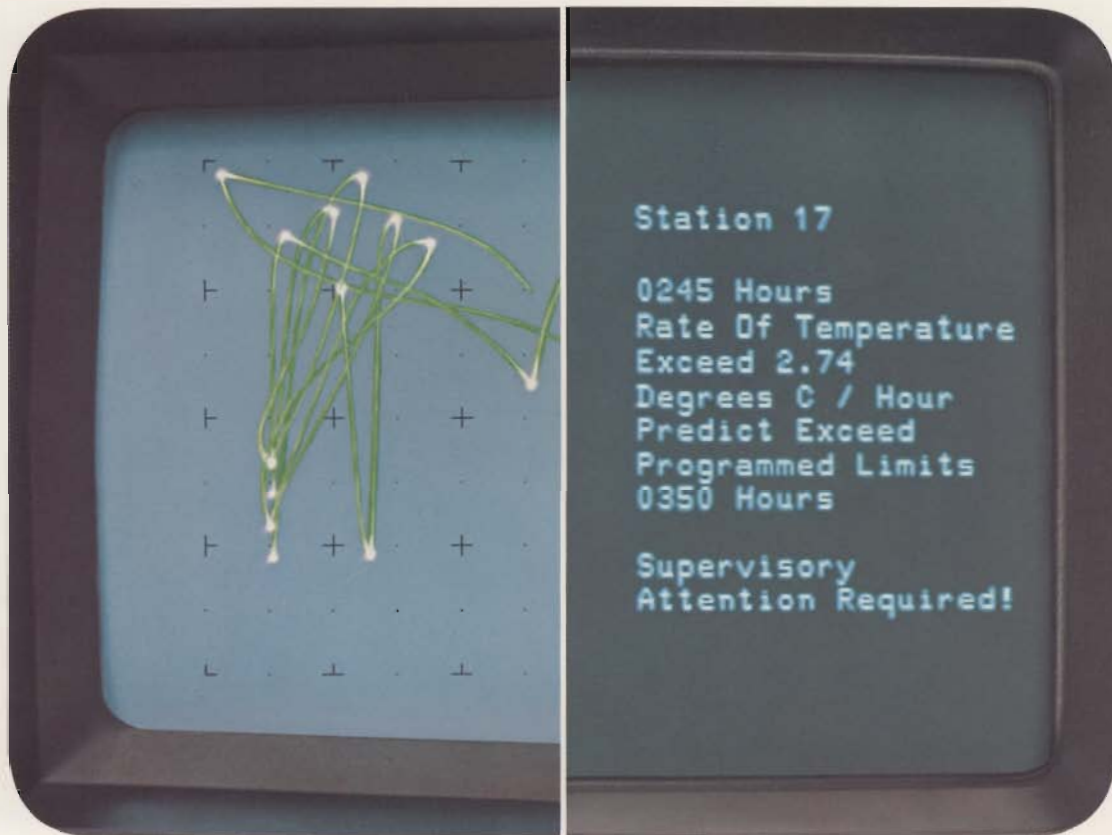


**Hewlett-Packard  
Measurement and Computation  
Help Improve Productivity**



**HP Computer Museum**  
**[www.hpmuseum.net](http://www.hpmuseum.net)**

**For research and education purposes only.**

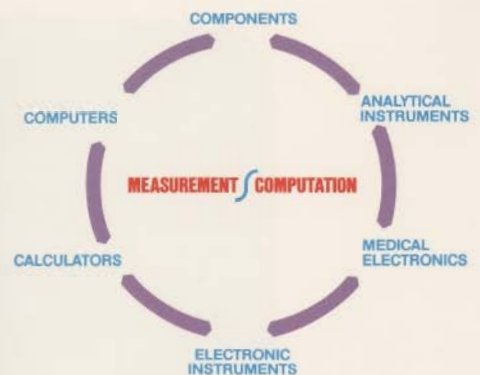
**At Hewlett-Packard**, our business is the practical application of high technology. We focus our technological resources on two fundamental product areas: measurement and computation.

Of the more than 3,600 products we make, nearly all are involved with measurement, or computation, or both. We make electronic instruments to measure physical phenomena and acquire data. We make calculators and computers that analyze data and convert it into useful information. And we combine these two types of products into systems that do both jobs.

These products have one purpose: to help improve productivity for our customers in science, industry, medicine, education, government, and business—worldwide.



**Semiconductor components** are basic building blocks of most HP products. We develop and manufacture these components for many of our products in order to control their performance, cost, and reliability. As a further result, we've become a leading supplier of semiconductor and optoelectronic devices to other manufacturers. Shown at top is a diffusion furnace used to process our semiconductor products, and at bottom, some of our large scale integrated circuits.



**The interrelationship of HP's measurement and computation** activities is symbolized by the above diagram. They spring from the same basic technologies.

**Our cesium beam frequency and time standards** exemplify ultraprecise measurement. They clock time with an accuracy equivalent to a one-second error in 4,500 years, and are used for calibration at observatories and at national centers for measurement standards, to name just two applications.

**Cover:** These two displays symbolize Hewlett-Packard's measurement and computation capabilities. At left, an HP logic state analyzer displays the unique "fingerprint" of a digital system to help pinpoint a logic malfunction. At right, an HP data terminal reports results of a computer analysis in language readily understood by nonspecialists.



**General purpose, multiterminal computer systems**, such as the HP 3000 Series II above, offer powerful data base management within a practical framework of economy and versatility. They are terminal oriented, and accessible to nonspecialists. They can perform independently or as a satellite to a larger system, and can be expanded on-site as data processing needs change and grow.



**Our electronic instruments** range from basic bench test units to "smart instruments" and systems capable of making computed measurements. They include power supplies, meters, counters, signal sources, recorders, displays, analyzers, and the HP Interface Bus, a versatile interconnect system that enables a number of instruments to work together.

**Sales and earnings** have maintained a healthy relationship since 1939 when the company was founded by William Hewlett and David Packard, President and Board Chairman. All operations are financed out of earnings.

Since most of these products and systems are at the forefront of technology, customer support is vital to their successful operation. Every HP product comes with full documentation and instructions to operate it effectively. And wherever our products are sold worldwide, they are backed by customer training programs, assistance by systems analysts and customer engineers, and a worldwide network of parts and repair centers for maintenance and service.

With this business philosophy we've experienced steady growth. We employ more than 32,000 people. We do research and manufacturing in 33 facilities in 8 countries. Our annual orders exceed \$1 billion, of which we return approximately 10 percent to research and development. This investment enables us to deliver products with state-of-the-art performance on a continuing basis.



**HP's range of computation products** begins with our hand-held and portable calculators. Scientists, businessmen, engineers, and students use their computing power for on-the-spot solutions to problems.

**Programmable desk-top systems** fill the gap between our hand-held calculators and computer systems. They offer the power of a computer, the directness of a calculator, and the convenience of a typewriter. They connect to measuring instruments, printers, plotters, displays, and mass storage devices.

**Our general purpose 21MX minicomputers** (top) are the data processing components of our time-sharing and automatic instrument systems. Together with our disc drives, magnetic tape units, terminals, and memory systems, they are also sold on an OEM basis to manufacturers of specialized systems.

**Hewlett-Packard product research and manufacturing** is carried out in eight countries around the world.



**HP medical electronic instruments** and systems are used in hospitals around the world for diagnosis, and for monitoring the vital signs of critically ill patients. This HP monitoring system (top) detects early signs of life-threatening arrhythmias in heart attack patients, and instantly alerts the medical staff so they can begin preventive treatment.

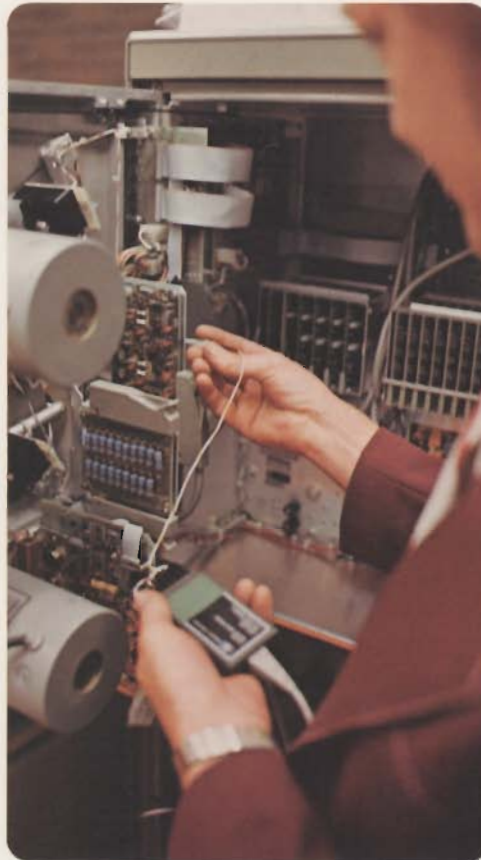
**Instruments for chemical analysis**, such as this HP reporting gas chromatograph (bottom), combine ultraprecise measurement with computation. These analytical answer-machines can detect and identify quantities as small as a millionth of a millionth of a gram.

**This HP Fourier Analyzer** combines instruments and a computer to speed mechanical design and stress analysis. It is typical of many HP measurement and analysis systems used for design, testing and quality control.

Because our products are inter-related, the exchange of ideas throughout Hewlett-Packard is continuous. A technological achievement in one product often contributes to improved capabilities in other HP products and systems. And each customer experience improves our sensitivity and response to the more than 100,000 customer organizations we serve.

Thus, a Hewlett-Packard customer is an integral part of a versatile and resourceful organization which thrives on the cross-pollination of ideas and experience.

If your objectives include improved productivity, we share the same goal. If you think our measurement and computation capabilities can help, we have something to discuss.



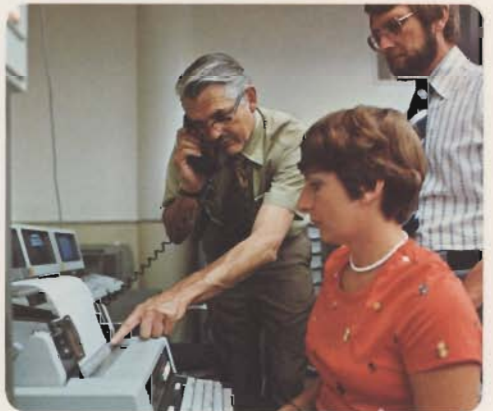
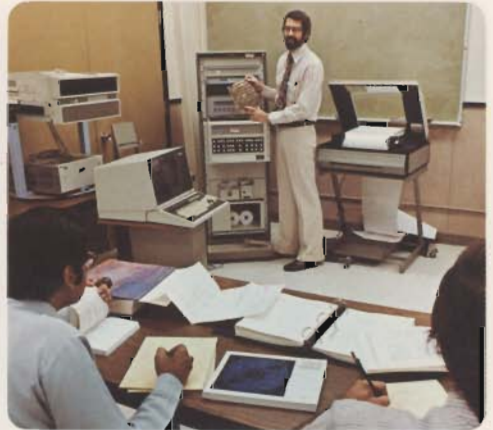
**More than 1,500 HP service technicians** provide a complete range of maintenance and repair services throughout the world.



**HP's extensive videotape library** enables many customers to receive service and applications training on a schedule tailored to their convenience, within their own facilities. **Every Hewlett-Packard product and system** is delivered with full documentation on how to use and maintain it.



Worldwide we have more than 2,000 field engineers working from 172 local sales offices. They work to understand each customer's needs and provide the highest level of assistance.



Our customers also benefit from direct applications assistance through our technical support staff and comprehensive classroom training programs.

HP's customer support program is rounded out by on-site consultation and applications assistance from HP technical specialists.



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MEASUREMENT/COMPUTATION