

New links
to new markets



Measure

For the men and women of Hewlett-Packard/APRIL 1972

Data Products Group

DEVELOPMENT

OPERATIONS

The cover:

Uses for mini-computer systems are being discovered in all kinds of business and industrial operations. A few are depicted here: computer-assisted instruction (CAI), inventory control, machine operations, production controls, management training, and time-shared business applications. The new HP Data Systems organizations are designed to link the company directly and functionally to these and other new markets.

To people who have been around HP for a while it seems only a short time ago when the company announced its entry into the computer field with a mini machine designed to interface with instrument systems. Actually that was more than five years ago.

And it also seems that it was just the day before yesterday that the Data Products Group was formed. Its mission was

to develop a long-range strategy regarding computers and peripherals; meanwhile it was to sell these as vigorously as possible in existing markets, chiefly instrument systems both within and outside HP and in OEM applications. Well, that was five years ago.

Today, that original objective has been implemented: There is a basic new strategy that will set the Group on course for the foreseeable future. That strategy is to concentrate on developing important positions in markets outside HP's traditional instrumentation customers, and to do this by offering problem-solving systems capabilities—products and people—matched to the needs of these new customers. At the same time the Group will continue to supply the needs of its HP and OEM customers for sophisticated computer products.

To make this strategy effective, the Group recently undertook an important organizational revision.

The former product-oriented divisions at Cupertino (computers) and at Mountain View (peripherals) have been merged to form a cohesive new team of functional divisions. In their place was created a Data Systems organization composed of a



OPERATIONS

MARKETING

Development Division (product management and development), an Operations Division (manufacturing, facilities, and systems integration), and a Marketing Division. Moreover—and perhaps most important—the Data Systems sales force would gradually be realigned into teams of industry-oriented problem solvers serving new markets. (Automatic Measurements Division, on the other hand, would continue in its role of providing measurement-oriented systems to HP's traditional instrumentation customers).

"Up until recently," said Bill Terry, vice president and general manager, "we've been essentially product oriented. We had to be that way to become established. But now our long-term objectives have become more clear and our prospects for substantial growth have become more visible.

"In our formative years we depended necessarily on our ability to supply sophisticated items of computer hardware and software. And for that kind of business, product-oriented divisions were fine. But when you say you want to build computer systems and offer new solutions to important problems of customers, then

you need a different orientation. You need to be structured along functional lines as a team. This is what we've done.

"Similarly, the Data Systems sales force in the field will be developed along market lines as we identify and deliver solutions to those markets. Some of these could be related to such fields as travel, inventory control, health care, management, banking, records keeping—you name it. We are finding many, many new problems that can be solved with a sophisticated mini-computer system. Having a new HP disc, the 7900A, really steps up our system capability in the 2100 family this year. The HP 3000 system is just now really beginning to be felt, and customer interest is very great.

"The education market is probably the best example we have of this. Here HP has made a strong showing by putting specialists in the field and supporting them with educational products, people and programs. That's the prototype we expect to follow in other new markets."

How the new Data Systems organizations will function under this new charter and who will manage them are outlined overpage:

(continued)

links to new markets

Data Products Group

Management team, from left:

Hank Morgan, financial operations
Ernie Matlock, customer service
Dick Anderson, personnel (Cupertino)
Bill Terry, vice president and general manager
Jack Loustaunou, finance
John Russell, financial analysis
Gordon Eding, manufacturing services
(Not shown: Fred Schroeder, manager
of Data Products—Europe)



The mission: Bill Terry's role is to develop the overall strategy and coordination for all Data Products functions—development, manufacturing, and marketing—and all product lines including computers, peripherals and calculators. One key goal is to develop new ways of motivating and measuring the performance of people, particularly in view of the team effort required to sell data systems.

Operations Division

Management team, from left:

Ed Miller, computer systems manufacturing
Ed Ilgen, personnel (Mountain View)
Bill Abbott, general manager
Ray Smelek, peripheral manufacturing
Hank Doust, custom products



The mission: Coordinate the manufacture of computers and peripherals, including the manufacturing departments at Cupertino and Mountain View locations. In addition, Operations is responsible for facilities, inventory, scheduling, integration of systems, and delivery to customers. The Operations Division has product responsibilities to serve all parts of HP, and additionally is responsible for the coordination of allied activities at HP's plants in Singapore, Grenoble, Japan, Scotland and Germany.



Development Division

Management team, from left:

Dick Monnier, peripheral development
 Steve Vallender, computer development
 Roger Ueltzen, product management
 Dick Hackborn, division manager
 Joe Kintz, publications
 Dick Shannon, engineering services

The mission: To concentrate on the development of the computer hardware, software and peripheral products. This might be described as keeping the pipelines filled with new products, a responsibility shared with the Operations Division. One of these pipelines goes directly to those other parts of the company now making significant use of computer technology, notably AMD. Increasingly, though, the lines will feed into new markets through the marketing and field sales teams.



Marketing Division

The management, from left:

Bill Nilsson, division manager
 Jim Treybig, industry market manager
 George Newman, Data Systems general manager
 Ed McCracken, govt.-educ.-medic. marketing
 Phil Van Nest, marketing support
 Chuck Comiso, product sales
 Jim Schmidt, U. S. field sales

The mission: To conduct the critical functions of marketing support, including hardware and software training as well as service support. Field activities will be coordinated by sales managers representing the domestic sales regions. At the same time, there will be increasing emphasis on identifying and developing new markets—the key to future growth. The special role for George Newman is to manage the activities of the Development and Marketing divisions, to assure that crucial balance between HP product-technology contributions and a growing new HP customer-industry focus.

Making



cash earn its keep

***Between the moment cash comes in
and the time it goes out
there's hardly one idle moment...***

□ During the Christmas-New Year season of 1967, the U.S. Treasury Department wrapped up an administrative package designed to control the direct investment of dollars abroad. Known as the Foreign Direct Investments Program, its purpose was to help curtail the rising U.S. balance-of-payments deficit. The program, still in effect, requires U.S. firms to bring back—repatriate—most of their overseas funds (funds equivalent to a substantial part of overseas earnings) rather than use this cash to finance operations and further growth abroad.

This helps explain an otherwise illogical procedure Hewlett-Packard's finance managers have had to go through during the past four years: namely, the borrowing of sizable sums in foreign money markets while simultaneously investing repatriated cash in the short-term money markets of the U.S. to help, in part, pay the costs of overseas borrowing.

The net effect has been to turn the company's overseas money men into debt managers, while the U.S. organization has had to become increasingly concerned with cash management.

Cash management begins with the money generated by repatriation as well as U.S. sales dollars. And, contrary to what most people expect, customers in the U.S. don't send their payments to the manufacturing divisions. Instead, their

checks are mailed to any of the eight "lockbox" banks HP retains around the country. Each day these lockboxes wire their receipts to a central bank in Palo Alto—the Crocker National Bank. Overseas earnings are also wired periodically to this same bank.

In turn, Crocker National serves as a starting point for all the domestic funds disbursed by the company. A good part of this is represented by the funds transferred to the divisions and regions—or rather to their banks—for use in local operations. The Palo Alto bank is also the clearing house for payments to suppliers, to tax bodies, to shareholders, and for many capital expenditures.

The action now becomes more and more interesting, because in between the receiving of cash and its disbursement a temporary surplus or deficit is generated, depending on general economic conditions. Recently, a temporary surplus has been far more common—often a substantial one at that. And, just like individuals, businesses dislike money lying around doing nothing. If there is a surplus and they can't immediately put it to use in their own regular business, then they want it out there in the money market earning its keep.

The Corporate Finance people in assistant treasurer Fred Andersen's department have adopted a very positive

(continued)

cash earns its keep

policy toward this matter. It takes the form of a section known as Corporate Cash Management supervised by Bill Crowley. New computerized techniques are very much a part of the approach.

The first step for Cash Management is to know with some precision what the needs for money will be in the months ahead. A new computerized 13-week cash forecast developed by Crowley gives them the necessary picture. Updated weekly, it projects the flow of all cash in and out of the company. And from it Bill can spot how much money is available for investment or how much must be borrowed. Then, looking ahead at the forecast for—say—two months away, the Cash team can also see when they will need to have loaned cash back in their hands in order for the company to pay taxes or purchase a piece of property, or whatever. This helps them decide how long an investment period they will seek; chances are that in shopping around they will get a maturity date that pays back on the very day they will need it.

Assuming there's a good surplus projected for this week, and the lockboxes have been reporting in without a hitch, the Cash Management team is now ready to do business. Offering minimum increments of \$500,000, they shop the major money markets for organizations needing large amounts of short-term cash. Usually, a half-dozen phone

calls to our banks or some of the bigger investment dealer firms around the country will see the funds invested at the most favorable interest rate to minimum-risk borrowers. The investments take the form variously of certificates, Treasury bills, commercial "paper," municipal notes, or TAB's—(Tax Anticipation Bills).

The "engineering" aspect of cash management that Bill Crowley talks about comes from the highly sophisticated use that is now being made of computerized data. Bill himself is not an accountant; he's an engineer with extensive computer experience, and one of his primary missions since joining Corporate Finance in 1970 has been to help introduce computer methods to the management of money.

However, important as the computer has become in the management of HP's cash, the real catalyst is the philosophy of operation. Essentially, this philosophy says you have to know what you're doing—in this case it means understanding the money market. As one example, the department ran a study to determine the time lag between the date when an HP check is mailed out and the date it is cleared. In financial jargon, this is known as the "float." It turned out that there was indeed a significant lag on the average, and that therefore the company could safely make investments "against the float" for short periods. The money managers like to keep their eyes on things like that. □



Glenne Young, Corporate cashier and assistant manager of Cash Management, discusses investment data produced by computer program. Glenne also makes many of the "shopping" contacts in placing funds with banks and investment firms.

Equal opportunity policies reaffirmed

All HP people have an interest in equal employment opportunity policies—and an obligation to help make them effective in practice. Last month President Bill Hewlett sent the following statement on this subject to HP general managers:

"The Hewlett-Packard Corporate Objectives are more than just statements of philosophy—they literally serve as our operating policy. However, because they cover very broad areas of our business, it is necessary from time to time to issue supporting policy statements to provide additional definition and detail.

"Equal opportunity employment is a case in point. We have had a non-discriminating policy at Hewlett-Packard throughout the company's history, and in the 1950s when we first put our corporate objectives down on paper, two of these objectives—People and Citizenship—made specific reference regarding our concern for people and our social responsibilities.

"Taking it a step further, we established Affirmative Action programs in the 1960s, and in a memo to our top management group in 1970 I reaffirmed and reemphasized our equal employment opportunity policy.

"This policy, without qualification, is that we recruit, hire, train, and promote in all job classifications without regard to race, religion, color, sex, national origin, or age. The policy applies to both qualified and qualifiable people, and in addition places particular emphasis on our efforts with regard to the development and promotion of minorities and women.

"Further, all other personnel actions such as benefits, compensation, education and training, tuition assistance, recreation and social programs, also are to be administered without regard to race, religion, color, sex, national origin, or age.

"Finally, as we have demonstrated in the past, we will base decisions on employment so as to further the principles of equal employment opportunity and Affirmative Action for minorities and women.

"This policy of non-discrimination and equal employment opportunity is a company-wide directive for positive action. Each division and department head is charged with the responsibility of executing the policy on a local basis to assure conformance and the achievement of our objectives.

"Every member of Hewlett-Packard management, from line supervisors and foremen to top management, is expected to adhere to this policy, and performance evaluations will reflect their degree of participation and effort.

"I have assigned overall corporate responsibility

for equal employment opportunity to Ray Wilbur, vice president of Personnel. He will be responsible for implementation of equal employment opportunity practices, including Affirmative Action programs; for development of new concepts to further refine and improve Hewlett-Packard's equal employment opportunity programs; and for monitoring and evaluation of equal employment opportunity programs being conducted at all Hewlett-Packard manufacturing plants and sales offices. He will be assisted by the Corporate Equal Opportunities Manager.

"Affirmative Action Program reports, and follow-up reports on implementation, will continue to be submitted by all locations. Because of the importance I attach to this subject, I will continue to review each one personally.

"Our policy with regard to equal employment opportunities will continue to be included in employee handbooks, orientation presentations, and in any appropriate supervisory training programs. Printed materials on this subject, originating from Federal or State offices, will be prominently posted. Employment openings will be published in the various company employee publications, and at those locations where no publication is available the information will be posted on bulletin boards or communicated by other reliable means. In addition, the company-wide employee magazine, MEASURE, will continue to publish articles periodically on the subject of equal employment opportunity. Management, in meetings with employees, is expected to discuss on a periodic basis the importance of practicing non-discrimination.

"Externally, through a variety of means, we will continue to communicate our equal employment opportunity policy to vendors, suppliers, shareowners, and the general public.

"In summary, if our company is to make any significant contributions in the area of equal employment opportunity, it will take the efforts of many people—not just one, or a dozen, or even a hundred. Success can only come about if HP people everywhere make a sincere effort to understand and to assist whenever possible. Only through the combined efforts of all of us, both on and off the job, can we expect to see any meaningful gains made in overcoming the inequalities of our times."



Getting it together in

GRANOBLE

□ There are any number of good reasons why Hewlett-Packard chose to establish a third engineering-manufacturing facility serving the European markets. Some of these reasons have to do with the economics of those markets—the regulations, tariffs, costs and competition. More arise from the way HP sees its own growth shaping up in the Europe of 1975–85, with a clear need for more operating flexibility. But surely one other excellent motive is provided by the city of Grenoble itself, site of the new facility.

The city's claim to being the Capital of the French Alps has become very well known ever since the staging of the 10th Winter Olympics there in 1968. Superior skiing is available right on the spectacular slopes overlooking the valley community. And within reasonable driving range are such other highly rated resorts as Chamonix, Megève and Val d'Isère. Skiing, in fact, is an everyday part of the winter sports curriculum of Grenoble students.

Mountaintop view reveals Grenoble's favorable relationship of wide, accessible valley and spectacular Alps. Once the playground of princes, and more recently site of the 10th Winter Olympics, it now also shines as a center of research, education and technology. HP's 45-acre site for future plant is outlined in foreground; temporary plant is indicated in small circle to right.

This is the prefab structure now housing HP's first manufacturing-engineering facility in France. Initially, it is engaged in the assembly of HP 2100 computers and the new European version of the distance-measuring instrument. General manager is Karl Schwarz, who was formerly manager of new business development for HP International and who has had extensive manufacturing management experience in the company's operations in Japan and the U.S.



These students come from all over the world, partly for the recreational aspects, but mainly because of the abundant education facilities. These include three universities, a National Polytechnic Institute, many research centers, and a wide variety of technical and industrial training organizations.

Those facilities bespeak a community with a very high level of technological and cultural content. At the same time, Grenoble is close to the population center of Western Europe, and is equipped with all of the airline and communication connections required for a plant doing international business. Beyond that, Grenoble—with nearly 400,000 people—is developing as a city that knows how to grow economically without sacrificing its natural beauty.

These are all magnets for a company such as Hewlett-Packard, with its need to attract and hold highly competent people in the technical trades and professions. Karl Schwarz, general manager of HP Grenoble, reports a successful start of operations: The first two HP 2100 computers assembled at the temporary plant site in January were operated satisfactorily—no wiring errors or defective components

—the first turn on; assembly is also underway for the first European-version distance-measuring instruments, the so-called "Meter meters"; the city completed the complex legal formalities for HP's acquisition of a 45-acre permanent future site; 17 people not including the general manager were on the payroll; and by an interesting quirk of accounting the division showed a profit for February in spite of having no shipments. Commenting on this, Schwarz noted: "There's still considerable magic left in France!"

(continued)

Critical component of 2100 power supply is about to be skewed by wiring girl Shirrah Hurwitz.



Power supply really begins to take final shape under hands of technician Jean D.

To get a brand-new production facility going with new people takes a thousand and one bits of knowledge and many newly learned skills. Here, Gary Mueller, production manager fresh from Cupertino, explains the wiring of a power-supply module to wiring girl Dominique Guillet.

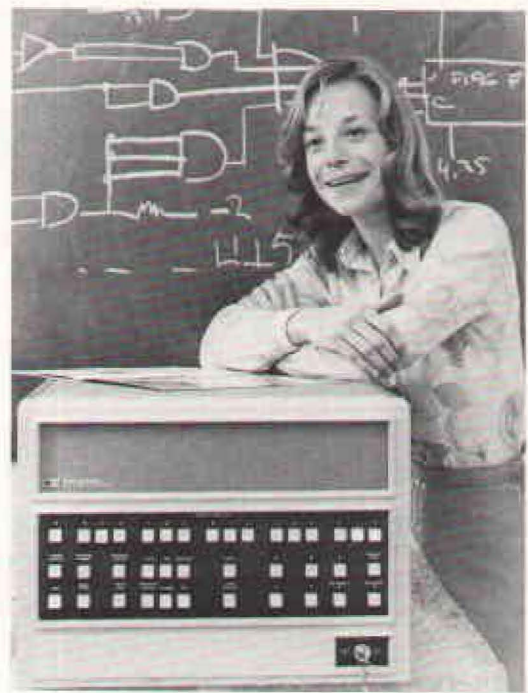


getting it together in Grenoble

And then it's time for first computer assembled at Grenoble to be tested by technician Jean-Claude Lacault.



And for Françoise Stupenengo, the plant's Lauren Bacall-like receptionist, to announce her approval.



All that remains is to package the first month's production of computers for shipment—and celebrate the occasion. Doing so from left are: Chris Beck (finance), Daniel Clet (finance asst.), Jean Dupuy (technician), Pierre Ollivier (manufacturing), Françoise Fouladoux (technician), Gary Mueller (production), Cecile Arcelin (secretary), Françoise Stupenengo (receptionist), Ludwig Ott (materials), Dominique Guillet (wiring), Karl Schwarz (Grenoble manager), Shirrah Hurwitz (wiring), Dick Alberding (manager-HPSA), and Vincente Capozzi (maintenance).



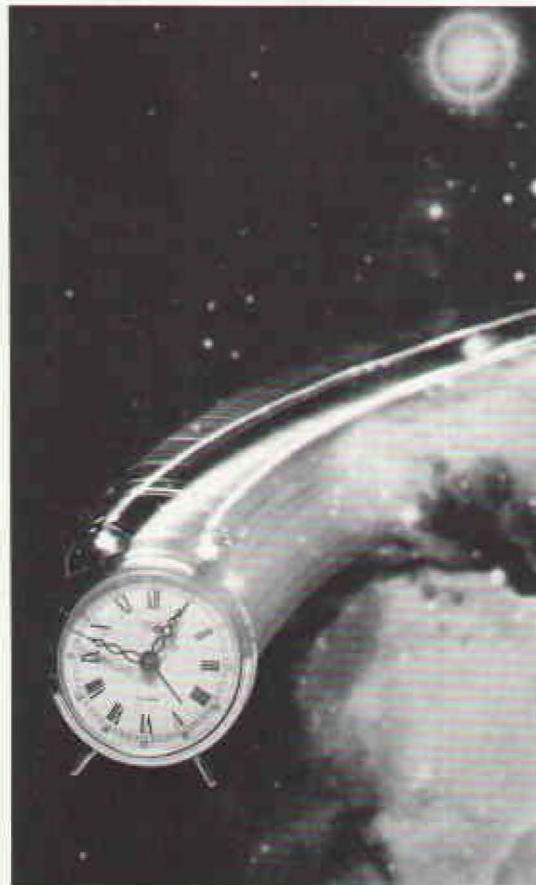


HP's showing of new products at IEEE still drew very interested throngs of visitors in spite of reduced overall attendance at the New York electronics exhibit. Here the interest is centered on the Model 35 pocket calculator, one of the hits of the show. At left center, Jim Locke of Advanced Products demos one of these clever critters for the benefit of a bemused guest.

Einstein proved?

"Successful beyond our best expectations."

That was the verdict late last month from Prof. Joseph Hafele, Washington University physicist, and Astronomer Richard Keating of the U. S. Naval Observatory. They were commenting on the results of their experiments using HP atomic clocks to check out the so-called "clock paradox" predicted in Albert Einstein's Special Theory of Relativity. The background of the Hafele-Keating test (and others to follow) was described in the March issue of *MEASURE* which noted that "preliminary results indicate agreement with the effect predicted by relativity theory." Now, as reported in the March 27 issue of *Time*, the final results go further, coming within percentage points of theoretical calculations as to time lost and gained respectively during eastward and westward jet trips around the world.





From the president's desk

Most of us, when we join a company like HP, come into an organization that appears—at first look—to be a static structure with little change taking place. That's far from the case. In many ways it is a structure like our body, continuously being rebuilt. "George" has been promoted to line leader in the next building and "John" is moved up to take his place. When John moves, someone must fill his place—and so it goes on, many times over throughout the company.

In a well-run organization (and I think HP is) all of this just doesn't happen. George and John must have had some special knowledge or training to qualify them for their new assignments. Where does knowledge and training come from? Actually, from many sources.

Some people bring knowledge and training with them—a journeyman machinist or a young engineering graduate, for example.

Many gain the knowledge and training they need through formal courses on the job. We have over 25 training courses for people at all levels of the organization, ranging from manufacturing techniques to management supervisory training to formal university studies.

Then there is the learning that many people attain outside of work hours, simply because they have a desire to know more about what's going on around them, about how things work or how they should work.

But the real backbone of learning is the informal interchange of information that goes on every day between supervisors or managers and the people who report to them. There's that suggestion of how to lay out a job in a little more organized manner; or, that trick on how to adjust a difficult circuit; or, that comment on how to deal with the problem that really bugs you. All are examples of what I am talking about, and fit the definition of management—"the art of getting things done through people."

This training, this instruction, this guidance, happens thousands of times every day throughout the company. Just as George instructs and works with his people on the line, so do I try to work with, to guide, and to encourage the people who report to me. And from where do I get my guidance and counsel? Partly from these same people because instruction is a two-way street, but also from the Board of Directors. The members of the Board are selected because they have a broad background of experience in many fields and they in their own way provide much counsel, guidance, and direction.

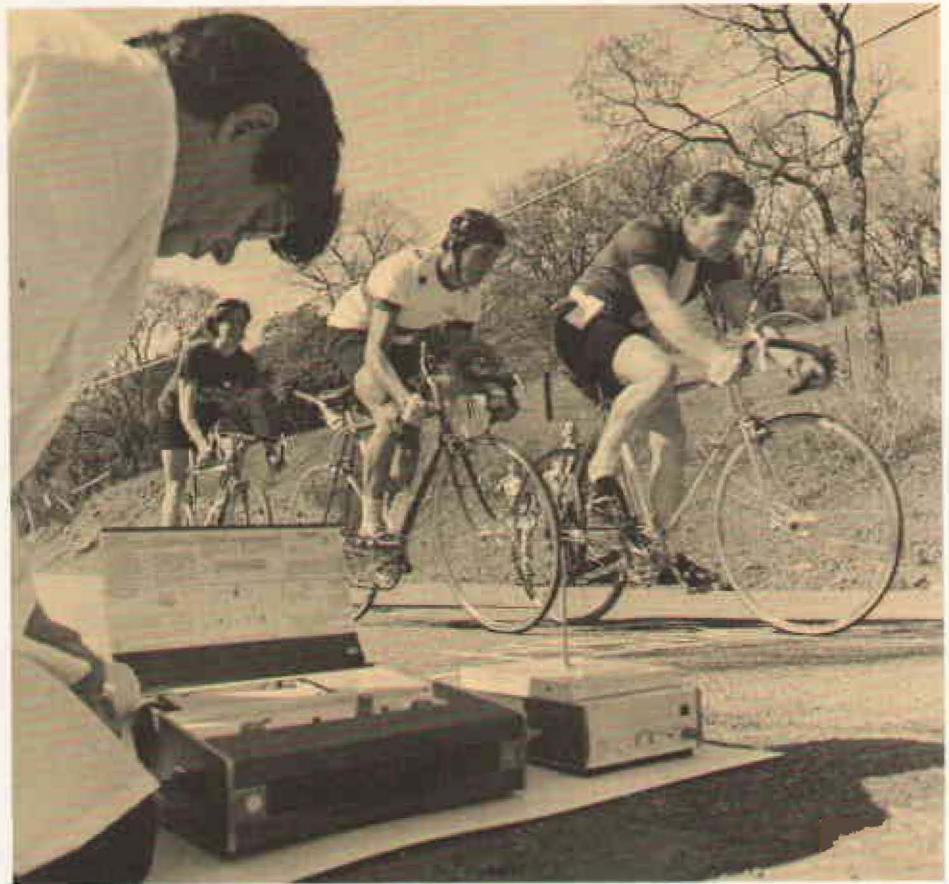
As I've indicated, feedback is an essential element in this process. While most feedback is informal, we do have a formal and important vehicle for this purpose—the evaluation session. An evaluation is a special time when the supervisor must sit down individually with each person in his unit and talk about how he feels the individual is doing, what he considers his or her strong points to be, and in what areas he or she needs to improve.

Each discussion needs to be documented and placed in the employee's file. For this reason, we ask that the employee sign the evaluation. The signature is for the employee's own protection, as it guarantees that the evaluation has been seen and discussed. It does not mean that the individual necessarily agrees in whole with the report, and if he or she wishes, any disagreement may be noted on the form. It is important to remember that the signature is for the protection of the person being evaluated with regard to information that is going into that individual's file.

I have had occasion to read many of these reports, and find that often they are quite spotty. If our system of "home growing" talent is to work properly, we must have adequate records of performance and evaluation. It is very important that each person who has supervisory responsibility take this evaluation process seriously. It is an important part of your job.

Bill Hewlett

What's up, doc?



What are these three cyclists up to, racing down a country road across a finishing line equipped with an HP heart-monitoring system? While a crowd of three cheers from the far side? And with the race judge paying not the slightest attention to the riders? Well, as MEASURE discovered (and photographed) while driving along Old Page Mill Road, these people have roles in a photograph featured on the front cover of the April issue of the HP Journal. Purpose of the photo is to dramatize the function of the Medical Division's new 78000 telemetry system of heart monitoring. The "patient" in this case is the winning cyclist; strategically attached electrodes produce heartbeat signals that are broadcast from the small transmitter pack to the receiver operated at left. The data is then reproduced in graphic form by the recorder. During the cycling test, the system worked very well as far as 1,000 feet away. But very few hospitalized heart patients will want to be so far away from care—or to race around on bicycles, for that matter.

Measure

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