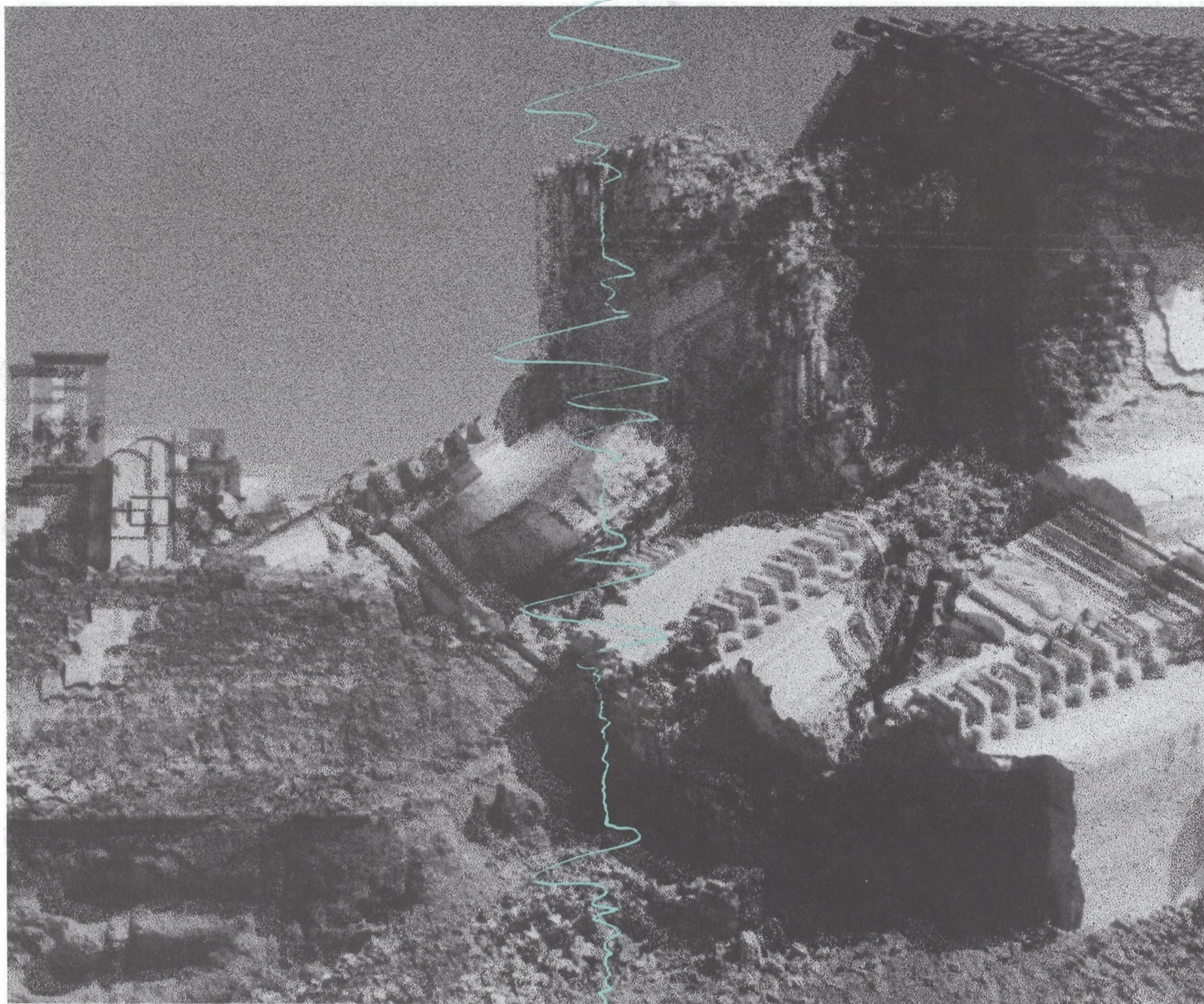


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Measure

For the men and women of Hewlett-Packard / MAY 1976

In the wake of a killer quake...



□ Once again those big boxes have made their ominous appearance in the hallways and lobbies of Hewlett-Packard buildings. When that happens, as it has many times in the past, you know that someone needs help — and that HP people are doing something about it.

This time the appeal is on behalf of the people of Guatemala, victims of an awesome disaster resulting from the early-morning earthquake last February 4. Their need is for all of those things lost or ruined in the rubble of a hundred-thousand smashed homes and buildings. Food, bedding, clothing, tents, tools and reconstruction money are all part of that need.

The quake's 25,000 death toll and its potential for famine, sickness and economic breakdown hit home with special force for a number of HP people.



ten seconds of ruthless power...

The medical director of the HP Clinic at the Waltham medical products division, Dr. Guillermo Sanchez, was born in Guatemala. So his first reaction to news of the quake was personal: How to get in touch with the many members of his family living there? And, how could he most be of help? Because of communications difficulties he decided the best way to answer these questions was to fly there, taking 550 pounds of medical and other supplies and doing whatever he could.

It turned out that his relatives were all okay, but Dr. Sanchez found many other uses for his supplies and services. Two things particularly impressed him. One was the extraordinary discipline of the Guatemalan people which he says has been primarily responsible for keeping a lid on epidemics. The other was the outpouring of help from Guatemala's neighbors in Central and South America as well as the U.S. and countries around the world. Teams of physicians from all over the Americas were quickly on hand, setting up makeshift hospitals under great difficulties in scores of hard-hit rural areas.

Back in Boston, where he also serves

on the Harvard medical faculty and on the staff of Massachusetts General Hospital, Dr. Sanchez is actively supporting a drive by the Pan American Society of New England to restore the village of Comalapa where 1,700 inhabitants out of the 10,000 population were killed.

HP people in the Richardson, Texas, office were made aware of the plight of Guatemala through their contact with the Central American Mission in Dallas. The Mission maintains strong ties with the town of Guatemala. There the earthquake left behind a shattered community in great need of food, clothing, shelter and medicine — not to mention extensive burial and cleanup services. Hearing about this, the HP employees quickly organized a drive that helped deliver much needed funds into the hands of the Mission's representatives in Guatemala.

HP offices and representatives in Central and South America also responded to the emergency. For example, Alfredo Gallegos Gurdian of Cientifica Costarricense S.A., the HP distributor in Costa Rica, first flew to Guatemala to assure the safety of his daughter there. Then, after

witnessing the devastation, Sr. Gurdian has actively supported collections of food, medical supplies and chemicals for purification of water.

Elsewhere around the HP circuit, office and plant collections have sprung up. Typical is the collection box installed at the South Queensferry division in a drive initiated by the Bank of Scotland.

The spark behind most of the relief drives that still are going on in many of the Bay Area divisions came initially from two women, Angie Morrison of HP Labs, and her sister-in-law Pat Keene of the Microwave Semiconductor Division. Angie was born in Guatemala, and all of her immediate family continue to live there. After learning that the family members were safe, she and Pat decided to organize a drive for supplies and funds within the company. Although they had had no experience along these lines, they learned that the big thing is, in fact, to get something going. Momentum took over and carried their cause down Page Mill Road and on to the other Peninsula organizations. At last check, at least two roomfuls of goods had been collected, along

(continued)

killer quake...



Dr. Guillermo Sanchez

A letter from Guatemala to Dr. Guillermo Sanchez in Boston — excerpts:

March 16, 1976

"It is difficult for people who have never experienced a strong earthquake to realize the effect it has on one. The shake lasts only a few seconds, perhaps ten or fifteen. Before these seconds a person is living a normal life with the usual values and preoccupations of family and work, surrounded by treasured possessions and a home built up through many years, while at the same time the community around him is familiar as is his town, village or street. He knows what he will do the following day and where he is heading in life. This applies to the illiterate Indian and to the best educated in the city, to the poor and the rich, to the healthy and the sick, to the young and the old.

"In ten seconds this is shaken to pieces.

"He stands literally shaken to his foundations, vulnerable and naked, exposed to everything he thought he was protected from, his values destroyed and the very ground he stands on, on which he relied all his life, has become the cause of his destruction.

"The shock is too concentrated. It gave no time to put up defenses, to brace, and it is over before he has caught his breath or been able to think what to do. He is humiliated and feels debased before such ruthless earthquaking power. Neither his body, his mind or his achievements are of any account at all, and he stares in amazement at the death and destruction around him.

"It is now 40 days since the first terrible shock at 3:05 on February 4. The quakes have continued to a minor degree day and night, causing damaged walls to topple and landslides on the rent mountains. The frequent tremors keep everyone on pins and needles. Rumors and predictions abound, which is normal as peoples' logic is shaken. Stories are told of the strange behavior of animals and plants by which we should have been warned: cats howled for hours, roosters crowed all night, dogs whined — all remembered after the event.

"Above all, I will mention the great help received from other countries and institutions — the Red Cross and Salvation Army in their blue serge suits working in the thick yellow dust in the ruined villages. The U.S. has a thousand trained men and 400 pieces of heavy road machinery remaking the highway to the city from the Caribbean ports. Individual towns are being taken care of by either individual countries or groups of people.

"We are already in mid-March and have only til May before the torrential rains are due to begin. The greatest urgency is to get roofs up over one million people.

"The whole disaster area in the highlands has not only lost its towns and villages but is deforested. Such steep country based on thick layers of volcanic sand was bound to crack up with the shakes. The landslides show raw and sterile as far as the eye can see. Long lakes have formed behind them; these will present a very great danger of bursting and flooding when the rains start.

"Last week I went to Antigua. It breaks one's heart to see the damage. Only the dark, tall Araucaria trees still stand. Antigua was our traditional gem of colonial architecture.

"Guatemala City has many well built and modern houses. These still stand. Reinforced concrete is the only building material that should be used where there is danger of earthquakes.

"Stories repeat themselves with endless variations. With 23,000 dead and 74,000 wounded, there is not a person in this small country who has not been affected. Three people from the French Embassy were helping where they could two days after the quake. One of them accidentally dropped his cigarette among the tiles, and not wanting to lose it, stuck his hand down the hole. His hand was grabbed and held. His companions came to help, and removing more tiles and adobe bricks unearthed a man alive and still clinging to the Frenchman's hand.

"A few months more and the disaster will be behind us. The rubble will be out of sight and we shall have become used to the hideous gashes on the hills and the rows of sheds and prefab houses in what used to be our unique and beautiful Indian villages. The dead are buried, and the maternity hospital is full to overflowing with brand new babies."

From a friend

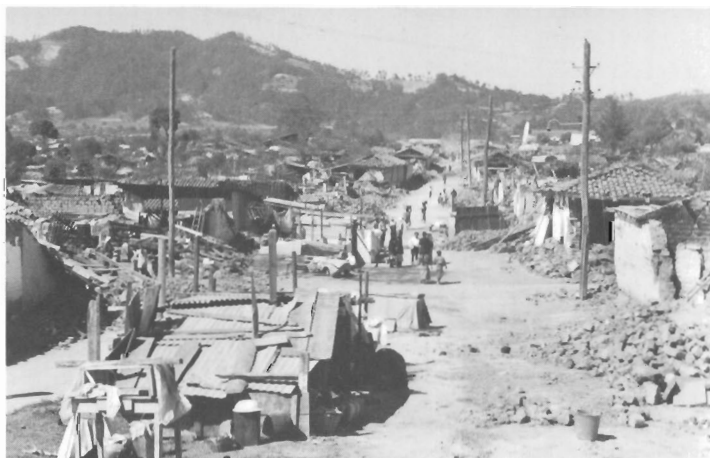
with several hundred dollars, all of it due to be turned over for shipment this month.

Those close to the picture in Guatemala are fearful that the end of troubles is far from sight. Ron Javier of Optoelectronics Division flew there soon after the giant quake. He, too, was intent on finding and helping his family. On reaching Guatemala City he thought the place looked like it had been wrecked by Godzilla in battle with all the other Japanese movie monsters. What concerns him most — and one of the reasons he brought his mother back to California — was the continuing series of aftershocks. Many of these have been quite strong, gradually tumbling more and more of the family home to the ground.

Fortunately, there are ways of helping — and people to help make it happen. □



the long road to restoration



Why they're smiling in Groetzingen

□ The chemical industry was not exactly taken by surprise last month when Hewlett-Packard introduced the first high-performance liquid chromatograph, the HP 1080, with a built-in digital processor and keyboard control. There had been rumors and speculations about such a powerful new second-generation product for some time. But these apparently only served to whet the interest of the industry.

Sure enough, there was the 1080 on display at Analytika, the Munich-based show for the European chemical analysis industry. And there were the crowds of visitors wanting to see the real thing for themselves. They gathered about the HP exhibit, asked many questions, studied the product literature, and left hundreds of requests for further information and sales calls.

Any way you look at it, the HP 1080 was off to a great start. What is perhaps special and interesting about the 1080,

aside from its sales potential, is the fact that it represents the first all-new design of a product — a major product at that — by HP's first wholly-owned overseas acquisition. The acquisition took place in January, 1973 when HP bought Hupe & Busch, a small, 35-employee West German firm that had earned a respected niche in liquid chromatography since its founding in 1963 by Peter Hupe.

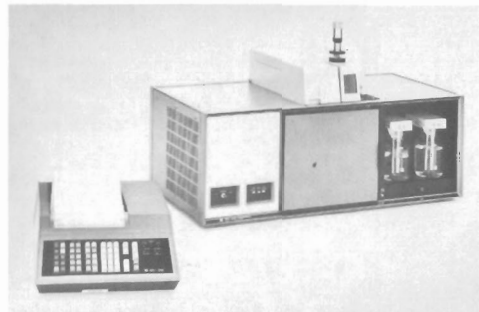
The HP purchase was based on its anticipation that LC was at long last due to become a widely used commercial process, paralleling and perhaps eventually going beyond the success developed for gas chromatography (GC). The reason for that anticipation was quite basic:

Virtually every chemical compound contains carbon, yet of all these organic compounds only about 15 to 20 percent have the volatility required for the separation process involved in gas chromatography. The gentler LC process, on the other hand, lends itself well to the separation of the remaining non-volatile 80 to 85 percent of compounds.

The 1080, of course, is a source of great pride and expectation at the Groetzingen plant near Karlsruhe where Hewlett-Packard's LC program is headquartered. The 1080, in fact, is expected to become the mainstay product line for the young new analytical division headed by Peter Hupe. Their progress together will be well worth watching. □



HP's Analytical team was well represented for the introduction of the 1080 at Munich's Analytika show last month. Identifiable are: Peter Hupe, center, general manager of the liquid chromatography division in Germany; facing him is Charlie Euston, applications and sales support manager at Avondale; at right is Analytical Group manager Emery Rogers. Not only does the 1080 series LC pictured at right represent a big stride forward in analytical ability, it also is a much neater and smaller package than existing LC models.





The data sheet

HP's indispensable sales tool

□ "Running out of data sheets for a product is just as serious as running out of parts on the assembly line."

Carl Anderson, in charge of sales promotion for the Instrument Group, was discussing the importance of product literature and the need to control it in somewhat the same way we control supplies of parts. Given the staggering number of HP products (more than 3,500 at last count), their increasing complexity, and the need to inform salespeople and customers quickly about new product developments, it's easy to see why production and distribution of printed matter has become big business at HP.

For some measure of just how big, a visit to the literature distribution center in Palo Alto is an eye-opener. The 22,000-square-foot facility serves as a staging area for the shipment of bulk quantities of literature to sales offices all over the world. It's also a busy mailing center for answering customer inquiries that come in from all over the world at the rate of a thousand a day, and for handling 3,300 daily internal mailings.

The basic piece of promotional litera-

ture is the data sheet. Through the years it has evolved, as the products themselves have evolved, into a more sophisticated sales tool. No longer just a "sheet" but often a booklet running to half a dozen pages or more, the data sheet is a technical and even legal document as well as a promotional piece. "We can't sell without a data sheet," explained Tom Nawalinski, advertising and sales promotion manager at Santa Clara Division. "It's our official offer to the customer, and it's a legally binding commitment to deliver what we promise."

But promotional literature isn't limited to the data sheet, and as products become more complex, the literature must be more carefully planned and designed, according to Tom. "In the case of a very complex product, the data sheet could become what you might call a spec sheet with several pages of detailed specifications. But we would leave the selling to a separate brochure which would have very brief specs, if any, and a lot of information about the features and advantages of the product. For one product, a division might decide to have a brochure, a data sheet

and an application note, which would give a lot of details on how to use the product. For another product, the data sheet could be spec sheet, brochure and application note all in one."

Indeed, there are as many differences as there are similarities in sales literature from one division or product line to another. Some data sheets are slick full-color publications and others are as plain-looking as the gray boxes they describe. There are some examples of outstanding design as well as a few that suffer from too much design — done "with a meat-axe," as Carl Anderson put it. They may be produced by a staff of professional writers and artists, or by the product manager himself with the help of a printer. And they can cost anywhere from ten cents a copy to a dollar or more.

Perhaps the only consistent thing about HP data sheets is the standard cover format identifying the company and the product — and even that rule has its exceptions.

The Civil Engineering Division in Loveland, Colorado, which produces electronic surveying instruments, is one that

(continued)

data sheet...

does things a little differently from most. Marketing Communications Manager Jerry Fisher explained why: "We're dealing with a different type of market. Our customers are not electrical engineers looking for electrical specifications. Our customer wants to have the latest in technology but really doesn't care what's inside that box as long as it does the job. So our data sheets have more of a brochure look, and we emphasize the features much more than the specifications."

Most divisions have their own art directors or graphics designers to give eye appeal to sales literature. The design of commercial literature is usually a separate function from drafting, which requires more technical knowledge, and the designer is typically someone with a degree in commercial art and perhaps some ad agency or freelance experience. Linda Thrasher of Waltham Division, for in-

stance, graduated from a Boston art school and did freelance work for publishing houses for several years before she started to work for HP two years ago. In many cases, the designer of promotional materials is required to wear other hats as well. "We do a lot of work for other departments, too," Linda said. "Support for the picnics and Christmas parties, for example. When someone needs graphics for a special presentation, we do those. And I design the *Monitor*, our employee publication."

For consumer products such as pocket calculators or for low-priced instruments, the data sheets and brochures may have to do the entire selling job without further explanation by a field engineer. They are often very attractive, full-color brochures, printed in large quantities that lower the cost per copy. They may even be used for direct-mail advertising. In a more traditional product line a data sheet would normally be given to a customer by the field engineer or mailed in response to a direct request for information.

As Tom Nawalinski explained, the literature must fit in with the overall marketing strategy for the product. "The most

powerful strategy is one in which a single theme is carried through in everything — in advertising, in data sheets and application notes, catalog information, and even trade shows. You really want that single point, what we usually call the 'unique selling proposition' to come through."

Distribution, too, must also follow a prescribed plan, arrived at by a combination of market experience and educated guesswork. "The division calls all the shots," said Dave Asplund, manager of the corporate literature distribution center. "Before we process any literature we need a form called an LDN, or literature distribution notice, from the division. It's almost like a bible to us, because it tells us exactly what they want done with their literature — whether we're to make a full bulk distribution to sales offices, or half bulk, or whatever. They may say they don't want a bulk distribution but they want us to get word to the field that it's available. There are products, for instance, for which there may be less than a hundred potential customers worldwide, and a couple of thousand data sheets would be enough to get the word out. On the other hand, if Advanced Products Divi-



Linda Thrasher of Waltham (Massachusetts) Division designs sales literature for medical products. Photographic models for HP promotional materials are often employees, and Linda and her daughter were recently pictured in one of her sales brochures.

At the literature distribution center, Jeff Smith puts cartons of new literature on a warehouse shelf.



sion comes out with a new calculator, naturally they want to flood the market with their literature."

The distribution center has about 2,000 different pieces of literature to control at any one time, according to Dave, in quantities ranging from a few thousand to hundreds of thousands each. It takes a staff of twenty-two people to handle shipping, receiving and mailing, and inventory control will soon be computerized.

Bulk shipments to Europe are routed through another HP distribution center in Amstelveen, near Amsterdam. They may take two weeks to two months to reach European sales offices. Shipments to the Intercontinental region can take one to two months, and delays can often be traced to customs clearance. Literature to many offices in the ICON region must be sent in envelopes to avoid delays and the outrageous customs payments sometimes demanded on cartons of material.

"We send out an availability schedule every Friday to all the sales offices. In the ICON areas we give them at least one copy each of all the new and revised literature — about ten or fifteen different pieces a week. They'll have those in five to seven

days. They can request additional copies right away, which would take another week, and in the meantime the bulk shipment is on the way to them."

Field engineers in Europe say they would welcome any steps to shorten the time lag between receipt of advance copies and the arrival of bulk shipments. Such problems are constantly being worked on, according to Dave, and sometimes the problems turn out to be internal. "I think a lot more emphasis on *receiving* would help. We had one office call us to say they hadn't received copies of a bulletin from New Jersey Division that we had sent out. About six months later they had a bomb threat, and in searching the building they found the box gathering dust in their receiving area."

Foreign language translation can also be a problem because of idiomatic differences in the same language from one country to another. Deciding what to translate isn't easy either. As Carl Anderson explained, "On items like low-cost voltmeters, or medical equipment or calculators — anything likely to be used by someone not conversant in English — the literature both to sell it and to operate

it needs to be in the local language. For most instrument products, our buyer may understand English or the HP field engineer can translate it for him, but someone else is going to operate it. So we would probably start by translating selected parts of the operating manual. In a pinch, that could even be used to explain something to a customer. There's no question but what translated literature makes HP feel more like a part of the local culture, and implies a greater degree of commitment to the particular country. Our attitude, frankly, is that there's a limit to how much translating we can do, so we have to pick and choose."

Such considerations are brought more clearly into perspective when we consider that HP now has 172 sales and service facilities in 65 countries, and together they receive an average of 64,000 pounds of product literature every month. Dave Asplund recalls that ten years ago he had a small room with a single table where all the company's product literature was handled by himself, another full-time person and a part-time helper.

The company has come a long way since then, and so has the data sheet.

The field engineer's 'in' box



Field engineer John Borrione.

"We depend pretty heavily on the product literature," said Reed Hilliard, a computer systems district manager in the Santa Clara sales office. "Once in awhile we don't hear about a new product until we read about it in a trade magazine or see a data sheet on it. It's not supposed to happen that way, but sometimes the literature is the field engineer's introduction to a new product."

One formalized means of informing the sales force is for the division to stage new-product seminars periodically, according to Reed. But the field engineer who's been exposed that way may still need to study a data sheet to bring himself "up to speed" on the product before calling on a customer.

Some divisions also send out regular newsletters and lists of new literature, and they're appreciated in the field. Dennis Tomkins, a computer systems field engineer in the United Kingdom, said he welcomes them. "Data Systems Division is particularly good in this respect," he commented. "From my point of view,

this kind of newsletter ought to be continued and improved."

The time a field engineer spends reading, however, doesn't sell products. "During the eight-hour working day we should devote the maximum amount of time to our customers," Reed explained. "You can't spend too much time in the office bringing yourself up to speed on new products."

Consequently, HP salespeople may spend some of their evenings boning up at home, or schedule a limited amount of study time during the work week. John Borrione, an instrument field engineer at Santa Clara, told us he does both. "I schedule a couple of hours a week for that purpose. New data sheets come across our desks, or addendums to the old ones. This happens as an instrument is obsoleted or the specs are changed, or maybe it goes from an A to a B model. So I look at the new data sheet, compare it with the old one and see what the changes are. It really shouldn't take too much of a field engineer's time." □

HP's big business in small parts

□ Out there serving customers in the "trenches" of technology, HP instruments lead rugged lives. They're expected to work endlessly and accurately whatever the environment — clean room or boiler room. Some instruments never leave their laboratory niche. Others are rushed into emergency situations day after day. In the course of a lifetime of service many of them may get bashed, dropped, spilled on, overheated, neglected, wrongly repaired, or asked to perform above and beyond the

call of duty. Whatever the causes and provocations, some inevitably begin to show signs of wear and tear, or cease to function properly. In the first case, they're candidates for maintenance service. In the second they become known as "down instruments" in need of repair service. In both cases they probably need replacement parts of one kind or another. What's more those parts are needed *now* — if not sooner.

The task of satisfying that always ur-



To meet customer needs, the Corporate Parts Center maintains a physical inventory of some 61,000 replacement parts as well as a price list that includes 165,000 items. Parts constantly flow in from HP factories and outside vendors then out again to fill customer orders or to stock HP sales offices with the more critical and high-demand items. The center also is an important source of supply for Parts Center Europe at Boeblingen. Checking the outflow of orders for accuracy prior to shipment is Jose Zapata at the Mountain View shipping area.

gent demand is one that HP takes very seriously. It recognizes this obligation by assigning the responsibility to an organization totally dedicated to and specially skilled in the business of replacement parts. Known as the Corporate Parts Center, it functions as a key department within Corporate Marketing's Customer Support team under Carl Cottrell.

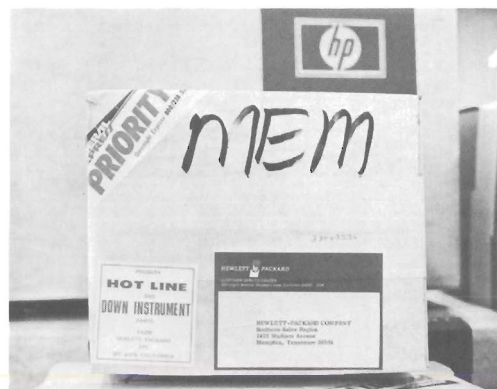
In the course of meeting customer needs, the Mountain View-based Center, together with its Parts Center Europe counterpart in Boeblingen, now conducts a very sizable business indeed — exceeding one-million line items this year, and comparable to some of the larger divisions in dollar volume.

As it happens, the Center recently received its first on-site “division review” by top corporate managers. Here's some of what these reviewers heard and saw:



1. *Fastest is “will call” that allows a local customer to pick up an available part at the center. At the Mountain View center, Joe Ramirez delivers an order directly into the hands of a customer.*

Customer options: Depending on the urgency of their needs for replacement parts, customers, including HP service technicians, can reach the Corporate Replacement Parts Center in four ways:

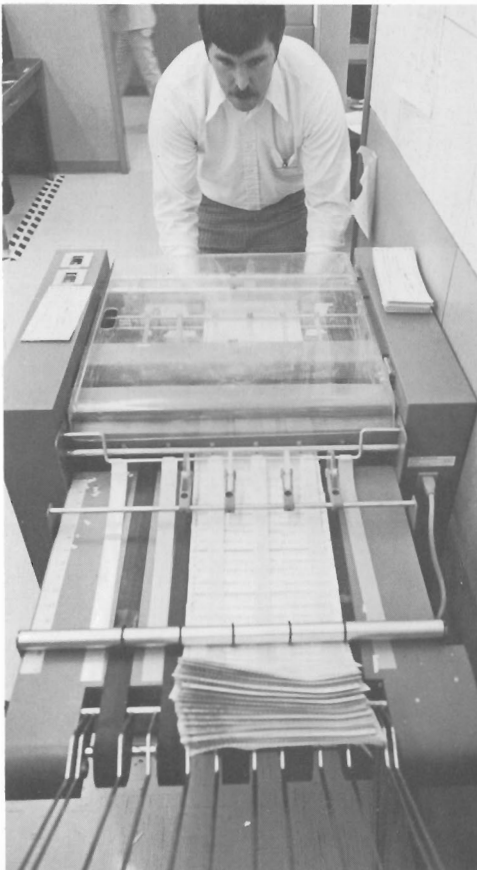


2. *“Hot-line” phone service can provide almost immediate turnaround of orders urgently needed by a field office or on behalf of a customer. Marcia Sullivan is one of four parts order processing people at the Mountain View center on full-time “hot-line” duty.*

(continued)

Parts Center...

3. Mail brings in a variety of daily orders for parts. Here Edna Hill, supervisor of the mail-order section, enters a part order by calling up the computer on her CRT terminal. Note the check atop the order she is handling — the mail order business is strictly “cash-and-carry” due to the high volume of items and low dollar amounts per item involved.



4. The bulk of the parts orders flows into the Mountain View center via the Heart order processing system from some 50 U.S. offices and 17 overseas country organizations. Working through the Bay Area computer center (BAEDP), the parts center receives down-instrument Heart orders at 4:00 p.m. and 7:00 p.m. Here Steve Bradley handles one such batch. Two additional batches are received each morning. Processing these orders and restocking is a three-shift, round-the-clock business.

Automated handling: Two carousels bring thousands of small and medium-sized parts to parts pickers in a matter of seconds at the Corporate Parts Center. More than 40 percent of all parts ordered are pulled in this manner. Filling such orders, are John Dye (at left) and Ron Johnson. The center ships an average of 3,500 line items per day, a great many of them priced at under \$10. The two carousels were installed beginning last year as part of an overall continuing program of improving the speed and efficiency of parts distribution. A special team starting each day at 5:00 a.m. constantly checks physical inventory versus computer records to insure “inventory integrity.”



Parts from the Year 1: A great deal of special expertise is required in the parts organization, especially when orders come in for parts of some 3,000 obsolete instruments. One such order recently came in from Florida for a part to maintain a 200B audio oscillator introduced in 1939. Thanks to the knowledgeability of Harvey Kellogg and his archives team at the Mountain View center, a satisfactory solution was provided. The HP archivists research many such requests, using "hard copy" product literature or microfilm records. Company policy is to maintain full support for an instrument for a minimum of five years after it has been retired to the obsolete list, thereafter giving it "best effort" support. In the photo, an informal meeting brings together, from left, Harvey Kellogg, field-support manager Ken Johnson, and Parts Center manager Harold Kramer.



Jet freighters speed filled orders within hours to central locations for fastest possible delivery to customers and sales offices. Here, parts are transferred directly from CPC van to a Federal Express jet. If an order placed by an HP service technician concerns items stocked at the center, delivery is generally made next day. Another two days generally are required for parts that have to be ordered from the product divisions — providing those parts are available. Of course, stocking of parts at local offices as well as exchange PC boards and kits maintained by the field service people solve a great many "down-instrument" problems on the spot.

□

New "triple threat" personal calculator, the HP-27, offered at \$200 U.S.

PALO ALTO — A new, six-ounce personal calculator that combines all of the most frequently used scientific, statistical and financial functions was introduced by Hewlett-Packard on April 22.

The new HP-27 Scientific/Plus pocket calculator, priced in the U.S. at \$200, contains more preprogrammed functions and operations than any other HP pocket calculator.

The HP-27 is the first pocket calculator to incorporate the built-in mathematical tools to give a manager in any technical specialty the ability to perform most scientific calculations as well as the financial capability to handle budgeting and resource investment analysis.

For the business person, the HP-27 provides a combination of compound interest and statistical capabilities for quantitative analysis and complex investment decisions.

Twenty-eight exponential, log,

trig and arithmetic functions, including time, angle and coordinate conversion functions, are preprogrammed in the HP-27, as well as 15 statistical functions and 10 financial functions.

At the same time, HP reduced the price of its HP-25 programmable scientific pocket calculator from \$195 to \$165, effective immediately.

New government affairs administrator named

PALO ALTO — Robert Kirkwood, chairman of the executive committee of the San Francisco Planning and Urban Renewal Association (SPUR), will join HP as government affairs administrator on July 1.

In the newly created position, Kirkwood will be responsible for working with state and federal legislators and other government officials on policies concerning business practices, employment, community interests and related matters.

In addition to working closely with government officials, Kirkwood will advise management on legislative and regulatory matters and represent the company in its activities with industry associations and government organizations.

An attorney, Kirkwood will report to Jack Beckett, HP's government relations manager.

HP places big order for 4K RAM semiconductors

CUPERTINO — A multi-million dollar order has been placed by HP with Texas Instruments, Inc., Dallas, for one and a half million units of

TI's 4K RAM (Random Access Memory) semiconductors in the next 12 months. Included are quantities of the new 18-pin 4K RAMs.

The 18-pin RAMs will be incorporated immediately into new memory modules for HP-21MX minicomputers produced at the Data Systems Division in Cupertino. The new modules have twice as much memory in the same space, 16K words per module instead of 8K. Thus each of the three 21MX mainframes can now contain twice as much memory as before at lower prices.

HP became the first major minicomputer manufacturer to use 4K RAM semiconductor memory with introduction of the 21MX series in 1974. Data Systems Division has shipped more than a quarter million of the earlier 22-pin 4K RAMs in memory modules for these machines. It will continue to offer these, along with the new high-density modules.

Data Terminals lease program

CUPERTINO — Data Terminals Division announced plans to begin a short-term lease program for its CRT data-terminal product line in early summer. The move is expected to expand HP's data terminal market to those segments which choose not to acquire terminals on a cash or full payout basis.

Under the program, customers may select from leases of six, 12 and 18 months in length. The monthly payments, depending on lease duration, are 8%, 5¼% and 4¾% of product list prices respectively. During the lease, HP will provide full weekday service at no additional cost.



From the president's desk

I am very often asked, "When is HP going to split its stock?" In answering the question, I've found it helpful to first make clear what a share of stock represents and what the technical effect is when a stock is split.

Let's take, as an example, a hypothetical company with 1,000 shares of stock issued and outstanding. A shareowner with one share would thus own 1/1000th of the company. Further, let's say that the market has placed a value of \$100 on each share. If the company decides to split the stock two-for-one, the shareowner will have two shares, but together they will still only represent 1/1000th ownership. Additionally, if the market behaved the way it is supposed to (but seldom does) each share will now have a value of \$50. Thus, in this simplified case, splitting the stock did not really change either the extent of ownership or the market value of the stock for the shareowner.

If there is no advantage, why does a company split its stock? If the company split it once, why not twice or three times? Let me try to answer these questions.

There are a number of reasons why it might be appropriate to have a stock-split. For one, it may provide a convenient way to increase the dividends paid to shareowners. In the case of the company mentioned above, if each share of the original stock had paid a dividend of \$2 and each share of new stock also paid \$2, this would be equivalent to doubling the dividend. Another reason for a split would be if the market price of a stock became "too high." When I say "too high" I am talking in terms of the amount of money a person would have to accumulate to buy one share of stock. Obviously it is easier for an individual to buy a \$50 stock than to buy a share at \$500. Therefore, splitting a stock to lower the market price per share tends to make the stock more tradeable.

If that is the case, why not additional splits to bring the

market price down even further? Isn't a \$5 stock more tradeable than a \$50 stock? The answer is yes — in fact, one might say a \$5 stock becomes too tradeable. What do I mean by "too tradeable"? If logic applies, a \$5 increase in the price of a \$500 share would be the equivalent of a 50 cent increase in a \$50 share, or a 5 cent increase in a \$5 share. Unfortunately, things don't work that way. People are inclined to think in terms of the absolute dollar range rather than the absolute percent range. Thus, there tends to be a greater percentage fluctuation in the value of the low-price stock than in a high-price one, something we would like to discourage.

How does all this apply to HP? The last time we had a stock-split was in 1970. There were two factors that, at that time, favored a split. One, the price of the stock was so high that some Stock Purchase Plan participants, including a portion of the HP people abroad who were on wage rates somewhat lower than their U.S. counterparts, had to wait an undesirably long time before accumulating enough to buy a share. Secondly, it appeared desirable to increase our dividend, something we had not done since 1965. Thus, by splitting the stock and keeping the dividend at 10 cents per share, we effectively doubled the dividend and at the same time placed the price of the stock in better reach for more HP people.

Are we going to split the stock in the near future? We certainly don't have the same problems that we had in 1970. Most of our wage rates abroad are now more comparable to those in the U.S. In addition, we recently chose to increase the dividend in another fashion — simply by increasing the semi-annual payment from 10 cents to 15 cents for each share of stock.

Thus, there are no great compelling reasons at the present time to split the stock. What the circumstances will be in 6 months, a year, or two years is hard to tell — all I can say is that we have no plans for a stock-split at the present time.

Bill Hewlett

HP's highly diversified Million-Dollar Club



It used to be that membership in HP's Million-Dollar Club was a rather rare attainment. The club is made up of products that account for more than one million dollars each in sales for any one year. That means a product not only has to be good to get in, it has to keep on its toes to stay in. All the more reason to note with pleasure, then, that in fiscal 1975 there were 162 products that each generated more than one million dollars in orders. What's more, of the 90 key new products introduced during the past year, no less than 32 qualified for the Million-Dollar Club. All six product groups contribute to this broad product diversification. And as a further indication of the company's diversity, the top-selling single product in the Million-Dollar Club for 1975 generated less than 3 percent of total orders. Overall, it represents a trend that makes HP less and less vulnerable to the influence of any one market or market segment.

Measure

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