

MEASURE

For the people of Hewlett-Packard May-June 1985



Coming on strong:
HP in the
communications
business

HP's super marketers

The HP 260's
going gangbusters
in Europe

San Diego Division's
extraordinary people



page 8



page 11



page 14

FEATURES

- There's a new brand of marketing at HP** **3**
 A report on the increasingly aggressive role of marketing in the company
- HP 260: rediscovering a small but versatile computer** **8**
 A look at the "forgotten" minicomputer that's selling like hot cakes in Europe
- Extraordinary people** **10**
 Meet a few of the many special HP people at the San Diego Division
- Up, up and away:** **14**
 HP's super gains in the all-new communications business

DEPARTMENTS

- Your Turn** **13**
Measure readers comment on matters of importance to HP employees
- Letter from John Young** **18**
 Discussing business cycles: What comes down must go up
- ExtraMeasure** **19**
 Saving a life at the flea market; Sunnyvale's strong suits; pitchers at an exhibition
- On the cover**
 Shedding its conventional image as a phone company supplier, HP is taking off in the exploding communications industry—at a rate forecast at more than 30 percent each year for the rest of the decade. Cover art by Pete McDonnell and Al Gordon.

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Hewlett-Packard Company is an international manufacturer of measurement and computation products and systems used in industry, business, engineering, science, medicine and education. HP employs more than 83,000 people worldwide.



In a company best known for product innovation and quality, thousands of people are talking a new language: a language of channel systems, segmentation, positioning, value-based pricing and competitive signals. The reason:

There's a new brand of marketing at HP

Build a better mousetrap and the world will beat a path to your door.

Maybe. But if other companies start selling less expensive models through third parties, supported by million-dollar advertising campaigns, you'd better have a darn-good marketing plan. Otherwise you might find yourself



up to your neck in mousetraps.

In the past few years, Hewlett-Packard has felt the pressures of increasing worldwide competition, rapidly changing technologies, changing customer needs and constantly shifting economies in its various markets.

"Today companies realize that their raw material, labor and physical-resource costs are all screwed down," says James McManus, chairman of Marketing Corporation of America, a consulting firm. "The only option for dramatic improvement will come from doing a better marketing job."

Within HP, there are lots of examples of increased attention to marketing:

□ Last year's reorganization elevated the role of marketing to a sector (Marketing and International) function under the leadership of Dick Alberding, executive vice president.

□ In July 1984, marketing managers from throughout the company met in Monterey, California—the first time for such a gathering. Following the program, teams of marketing managers began applying some of the marketing tools featured at the seminar to select projects. The preliminary results were the subject of a follow-up meeting in December, and chances are good that many of these tools will be put into use at other HP divisions.

□ A full day was added to the annual general managers' meeting in January to cover marketing strategies and market research. The list of guest lecturers read like a "who's who" in the marketing world: *In Search of Excellence* authors Tom Peters and Bob Waterman; marketing professors Hiro Takeuchi, Lynn Phillips and Tom Bonoma; and market researcher Eric Marder.

□ A five-day, division-taught marketing management seminar was launched in March with a live teleconference. The seminar, developed by HP's Corporate Training department, is an effort to share many of the company's successes with the rest of the organization.

These are just some of the signs that tell you many of the old ways of doing business are disappearing as a new brand of marketing takes hold at HP.

"More and more we're becoming a market-oriented, customer-driven company," explains Dick Alberding.

"Marketing is a process—one that should be balanced appropriately and integrated with our traditional strengths in R&D and manufacturing."

Though the term "marketing" is widely used, it's also widely misunderstood (see box on pages 4-5). *Webster's New World Dictionary* defines marketing as "all business activity involved in the moving of goods from the producer to the consumer, including research, advertising and packaging."

"A lot of people still think effective marketing means running a very big ad campaign, complete with television and the whole works," says Bill Bon-Durant, director of the Marketing Information Center in Cupertino, California. "But I continue to be fascinated by the *HP Measurement, Computation, Systems Catalog* as a good marketing device. There are customers out there who read it like a bible. It might be just as effective in our various markets as television ads are to a consumer-goods company."

If the new market-driven HP isn't glitzy television advertising and wild promotions, what will be its characteristics?

It will become increasingly important for employees to see things from a customer's point of view. HP's Boise, San Diego and Vancouver divisions are three of many that meet that need today.

Until recently the three Peripherals Group divisions had aligned their activities around technologies: impact printers, laser-imaging and ink-jet. They're now organized by customer-defined markets: engineering design, office information systems, electronic data processing hard copy, and general-purpose personal computer.

"The realignment is a subtle change. We have the same products and people, but we now have a new focus on user applications," says Bob Granger, product marketing manager at the Boise Division.

Another key to successful marketing

Marketing: the misunderstood process

"It's not just people with 'marketing' in their job titles who play a part in the process of spreading the word about HP products and services," says Franz Nawratil, director of marketing and sales, Europe. "Our customers judge the company by everyone with whom they come into contact."

To help spread that global concept of marketing throughout the company, HP's Corporate Training group in Palo Alto has launched the Marketing Management Seminar. "It's the most extensive training program we've ever developed," says Bill Nilsson, manager of Corporate Training and Development. It follows in the footsteps of the similar programs for manufacturing and R&D project managers launched in 1982 and 1983 respectively.

The newest seminar teaches the philosophy that marketing is a process that can be constantly improved

using total quality control (TQC). Participants study examples of TQC used to improve manuals and customer follow-up after trade shows.

"The course wasn't developed in an ivory tower," says Sandy Mobley, leader of the group of nine training people who put the seminar together. "We worked hard to make it as close to real life as possible." The 10-module, five-day course is also crammed with case studies from HP and other companies, and is being taught by division marketing managers to their staffs and key managers from other functions in the division.

Participants can expect to spend about 20 hours preparing for the class. "Although it's about the equivalent of a three-credit college course, we aren't out to teach the basics of marketing," says Sandy. "The purpose is to spark an awareness that will help create a change for the better."

is gathering and analyzing information about who those customers are and how they use your products.

Bill BonDurant is out to improve the quality of the information at HP. "When I joined HP in the fall of 1983, I found there was a lot of marketing information streaming into the company, but most of it was very low grade, because the collection and analysis process was so haphazard," says Bill. "What was needed was discipline in the function. That's something we're providing.

"For example, we've established a series of standard research procedures that let us quantitatively measure customer response to alternative features, prices and key messages about products being developed. We have also established a centralized resource of published research on markets, channels and companies."

According to Bill, every company is bound to make product mistakes, including HP. "But by gathering marketing information and processing it in a



Direct Marketing Division employees take phone-in orders from customers for computer supplies and generate 200 to 300 phone calls each month to new HP system owners.

JACK CHRISTIANSEN

COLLECTION

Market trends
 Competition
 Customer needs
 Technology
 Business strategy and objectives

CONCEPT

Generate and test concepts

DEVELOPMENT

Develop and test manufacturing processes, prototype products and marketing strategies

ONGOING MANAGEMENT

Measurement and tracking
 Analyzing data
 Corrective action
 New product ideas

PRODUCT INTRODUCTION

FINAL TEST

Test final solution and marketing mix

AMAZING!

way that forces us to face our assumptions, we hope we make our mistakes before we get to the marketplace."

In the medical equipment market, the McMinnville Division has been using information from focus groups as one tool to help make key product decisions early.

"We pull together a group of people that fits a specific profile," explains Dick Snyder, McMinnville's marketing manager. In the case of defibrillators—those electronic jolters that get a weak heart beating again—"we're looking for the nursing supervisor in a cardiac-care unit or emergency room in a hospital larger than 100 beds who performs three to four defibrillations a month."

An independent marketing company asks questions of the focus group to uncover what nurses look for when they buy a defibrillator. "Several groups told us a five-year guarantee would be an important factor to prove superior HP reliability, so today that's what we offer," Dick says.

Author and consultant Bob Waterman says marketing plans must treat consumers' attitudes and opinions as reality. "One of the hardest things for those of us who were trained as engineers is to realize that it's what the consumer perceives and *not* what we think that makes a product successful."

To compete with other companies, HP has adapted ideas from the marketplace on additional ways to distribute its products. The company has signed more than 3,000 dealers worldwide, to sell its personal computers and peripherals. "It's becoming clear that for large-volume, small-ticket items such as personal computers, third-party channels are becoming the dominant way to reach customers," says Pradeep Jotwani, third-party program manager in HP's Personal Computer Group. "That's different than most HP products where we traditionally sell small volumes of large-ticket items."

Another spot where HP is breaking with its traditional methods is telemarketing—the use of toll-free telephone lines and operators ready to take phone orders—especially in the computer supplies business.

"We created a marketing channel that was simple, direct and fast," says Will



Dick Alberding shares his vision of a market-driven HP at a teleconference introducing the new marketing management seminar. Art Dauer and Sandy Mobley look on.

BRAD WHITWORTH

Carleton, general manager of the Direct Marketing Division (the division got its start in the late '70s as the Computer Supplies Operation in Sunnyvale, California). The goal was simple: Make it just as easy for a customer to buy a few reels of magnetic tape by calling a toll-free number as it was to buy a new computer from an HP salesperson.

Direct Marketing is growing about 40 percent each year and has distribution centers in Sunnyvale; Böblingen, West Germany; Paramus, New Jersey; and Tokyo, Japan. Twelve HP country sales organizations run call-in supplies operations.

Capturing loyal customers is important in today's quickly changing markets. According to Hiro Takeuchi, associate professor at Hitotsubashi University in Tokyo, Japan, three key factors are shaping the many markets in which HP sells its products:

- An increasing number of markets and industries are becoming global.
- Mass markets are becoming obsolete, and traditional ways of thinking about segments of customers are

changing (see box on page 7).

□ Product life cycles are growing shorter. Advancing technology and increasing competition mean products must move much more quickly from concept to market.

Bob Waterman is blunt: "Most of the marketing challenge HP now faces comes in the computing side of the business. It's called IBM."

But Bob also believes HP has a distinct advantage over its competitors, including IBM. "I haven't found a large company anywhere in the world that cares so much for its people, or whose people, in turn, care so much for the company. If you could take that same attitude outside, discovering that customers are people, too, you'll lick a large part of your marketing problem."

"I hope every HP entity begins to think and talk in marketing terms," says Dick Alberding. He sees a strong correlation between good marketing and good management. "Marketing skills are really general management skills in disguise. All that's different is the packaging." **M**

—Brad Whitworth

BEYOND DEMOGRAPHICS

If you're a middle-aged American who would rather fit in than stick out; if you've been in the same job for a long time and are fairly content with life; the folks at SRI International would call you a typical *belonger*.



On the other hand, if you're 27; earning about \$26,000 a year; are people-oriented and artistic; you'd be labeled an *experiential* type.



And if you're wondering what this is all about, it's called psychographics. It's a new way of looking at the American consumer that was pioneered by SRI in Menlo Park, California, about eight years ago. The SRI version of psychographics, called Values and Lifestyles (VALS), typecasts Americans into four broad categories featuring nine lifestyles.

Many advertising agencies and large companies—VALS boasts more than 150 clients—have enrolled in the SRI program. HP is one of them. Bill Copeland, Marcom manager for the Information Systems and Personal Computer groups, says, "We've attended some VALS workshops and now have access to VALS data. We're using that informa-

tion, along with a great deal of other data, to help us define and describe our audiences more closely."

Before VALS, marketers and advertisers relied heavily on demographics to help them frame messages to particular consumers. Age, income and education were the main descriptive tools. One advertising executive calls this the "2.1 children, 90-percent married with 3/4ths of a dog approach."

VALS creators believe the typology gives marketers a more sophisticated tool for developing new products, positioning them correctly and creating effective advertising.

Read on to find which of the nine VALS types best describes you.



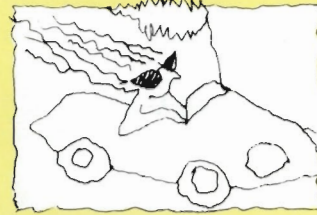
Survivor: *A life of quiet desperation*
Old, intensely poor, fearful, depressed, far removed from the cultural misfits. Avid TV-watcher.



Sustainer: *Living on the edge*
Close to the poverty line, angry, resentful, street-wise, involved in the underground economy. Drives flashy car when it can be afforded.

Belonger: *As American as apple pie*

Aging, traditional, conventional, contented, intensely patriotic, sentimental, deeply stable, respectful of authority. Uses trading stamps and coupons.



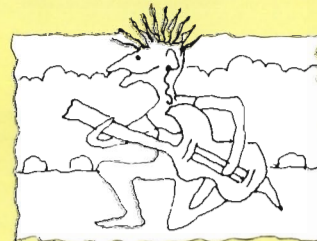
Emulator: *Looking for the big break*

Youthful, ambitious, macho, show-off, trying to break into the system, status-conscious, "the social climber." Buys more home electronics products and used cars.



Achiever: *Pardon my Porsche*

Successful, materialistic, middle-aged, builder of the American dream, leader. Owns own home, plays golf and tennis, uses credit cards and values technological advances.



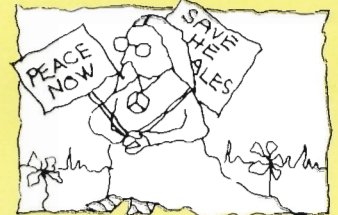
I-am-me: *Far-out and funky*

Transition stage, exhibitionistic, very young, impulsive, dramatic, experimental, active, inventive, mostly single. Many are

students. Drinks beer, tequila and rum.

Experiential: *The inward bound*

Youthful, seeks direct experience, people-centered, artistic, intensely oriented toward inner growth. Skis, meditates, buys natural foods.



Societally Conscious: *Making the world a better place*

Mission-oriented, leaders of single-issue groups, mature, successful. May live a life of voluntary simplicity. Watches educational TV, jogs, sails.



Integrated: *The compleat person*

Psychologically mature, large field of vision, tolerant, understanding, flexible. Many from this group are heads of state or companies.

VALS specialists are quick to point out that these groups are not fixed and that people change from one level to another as they mature. The SRI typology only works for Americans today because the basic research was done in the U.S. But the VALS people may soon set up research in other countries to categorize international consumers' values and lifestyles.

—Shirley Gilbert



GERMAN RED CROSS

The German Red Cross (DRK) transports accident victims in a specially equipped Volkswagen; an HP 250 minicomputer keeps track of its trips.

HP 260: Rediscovering a small but versatile computer

A tiny videotape rental shop with four employees seems an unlikely place to find an HP computer. But a Hamburg, Germany, video store has found the HP 250 computer to be just what the doctor—or rather shop owner—ordered.

It's also just what the doctor, lawyer, merchant, chief ordered, especially in the countries of Western Europe.

Now spruced up, the HP 250 this year became the HP 260. Manufactured in Böblingen, West Germany, it's sold almost exclusively to original-equipment manufacturers (OEMs) who customize it with software for small business owners—butchers, bakers, tinkers, tailors, plus wholesalers and distributors.

"The HP 250 was a good product that we as a company never took care of," says Gerhard Sieger, marketing communications manager in Böblingen. "It became known as the forgotten, or mystery, computer.

"But in its new incarnation we have reduced the manufacturing cost and are supporting it with a full line of new peripherals. The result is a much improved price-performance ratio for us and a better value for our OEMs."

As HP's only computer system developed outside the United States, the HP 260 is Böblingen's "life and blood," says Gerhard.

"Our target market (companies with fewer than 20 employees) is nearly 10 million businesses in Europe compared to about 3.9 million in the U.S.," he explains. "Right now only about 10 percent of those European companies

use computers (15 percent in the U.S.), so we've got our work cut out for us."

Ask HP 250 or 260 users why they opted for the compact, multiuser system and most likely they'll say something similar to what this West German insurance broker said: "My employee had never worked with a computer and had no idea how to do electronic data processing. After only a few minutes of explanation, he set up a contract."

A small electronics business in Oslo, Norway, typifies a European HP 260 customer. A few years ago the company purchased a system with three terminals and a 12-megabyte disc. The system has grown to five terminals, two printers and a lot more disc memory.

Sales reps say other customers describe the HP 260 in these terms: no system operator needed... expandable as the company grows... programming changes can be made in the customer's office... really user friendly.

To that list add versatility. Consider this sample of European customers:

□ A dentist in Speyer, West Germany, uses the HP 250 to track the dental history of his 5,500 patients. Besides recording health insurance information and analysis of services, the computer automatically prints notices to patients reminding them of their upcoming dental appointments.

□ A centuries-old winery in Sulzfeld/Baden, West Germany, replaced its manual accounting system with an HP 250 system in 1980. The 40-person company uses the database management system to track the grape harvest

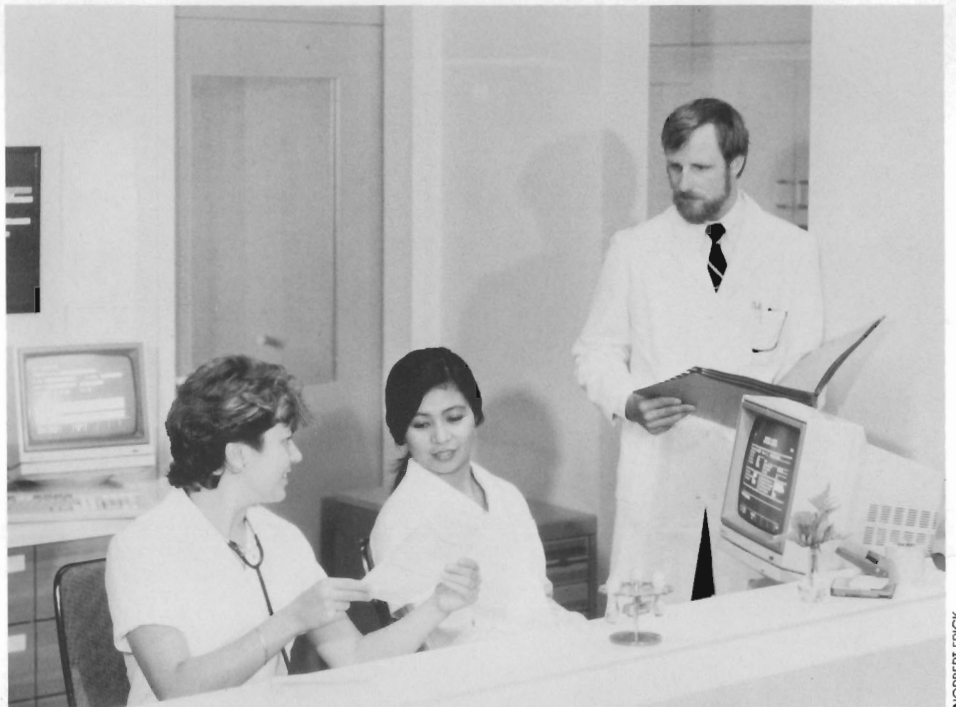
and keep statistics on customers.

□ A Belgian insurance firm has watched its HP 250 system grow with the needs of the company. A tailored software package enabled the firm to toss out its handwritten forms and computerize customer data. The result: higher accuracy and quicker solutions to customer problems.

□ In Rotterdam, Holland, a small hospital cut the time spent doing accounting from six hours to one hour a day, and patient information became immediately available.

□ The German Red Cross (DRK) in Friedberg illustrates one of the more unusual HP 250 applications. Besides being used for time-consuming but routine office tasks (such as mailing lists), the system handles the complex billing and invoicing for ambulance calls in three cities. Statistics are now kept on distances traveled, types of vehicles used, names of drivers, how many people were injured and whether a trip was routine or an emergency.

Peter Zimmer, Böblingen's HP 260 product manager, points out that the advantages of the HP 260 over stand-alone personal computers are many. "Its ease of use is comparable to a PC but its integrated database management system gives it all the flexibility of the more powerful minicomputer," he explains. "And once a company needs three or four PCs, the HP 260 becomes



NORBERT FRICK

European doctors and dentists say the HP 260 is ideal for tracking insurance claims, analyzing services, sending bills and reminding patients of upcoming appointments.

a better buy than purchasing separate personal computers."

Today a network of about 200 OEMs sells the HP 260 worldwide. Gerhard estimates that more than 8,000 systems are now in operation, most of them with customized software.

"Our strategy is to go after the vertical market," he adds. "Let's say one of our OEMs develops a software program for a stationery supply company. That program can then be used to show other stationery businesses how the HP 260 can work for them."

About 300 companies are competing in the growing minicomputer market, although seven of those have collectively cornered 30 percent of the busi-

ness. HP is among the top suppliers worldwide and in some European countries has an even larger percentage of the market than in the U.S.

Adds Dan Sisson, manager of Small Business Computing in the Information Systems Group in Cupertino, California, "Until now, the HP 260 has not been a main focus in the U.S., but we're taking a closer look at our channels of distribution. We want to show OEMs and customers how the HP 260 fits in with our other product offerings like the Touchscreen Personal Computer and the HP 3000 Series 37.

"It's a tall order for a small system, but we think the result will be worth the effort," says Dan. **M**

—Joanne Engelhardt

It took a licking and kept on ticking

Last February, Doug Chance, vice president and general manager of the Information Systems Group, asked Dan Sisson to head the group responsible for developing and implementing marketing programs for U.S. HP 260 OEMs (original equipment manufacturers) who sell to small businesses.

"The HP 250 got a bum rap both within the company and even from some of our customers who felt we hadn't committed ourselves to support it," says Dan. "Fortunately,

these same customers kept after us to keep making and improving it."

"We've been selling the HP 250 with our customized software for five years," affirms Carole Reilly, marketing manager for Townley & Associates in Aurora, Colorado.

Like many of HP's OEMs, Townley has tailored software for companies—case in point, landscape firms doing at least \$300,000 a year in business. "We simplified their bidding systems so clients can almost instantly get a bid," Carole says.

Churches have found the system can track accounting, chart attendance and maintain a library.

Arletta Farnham, HP's sales rep

for Townley and other customers in the Englewood, Colorado, area, says HP is helping OEMs identify vertical market applications. "For instance," she notes, "once our software is customized for one landscaping firm, it can easily be changed to fit the needs of other landscapers."

The Girl Scouts of the U.S.A. is a non-profit organization that uses HP 250s (and now has ordered some HP 260s) for many of its annual tasks, such as registering summer campers and maintaining volunteer-training and cookie-sale records.

"The applications are limitless," says Dan Sisson. "It's apparent we've only begun to tap the market."

Extra

ORDINARY PEOPLE



PHOTOS BY DAVID HARRISON

You're about to meet a few individuals from the San Diego Division (SDD) where, as in other Hewlett-Packard locations, there are many, many more "extraordinary people" like these.

In future issues you'll meet some of the other folks throughout the company who have made outstanding contributions to HP business, culture or communities.

As much as we'd like to, we can't cover everyone who has an intriguing story to tell. But our hope is that as we learn about some of our co-workers, we'll gain a better overall appreciation of this giant team we work for.

Baja Hollywood?

Glenn Passmore leads a double life: He's facilities project coordinator at SDD on weekdays, a movie director on weekends.

A producer of educational training films in Hollywood before joining HP, Glenn handles just about everything in his movies. He writes the scripts, does camera work, directs, edits, compiles musical scores and dubs the sound. "And I've got a pair of cymbals between my knees," the one-man band jokes.

He describes his non-profit Capricorn Productions as "little theater on film." He says he's not interested in making money from his films, because "the satisfaction is in the doing. Creation is its own reward."

Glenn works with both professional and amateur actors, including dozens of HP employees such as Roger Riso, Dan Reames, John Meyer, Barbara Louise and Janet Foster.

Glenn admits that he does "weird films" — his two favorite artists are Alfred Hitchcock and Rod Serling. For example, "Beyond the Yellow Brick Road" was a fictional story about psychic phenomena based on actual experiences, and "The Other People" was a two-hour film about a UFO investigator.

He abhors current gore and horror—grrror?—films, however. "They leave nothing to the imagination," he complains. "What you don't see is as important as what you do see."

Hewlett-Packard has cooperated fully with Capricorn Production's endeavors, according to Glenn. More than 50 HP employees appeared in "The Other People." His films are often shown on site in the evenings to groups of 60 to 100, and shorter films are shown during lunch. And for "Shoot Out at San Malo," Capricorn Productions transformed the SDD personnel manager's cubicle into a sheriff's office.

In his current project, "The Other Side of the Tracks," Glenn consciously imitates the style of Rod Serling's "Twilight Zone" TV series. Former professional screen actor Keith Pearce is the only HP person starring, but many employees appear as extras.

The film is about an ordinary fellow who repairs copying machines during the day. At night, however, the unas-

suming man dreams he is a Harrison Ford type, roaring around in a classic four-door Lincoln convertible.

Glenn finds editing the most creative part of film making. The importance of editing is—you'll excuse the expression—paramount. He compares the craft to building a house. "You can have the best construction materials (or footage) in the world, but the result depends on how you slap them together."

Living it to the limit

Some people just kill time. Others seize the passing moments the way you squeeze an orange for every bit of juice.

Flo Howland is of the latter persuasion. In addition to her full-time job in the payroll area in finance, the energetic 62-year-old caters parties on the side as a hobby. And that's still not enough to keep her busy. Before most of her HP colleagues have rolled out of bed, Flo has delivered the morning newspaper to 84 customers.

"Got to stay active when you get to be my age," Flo says. "The parties keep me busy on the weekends. The paper routes provide exercise in the morning—a great way to start the day.

"I don't relax—I collapse," she jokes. "I don't think I know how to relax!"

Flo's husband Reid takes a more easy-going approach. "He's a typical retired engineer," she laughs. "He likes to read technical journals and take it easy. I guess opposites attract!"

The paper routes are a family tradition. "One of my sons had the paper routes for eight years, then my other son took them for four," Flo says. "After they both left for college, I figured that I'd give it a shot." But don't think she's motivated only by the lure of lucre. Flo sends the money she makes from the routes to her younger son, a student at Arizona State University.

"I get up at 5:15 a.m. and fold the papers," she says. "It's really quite an art." Flo then drives to convenient spots



The reel thing: Part-time film editor and director Glenn Passmore makes his exotic dreams reality with Capricorn Productions.



Sometime newspaper delivery person Flo Howland shows off her perfect pitch on a sunny morning in the San Diego suburbs.

Extra

ORDINARY PEOPLE

and walks the routes, which take her about an hour. "Being out at that time, I've learned the names of all the joggers and their dogs."

Following high school, Flo served two and a half years in the U.S. Navy. She then attended Drexel University in Philadelphia, Pennsylvania, where she graduated with a degree in nutrition. After teaching home economics at Cornell University for a time, she married and quit work to raise her family.

The Howlands moved to San Diego, and while Flo was playing golf with an HP employee one day, the friend encouraged her to apply for a part-time opening at SDD. Flo got the job and was soon working full time in payroll.

"Serving dinner parties is a great way to meet people," she says, "and it lets me use my college degree. When I retire from HP four or five years from now, I'll go into the catering business."

For vigorous people like Flo Howland, the word "retire" means more than leaving one job; it means replacing it with another.

A coach that's first class

Sandra Boldt, a promotional and technical writer, came to HP a year and a half ago. It was her first job after college, and school is understandably a fresh memory for her.

"High school in particular was a special time," Sandra says. "I'd like to make the experience as wonderful for others as it was for me."

After a full day writing sales guides and flyers and producing slide shows, Sandra coaches an academic league at Orange Glen High School in San Diego. "They didn't have this when I was in school," she says.

The academic league is an intriguing blend of scholarship, sports and television game shows. There are intramural competitive meets, toss-up and bonus questions—even buzzers. According to Sandra, however, it is a largely academic contest dealing with all levels of mathematics, philosophy, world literature and other subjects.

But how do you coach kids for a competition where they can be quizzed about almost *anything*? Sandra explains that the questions are geared toward the students' different grade lev-

els. "Each student researches a specific area such as World War I or trigonometry," she says, "and then writes a study guide the others can share."

"I wrote a sample study guide on pre-Elizabethan English literature. It's hard work, but it's time well spent. I'm a perpetual student. I've learned more about a lot of things in the academic league than I did in years of college."

Sandra adds that knowledge is only half the battle. Sounding much like a boxing coach, she says, "There is a great deal of strategy, preparation and

reaction training that goes into making a strong contender.

"Most of my kids are like I was, high achievers trying to do 15 things at once," Sandra recalls. "However, bright students are not always good team players, so I have to lecture some on the value of working as a unit."

The teacher in Sandra gets a lot of satisfaction out of her volunteer work. "Coaching is great," she says, "because it gets me involved with developing the winning attitude the kids will need to succeed as adults." **M**

—Carlos Greth



Technical and promotional writer Sandra Boldt coaches her crack high-school academic-league team—buzzers at the ready—for an upcoming intramural meeting of the minds.

"Despite its problems, HP is a great company to work for. There are still many opportunities for advancement and recognition for doing a good job."

open line

Open Line survey reveals positive attitudes about HP

The survey results for the U.S. are in and reveal that most HP people feel positive about the company, their pay, benefits, training opportunities and management. When HP launched its second Open Line employee attitude survey in January 1985, John Young called it a process of self-examination and renewal.

Overall, the 1985 results are remarkably similar to those of HP's first U.S.-wide Open Line survey in 1979. According to Dean Morton, HP's chief operating officer, "HP is still well ahead of almost all other companies that have conducted similar surveys."

HP's ranking is based on national norms—results based on surveys by International Survey Research (Chicago, Illinois) at Fortune 500 companies in the U.S. within the last 12 months.

Although the results are generally positive, Dean cautions, "We should not be complacent. There are a number of areas we can improve." Those areas include organizational changes, working relationships among divisions and regions, and service from HP's medical plan administrators.

It's clear that employees like working at HP. An overwhelming 94 percent say they would recommend HP as a place to work. As in 1979, HP's highest favorable response came in the category of company image and identification.

Employee opinions were split on the recent organizational changes. The reorganization was endorsed by 44 percent of the respondents, while another 43 percent felt there had been no noticeable change or had no opinion about the change.

Although many people seem unaffected



"We must return to HP way practices; they are dying out. The recent reorganization caused confusion and morale problems. Our rapid growth is resulting in a loss of our friendly, family environment."

by the changes, others view the reorganization in a negative light. Almost as many people feel that HP has changed for the worse (14 percent) as feel that HP has changed for the better (16 percent).

Most HP people feel positive about other HP people. In fact, the company scores well above the national norm in the categories evaluating fellow employees. Favorable comments about immediate managers and senior management are also prevalent. About three-quarters of the respondents feel positive about their co-workers.

However, people think that working relationships among different divisions and regions could be vastly improved by better

A hard look at ourselves

Last January more than 12,000 HP employees in the U.S. participated in the second Open Line survey. It consisted of 123 questions, including the ones below.

Management/work environment

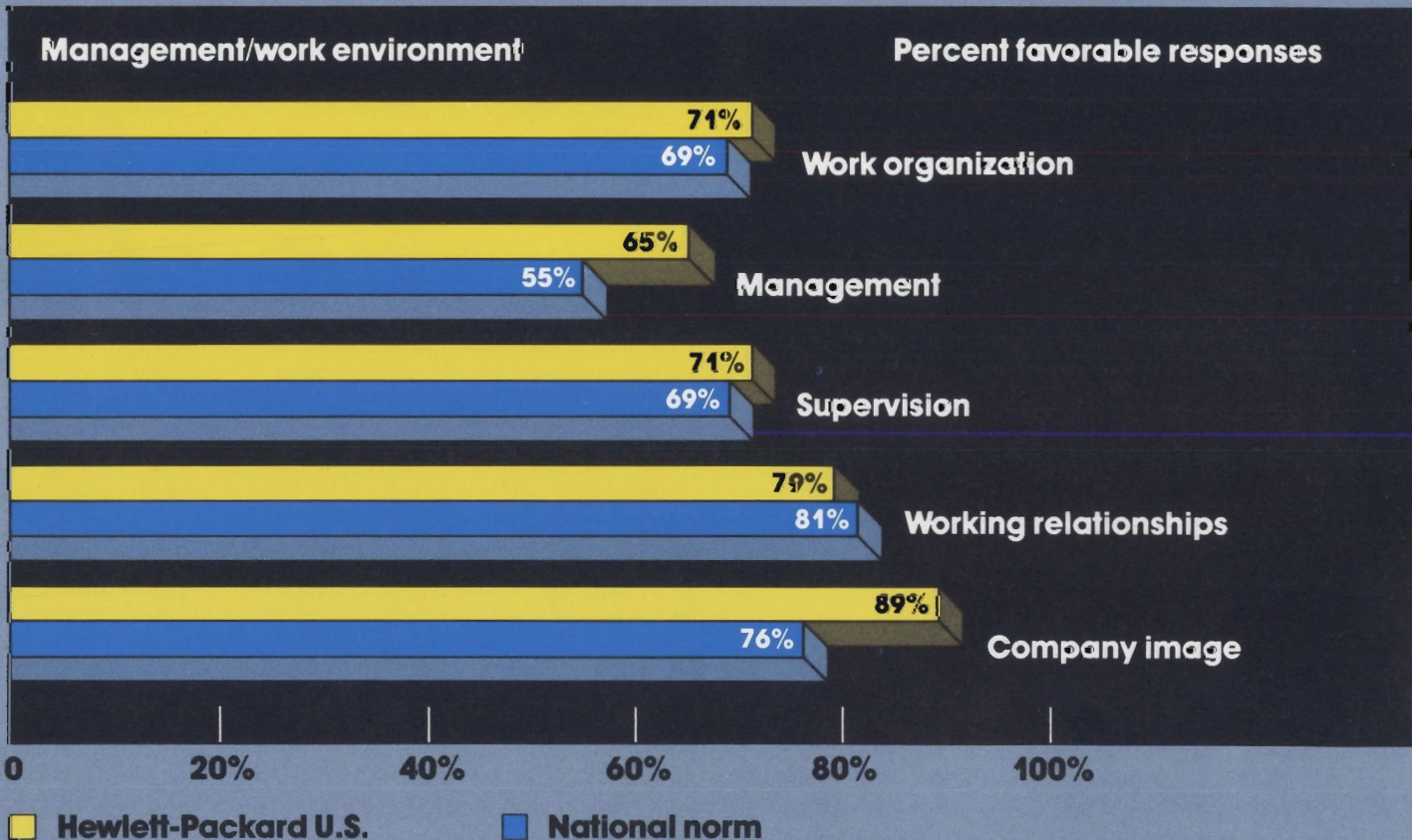
Work organization: Do HP employees feel work is distributed fairly? Do they understand how their jobs fit into other work in the division or region?

Working relationships: Is there good teamwork between groups in the same division or region? Is there good cooperation among different parts of HP?

Management: Are management decisions fair? Are division and corporate management credible? Are managers interested in the welfare of HP people?

Supervision: Do supervisors give credit to employees for good work? Are supervisors accessible and helpful? Do supervisors do a good job building teamwork?

Company image: Would employees recommend HP as a good place to work? Is HP socially responsible?



The HP data shown represents 40 percent of the total questions asked. Therefore HP results compared to entity data will differ from the HP numbers you see in these graphs.

"We desperately need better cooperation and communication between departments and divisions. We suffer from too much decentralization, which interferes with our effectiveness in formulating groupwide product and marketing plans."

communication. The results indicate an overemphasis on autonomy in entities and not enough attention paid to overall company teamwork. This is the only category in the 1985 survey where HP scores below the national norm.

Levels of pay and benefits were given high marks by HP people. This represents a significant improvement over the 1979 survey results. However, the benefits category also garnered the highest number of complaints in the comments section.

The biggest complaint: People feel that HP's medical plan administrators are not meeting expectations. Claims are not being processed fast enough, and employees do

Training/pay and benefits

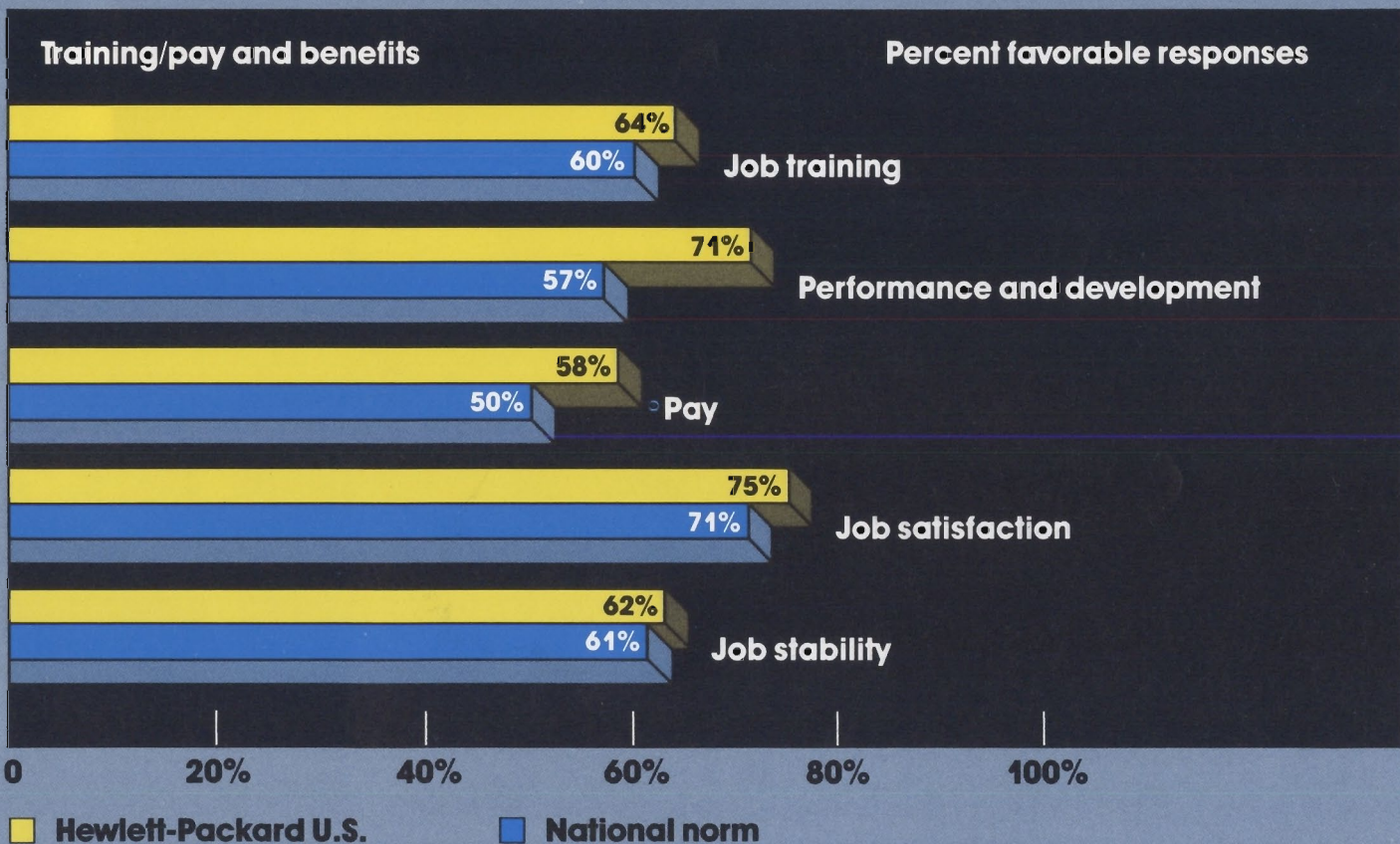
Performance and development: Do employees understand the way on-the-job performance is evaluated? Are performance evaluations fair? Does HP promote competent people from within the organization?

Job training: How well are new employees prepared for positions? How useful are HP training courses?

Pay and benefits: Are salaries as good as or better than those in the industry or the geographical area? Is the pay system fair? Has the pay system been explained to employees? How do benefits compare with other companies? Do employees understand their benefits?

Job satisfaction: Are employees treated with respect, regardless of job function? Do they have the opportunity to do something really worthwhile in their jobs? Can employees use their abilities in their jobs?

Job stability: Do you worry about frequent company reorganizations? Are you concerned about the future of your division or region?



Six categories not shown are: benefits, working conditions, policies and practices, reaction to survey, communications and operating efficiency. Contact personnel for more information.



“Even though we’ve grown, we’ve maintained our basic culture. There’s a comfortable feeling about working here. It’s good to know we keep trying to improve the way we do things.”

not receive prompt responses to requests.

HP placed high above the national norm in the categories of performance evaluations and advancement opportunities. Training also received generally positive ratings, though there is room for improvement in on-the-job training.

Favorable responses to questions about job stability, identified as a problem area in 1979, put HP above the national norm in 1985.

Divisions and sales regions have received information about their results and will

soon be communicating them. Groups of employees at every location are analyzing their own data and will then come up with recommendations for ways to improve. Corporate will initiate actions to work on companywide recommendations.

A complete worldwide report of Open Line will be made to all at the end of next year.

Open Line results appraise how HP people view their jobs and work life. Ultimately Open Line provides employees with greater opportunities for communication and understanding.



HP people enjoy other HP people. The company scores well above most firms surveyed in the categories evaluating colleagues.

May the sales force be with you

In a real sense, the customer is the most important person in our business life, and the second most important person is the salesperson, who spends each day getting orders through face-to-face selling to customers.

How do we learn to help these important people? I have a simple suggestion.

If you are planning the agenda for an annual meeting of some functional group, why not schedule a presentation by a sales representative or a district manager? They'll tell you how things are in the trenches. It's refreshing to hear from salespeople. They'll tell you what customers like about us and where we need improvement.

If you're having an annual meeting of a production section or fab shop team or a PC department, a field salesperson will tell you war stories of marginal quality in hardware or in the equally important areas of service, parts and delivery promises. You come away from those reports with pride, but often a bit humbled when you hear about calling on customers everyday.

I wish every person at HP could learn from a field salesperson once a year. Managers should ask their marketing department to provide a speaker. You'll find the field people enthusiastic and you'll get a good boost.

JOHN MINCK
Palo Alto

Put on an HP face

I've been a member of the HP family for almost 25 years—actively for almost seven years as an employee, and for 18 years before that as the daughter of an employee.

One of the best things about HP is the "belief-in-their-people" aspect of doing business. Where I work, I see different aspects of the HP way in practice every day. I appreciate the informality, open and honest communication and management by wandering around. I can talk with my manager about job-re-

lated or personal concerns just as easily as I can with co-workers at my level.

These are just a few of the many reasons I feel very fortunate to be an "HPite" and can enthusiastically reply to the question "Where do you work?" with "At Hewlett-Packard, and I'm glad I do!"

DEBBIE BARTON
Fort Collins

Park it right here

We've all heard the story about Hewlett-Packard's humble origins in the garage in Palo Alto. I'm curious: Does that fabled edifice still stand? If so, is it a preserved historical site of sorts? Can we visit it? Could HP buy it?

I think it would create great photo opportunities for brochures, annual reports and videotapes—even your magazine! Think of the public relations events and customer visits. Why, even royalty could enjoy the garage!

MARK JORDAN
Cupertino



The ramshackle company shrine

The garage—the site where Bill and Dave invented the audio oscillator in 1939—still stands virtually unchanged behind the house where the Packards once lived in Palo Alto. Though both buildings are now in private hands, the owner has agreed not to sell the property or alter the garage without first notifying HP.

Several HP employees have made recommendations about the garage: refurbishing, relocating it near Corporate offices, transforming it into a mini-museum or donating the garage

to the Silicon Valley High-Technology Science Center (to be completed in 1988) in San Jose.

Nothing has been decided so far, but we are investigating the possibility of having the garage designated by California as a state historical landmark.

VERNON ANDREWS
Corporate historian
Palo Alto

Foreign correspondence

With the recent major reorganization, I find that I am now receiving even more inputs via electronic mail and the post which no longer concern me in my new position. I am sure this is true for many people within the organization.

Please consider this letter a public request to all mailing list administrators within HP to conduct a list-cleaning exercise to minimize the amount of incoming paper.

I am sure this would contribute substantially to our profit sharing next year.

ROY COOPER
Winnersh, U.K.

We'll take debate

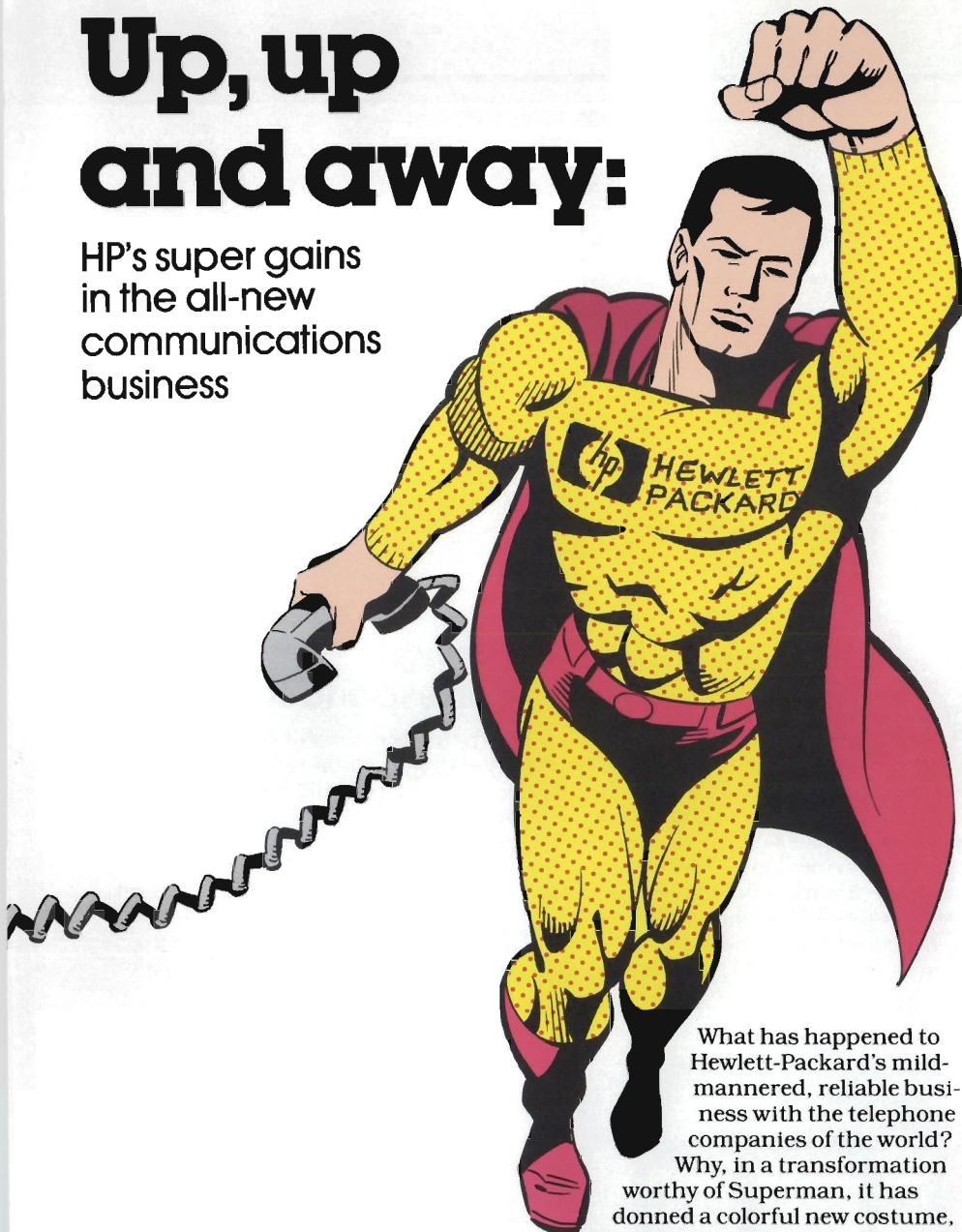
We're not fishing for compliments. Send us your gripes, matters of concern, recommendations, humor—and anything else you want to get off your chest.

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Up, up and away:

HP's super gains
in the all-new
communications
business



What has happened to Hewlett-Packard's mild-mannered, reliable business with the telephone companies of the world? Why, in a transformation worthy of Superman, it has donned a colorful new costume, flexed its muscles and is soaring off to great adventure.

Everything is changing. Telephones and computer terminals are merging, with manufacturers gearing up for completely digitized communications systems that will carry voice, data and pictures. Computers now have fantastic power to analyze and quickly move data anywhere. The same technology has made it economical to convert telephone networks to handle both the continuous signals of analog designed for voice and the digital signals that computers generate.

Most messages are still sent over copper wires—but they're also being bounced off satellites, flashed as light over fiber strands and sent via microwave radio.

The breakup of AT&T, the U.S. communications giant, has resulted in frisky new regional companies seeking

new vendors. Competition is heating up among carriers to provide long-distance service. Big businesses are bypassing phone companies to set up their own private networks.

Hewlett-Packard loves it.

The company is already the largest supplier of test equipment to the communications industry: that means telecommunications, data communications, RF, microwave and satellite. The more companies design, build or operate communications equipment, the more they buy HP's test products and other gear.

Hewlett-Packard itself has joined the increasing number of firms such as banks and large manufacturers who have set up their own networks (see page 17).

Such end-users buy their own PBX (private branch exchange) for connecting and switching calls, put in local area networks (LANs) to hook together computer systems and lease or own transmission systems to connect a number of sites. If something goes wrong, they use HP equipment to diagnose the problem before calling in the phone company and perhaps getting charged for the service.

Walt Fischer, marketing manager of the Colorado Telecommunications Division (CTD), says happily, "We sell to everybody. For us, it's great." His division makes the world's only complete range of datacom testing equipment. CTD's new protocol analyzers, which help computers pass data without a mix-up, are a runaway success.

Until two years ago, both CTD in Colorado Springs and the Queensferry Telecommunications Division (QTD) in Scotland sold mostly to the world's telephone administrations: AT&T in the U.S. and the government-owned PTTs (for "postal, telephone and telegraph service") in other countries. But last year Colorado Telecom did half its business with private end-users—and grew 49 percent in sales.

Queensferry Telecom is also starting to sell more of its digital and analog transmission test equipment to private networks. Even its PTT customer base is changing. British Telecom, for instance, no longer has a monopoly on local and long-distance transmission and sale of equipment going into offices

ART BY PETE MCDONNELL AND AL GORDON



Standing by an antenna above the South Queensferry plant, Alex Patience makes a broadband check of a new HP product to test it for RF interference.

in the U.K. Japan also opened its PTT to private enterprise in April.

"Stimulating competition will bring new services—such as facsimile, data bases and teleconferencing—into play," says Tony Bellhouse, QTD marketing manager. "It makes little difference what those services are, but the increased traffic will enlarge our market."

QTD's sophisticated remote-monitoring systems keep a check on transmission lines buried in submarine cables under ocean floors or flung across entire countries—such as Italy, Mexico and Canada—in land networks.

While all the new equipment seems to be digital, countries where just about everyone has a telephone have a heavy investment in the old analog equipment. A lot of manipulation is now done to convert signals between digital and analog to share existing lines. Developing countries such as Saudi Arabia, however, are freer to install new all-digital networks.

Getting everyone in the world on a common network geared to both voice and data won't happen overnight, Tony points out. "The telecommunications business has been called the single,

biggest, man-made machine. Certain changes will come slowly."

While QTD and CTD are purely in communications, other entities in the Microwave and Communications Group (MCG) do a lot of business with the same industry. Signal generators, spectrum analyzers, network analyzers and power meters are basic R&D and production tools all along the line from component manufacturers to long-distance providers.

The strictly communications side of MCG's business grew more than 32 percent in 1984. Dick Anderson, group general manager, expects the world communications industry to expand 30 percent each year for the rest of this decade. "We should be able to grow our business right along with it," he says.

To break the industry into manageable segments, MCG has assigned responsibilities to different divisions. Stanford Park Division, for example, has the strategic lead for microwave and satellite (apart from telecom). HP not only sells to designers and builders of earth stations and satellites but has entered into its own agreement with Vitalink, an earth station manufac-

turer, to offer a satellite system for connecting HP 3000s.

The Spokane Division takes the lead for RF communications. At the request of Europe's Northern Region, it worked with a Norwegian consultant to develop a cellular-radio test system for the Nordic countries. Europe is far ahead of the U.S. in using cellular radio for car phones, although protocols—the rules for transmission—vary among countries. The Nordic test system is now supported worldwide by the Queensferry Microwave Operation (QMO). The Spokane Division makes another version for use with North American and U.K. protocols.

The operation in Scotland now manufactures 10 general-purpose and specialized test products for the European communications market. Doug Scribner, QMO operations manager, is on the lookout for additional needs to fill. "We'll be putting in extensions of the R&D departments of those divisions whose transferred products we make, and linking our product strategies to theirs wherever we can be competitive," he says.

A recent trade show heightened Doug's sense of an industry on the move. "There were 20 acres of exhibits," he recalls. "I tried a computerized phone that immediately translated what I said into French and played it back to me."

The communications industry is also a good market for products from other HP divisions. AT&T, for example, buys HP peripherals, portable computers and instruments. More than 10,000 HP-75C handheld computers equipped with FIREMAN software will help AT&T field technicians phone in service data.

HP's major account manager for AT&T is Jim Dicso, based in the Piscataway, New Jersey, sales office. One important part of his job is arranging meetings between that company's top management and HP's executives to talk about establishing working relationships. "The AT&T culture is changing with divestiture," Jim says. "It's becoming more cooperative, more willing to learn from others. Now AT&T recognizes they can't accomplish all tasks by themselves.

"It's exciting—we're looking for opportunities on the manufacturing side



RENEE LYNN

A rack of modems from many vendors is part of HP's well-equipped network test center in Cupertino run by John Maione, talking here with Felicia Choy.



MOTOROLA INC.

HP gear is used to test cellular radios like this Motorola mobile radiotelephone.

as well as within the traditional communications side of the business."

The regional phone companies spun off from AT&T in the divestiture last year are now free to buy from anyone and to set up unregulated subsidiaries. They have been assigned a major account manager of their own—Bill Keill, also in Piscataway.

Hewlett-Packard is taking a closer look at competing in fiber optics for the telecom market. The company's present focus is on industrial and computer applications of this technology. Measurement instruments for fiber optics is another new market. The Böblingen Instrument Division makes test equipment that generates and measures light signals.

You might say that Hewlett-Packard grew up with the communications industry. The same year that the company was founded, 1939, marked the first regularly scheduled TV broadcasts in the U.S. and the opening of the first FM radio station.

That was a time when datacom was a teletypewriter operating at 60 words per minute, semiconductors were selenium rectifier disks, transistors were

eight years in the future and satellites 18 years away. Telephone subscribers waited to be asked "Number, please?" There was no test equipment like spectrum analyzers, network analyzers and frequency counters. And digital computers were still a lab curiosity.

Today, the computer is so integral a part of communications that, as John Young has pointed out, it's getting more and more difficult to consider computers and telecommunications as two separate industries. "The distinction between manipulating data and transporting it is getting quite blurry," he said recently. It's critical that HP's computer products work smoothly in multivendor networks.

Sometimes the telephone and the computer literally become one. Carol Mahoney at Information Systems Group headquarters in Cupertino is one of 30 HP people using a workstation made by Santa Barbara Labs that integrates her telephone and terminal with the PBX. Her boss Jim Bell, group engineering manager, has a keyboardless executive version that is equipped for dictation.

Carol sees a duplicate of Jim's screen

and her own word-processing screen. It is easy to exchange text for polishing, with spots for changes indicated by red boxes. The system automatically dials numbers at a touch.

HP and the Santa Barbara firm have agreed on technical collaboration, and HP is actively investigating the market for combined telephone and computer equipment with voice annotation and dictation. (Other voice recognition capabilities are being explored by the Grenoble Personal Computer Division.)

Establishing relationships with other companies is a key strategy for the Information Networks Group, and HP has the most comprehensive certification program in the industry. Agreements have been set up with four makers of PBX equipment—Northern Telecom, Rolm Corporation, InteCom Inc., and AT&T Information Systems—guaranteeing users that they may connect their HP computers and be sure of support from both vendors. The first European PBX certification was granted to the French-based Thomson company last fall.

To ensure that other vendors' products will network with HP's computers,

the network test center at the Information Networks Division (IND) has just about every communications device on the market to simulate different types of hookups with any HP computer.

"A certification from HP has a lot of visibility," says John Maloney, center manager. "We try to shake things out really well." The center also checks out unknown network components and is a final resource for solving customers' emergency network problems.

IND's Felicia Choy is looking for other third-party products to fill out the line.

"Some of our competitors have strategic alliances right and left," Felicia says. "No one company can offer everything. We don't want to lock into one vendor but to connect with all."

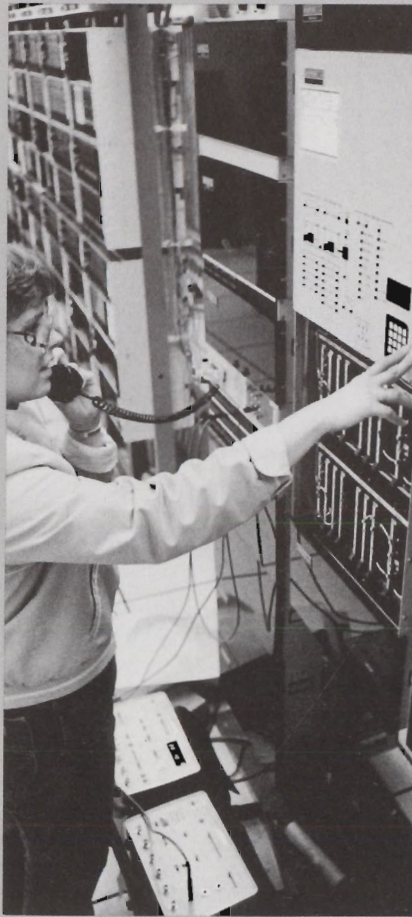
The road map for the company's networking strategy is HP AdvanceNet, which consists of products linking HP computers to each other and to other vendors' computers. The most recent additions were the first LAN products for the HP 3000 minicomputer and new software for its interconnection with IBM mainframes last March.

The Roseville Networks Division is now working with AT&T to develop a standard interface between the PBX and the HP 3000. Called the Digital Multiplexed Interface (DMI), it may well become the worldwide standard for connecting any PBX to any computer system. HP and AT&T will cooperate in sales and support of DMI when it is introduced later this year.

HP people are already active on various standards committees related to the communications industry. The overall goal, everyone agrees, is configuration of the Integrated Services Digital Network, which is being called the network of the future. It would carry voice, data and video with equal ease.

The possibilities for heroic deeds abound in the expanding communications industry with its new technologies and market freedom. It's obvious that Superman will never fit back into that plain old telephone booth. **M**

—Betty Gerard



BRAD WHITWORTH

At Corporate, Katy Fiore monitors the Bay Area microwave network using an HP pattern generator and error detector.

We're a company of great communicators

At a time when many companies are worrying whether their buildings are properly wired for modern telephone and computer communications needs, HP has already installed more than 50 switching systems to simplify terminal hookups and changes. The company's ROUTS batch networking system is in place worldwide, with some 40,000 HP people now using HPDESK— one of the world's largest electronic mail systems.

The operations hub is in Palo Alto, California, where the Corporate telecommunications and office systems department manages:

- A private-line leased network (Telnet) that carries voice and data among 70 HP sites throughout the

U.S. except in the southern states. Every night an HP-85, connected to an HP 4943A transmission impairment measurement set, automatically dials 900 lines to make sure they're working. The U.K. region has a similar network. (HP is also a heavy customer for regular long-distance service.)

- An HP-owned microwave network that serves 12 Bay Area sites, with a direct-line radio signal beamed from a station on the 12th floor of a Mountain View, California, building. The network can handle 576 voice and data channels at once.

- A buried broadband cable for video that connects HP Labs and Corporate buildings in Palo Alto, carrying classes, library services and teleconferences. Another cable will soon provide the extra high-speed data transmission needed by HP Labs researchers.

- HP's satellite network that includes one-way TV transmission from Palo Alto and Roseville, California, to 80 sites, and two-way facilities for small televised meetings between sites (*Measure*, January-February 1985). In August, new rooms for the latter service will be on line in San Diego and Palo Alto, California, and Bristol, England, making a total of six sites.

Newest development is an X.25 packet-switching network that uses a different data transmission technique: Long messages are divided into smaller "packets" of information shot out over the first available electronic path. Faster and cheaper than the batch networking systems of the past, it will speed direct connection between any of the company's computers. HP is now sending information worldwide through public packet-switching networks and is installing one of its own.

The demands of HP's developing X.25 network—all major worldwide links will be completed in 1986— have resulted in a new HP product from the Grenoble Networks Division. The HP 2334A statistical multiplexer, a terminal interface adapted for use in an X.25 network, incorporates ideas gained from the Corporate team's own experience. The HP4953A protocol analyzer also is used to evaluate the equipment in HP's X.25 network.

A lot of HP's own gear is used every day to keep voice, data and video moving throughout the company worldwide.

LETTER FROM JOHN YOUNG

Discussing business cycles:
What comes down must go up



GREGG PIBURN

John chats with Manufacturing Systems Group employees in a breakfast discussion meeting at the Loveland Instrument Division.

As we approach the midpoint of our fiscal year, I'd like to update you on our current order picture and how the HP organization is responding to the challenges it now faces. This can't be characterized as an easy year for us, yet I am encouraged both by our ability to react to changes in our business environment and by the organization and initiatives we have put in place over the past few months.

A look at our statistics shows that the growth rate in orders began slowing a year ago and continues to moderate. During the first quarter our overall growth rate for orders was 15 percent, with international orders pulling up the average. Since then, the downturn that started in the U.S. is being felt in our international markets, with the result that many HP entities overseas are experiencing order growth less than 15 percent.

HP is not the only company affected by the general slowdown. Our figures almost exactly mirror the available industry trends in computers and components—and other firms in our markets now forecast similar results.

The strong dollar explains some of this downturn. Since 1980, the dollar has almost doubled compared to major European currencies, and as of this writing has climbed 10 percent since January. This difficult situation puts great competitive pressures on HP.

In addition to the fallout from the strength of the dollar, major customers are making downward adjustments in their own business expectations and have cut their capital spending plans.

What are we doing about the general slowdown in orders? One of HP's greatest strengths is our "real-time" approach to management: our ability to adjust quickly to changing business environments. We've trimmed our business plans and done some retargeting, steps we don't normally take. In this case it's essential to have an official plan that takes into account a slower business growth than original targets.

Those revised targets mean we really need to sit on expenses and hiring. While we are continuing our college recruiting and will be adding people in key programs, our goal is to keep our employee count pretty constant for the rest of the fiscal year. To achieve that goal, we've asked that all new-hire requisitions receive Executive Committee member approval.

Besides controlling costs, we're taking action that should contribute to an improved order picture. We're emphasizing key engineering programs and making sure they get maximum priority—and stay on schedule. And, of course, we're focusing on generating new orders. All our field and factory marketing people met to deal with that subject, and they're now designing sales and marketing programs and team efforts to reach out and get more than our fair share of current business.

Despite the discouraging news on orders, I think we're moving along very well. Our management is in place, and we have strong new initiatives for important areas like computer-aided engineering and office automation. We've been spending a good deal of management time on business plans—an area that needed more emphasis—and we expect to conclude these by midyear. It's my plan to integrate those plans into an overall presentation on HP's business strategy. That will be available to a very broad audience within HP, so that everyone can be fully informed of our business directions.

In our recent review of the Midwest Sales Region, we had our first chance to review an integrated report on progress

in the field reorganization. It was extremely well done. I'd like to comment on the question of whether our field reorganization has been a factor in the current order slowdown. At this point it seems that changes in the field are way down on the list of reasons for our current performance. As Dick Alberding (executive vice president, Marketing and International) says, the most frequent comment we're hearing from our field sales force is that the "reorganization makes sense." I know our customers echo that view.

Let me conclude with an observation that I think we need to keep in mind, because it's encouraging. Business runs in cycles. Last year's nearly 30 percent order growth was, of course, not sustainable. And this year's order slowdown won't last forever, either. The important thing for all of us is to anticipate trends and react quickly—to practice real-time management and stay in balance—while at the same time fully funding those activities essential for our long-term growth. A second point is recognizing that while we're not immune to economic changes, we have an unusual degree of control over outcomes because of new products. In any year, half of our orders come from products introduced in the preceding three years. Extra efforts in this area can really make a difference.

If we do these two things—anticipate our changing business environment and continue to push our important programs—we'll be in a good position to take advantage of the next business upturn. I'm optimistic about our potential over the long term.

EXTRA MEASURE

Take me to your leader

Sunnyvale, California, takes extra good care of its own. That's why the town created a crack Hazardous Response Unit trained to detect and remedy spills, leaks or fires caused by dangerous substances, including some of the chemicals used in silicon chip manufacturing.

In recognition of the unit's expertise, the Personal Office Computer Division (POD) donated two hazardous environment suits to aid members in their efforts. Tailored from heavy butyl rubber, the outfits can be self contained with a portable air supply, or connected by hose to a remote oxygen tank.

Above, POD employee Mike Dileo pauses to chat with receptionist Raylene Baxter during a walk through the Sunnyvale facility to "get a feel for the suit and what it's like to work in one."

The suits are flexible, but they don't exactly qualify as leisure wear. "You can sweat off five pounds a day wearing one," says Bob Garton, POD safety and environmental services manager.

"Every two years Sunnyvale's Response Unit and our safety team conduct joint mock hazard drills on site," Bob says. "That way they'll know our emergency response capabilities—and we'll know theirs. They have our confidence."



DAN COLIER

TO MARKET

PC Instruments is a modular test-and-measurement system controlled by an HP Touchscreen personal computer or IBM PC, PC/XT and PC/AT. It uses eight low-priced, specialized instrument modules, along with a plug-in interface card. A PC can also be linked to traditional stand-alone instruments by means of the HP-IB (IEEE 488) interface. The New Jersey Division took the lead in development, with contributions from several other divisions.

All HP 3000 computer owners worldwide are receiving without charge the new HP TurboImage database-

management system, which is a powerful version of the existing HP Image/3000.... Two new personal computer models (the Touchscreen II and MAX II) from the Personal Office Computer Division offer more memory, 12-inch screens and the now optional touchscreen. New HP Access software makes it easier for PC users to tap into the HP 3000.... Other new software makes HP's ThinkJet and LaserJet printers fully compatible with Apple's Macintosh PC.... The Integral Personal Computer from the Portable Computer Division has a 16/32-bit computer system that is

Extra

MEASURE

UNIX*-based—thought to be the first PC to provide that operating system. It weighs only 25 pounds and has a built-in ThinkJet printer.... HP 3055S software from the Loveland Instrument Division makes it possible to use an HP or IBM personal computer to control the popular HP 3421A or HP 3497A data-acquisition instruments.

Other important new 1985 products: the HP 9000 Model 550 from the Fort Collins Systems Division is particularly useful for engineers in solving design problems. A graphics accelerator and display-controller interface have now been added as part of a graphics system.... Disc Memory Division has brought out a HP 7907A disc drive with 20.5 megabytes each of fixed and removable capacity. It's the first time the latter feature has been available in a drive with mid-range storage capacity.... A new HP 2689A system from the Boise Division links the HP 2680A laser printer to an IBM mainframe.

The HP 54200A/D digitizing oscilloscope from the Colorado Springs Division is so fast—200 megasamples per second—that it can easily capture high-speed events such as a flash of lightning. The division also introduced the HP 1631A/D logic analyzer that combines logic analysis and oscilloscope functions, for use separately or interactively, in a single instrument.

*UNIX is a trademark of AT&T.



PASTTENSE



HP ARCHIVES

Packing a key punch

The date: March 1961. The scene: Hewlett-Packard's tab (for tabulating) department.

These women were doing something that few do anymore: key punching. They used key-punch machines to transfer information from accounting, production control, personnel and sales onto punch cards which were fed into HP's spanking-new computer, a Univac Solid State 90.

All day long these 15 women keyed essential data onto cards. Today, all HP people who use computer terminals are in essence doing their own key punching—though some non-typists may only be using two fingers.

"We are more efficient now because we're putting data directly into the computer," says Phil Wilson, manager of HP's corporate computer center. "What we've actually done is fan out the work so it's done by each of us—executives, order processors, managers, secretaries."

But in 1961, here's how *Watt's Current*, then HP's company newsletter, described the key-punch department: "The key puncher must work with speed and great care since the ultimate data turned out by the computer depends upon the accuracy of the punched cards. These gals all have had either key-punch schooling or prior experience."

TO MARKET

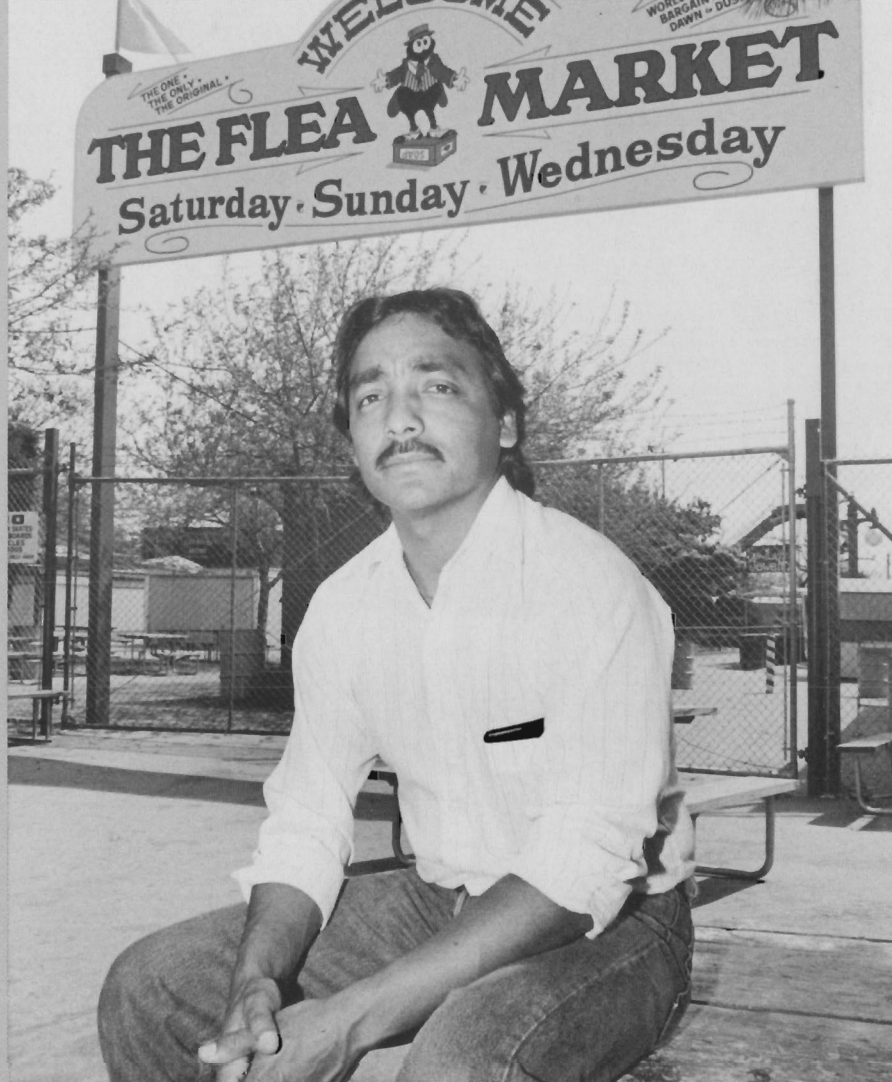
The Böblingen Medical Division has two new adult-patient monitors (the HP 78353B and HP 78354A) that combine increased capability with compact size.... The Medical Supplies Center now has a family of disposable temperature probes.

The Optical Communication Division's new family of miniature fiberoptic components have a package molded of high-strength plastic, cutting the price in half. They can be inserted onto printed-circuit boards using automated machinery.... To replace old-fashioned "color" strips used for identifying bacteria, yeasts, molds and other microbes, Avondale Division's HP 5898A automated microbial identification system matches a test chromatogram against a library of chromatograms of known strains of bacteria.... A new spectrophotometer-based system from the Scientific Instrument Division can be programmed to test automatically how fast drug tablets dissolve.

CHART CHANGES

New management names on the company organization chart include Bill Craven, Components Group general manager, and Brian Moore, Manufacturing Systems Group GM.

In Corporate Marketing, the former Computer Support and Instrument Support divisions have been replaced with the Product Support Division (hardware and software services for system and network products) under Roger Costa as general manager, and the Application Support Division (developing system solutions for customers) under GM Marc Hoff.



RENEE LYNN

Repaid in full

Dave Diaz, facilities technician at Cupertino Integrated Circuits Division (CID), still remembers in painful detail the calamity that struck so many years ago.

Dave, then 13, was swimming with his brother and his brother's girlfriend in a swift Arizona river. Suddenly the treacherous current carried the girl downstream. Dave, a poor swimmer, failed in his attempt to rescue her, and she drowned. The event left him with a deep sense of guilt.

One Sunday recently, Dave was shopping at the San Jose (California) Flea Market with his family when he saw a 3-year-old girl in trouble. Dave quickly pushed through a crowd to reach the little girl, who had turned blue for want of air.

Using techniques he learned in CID's first-aid classes, Dave got her breathing again. "If I hadn't known mouth-to-mouth resuscitation," Dave says, "she probably wouldn't have lived.

"The crowd gave me an ovation. My wife gave me a kiss."

With the life he saved that Sunday, Dave erased an imagined debt and put a childhood tragedy far behind him.

—M. Kathleen Archambeau

Extra

MEASURE

Pitchers at an exhibition



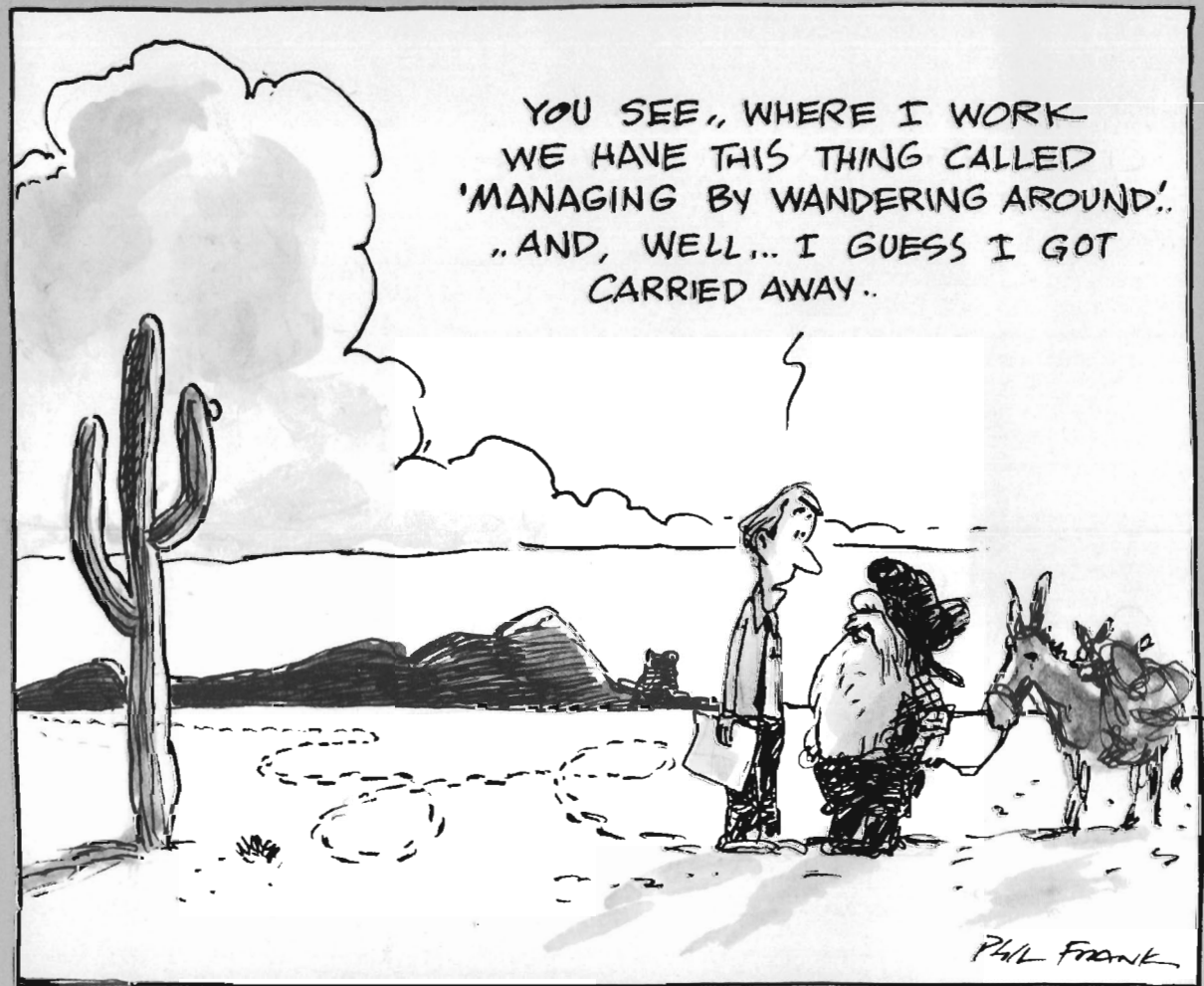
MARK OLSON

The Personal Software Division (PSD) came up with a novel way of introducing products: They announced 282 software packages, including the Graphics Gallery and Executive series, at New York's Whitney Museum of Modern Art.

"It was a nice tie-in between our complete business graphics solution and the Whitney," says Dave Obershaw, Graphics Gallery product manager. It was also a nice place to make a convincing pitch to the 27 influential editors who attended, according to Dave. "We dispelled for good the myth that HP doesn't have enough personal computer software."

The press kit was distributed to hundreds of publications worldwide. "I just got a copy of an article that appeared in an Australian newspaper," Dave says. "The international coverage was probably one of the strongest benefits from the introduction."

The new applications brought HP's PC software total to 1,500. To celebrate, the PSD group searched New York for the restaurant with the best view of the Empire State Building. Says Bruce Woolpert, PSD marketing manager, "We wanted to point out that if you stacked all of our software packages end to end, the result would be as high as that 102-story famous edifice."



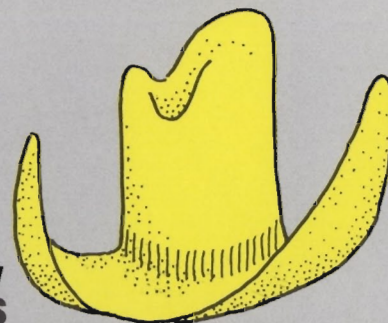
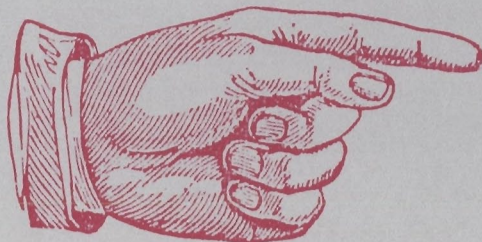


Reservation accepted

With its parking lot full of pickup trucks, an almost all-Navaho staff and surrounding buttes, the Monument Valley Hospital is a scene out of the wild west—1980s style.

In December 1984, Waltham Division donated a five-bed patient monitoring system to the hospital, which also serves as the post office and Federal Express depot for the town of Monument Valley, Utah, population 50. The hospital is one of four on the economically depressed Navaho Reservation, which covers parts of Arizona, Colorado, New Mexico and Utah.

The site of many western movies, Monument Valley is scenic but remote. "Real shopping requires a 125-mile drive," says Jerry Conant, the senior customer engineer in HP's Phoenix sales office who installed the system.



NEW HATS

In Intercontinental Operations, Malcolm Kerr is the GM of the Australasia Region and managing director of HP Australia. Succeeding him as GM of the Far East Region is Walt Sousa, who continues to oversee manufacturing activities in Singapore and Malaysia. Koh Boon Hwee becomes managing director of HP Singapore manufacturing.

New GM assignments in the Peripherals Group: Scott McClendon to the San Diego Division immediately, Doug Carnahan to the Boise Division and Ray Smelek to the Bristol Peripherals Division this summer.

Dick Love to manufacturing manager of the Information Technology Group.... Vic Burke to operations manager at the Information Resources Operation.

ON THE SCENE

Hewlett-Packard has moved up to 60th on Fortune magazine's ranking of the 500 largest U.S. industrial corporations based on 1984 sales. HP was 75th last year.... The highest U.S. scientific honor, the National Medal for Science, was presented to co-founder Bill Hewlett in a ceremony at the White House on February 27.... European Community Commission President Jacques Delors visited HP's Palo Alto and Cupertino, California, facilities on April 25.... Ernest C. Arbuckle has retired from the company's board of directors after 26 years of service.... The Lake Stevens Instrument Division moved February 12 to a new permanent home near Lake Stevens, Washington.

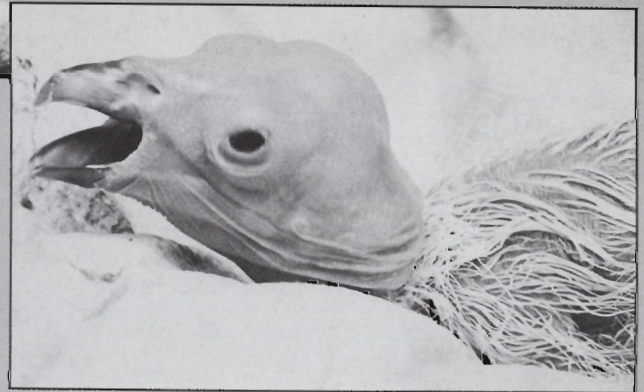


Precious and few

Only a handful of California condors exist—an estimated 16 in the wild and 13 in captivity. But don't write them off quite yet. Thanks to the Condor Recovery Project begun in 1981, the captive bird population and reproductive rate have increased.

The Neely San Diego sales office provided a desktop and a handheld computer and coordinated the donation of the rest of a \$9,000 system to the San Diego Wild Animal Park for the project. The system also includes a plotter from San Diego Division and a data acquisition unit from Loveland Instrument Division.

"The system helps us compare growth and behavior with the historical records of other captive birds," says Tom Hanscom, Park public relations coordinator. The system will also control temperatures in condor incubators and nurseries.



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