# MEASURE

July-August 1984

U.K.'s David Baldwin:
architect of success

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Hewlett-Packard Company designs and manufactures computers, electronic test equipment, handheld calculators, electronic components, medical electronic equipment and instrumentation for chemical analysis. Manufacturing facilities are located in 23 U.S. cities in eight states and in 10 cities in nine countries in the rest of the world. HP sales and service offices can be found in more than 80 U.S. cities and (including distributorships) in approximately 200 cities in 70 countries around the world. HP employs more than 76,000 people.

## ON THE COVER

*With the dome of St. Paul's Cathedral in the background, HP Ltd. Managing Director David Baldwin is photographed by Tony Harris in central London, where HP has increased its presence. Starting on page 3, staffer Betty Gerard reports on the singular growth of HP's U.K. region in the past six years.*

# UPFRONT

## Company experiments with new ways to market proprietary integrated circuits.

Hewlett-Packard jumped into the integrated-circuit (IC) business in 1965 for a simple reason: By conducting IC research and development, the company would be able to make significant contributions to products without waiting for similar chips to become available on the commercial market. Today most best-selling HP products include HP custom chips.

But not all HP circuit-design engineers have been aware of the company's IC capabilities. Until now.

Starting last February, three teams of HP IC experts traveled to 52 divisions and operations over a three-month period. The traveling roadshow was designed to present the capabilities of the company's six IC centers.

"We're doing chips internally that no one in the world would attempt," says John Moss, marketing manager for the Computer Integrated Circuits Division headquartered in Cupertino, California. "But many people didn't know what was available from Hewlett-Packard's own facilities."

The traveling teams met with division R&D engineers and project, section and lab managers around the world. Often the general manager and others from marketing, manufacturing and quality assurance areas attended the day-long workshop. For most, it was the first time they'd heard the specifics of HP's integrated-circuit strategy and learned about some of HP's successes with custom chips.

"Some of our IC centers' accomplishments have been nothing short of outstanding," says John. "We showed one division how it could take 300 off-the-shelf chips and, through integration, put them on one custom chip. Another division was able to consolidate the contents of three printed-circuit boards onto one board. This integration reduces product costs while increasing reliability."

Unlike a now-you-see-'em, now-you-don't salesman, the traveling IC roadshow left its HP clients useful tools to determine if any of their projects were likely candidates for custom chip work. The new tools included a white paper to aid IC decision-making, an on-line computer model to help determine the cost of producing a custom chip and a parts catalog describing the functions of custom ICs in HP products.

There's also a new customer support team in place in John's Computer Integrated Circuits Division—patterned after the HP sales organization. "We have application engineers who function much like sales reps. Our design consultants serve our internal HP customers much the way systems engineers provide technical expertise for outside customers. Our product and test engineers make it work just as customer engineers do in the field."

The improvements to the internal marketing scheme should help the company's six IC centers (three in the Instrument Groups and three in the Computer Groups). All six make chips only for use in HP products. The centers are known in the business as "captive suppliers" because they sell only to internal customers. Of all the captive suppliers in the world, HP ranks third in "sales volume" behind IBM and AT&T Technologies, the former Western Electric arm of the Bell System.

The roadshow generated even more business for the HP IC centers. "We have already identified 42 new design projects," says John. "We think our new customers will learn what some of our regulars already know: Our centers offer better design tools, more thorough characterization and test, superior engineering support, and chips with specifications that exceed anything that's available in the market today. That kind of technological advantage will certainly contribute to the company's profitability." **M**
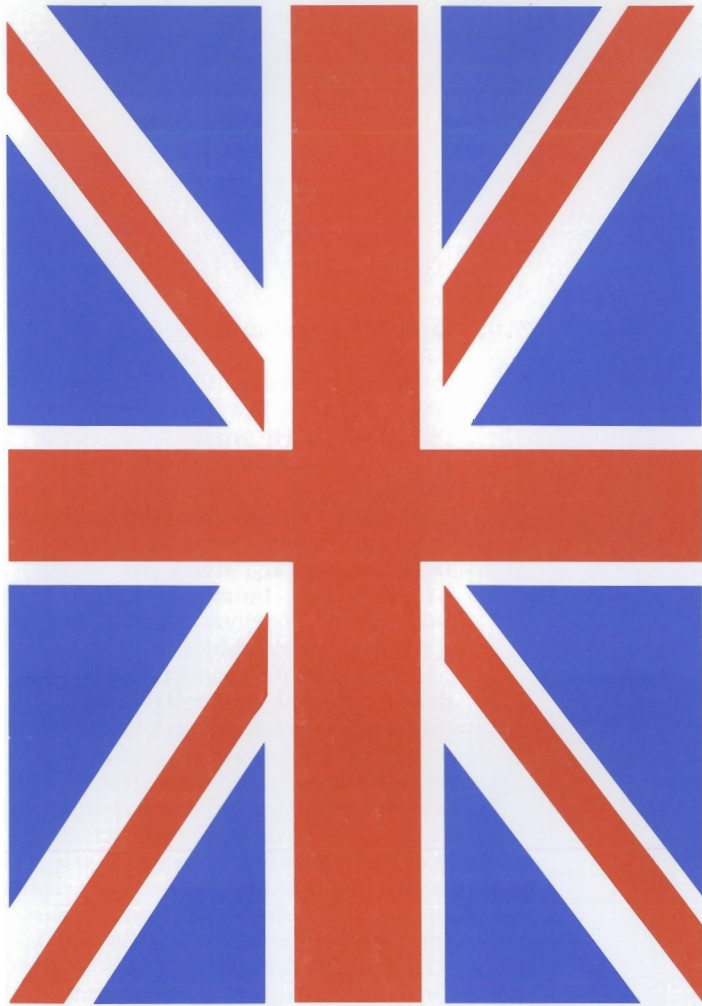
# Nothing short of excellence

In the past six years, Europe's U.K. region has carried out a grand plan for greater HP sales and increased visibility.

On February 13, evening news broadcasts throughout the United Kingdom led off with three top stories. Sandwiched between a new royal baby-to-be and the new Russian leader was the announcement that 700 jobs would be created by Hewlett-Packard Ltd. in South Queensferry, Scotland, through formation of a new instrument operation.

No matter that the news media garbled the facts a bit, crediting all the future jobs to the newly announced Queensferry Microwave Operation—when in reality half of them will be added to the Queensferry Telecommunications Division (which has been at the site since 1961 and is experiencing a renaissance of its own).

What came through clearly and accurately was the vigorous growth in HP's U.K. activities that is evident on all fronts: sales, manufacturing, research and increased corporate prestige. Since 1978 the U.K. subsidiary has had marked success despite a local economy slow to recover from the deep recession of 1980-81.

One of the principal architects of that success is Managing Director David Baldwin, who has headed U.K. marketing activities since his return from Geneva headquarters in 1978 and worn the overall U.K. region hat since 1982. (In geographic terms, this covers the three countries of Great Britain—England, Scotland and Wales—and Northern Ireland. The sales region also includes the Republic of Ireland.)

From the first, David won general agreement that the time had come to aim at nothing short of excellence in U.K. sales performance. That would require, among other things, training a crack sales force, setting aggressive targets for market penetration and increasing HP's manufacturing and other "value-added" activities to make a contribution to the local economy.

Going in, HP Ltd. in 1977 had one respected plant in Scotland where employment had leveled off at less than 700 people, and another 500 or so people in the sales organization spread thinly throughout the British Isles. The total: less than 1,200 employees.

Six years later, here's how the score sheet looks:

**Head count.** Total HP Ltd. employment is now more than 2,700 people. Almost two-thirds (1,563) are in the sales organization, now adding people at the rate of 200 a year.

**Sales.** Since 1978, the U.K. region has moved steadily up the ladder among the five regions which make up HP's European organization and is the largest single-country region. It formerly did 13 percent of HP's business in Europe; today it does 20 percent. Last year the United Kingdom was second only to the U.S. as the major market for the company's products.

**Manufacturing.** In the past few years the Computer Groups have developed two full-fledged divisions in England: the Office Productivity Division in Pinewood with worldwide responsibility for word processing and office communications software, and the Computer Peripherals Bristol Division, which moves this fall into a new permanent facility in Bristol. To these, add the Instrument Groups' new Queensferry Microwave Operation getting underway this year in Scotland.

**Research.** The U.K. was chosen for the first split-off of HP Labs. A new research center, HP Labs–Bristol, will share the Bristol site to take advantage of technical strengths in Europe—especially in the U.K.—and to provide

OPD's Vic Langford

# TREASURE TROVE

Popular wisdom—unconfirmed by hard data—says there are 25,000 computer professionals in England's Berkshire County.

When HP Ltd. advertised in 1980 to hire people for its new software operation in Pinewood, it coined the term "Software Valley" as an echo of Silicon Valley in California. Indeed, the latter cradle for the computer industry could well envy the abundance of computer scientists presently available in the U.K.

The world's first digital computer was developed at England's Manchester University to give the U.K. an early start in computerization. Every primary school in Great Britain has a microcomputer and one of every 10 homes has a home computer. (Sir Clive Sinclair has saturated the home market with low-priced models, and the U.K. has more personal computers per capita than the U.S., Germany or Japan.) Fascination with computing is actually spreading from homes to offices, rather than the reverse. Newsstand racks are lined with computer magazines that school kids read with the same rapt attention that comic books receive elsewhere.

Office Productivity Division general manager Bob Kaudarauch explains that the U.K. was chosen for HP's first office software activity "to tap the U.K. computer science industry here." The division's HPDESKMANAGER is thought to be the largest selling electronic mail system in the world.

The year before actual start up in 1980, Bob hired eight software engineers in England and sent them to California for 18 months at HP's Silicon Valley facilities. Two of them, Vic Langford and Peter Hurley, are now section managers in OPD's 70-person R&D lab.

In his present role, Vic sponsors a third-year college student in a "sandwich program" that alternates time on campus with industry experience toward an enriched technical bachelor's degree.

The division competes vigorously in college recruiting. "Two years ago HP was an unknown sell on the campus. Now we're hiring graduates more aggressively than in the U.S.," says Dave Townsend, OPD marketing manager. The division's technical staff includes many experienced computer scientists from nearby firms and software houses concentrated in central London.

The rich supply of computer scientists—which has been called the greatest in the world—attracts other HP activities to the U.K. Graham Long is now starting the European Response Centre at Pinewood "primarily because we can hire people with the right skills" to provide sophisticated support for software. He expects to have 70 professionals on the staff by next year.

Don Hammond, deep in interviewing for HP Labs—Bristol and establishing contacts with leading universities, says, "The U.K.'s solid educational and research community has historically been a leader in the world."

He points out that the U.K. already has leadership in networking, and recently made a substantial increase in its national commitment to software and computer architecture research that will be jointly funded by industry and government.

Two-thirds of HP Labs—Bristol's work will be computer-oriented, related to artificial intelligence, graphics, distributed data bases, encryption, systems architecture and computer-aided design. In the next three years, its professional staff will go from zero to 170 people.

support for the European divisions.

Add to this a flourishing sales finance company, started in 1978, and the newly organized European Response Centre which will provide state-of-the-art problem solving for systems customers. HP Ltd. now has seven entities—quite a change from the single factory and small sales organization of just a few years ago. Its corporate staff is now settled in Pinewood in a former hospital with spacious grounds that are home for jackrabbits and foxes.

HP Ltd.'s capital investment last year alone totalled 14.7 million pounds ($20.3 million U.S. dollars). Officially opened in October was a nationwide support center in Winnersh that provides warehousing, customs clearance, test and maintenance, and other services to the field from one 100,000-square-foot building.

Franco Mariotti, vice president - Europe, serves as chairman of the board of HP Ltd. "Working with the rest of the corporation, they conceived an ambitious plan—and really meant it," he says with approval.

If you made a rapid circuit of the U.K. today, here are impressions you might take home:

> ## "Look out that window. There's more wealth per square foot in that mile than anywhere in the world."

From the second story of HP Ltd.'s sales office in Bridewell House one can see the great dome of St. Paul's Cathedral, bisected at the moment by a nearby construction crane. The combination of old grandeur and new development is an apt symbol for an area of London that is the financial center of the world. The HP sales rep who points out the view is dressed in a pin-stripe suit that blends right into the territory.

HP Ltd. has just completed renovation of the five-floor building that serves as its first central London office. Comfortable facilities for seminars and customer entertaining—including a 100-person auditorium and an execu-

tive dining room—are keyed to the convenience of its customers, including a number of major accounts with headquarters in the area. The branch office includes the first district outside the U.S. dedicated to selling technical and commercial computers to third-party customers. Among its accounts are large manufacturers who incorporate HP equipment into their own systems.

Philip Watkins, for instance, handles the account of Metier, a large systems application firm that manages major projects in many countries. It is installing 100 HP 1000-based systems in Scotland for an offshore oil project as one of its many applications.

To service such a far-flung account Philip acts as a project manager, encouraging HP sales forces in France, Germany and Scandinavian countries to sponsor customer seminars and to share sales leads. With help from Grenoble, he runs a special advance ordering system to keep deliveries flowing. He also makes certain that members of Metier's top management meet their HP counterparts.

Part of the successful U.K. sales strategy has been to emphasize becoming a premier supplier to such key accounts. It has worked particularly well with major oil companies, and HP Ltd. is now going after the financial services sector headquartered around the corner from Bridewell House.

> **"With a specification-sensitive market such as the communications industry, our division has always been market-driven—but we haven't been shouting about it."**

Finlay MacKenzie, general manager of the Queensferry Telecommunications Division, points out that his division's customers are clearly identified: the government-owned and private telephone administrations throughout the world. More than 85 percent of QTD's telecommunications test equipment is



Like their Scottish colleagues in South Queensferry, HP people in Pinewood, England, gather in the company pub that opens after work. A dartboard and racquetball courts are nearby.

exported outside the British Isles.

Something exciting is happening to the products for that established marketplace, however. The structural change underway in telecom test is that it is becoming a systems business, particularly in production and maintenance—and QTD is leading the way. "We detected a change in technology from analog to digital and followed it," Finlay says. The division now has almost 100 development engineers in South Queensferry.

Its first generation of remotely controlled instruments was shipped in 1976 to a Canadian utility that needed to monitor a dam and generating station inaccessible during winter months. That early system was controlled by a desktop computer and could serve one user.

By 1978 QTD was producing a sophisticated, distributed FDM (frequency division multiplex) monitoring system based on the HP 1000 and serving many users. It proved to have great value for the surveillance of underwater cables laid on the ocean bed to link two countries—each insisting on control of testing at its end of the line. Since 1980 QTD's automatic transmission testing
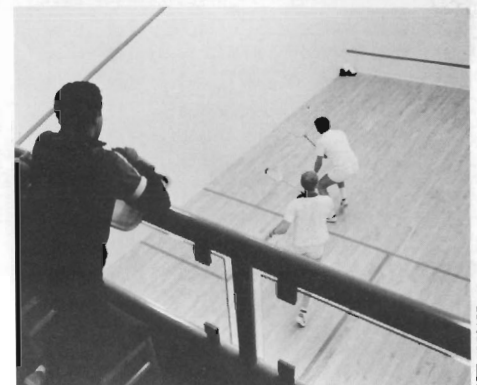


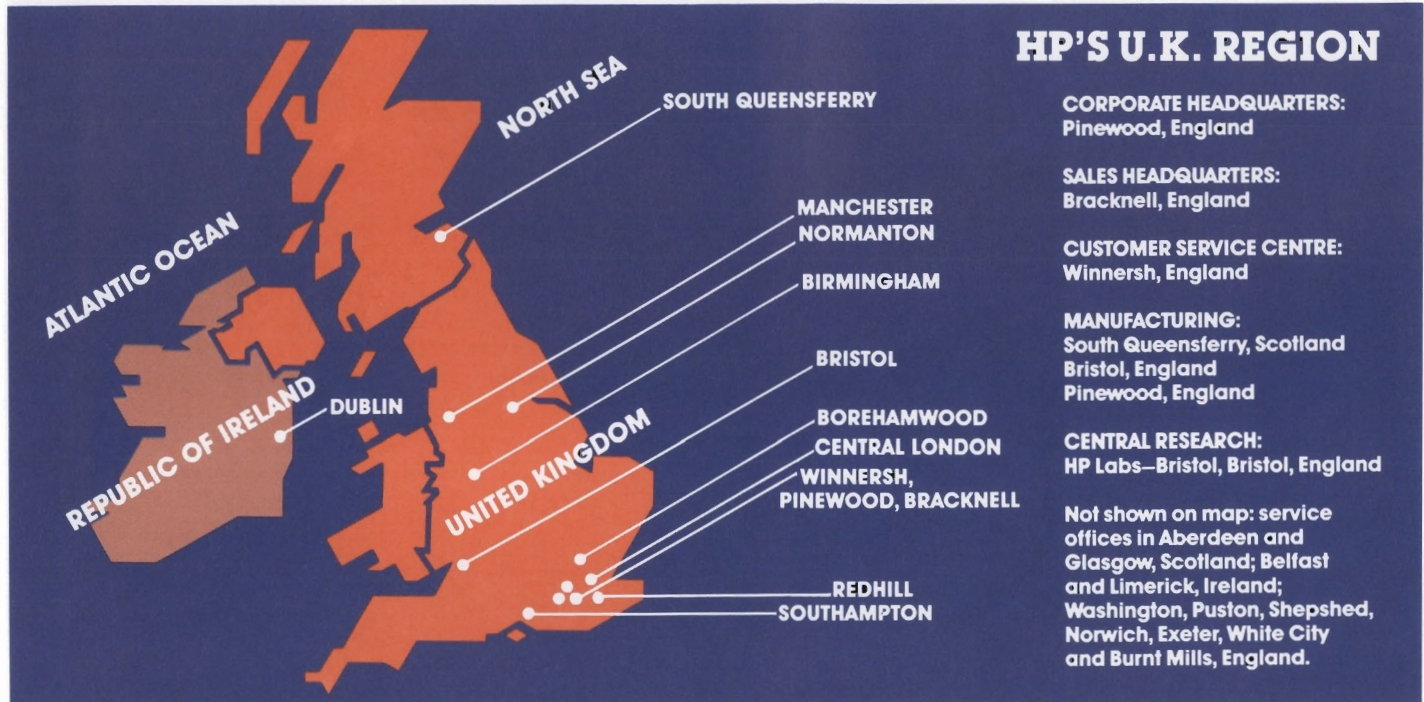Keeping score as Robert Hall (right) takes on a customer at Pinewood.



HP's Butterstone Loch in Perthshire, Scotland, offers year-round fishing.

SOUTH QUEENSFERRY

NORTH SEA

MANCHESTER
NORMANTON

BIRMINGHAM

ATLANTIC OCEAN

BRISTOL

BOREHAMWOOD
CENTRAL LONDON
WINNERSH,
PINEWOOD, BRACKNELL

DUBLIN

REPUBLIC OF IRELAND

UNITED KINGDOM

REDHILL
SOUTHAMPTON

**CORPORATE HEADQUARTERS:**
Pinewood, England

**SALES HEADQUARTERS:**
Bracknell, England

**CUSTOMER SERVICE CENTRE:**
Winnersh, England

**MANUFACTURING:**
South Queensferry, Scotland
Bristol, England
Pinewood, England

**CENTRAL RESEARCH:**
HP Labs—Bristol, Bristol, England

Not shown on map: service
offices in Aberdeen and
Glasgow, Scotland; Belfast
and Limerick, Ireland;
Washington, Puston, Shepshed,
Norwich, Exeter, White City
and Burnt Mills, England.

systems have speeded up the installation and approval of such submarine cables linking the U.K. with the Netherlands, Spain and Denmark.

Robin Myles, who heads a section for systems and software products within R&D, explains that QTD had to develop application software for the undersea testing and to do special tests on all the system's gear obtained from other HP divisions. "We were breaking new ground, certainly within HP," he says.

This July deliveries were completed to British Telecom for the largest single-system instrument order ever sold in Europe: remote access and test equipment (RATES) linking 63 exchanges in the U.K. and Northern Ireland to 12 control centers—an $8.5 million dollar contract. Fifteen engineer man-years of software development went into the job.

A new, coordinated set of microwave products in the RF frequency range will be made for the European market by the Queensferry Microwave Operation. It's already underway with the ambitious schedule of transferring two products a quarter from U.S. divisions (starting with power meters from the Stanford Park Division). Manufactur-

ing manager Jimmy Queen plans "a showplace for customers to see how HP systems are used in a manufacturing environment." The operation is up and running with 60 people in a 100,000-square-foot addition to the South Queensferry building.

As one of the first U.S. companies to set up operations in the 50-mile corridor between Edinburgh and Glasgow, HP gets a lot of visibility in Scotland these days. "Silicon Glen" already has the largest cluster of electronics and computer companies outside the U.S., with every major U.S. computer firm represented with plants. The government's Scottish Development Agency, which is actively courting investment by overseas firms, frequently sends foreign visitors to talk to HP about its experience in South Queensferry.

They hear about the plentiful supply of well-trained engineers in Scotland, government financial incentives to invest in the country, and new government efforts to improve education at the secondary level. Finlay MacKenzie admits that the story HP has to tell may be too persuasive, in fact. "I often wonder as I do it why I'm encouraging competition to come in," he says.

Or as Jim Rigby, QTD controller, puts it, "HP may have once been an oddball in Scotland—but not today."

> **"I wrote to Palo Alto for a job as soon as I heard HP was coming to Bristol—and used a Charles and Di stamp so someone would notice my letter."**

"I didn't think I had a snowball's chance in hell to get on with Hewlett-Packard here," says Janet Whitemore. A former HP employee at the Data Systems Division in California in the early 1970s who had returned home to England, she was thrilled to be hired as one of Computer Peripherals Bristol's first five production people.

Janet is now a supervisor in printed circuit assembly, and the Bristol entity graduated from a start-up operation in April 1983 to full division status.

This October the division moves from

**Queensferry Telecom's Jennie Anderson tapes masters for printed circuit boards.**

a temporary leased facility to a permanent building that will be shared with HP Labs—Bristol. The 115-acre Wallscourt Farm property was once the site of a model farm built by the Duke of Baufort, and the 100-year-old farmhouse on the land will eventually become a recreation center. Gray Cotswald stone from local quarries has been used on side walls of the plant.

For facilities manager Mike Farrell, a native of neighboring Wiltshire whose most recent HP assignment was in Scotland, his transfer to Bristol was "like coming home." His West Country accent proved a subtle asset in the complex negotiations carried on with local governments to make possible HP's campus-type zoning in Bristol. The company is now credited with pioneering the first business-park development in Britain to allow HP's usual mix of production, administration and R&D at the same facility. With the first 125,000-square-foot building complete, design work is underway on a second phase.

The first transferred products were shipped from Bristol 10 months after Doug Carnahan, former Boise Division manufacturing manager, was tapped



**In Dublin, Kevin Sweeney and Eddie McNamara go to work at the HP sales and service office through this arched doorway. The office is located in two Georgian terrace houses, being remodeled to provide more conference and demonstration rooms.**

as operations manager. The newly defined charter for the Computer Peripherals Bristol Division is mid-range mass storage products, and marketing and R&D are now well underway.

As a transferred American manager, Doug has gained new insights. "In the U.S. we don't have a good understanding of the pricing issues and market differences I can see now that I'm here. You become aware of what's involved when you deal with multiple currencies and multiple cultures."

Even in temporary quarters the Bristol division is something of a showpiece for U.K. customers. It serves as an informal marketing center, with visitors intrigued by test systems, graphics packages, a laser printer and other HP gear in regular use.

"As a U.S.-based manufacturer, HP needs to work very hard at making the public aware of our manufacturing presence in the European market," Doug believes. "People are willing to buy your product when they know you make it here."

## *"It's the aiming at excellence that counts—you have to take a gamble."*

Roger Cooper, who headed U.K. computer sales during six years of rapid growth before becoming European computer sales manager, sees David Baldwin's return to the U.K. as the key to HP Ltd.'s success.

"A group of people came together who were very ambitious for HP to be a major computer company in the U.K.," he says. "Until then only five or six HP 3000s had been sold; we set a goal to go from selling one a year to one a quarter, then one a month, one a week, and, finally, one every working day. And we made it." He names some of the people who made it happen: John Metcalfe, Robert Hill, Mike Delaney, Jeff Graham—all now in managerial roles.

The same heads-up approach prevails in measurements (as the instruments business is called in the U.K.). Based on figures from the top nine U.K.

instrument suppliers, HP's market share has improved by 40 percent in the past six years.

"We set ourselves an early objective to organize to use the strength of HP in both measurements and computation and to identify real opportunities where we could get the best return for that scarce resource: field engineer sales time," says Roger Thornburn, measurements regional sales manager since 1978.

An emphasis on field marketing and program management has resulted in creation of specialist sales and marketing teams for such specific markets as production testing, industry, defense and communications. HP Ltd. is not leaving to chance its aim of becoming a natural supplier to major accounts. A strengths, weakness and threats analysis is now conducted on major accounts to develop a strong sales plan— with the top six major accounts all showing annual growths in excess of 30 percent.

A specialized measurements application software group is based at the service center in Winnersh.

Keith Mitchell, who has been selling HP instruments since 1964, is now the account manager for British Telecom. He coordinated the large RATES order which brought jubilation to South Queensferry.

"The most significant thing it taught us was teamwork," he says. "It's a different way of selling. Instead of straight customer interface, you're talking to a broad band of the customer's people— procurement, quality assurance, maintenance, development and top management."

With two of its instrument entities at South Queensferry, the Microwave and Communications Group chose that site for its new European Marketing Centre that pulls together all sales support for the first time.

U.K. Analytical sales manager Arthur Wood emphasizes "diplomatic selling" — doing what you say you're going to do. This year the discipline's promotional money was concentrated on staging a prestigeous three-day customer symposium at Stratford-upon-Avon in June. For two of the last three years the U.K. has taken the trophy for HP's best

**Houses of Parliament, London**

# KEEP IT ROLLING

As the U.K. industrial engine gets back on track, will there be enough engineers at the throttle?

These days David Baldwin, managing director of HP Ltd., has emerged as an industry spokesman signaling that technical education in Great Britain is far too underfunded to supply national needs. His views are getting close attention in government circles, even though HP Ltd. won't be among the top 100 U.K. companies for five more years.

At first, HP raised the issue in private luncheon meetings with government officials. During a February press conference on HP Ltd.'s annual results, David's public comments that Britain can't afford complacency about its educational system were picked up by the BBC, independent radio and the national press. It struck a chord of response in government, academic and industry circles looking for an answer to Britain's economic recovery.

In April HP Ltd. was invited to submit its views to the House of Lords Select Committee on Science and Technology. The statement included specific proposals for change, such as identifying key universities and polytechnics as centers of excellence in a particular field for better coordination of support. The British Minister of Technology has since asked David Baldwin to serve on a working party which will make recommendations for government action.

On May 14 and 15 HP Ltd. hosted a series of receptions in a hotel adjacent to the Houses of Parliament for the MPs, noble lords and civil servants with an interest in HP and high tech issues. The sociability included a lively discussion on technical education needs.

One of the four warehouse doors at HP's Winnersh Service Centre is used only by trucks from Europe that clear customs in a special area. The facility houses distribution, quality assurance, bench service, parts, supplies and literature for the U.K. region.

all-around Analytical region in Europe.

And Ian Graham, U.K. Components sales manager, heads the most successful sales team in the world for any discipline—its components sales grew 34 percent (in U.S. dollars) in 1982 and another 54 percent last year. The high reliability of HP's components has won a broad base of industrial and military customers (despite the latter's preference for "Buying British").

The British National Health Service has been a good customer for HP's medical products, particularly for patient monitoring and diagnostic equipment. Ken Pett, who heads U.K. Medical, sees health care management information systems as a significant area for growth. Negotiations with a U.K. health-care systems house for a joint venture are at an advanced stage.

Rapid growth in the sales forces has opened up new slots for managers with fresh field experience. "They know the real world," says Roger Cooper. Mike Twigg, his successor as head of U.K. computer sales, joined HP in 1978 as a sales rep, was a district sales manager a year later, an area manager the next year, and became regional computer manager in 1982.

The U.K. has placed heavy emphasis on sales training, often using courses from outside consultants if HP's in-house training courses developed in California seem too informal for the U.K. culture.

After a series of moves due to rapid growth, U.K. region sales management and administration have settled down in headquarters at Bracknell, with district sales offices located in the nearby town of Winnersh.

U.K. controller Alan Wilson sees a solid reason for HP Ltd.'s sales success in a recessionary environment which has caused Great Britain to be called "the sick man of Europe."

"Don't be misled by statistics based on measuring old industries," says Alan. " The restructuring of Britain is being done on a shorter-term basis than elsewhere. That's why HP is so successful in selling productivity tools." **M**



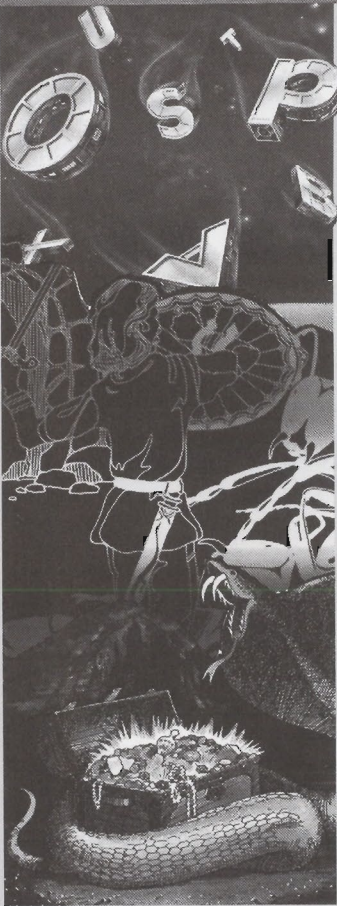Janet Whitemore (left) and Pauline Molyneux in printed-circuit assembly were two of HP's first people hired at the start-up plant in Bristol, England.

# CLOSEUP

Zooms in on the ever-changing world of HP people, products and places.

PAUL PESUT

## THAT'S EDUTAINMENT!

All work and no play makes for a dull computer. That's why HP has packaged some of the world's best-selling game software for both the HP 150 and the HP 110 (The Portable) personal computers. Most of the HP 150 software takes advantage of the computer's touchscreen feature to enhance game play. The 21 games on the August price list offer users the perfect combination of education and entertainment: billed by HP as "Edu-tainment."

Included in the lineup are such titles as Temple of Apshai™, The Zork Trilogy™, Millionaire: The Stock Market Simulation™ and Type Attack™. If you've got an HP 150 computer at home, here's your chance to slay dragons, make a killing in the stock market, go arm-chair spelunking and learn how to type. If you don't have an HP 150 computer at home, this might be another good excuse to buy one.
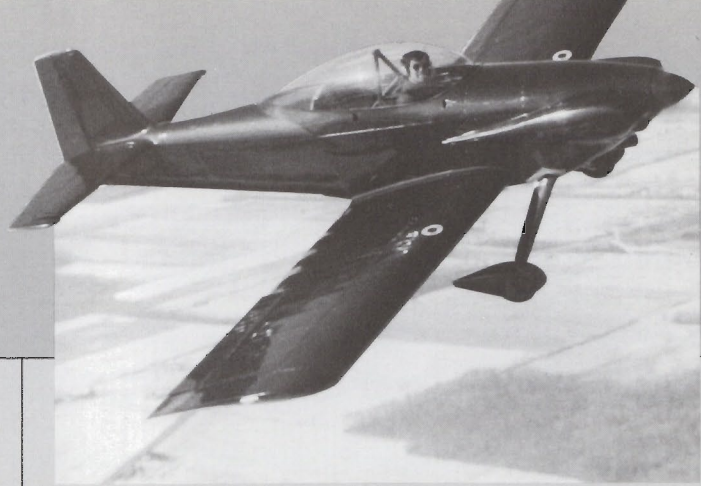
## THE WRIGHT (BROTHERS) STUFF

Put yourself in Vic Syracuse's goggles last New Year's Eve as he climbed into the plane he built himself to take it into the air for the first time.

"I was pretty nervous," recalls the technical support engineer in HP's Akron, Ohio, office. Now that he has logged 100 air hours in the two-seater, Vic says he has "more confidence in it than the commercial ones I fly."

What possessed him to build a plane? The usual "because it's there" syndrome, he says, plus "it's a lot stronger than it needs to be, which makes it safer."

He uses the plane for family trips and for some of his HP travel. The RV-4 has a range of 700 miles and can fly up to 200 miles an hour.

Before you rush off to build your own plane, Vic cautions that it took him about 2,000 hours. "It's nice to be finished," he says, but, "I'll probably build another some day."

## A FAIR DEAL

Customers who sign up for training courses on HP 3000 computers in New Orleans, Louisiana, between now and the end of October get a special treat: a ticket to the fair.

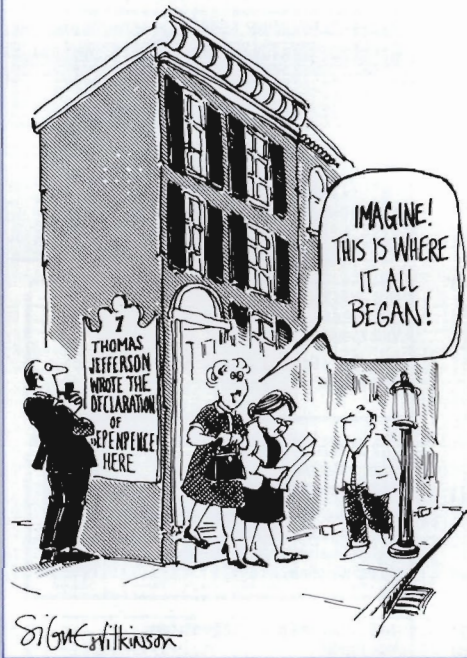The 1984 World's Fair spotlights the rivers and ports of the world from its site on the banks of the Mississippi River. Special exhibits include the space shuttle Enterprise and a 170-foot offshore oil rig.

This marks the first time HP has offered HP 3000 customer-training courses in New Orleans. The trip to the fair is being offered in cooperation with a local hotel.

SPRING TOURS:

HOUSE TOUR: PHILADELPHIA, PA.

IMAGINE! THIS IS WHERE IT ALL BEGAN!

7 THOMAS JEFFERSON WROTE THE DECLARATION OF DEPENPENCE HERE

GARAGE TOUR: SILICON VALLEY, CA

AWESOME! THIS IS WHERE IT ALL BEGAN!

7 HEWLETT & PACKARD MADE THEIR FIRST OSCILLATOR HERE

## SIGNE-TURE

Take one editorial cartoonist reared in Philadelphia, Pennsylvania, now working in Silicon Valley. While visiting her home town Signe Wilkinson noticed a tour group gawking at the building where the Declaration of Independence was signed. "What," she puzzled, "was of historical significance in the Silicon Valley?"

"The first thing that came to mind was 'the garage,'" she says, referring to the Palo Alto garage where Bill Hewlett and Dave Packard began Hewlett-Packard.

A few deft swishes of her pen and Signe created this cartoon which appeared in the *San Jose Mercury-News* and the *Philadelphia Inquirer.*
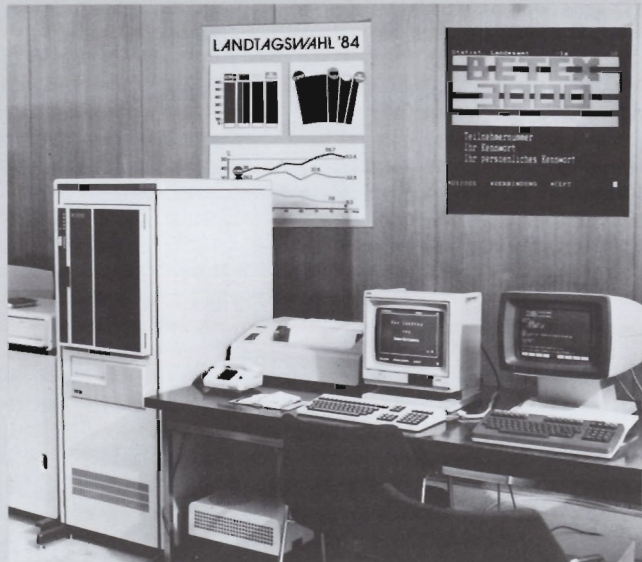


## GERMAN ELECTION ELATION

An HP 3000 computer and 13 color TV monitors made election night in Baden-Wurttemberg, West Germany a lot more exciting for the candidates.

The computer system actually belongs to the state bureau of statistics but was moved to the parliament building in Stuttgart (near HP's German headquarters in Böblingen) on the day of the election.

HP provided technical assistance to get the system running. On election night many of the state parliamentary candidates gathered to watch the drama unfold.

Gerhard Sieger, product press relations manager in Böblingen, says the system provided intermediate and final results by precinct, county and state. All told, 4.7 million people voted in the election.

This was the first time an HP computer was used to tally election totals. "The political candidates were very satisfied with the way our equipment operated," concludes Gerhard.

# The evolving HP organization

Although only a relative handful of jobs are directly affected, Hewlett-Packard has taken on a new look as a result of organizational changes announced at the July Board of Directors' meeting.

More than ever in recent years, HP will be able to look and act as one company, offering integrated solutions to the increasingly complex needs of its customers around the world.

The logic and significance of this evolutionary change are described by President John Young in his letter on page 23. The following text and chart summarize the makeup of the new corporate structure as well as the new positions and assignments that help support it:

**New position: Chief Operating Officer** To strengthen and expand coordination at the operations level of the company, a new position of chief operating officer has been created. Named to this role is Dean Morton, executive vice president and chairman of the Management Council.

**Four new business sectors** These will provide the new market focus:
• The Measurement, Design and Manufacturing Systems sector will incorporate four product groups. Included will be activities related to the fields of microwave and communications, computer-aided design and engineering, electronic instruments and manufacturing systems. CAE activities as well as factory and plant automation will be key points of this sector's market focus. Bill Terry, executive vice president, will head this organization.
• The Information Systems and Networks sector will focus on providing distributed business-information solutions to the general business marketplace. This unit will be divided into three groups along strategic lines, and its charter will include the management of computer architecture, languages, operating systems, networks and integrated circuits. John Doyle, newly elected as executive vice president and member of the Executive Committee, heads this sector. John formerly was vice president–R&D and director of HP Labs.

• The Analytical, Components, Medical and Technology sector is made up of the three relevant product groups as well as HP Labs, Corporate Engineering and Corporate Manufacturing. This sector is headed by Paul Ely, executive vice president and former head of the computer organization. The new director of HP Labs is Joel Birnbaum who was elected as vice president.
• All worldwide marketing and sales activities are pulled together within the new Corporate Marketing and International sector. In overall charge of this sector is Dick Alberding, newly elected as executive vice president and member of the Executive Committee. Five units comprise this organization: major account marketing under Senior Vice President Al Oliverio; Corporate Marketing under Art Dauer; United States, European and Intercontinental sales regions, under the direction of vice presidents Jim Arthur, Franco Mariotti and Alan Bickell, respectively. One noteworthy change: HP Canada now reports directly to Intercontinental.

**Changes only as needed** Details of how the marketing and sales sector will be organized at the various levels in the field will be developed and communicated over the coming months. Changes will be made only where they are needed, and marketing activities at the divisions and group levels will not be affected. However, the marketing and support functions of the former Business Development Group will be shifted to appropriate roles in the various product sectors.

Except for the shifting of Corporate Marketing and the International departments into the Marketing and International Sector under Dick Alberding, Corporate Administration under Executive Vice President Bob Boniface is unchanged. **M**

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**BOARD OF DIRECTORS**
Dave Packard, Chairman
Bill Hewlett, Vice Chairman

**CHIEF EXECUTIVE OFFICER:** John Young, President
**CHIEF OPERATING OFFICER:** Dean Morton, Executive Vice President

**MARKETING AND INTERNATIONAL**
Dick Alberding
Executive Vice President

**MEASUREMENT, D[...]**
**MANUFACTURING S[...]**
Bill Terry
Executive Vice Pres[...]

**U.S. FIELD OPERATIONS**
Jim Arthur
Vice President and Director

FIELD SALES REGIONS: Eastern, Midwestern, Neely (Western), Southern

**EUROPEAN OPERATIONS**
Franco Mariotti
Vice President and Director

FIELD SALES REGIONS: France, Germany, Northern Europe, South/Eastern, United Kingdom
MANUFACTURING: France, Germany, United Kingdom

**INTERCONTINENTAL OPERATIONS**
Alan Bickell
Vice President and Director

FIELD SALES REGIONS: Australasia, Far East, Japan, Canada, Latin America
MANUFACTURING: Brazil, Canada, Japan, Korea, Malaysia, Mexico, Puerto Rico, Singapore

**MAJOR ACCOUNTS MARKETING**
Al Oliverio
Senior Vice President

**CORPORATE MARKETING**
Art Dauer
Director

Marketing Communications
Marketing Operations
Marketing Information Center
Systems Finance/Remarketing Division
Computer Supplies Operation
Instrument Products Operation
Computer Support Division
Instrument Support Division
Corporate Parts Center

**MICROWAVE AND CO[...]**
Dick Anderson
General Manager

Stanford Park Division
Network Measurement[...]
Signal Analysis Division
Microwave Technology[...]
Spokane Division
Colorado Telecom Divi[...]
Queensferry Telecom D[...]
Queensferry Microwav[...]

**ELECTRONIC INSTRUM[...]**
Bill Terry (interim)

New Jersey Division
San Diego Division
Santa Clara Division
Böblingen Instrument D[...]
YHP Instrument Division
Integrated Circuits Divis[...]
Santa Clara Tech Cen[...]
Loveland Tech Cente[...]
Colorado Springs Te[...]
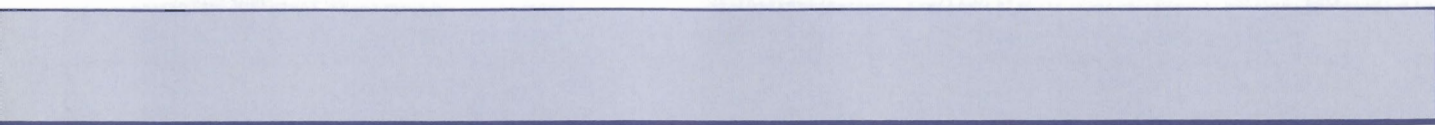
**DESIGN SYSTEMS GR[...]**
Bill Parzybok
Vice President and Gen[...]

Fort Collins Systems Div[...]
Logic Systems Division
Colorado Springs Divisi[...]
Böblingen Computer Di[...]
Lake Stevens Instrumen[...]
Böblingen Engineerin[...]
Engineering Productivit[...]
Fort Collins Engineeri[...]
Cupertino Engineerin[...]

**MANUFACTURING SYS[...]**
Lew Platt
Vice President and Gene[...]

Data Systems Division
Manufacturing Producti[...]
Loveland Instrument Di[...]
Manufacturing Test Divi[...]

**INTERNAL AUDIT**
George Abbott
Director

**CORPORATE DEVELOPMENT**
Dave Sanders
Director

ESIGN AND
YSTEMS
dent

**INFORMATION SYSTEMS AND NETWORKS**
John Doyle
Executive Vice President

**ANALYTICAL, COMPONENTS, MEDICAL AND TECHNOLOGY**
Paul Ely
Executive Vice President

**ADMINISTRATION**
Bob Boniface
Executive Vice President

**MMUNICATIONS GROUP**

Division
a
r Division

sion
ivision
e Operation

**NENTS GROUP**

vision
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OUP

eral Manager
vision

on
vision
l Division
g Operation
y Division
ng Operation
g Operation

TEMS GROUP

eral Manager

vity Division
vision
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**INFORMATION SYSTEMS GROUP**
Doug Chance
Vice President and General Manager

Computer Systems Division
  CSY Roseville Operation
Computer IC Division
  Cupertino IC Operation
  Systems Technology Operation
  Corvallis Components Operation
Böblingen General Systems Division
  Administrative Productivity Operation
  Financial Systems Operation
Office Productivity Division
Information Resources Operation
Guadalajara Computer Operation
YHP Computer Division

**PERSONAL COMPUTER GROUP**
Cyril Yansouni
Vice President and General Manager

Roseville Terminals Division
Portable Computer Division
Grenoble Personal Computer Division
Personal Office Computer Division
Vancouver Division
Personal Software Division
Puerto Rico Operation
Singapore Operation
Brazil Operation
Personal Computer Distribution Operation
Personal Computer Group Operation

**INFORMATION PRODUCTS GROUP**
Dick Hackborn
Vice President and General Manager

Boise Division
Disc Memory Division
Greeley Division
Computer Peripherals Bristol Division
Roseville Networks Division
Information Networks Division
Grenoble Networks Division
Colorado Networks Operation

**ANALYTICAL GROUP**
Dieter Hoehn
General Manager

Avondale Division
  Lab Automation Systems Operation
Scientific Instruments Division
Waldbronn Division

**COMPONENTS GROUP**
John Blokker
General Manager

Microwave Semiconductor Division
Optoelectronics Division
Optical Communication Division
Southeast Asia Operation

**MEDICAL GROUP**
Ben Holmes
General Manager

Andover Division
  Sunnyvale Medical Operation
Böblingen Medical Division
McMinnville Division
Waltham Division
  Bedside Terminals Operation
  Medical Systems Operation
Medical Supplies Center
Health Care Productivity Operation

**HP LABORATORIES**
Joel Birnbaum
Vice President and Director

Computer Research Center
Manufacturing Research Center
Physical Research Center
Technology Research Center
HP Labs—Bristol

**CORPORATE MANUFACTURING**
Hal Edmondson
Vice President and Director

**CORPORATE ENGINEERING**
Chuck House
Director

**CONTROLLER**
Bob Wayman
Controller

**GENERAL COUNSEL AND SECRETARY**
Jack Brigham
Vice President

**TREASURY**
George Newman
Assistant Treasurer
Larry Langdon
Corporate Tax Director

**PATENTS AND LICENSES**
Jean Chognard
Vice President

**PERSONNEL**
Bill Craven
Director

**GOVERNMENT AFFAIRS**
Bob Kirkwood
Director

**PUBLIC RELATIONS**
Dave Kirby
Director

**Hewlett-Packard
Corporate Organization
July 1984**

# MANAGING IN A MATRIX

Teamwork is the imperative that drives the HP organization—and creates the need for constant change, adaptation and communication.

Answering some questions a few years ago about the origin of the so-called "HP way," Dave Packard made it clear that theories about human behavior had nothing to do with it: The young company started doing certain things because that seemed to be the best way to make a business work.

The essence of those "certain things" was teamwork. Dave, in fact, affirmed the influence of team sports on his thinking. From his experiences as a basketball and football player in Colorado and at Stanford University, he recognized the benefits of working together to achieve a certain goal.

It's no surprise, then, that Hewlett-Packard practiced Management By Objective (MBO) and later its more complex variation—matrix management—years before those descriptions of organizational teamwork became part of the jargon of business school graduates. They were, simply, ways of organizing the HP work force so as to encourage all employees to make decisions about their work in a team environment.

Yet, at the time—through the '40s and '50s—teamwork was a fairly radical business concept. Most companies then adhered to the vertical "chain-of-command" approach, with almost all decisions flowing down from the top. What's wrong with that? Isn't it the way to go if you want quick, decisive action? And clear responsibility for results? Most organizations thought so. Some still do, often quite successfully.

But Hewlett-Packard wanted something more. Given the young company's growing number of highly technical products requiring the support of a broad range of design, production and marketing skills all working together, HP needed a great deal of organizational flexibility. People needed to be able to negotiate and communicate across as well as up and down organizational lines.

Basic MBO satisfied that need for a number of years. The company's objectives were clear and well understood. The organization was compact and unified. The product line was clearly focused on a well-defined base of customers. Top management was highly visible and accessible. Everybody knew everybody. Communication was direct and personal. A strong spirit of entrepreneurship drove the company.

Then, sometime in the early '60s, what someone has called "creeping complexity" began to show itself. Product lines increased in volume and variety, leading to the formation of the first division organizations—some far from Palo Alto. Entirely new medical and analytical lines were acquired. The independent distributor organizations were converted over time into a U.S. sales force. International marketing and manufacturing were launched. All of these required new managers, facilities and a way of managing the complexity they brought while retaining the early style and spirit.

What later came to be known as matrix management gradually evolved as HP's response to these changes. Matrix, in this sense, suggests a kind of cellular structure—a grid in its simplest, two-dimensional form—that illustrates the way people and organiza-

14

tional units relate to each other and to the organization as a whole. Any one cell or unit in the matrix has at least two reporting relationships, one that's functional (the particular job it does such as marketing, personnel or sales) and another that's product-based (the group it represents).

According to Carl Cottrell, Corporate Marketing Operations manager, the matrix form of management offers a number of real advantages to HP: "Basically, it enables us to operate and be seen as one company even as we diversify and decentralize. Policies, benefits, resources and know-how are shared. Product lines gain technical and marketing leverage from each others' efforts. All share in the company's financial strength.

"Yet we're all still able to be part of smaller units—manufacturing divisions, sales forces, or country and regional organizations that are manageable in size, easy to identify with and that preserve the spirit of enterprise."

But Carl also recognizes some of the implications and limitations of the matrix-style organization: "Just by definition, every manager has a reporting relationship to more than one boss. Not everyone is comfortable with that—especially when they're new to HP. It's the opposite of the 'star' system; things get done by consensus. So it's vital to have clear objectives and a strong open culture of shared values—the HP way. It's also important to have a complete set of business codes and systems in common so that any one organization can know precisely what the others are talking about. These make up the 'glue' that helps hold the matrix together.

"One of the penalties is that we have to spend a great deal of time and effort on communication, to make sure that everyone involved understands what's going on and to resolve any ambiguities or potential conflicts.

"Councils, task forces and committees play a tremendous role in this process. At last count there were some 70 councils in existence at HP, each made up of people representing a functional area concerned with implementing and coordinating its mission. When you look at all the communicat-

## INSIDE THE MATRIX

What's this business about managers in a matrix organization having to report to at least two bosses? Isn't that a short cut to schizophrenia?

Let's look at the case of a division marketing manager whose big goal this year is to introduce a hot, new product. A special advertising and promotional effort is called for. To fund that effort he must have at least two people approve his target—the division manager to whom he reports organizationally and the group marketing manager who has a functional reponsibility.

But the marketing manager also has to consider and consult with other functions both inside and outside the division: R&D—to be sure that development is on track. Manufacturing—to ensure that the department is fully ready to support the introduction with product. Personnel—in case any special staffing is needed. Division controller—to help set prices based on expected volume of sales, etc. Marketing communication and product publicity people at the group, corporate and region levels—to coordinate the advertising and press announcements. Sales departments—to prepare them to sell this new product.

The list goes on. In all of it there is little if any action taken unilaterally. At every point the marketing manager has to be aware of the responsibilities of the interrelated functions, establish communication with them, gain understanding of his program and agreement as to the actions of everyone involved.

In the end, the performance of the marketing manager will be evaluated by the division manager, but only after considerable input from those who participated in the program.

ing we do it probably adds up to over-communication. But that's the price you have to pay to make this system work. It's a price well worth paying!"

How does all this bear on the activities of a line person—say, a sales or service engineer? Franco Mariotti, vice president–Europe, says that matrix management is designed to be virtually invisible to anyone other than managers. Their job, ultimately, is to create an environment that permits line people to focus on their tasks. Ideally, the manager does this by taking responsibility for getting questions answered and problems resolved, and without having to buck them up, down and around a bureaucratic maze.

Is a matrix the ultimate form of management for HP? Franco believes it's a phase, at least on an overall corporate basis. He cites Jack Gabarro, a Harvard Business School professor, on the subject: As companies near the 100,000-employee mark (HP is approaching 80,000), they tend to run into certain problems in making a companywide matrix work efficiently. Lines of communication simply become too long and involved. The most common shift is to a true multinational form, with each country or region taking on more and more of the functional responsibilities that previously linked all.

That certainly seems to be the direction in which HP is headed, and is quite in keeping with the position advocated by Dick Alberding, executive vice president. Dick believes we need to build more local presence, prestige and decision-making power inside the various countries and regions HP serves around the world. Only in that way will it be seen locally as an economic contributor and partner as well as a purveyor of superior technology.

Matrix management will survive, of course, within the local marketing organizations and product groups. And common objectives, policies, systems and standards will continue to provide the corporate glue. In effect, HP could become a matrix of management matrices. Mmmmm... **M**

# Our Entrepreneurial Alumni

Few would deny that Hewlett-Packard is a great place to work. Yet Silicon Valley is filled with companies founded by former HP employees. Why did they leave and what do they think of their alma mater?

One of Hewlett-Packard's strengths through the years has been its ability to attract, hire and keep some of the brightest people in the world. Engineering and computer science grads regularly name HP as one of the most desirable places to work. Employment ads in newspapers bring hundreds of job applicants for available openings. The company's turnover rate is one of the lowest in the business.

But not everyone stays at HP. People leave every day. A few leave to form their own companies, many of which have turned out to be successful (see list on page 17). Some of the HP alumni are customers; some are vendors, suppliers or original equipment manufac-turers (OEMs); and a few are direct competitors.

Probably the most famous alum is Apple Computer's co-founder Steve Wozniak. "I tried to propose something similar to what became the Apple II—a $1,000 machine with 4K of RAM—to a lab manager (at HP), and he lost a lot of sleep thinking about it, but it wasn't an HP product," says Steve. "He said it was great for a start-up product, so I got a legal release to do the Apple."

Some HP employees have followed Steve's lead and have started their own companies. Others have gone to work for the young firms. "We have lost some key people to start-ups," admits Paul Ely, executive vice president, "but this has to be expected. Our rate of loss is as low as ever. In fact, HP's turnover rate among professionals is about 25 or 30 percent of that of other Silicon Valley firms."

HP tries to keep people with a pay and benefits package that is competitive with the leading firms in the industry. There's also an open-minded rehire at-titude that allows qualified employees to return to HP if things don't work out elsewhere. But start-ups are part of doing business in Silicon Valley.

The formation of these start-ups can be a plus for the overall business cli-mate: More jobs are generated, technol-ogy is advanced and new markets are developed. "I'm kind of encouraged by

the fact that a lot of people still are willing to go out and make a run for it on their own," says Dave Packard. "Look at all the new businesses starting up here in the Silicon Valley—with all sorts of ambitious ideas."

Sometimes alumni start-ups, like Dave Nelson's Nelson Analytical, can also be a direct benefit to HP.

The four-year-old firm buys HP equipment and adds its own software and hardware enhancements and sells it to customers. Nelson's $14,000 chromatography data system (which includes about $8,000 worth of HP computer gear) is considered to be among the best in the market.

"As an OEM for HP, I feel we helped sell 700 HP computers last year that might not have been sold if it hadn't been for our software," says Dave, former marketing manager for HP's Analytical Group.

"For a number of my seven years at HP I'd been preaching that we were spending a lot of money on the hardware side of analytical data systems when we should be putting more of our resources into software," says Dave. "Finally I decided to put my own ideas to work." Today HP also sells analytical data systems complete with software.

Even if HP were the first to develop and market every new product idea, some of the company's most entrepreneurial employees would still leave. Most alums who start their own companies have known all along that at some point in their career they'd be running their own shop. Almost all of them make a conscious decision not to compete directly with Hewlett-Packard in established markets.

Fred Gibbons, president of Software Publishing Corporation in Mountain View, California, hit upon the idea for his company while he was marketing manager at the former General Systems Division. He envisioned an organization that would publish software for individual authors. (He discarded the idea later because he wanted closer linking of the company's various products.) He wrote a business plan that outlined his proposal. When HP turned it down, he and two other HP employees left the company, developed a product (PFS:FILE) and marketed it. Today

## A FLOCK OF START-UPS

Here's a list of some of the high-tech companies that can trace their roots back to Hewlett-Packard. Shown is the year they got started, their major product, their founder formerly with HP and their location.

**Tandem Computers** 1974
Fail-safe computers
Jim Treybig
Cupertino, California

**Apple Computer** 1977
Personal computers (PCs)
Steve Wozniak
Cupertino, California

**3Com** 1979
Local area networks for PCs
Bill Krause
Mountain View, California

**Stratus Computer Inc.** 1980
Fail-safe computers
Bill Foster
Natick, Massachusetts

**Software Publishing** 1980
Personal computer software
Fred Gibbons
Mountain View, California

**Lam Research** 1980
IC processing equipment
David Lam
Santa Clara, California

**Integrated Device Technology** 1980
Integrated circuits
George Hwang, Frank Lee
and Chun Chiu
Santa Clara, California

**Ridge Computers** 1980
32-bit minicomputers
John Sell
Santa Clara, California

**Nelson Analytical** 1980
Analytical software
Dave Nelson
Cupertino, California

**Intelledex** 1981
Intelligent robots
Stan Mintz
Corvallis, Oregon

**Pyramid Technology** 1981
32-bit minicomputers
Robert Ragan-Kelley
Mountain View, California

**Microsource** 1981
Microwave components
Ganesh Basawapatna
San Jose, California

**Sydis** 1982
Office work stations
Mike Kaessner
San Jose, California

**Insight Systems** 1982
Job shop computers
Dave Hannebrink
Santa Clara, California

**DisCopyLabs** 1982
Software duplication and packaging
Norman Tu
Santa Clara, California

**Apogee Robotics** 1983
Manufacturing robots
James Jones
Fort Collins, Colorado

**The Kelly Company** 1984
Hardware and software for HP 150
Larry Kelly
Los Altos, California

**Extended Systems** 1984
Interface cards for personal computers
Gary Atkins, Doug Winterrood and
Chuck Jopson
Boise, Idaho

# Our Entrepreneurial Alumni

computer dealers sell Software Publishing's products for the HP 150 as well as most other personal computers.

It's difficult to find any of these alums who has anything bad to say about Hewlett-Packard.

"I love HP. It's the best company I know of, period. And I hope Apple reaches that status someday," says Steve Wozniak.

"I look at HP with reverence," says Bill Krause, president of 3Com, a manufacturer of local area networks (LANs) for personal computers. "We want to become known as the HP of the 1980s. It's one of my greatest goals."

Bill was HP's first computer salesman when he joined the company in 1967. On his first day on the job, a shirt-sleeved Bill Hewlett came to the cafeteria table where Bill Krause was eating with his buddy, Ed White. "Ed introduced me to Bill as the first salesman for the new HP 9100 and I spent the next two hours with Bill as he took us through the labs, introducing me to Barney Oliver and other key people. That personal attention is something I hope we'll repeat at 3Com."

Bill was division manager in the Business Computer Group when the chance to start his company came along in 1982.

"I was having a lot of fun in my job at HP," says Bill. "But I had always wanted to build and grow my own company, so I knew at some point I would leave HP. But I had refused several earlier opportunities to leave because I would not become involved in a competitive situation with HP."

Today's relationship between HP and 3Com is mutually beneficial. 3Com makes sure HP products work as part of its LAN for personal computers. HP's PCs can be found throughout the company facility. There's an HP 150 on Bill's desk to demonstrate 3Com's products

to prospective customers. In return, HP recommends and sells 3Com's network to personal computer buyers.

Norman Tu left HP after 10 years of service to start a software duplication and packaging company called DisCopyLabs in Santa Clara, California.

"My wife told me I was going through an early mid-life crisis," says Norman. "I decided I wanted to try to do something on my own and knew that if I waited much longer I'd have too many

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*Most alums who start their own companies have known all along that at some point in their career they'd be running their own shop.*

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financial obligations to take the risk." Today his two-year-old firm employs 16 people, has annual sales of more than $2 million and counts HP among its many satisfied customers. Some of the software for HP's personal computers is duplicated under contract by Norman's company.

"I've tried to put a lot of what I learned at HP into my own business, especially HP's people-oriented philosophy," says Norman. "For example, we don't have time clocks here for our production people and we have flexible hours."

Many similarities in personnel practices can be found at other start-ups founded by HP alumni.

3Com's open-office plan looks a lot like an HP facility. Software Publishing has weekly company meetings. Tandem schedules beer busts every week. Apple's set of company values resembles HP's seven corporate objectives.

But the start-up companies are not all carbon copies of HP. "One of the most striking differences between HP and here is our sense of exhaustion," says Fred Gibbons. "It requires a tremendous dedication of personal time when you are small, which requires sacrifice in your lifestyle. I think it's easier to balance professional and personal lives at a larger company like HP."

Ridge Computer has added new

wrinkles to HP's traditional coffee breaks. Employees have access to free coffee, bottled water and soft drinks, "although we left out the sugary doughnuts and pastries for health reasons," says John Sell, one of Ridge's founders and now vice president of operations. John had worked at HP for seven years before starting Ridge.

The four-year-old Santa Clara firm sells 32-bit microcomputers in the computer-aided design and engineering markets. Everyone at Ridge is on a first-name basis, casual dress is the norm and employees gather every Friday afternoon for informal company parties (once a month the functions are more formal and company officers discuss developments and operating results).

But Ridge Computers doesn't practice management by objective (MBO) the way HP does. "I enjoyed the bottom-up strategy when I was at HP," says John, who worked on the HP 3000 Series 40 and 44 computers. "But at Ridge we've installed more of a top-down, directed management style. Employees know that their contributions will be rewarded, but a small company must move faster than a large one in order to be competitive with a large one."

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*It's difficult to find any of these distinguished alums who has anything bad to say about HP.*

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Ridge is an HP customer, too. The development lab uses HP logic analyzers. "They suit our needs because we need the speed," says John. Ridge also has plans to buy an HP 3000 for the administrative side of its business.

It's not surprising to find former HP employees on the payroll of many of the alumni start-ups.

"There are more talented people per square foot at HP than you find in the work force in general," says Fred Gibbons. "It's natural for start-up companies which need very specialized skills to turn to Hewlett-Packard."

Because of their cultural similarities, many start-ups are "much like home"

to the HP grads. About one-fourth of the 100 employees at Ridge have worked at HP at some point in their career. Eleven of the 110 people at Software Publishing are HP veterans.

"It's a great training experience," says Fred. "All I needed to know to solve the business problems that I ran into during Software Publishing's first year I had learned at HP."

*It's not surprising to find former HP employees on the payroll of many of the alumni start-ups.*

Fred considers HP's training efforts important. "HP makes a substantial commitment to back its people, so it's natural that there is a lot of disappointment when a real 'doer' leaves."

But it's a fact of life that some HP people will continue to discover new business opportunities that don't fit into HP's current business plans. They'll leave to start their own companies with varying degrees of success. And there'll be disappointment that those entrepreneurs are not still a part of the Hewlett-Packard family.

Leaving the security of a large company to go out on one's own is nothing new, of course. Back in 1939 the folks in the vacuum tube engineering department at the General Electric Company in Schenectedy, New York, were surprised to hear that a promising young engineer named Dave Packard was going into business in California with his college chum Bill Hewlett. The result was Hewlett-Packard, now a source of entrepreneurs who want to make a run for it on their own. **M**
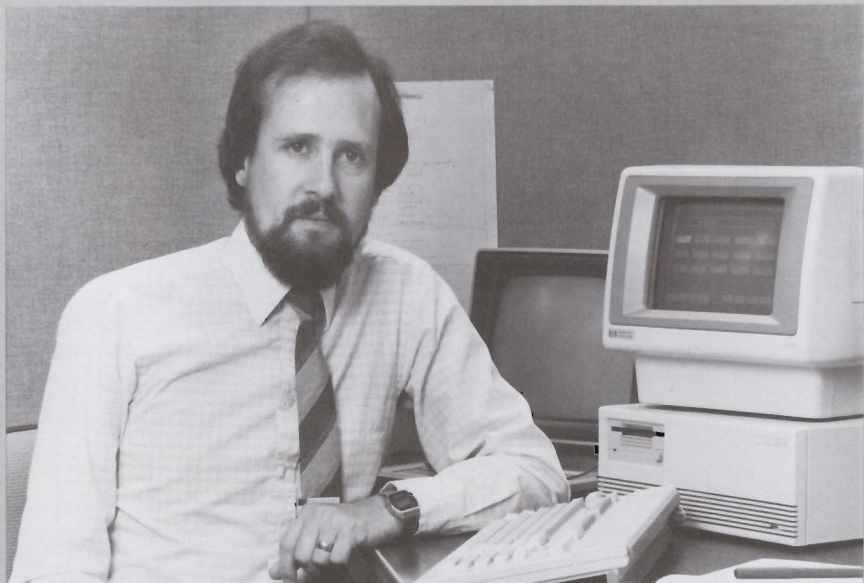
Personal Computer Group's Mike Ramsay

TOM UPTON

## HP VETERAN COMES BACK

"I'd never been exposed to an environment other than HP," says Mike Ramsay. "So when I got a call from one of the founders of Convergent Technologies, it sounded like a great opportunity. At the time I was trucking along quite happily as a project manager at HP's Data Terminals Division."

Today Mike is back at HP defining future product strategies for the Personal Computer Group after four years at one of Silicon Valley's successful start-ups. "It's good to know that HP's policy allows people to come back if it doesn't work out at that new company," says Mike.

A native of Scotland, Mike targeted HP's division in South Queensferry as the place he wanted to work when he graduated from Edinburgh University. "HP is the perfect environment for the college graduate who's very technically oriented, as I was. I wasn't particularly interested in management or in how to get the product to market."

During his first eight years at HP, he transferred to the U.S., worked at several divisions and was promoted to project manager before he got the call from Convergent. He took a cut in pay and in job title, confident that the 15-person outfit would succeed. "Everyone worked 70 or 80 hours a week. You did nothing but eat, sleep and think product for 18 months. You popped out the other end of the project totally exhausted."

Mike feels he learned a lot about business during his stay at Convergent. "At HP I'd had little exposure to the outside world. But at Convergent I was talking business with major customers every day.

"On the other hand, there were negatives. We had confidence in our abilities, some of it unfounded. We learned a lot about pricing our products through trial and error."

When Mike realized that some of those problems overshadowed the positive aspects of the job, he decided it was time to go. "I left with the intention of taking time off, and had no thought of coming back to Hewlett-Packard."

But the prospect of working in a newly created part of the Personal Computer Group was just the right challenge. "I came back to HP just as surprised as when I went to Convergent," says Mike.

Mike doesn't see today's start-up firms as being as glamorous as those of five years ago. "The personal-computer business is more tenuous, a lot of venture capital has dried up and we've reached a technology plateau. There just isn't the same magic out there today."

Does he see people leaving HP for a start-up venture as good or bad? "HP wouldn't be as successful as it is today if people hadn't left to start their own companies with new ideas. A natural movement of people to and from HP is good. And sometimes people have to leave HP to realize what the company has to offer."

Here's a chance to integrate your knowledge of Hewlett-Packard, science, trivia and crossword puzzles and win a prize at the same time. Read the contest rules on the opposite page, grab a pen and start chipping away. Good luck!
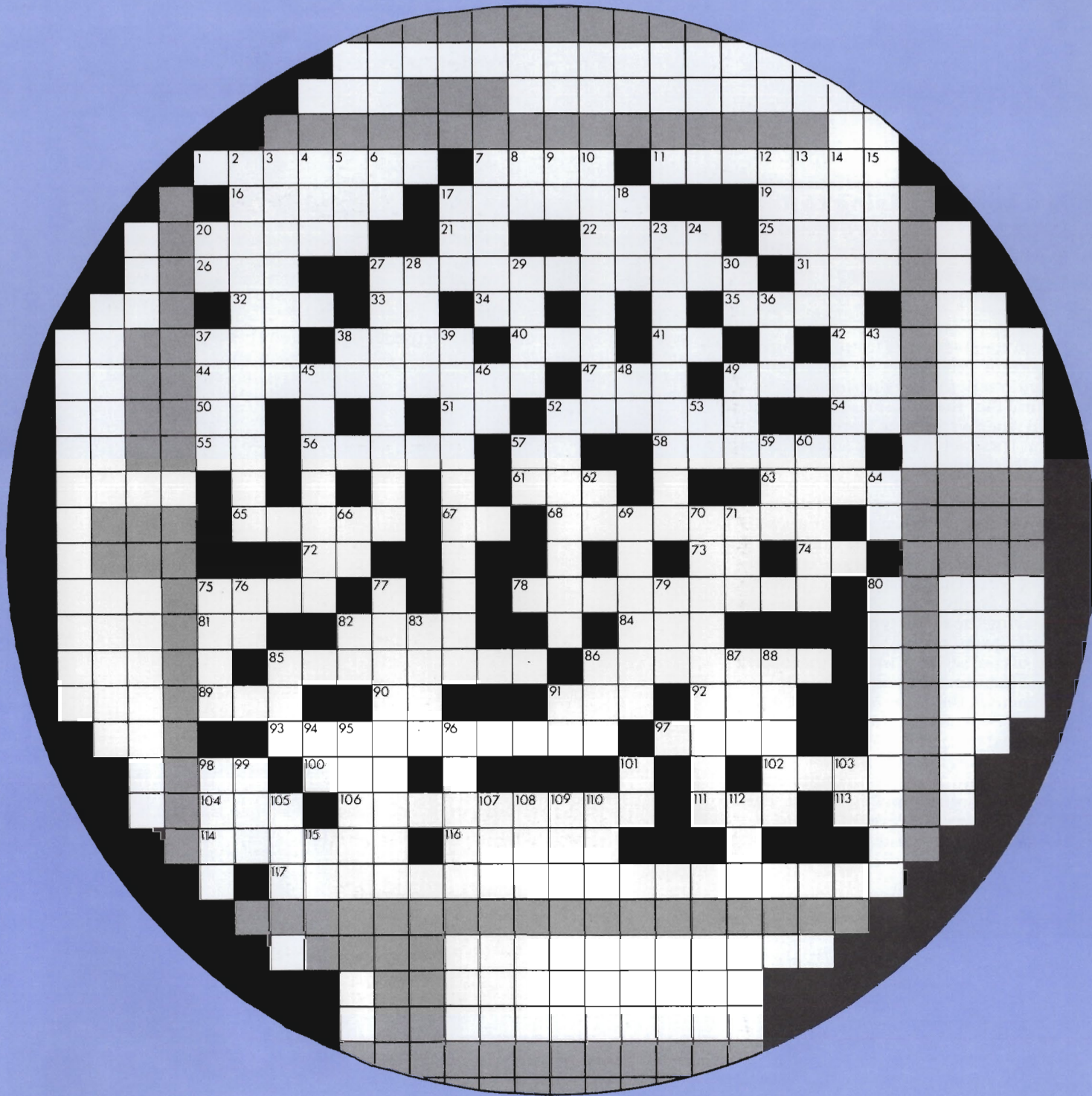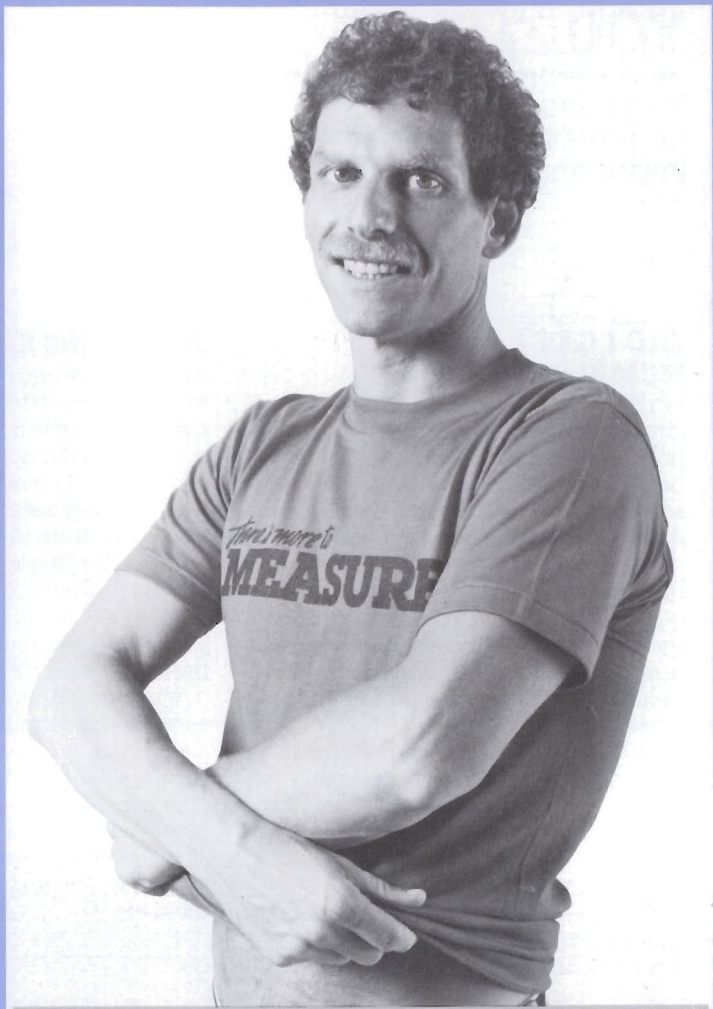
## ACROSS

1 '54 IRE president
7 Dance or circuit
11 Product group
16 Opposite of clergymen
17 Not numerics
19 Reed
20 Peach or toast
21 Modem signal
22 In Palo Alto and Bristol
25 Kenton or Selby
26 ____ your age!
27 Amplitude reducers
31 Antiquity
32 Indeclinable article
33 Tape recorder meter
34 Opp. of large
35 French HQ city
37 A Gershwin
38 Mongolian plateau
40 Approvals
41 A Waldbronn product (abbr.)
42 Face ____ face
44 Product group
47 Here in Grenoble
49 Discolor
50 "One" in binary
51 Musical note
52 Google or Oliver
54 Customer engineer
55 Chem.'s 28th elem.
56 Bar or pie
57 Original—prefix
58 European HQ
61 Through
63 For ____
65 ____ of the art
67 ____/Vis spectrum
68 Cofounders' alma mater
72 Display (abbr.)
73 Dave used her oven
74 Spielberg's short star
75 ____-only memory
78 HP 3468A, for example
81 One kind of put
82 Carve on a lathe
84 Loose
85 HP 250, for example
86 Sales organizations
89 Sells for HP
90 Exempli gratia
91 Organ
92 Same as 32 across
93 Takes baby pictures
97 Cesium beam keeps this
98 Yes in Madrid
100 Part of a byte
102 Deceiver
104 Cupertino division
106 HP 17623A, for example
111 One veep
113 Infinitive introducer
114 Depth charge
116 Desktop printer
117 HP's birthplace

## DOWN

2 Branch of physics
3 Sanborn was here
4 Women's ____
5 Greek letter
6 Times 10 (suffix)
7 Layers
8 New home for SAD
9 Exclamation
10 SE Asian HP site
12 CICO makes these
13 Serve
14 Product group
15 ____ me or your ears
17 State of the ____
18 Follows Fri.
20 Tiny current (abbr.)
23 First European manufacuring
24 Mr. in Guadalajara
27 HP's mushroom site
28 Vacuum, for example
29 An IC process
30 Systems engineer
36 CRT
37 Part of Intercom's audience
38 No ____
39 A Fourier analyzer, for example
43 ____-armed bandit
45 Former Pentagon official
46 See 42 across
48 Chem.'s 24th elem.
49 Opp. of ant.
52 Home of British computers
57 See
67 across
59 Sales HQ in Md.
60 Luke's movie dad
62 Laotian money
64 Earth's waist (abbr.)
66 ____ and fro
69 A deciduous horn
70 No time clocks
71 One kind of put
75 ____ like a lion
76 Half an em
77 Queen Elizabeth visited here
79 A kind of wheel
80 First Sonoma County site
82 Registered symbol (abbr.)
83 A wrinkle
85 Where a computer computes
86 Random Access Data (abbr.)
87 A resistance unit
88 Norm's region
91 Printer's term
94 More than an oz.
95 One kind of wave
96 Stationary
98 Peruse
99 Info Storage Systems
101 SP, DB or Penn Central
103 In a place
105 Joint venture in Japan
107 Tit for ____
108 Intl. Standards Operation (abbr.)
109 Zero Error Corrections (abbr.)
110 Time period
112 HP 200C, for example
115 Golden state (abbr.)



Corporate's Larry Zeitman sports a *Measure* T-shirt.

TOM UPTON.

## WE'LL GIVE YOU THE SHIRT OFF OUR BACKS

Here's your chance to wear this high-quality T-shirt featuring the *Measure* magazine logo. Simply complete this crossword puzzle and entry form below. Send them through company mail to:

## MEASURE
T-Shirt Contest
Public Relations Department
Building 20BR
Palo Alto

We'll put all the correct entries in a bin and select 10 winners. The winners' names and the correct answers will appear in the September-October 1984 issue of *Measure*.

(Please print)
NAME _____

DIVISION/SALES OFFICE _____

BLDG/MAILSTOP _____

CITY/COUNTRY _____

MAN'S T-SHIRT SIZE (Circle one) Small Medium Large X-Large

This contest is open to all HP employees (except those in the Corporate Public Relations Department).

# YOURTURN

### DID I GET A WRONG NUMBER!

I thought this extract from our local church newsletter might serve two purposes. First of all, it's a fair example "o how ithers see us." And secondly, could someone establish which HP telephone directory is wrong, because I can't!

*I don't know whether to be furious or intrigued, but the American headquarters of Hewlett-Packard has given the church number as the telephone number of their South Queensferry factory in various international directories.*

*Furious, yes, when I make that great sacrifice of climbing dripping from the bath to answer the phone, only to be greeted with a Californian "Hi—give me Bill."*

*Intrigued when the call is at a more convenient moment and a polite, soft-spoken Japanese voice wrestles in limited English with such non-Japanese concepts as a wrong number and a Queensferry parish church— "Please, what is it that you produce in the Queensferry Parish Church Department?" I have discussed the difference between summer time and winter time with a Mexican, Farenheit and Centigrade with a Canadian, Scottish bank holidays with a German and the Presbyterian system of church government with a Malayan.*

*All these international calls have led me to appreciate that Hewlett-Packard's world is a small one, with an HP network embracing a remarkable variety of people. One gets the impression that Hewlett-Packard is just one big worldwide family.*

The minister's number is 0044-31-331-1100 and Queensferry Telecommunication Division's is 0044-31-331-1000. By the way, we are eight hours ahead of the USA (Pacific Time) if anyone would like to speak to the Rev. Carrie at a more sociable hour.

JIM RIGBY
South Queensferry, Scotland

### A MOVING EXPERIENCE?

Several years ago I worked for four years for IBM. Then I decided to leave for the United States to learn English and to see new horizons. I spent three years in America and I really enjoyed my stay.

In January 1983, immediately after my return from the U.S., I started working for Hewlett-Packard France in Aix-en-Provence as an administrative employee. Obviously, like many HP employees throughout the world, I wish to hold a job with HP in a foreign country.

What does a person who has the same desire as mine do to find a job in a sales office or factory in Brazil, Japan, Egypt, U.S., etc.? What are the chances to get such an opportunity for an employee who holds a modest function? Are these transfers not reserved for managers, technical engineers, salesmen, etc.?

JEAN GILLES TERS
Aix-en-Provence

*It's always a serious matter when employees and their families move between HP locations, and it requires considerable thought before a commitment is made. Relocations are costly, they often do not solve staffing problems (we have to fill the position vacated) and they often create additional difficulties for the employee.*

*HP's goal when we establish a new operation in another country has always been to bring added value to the country by creating new local jobs and by developing new skills. As a result, we try to transfer only a few unique skills for a short period of time to help in the beginning stages.*

*Transfers are not reserved for only engineers or managers, although these make up most of our "foreign service employees." Individuals are carefully chosen whenever a clearly defined need exists. For further information, I suggest you visit with your local personnel manager.*

FRANK WILLIAMS
Corporate Personnel
Palo Alto

### SIT UP STRAIGHT AND TAKE NOTICE

Your March-April article "Product design with people in mind" offers several interesting insights into HP's ergonomic endeavors and its plans for the future.

However, I thought *Measure* readers might like to know more about the progress HP has made in this area. Here at HP's Computer Supplies Operation in Sunnyvale, California, a wide variety of ergonomic products are being sold internationally—to both trade customers and HP employees. In fact, every item pictured in the article's workstation diagram on page 17 is currently available through CSO's *Computer Users' Catalog*. Our ergonomic lineup includes fully adjustable chairs, workstation tables with movable keyboard sections, tilt and swivel accessories for personal computers and terminals, adjustable palm rests and copy holders, and much more.

The sales success of our ergonomic product line indicates that customers, both outside and inside HP, appreciate the value of ergonomics and are willing to pay a little extra for the added comfort and ease of use.

Copies of CSO's Summer 1984 catalog are available for perusal at most HP purchasing departments.

KATHY ROSLUND
Sunnyvale

# JOHN YOUNG

HP's president discusses the recent organizational changes and their effects on the company.



John Young congratulates HP editor Betsy Riccomini for winning the United Way of America's top writing award.

In recent months, we've been taking a close look at the HP organization. Our goal has been to answer a fundamental question: How can we best provide our customers with complex systems and integrated solutions that require products and services from different HP groups? Is there a better way to organize ourselves to ensure that our focus is on the customer and understanding, supplying and supporting needed solutions?

The organizational changes just announced are designed to enhance our ability to produce and support solution-selling. After a great deal of thought and discussion, we've decided to move from the vertically integrated, product-group-oriented structure of the 1970s. It has served us well, but today many of the solutions we supply require contributions from divisions in more than one group and divisions need to work in close harmony in key market areas. Similarly, if we are to reap the benefits of HP's depth in both instrumentation and computing technology, we need a sales organization that can deliver fully integrated technical and commercial solutions.

Reflecting our increased emphasis on the market and our customers' needs, we've organized the company into four principal sectors. The first, called Measurement, Design and Manufacturing Systems, will focus on the bottom two quadrants of HP's Manufacturer's Productivity Network—computer-aided engineering and solutions for the manufacturing function, particularly for electronics firms. The second, Information Systems and Networks, will have responsibility for the upper half of MPN—which is our information productivity network—and includes operations planning and control systems, as well as administrative and office services. Both of these two sectors bring together some divisions that were previously in different groups and focus their efforts on solutions areas where HP can make a contribution.

The third sector, Analytical, Components, Medical and Technology, brings together product groups which are already aligned by market for solution selling. By also combining under this sector our activities in HP Labs, corporate engineering and corporate manufacturing, we've created an organization that permits greater cross-fertilization of advanced technologies and processes.

The fourth sector, Marketing and International, brings together all sales and marketing activities for both instruments and computers. It will be responsible for developing a field structure that cuts across traditional product disciplines and for providing administrative support to complement each HP market group activity at the regional and area sales office level.

Here again, our goal is to serve our customers as a single company and to avoid many of the coupling problems inherent in being organized along product lines. It will take some months to map out the details of this new field organization. As with other parts of our restructuring, the change will be incremental in nature, and we'll avoid making changes where none are needed. There's certainly one area where I'd like to see no change, and that is in the strong order momentum that we've generated so far this year. We're having a great year, and it's important to maintain those efforts in the field.

The need to maintain a close working relationship among our major sectors will require much functional coordination. We expect that will be provided by Dean Morton in the newly created position of chief operating officer. Dean will focus on current operational activities,

and we will work very much as a team. This new relationship will also allow me to devote more time to the broader, longer-range strategic issues affecting our company and its ability to compete effectively in world markets.

While all these changes are clearly evolutionary, it will take some time to understand, internalize and implement them. Some of you may wonder about the ultimate shape things will take and how your own activities will be affected. Let me remind you that change is nothing new at HP. Since 1970 we've gone through three reorganizations—the creation of product groups (1970), the alignment of the sales force along those product lines (1975), and the realignment of the Computer Groups along integrated product and market lines (1983).

Each change was made in anticipation of or in response to changes in the marketplace, to technology development, to company growth and to our firm commitment to stay close to our customers. In keeping with past reorganizations, this new structure preserves much of the flavor and character of those that preceded it. The product division remains the basic building block of the company, with a great deal of autonomy in the design, manufacture and marketing of products that fit within a larger strategic framework.

Finally, our basic corporate philosophies and practices remain unchanged. Our unifying goal is still to provide information for technical and business decision makers. The involvement and actions of each individual employee remain the key ingredients for our success. This new HP structure will enable all of us to make an even stronger contribution to our customers and the markets we serve. With your help, the new HP will be much like the old, but better.

John

# NEWSCLIPS

## FIRST-HALF RESULTS

Sales and net earnings each increased 30 percent for the second quarter of FY1984 that ended April 30, with first-half results up 26 percent and 22 percent respectively. Here is a summary of FY84 results with comparable FY83 figures in parentheses:

Sales for the second quarter were $1.519 billion ($1.172 billion), with net earnings amounting to $141 million ($109 million), equal to 55 cents per share (43 cents per share). First-half sales totaled $2.797 billion ($2.227 billion), with net earnings totaling $236 million ($194 million), equal to 92 cents per share (77 cents per share).

Orders for the second quarter were $1.609 billion ($1.239 billion), a gain of 30 percent, with domestic orders up 33 percent to $953 million from the year-ago quarter and international orders up 25 percent to $656 million for the same period. For the first half, orders were $3.086 billion ($2.366 billion), up 30 percent, with domestic orders gaining 32 percent to $1.771 billion and international up 28 percent to $1.315 billion.

## CHART CHANGES

Organizational changes approved at the July Board of Directors' meeting create the new position of chief operating officer and four new business sectors to provide market focus. See pages 12 and 13 of this issue for details, including new officers.

## JOINT VENTURES

Hewlett-Packard announced agreements in principle for new joint-venture companies in China and Mexico. China-Hewlett-Packard, Ltd. will sell and support HP products in the People's Republic of China and manufacture selected HP products. It will be owned equally by the China Electronics Import & Export Corporation and HP. Governmental approval is pending.

Micro-Computadoras Hewlett-Packard S.A. de C.V., will manufacture and distribute the HP 150 and other future personal computer products in Mexico. It will be owned 51 percent by DESC Sociedad de Fomendo Industrial, S.A. de C.V. and 49 percent by HP. Director general will be **Manuel Diaz**, who continues as head of HP's sales subsidiary in Mexico.

**George Cobbe** has been named president and GM of Samsung-Hewlett-Packard, Ltd., the Korean joint-venture company proposed in January and now awaiting governmental approval.

## SALES AGREEMENTS

The Medical Group acquired part of the assets of EkoLine (a division of Xonics, Inc.). The Sunnyvale, California, manufacturer of medical ultrasound equipment became the HP Sunnyvale Medical Operation.

HPSA reached an agreement with Motorola Israel in which the longtime HP distributor will form a new sales subsidiary to handle HP products in Israel on an exclusive basis. HP will provide management assistance, with **Nathan Raskin** of HP serving as GM.... In Japan, HP and Yokogawa Hokushin Electric Corporation (YEW) signed an agreement for YEW to serve as the exclusive distributor of HP's lab-use Analytical products in Japan.

HP agreed that Varian Associates may produce and market x-ray lithography systems and masks based on HP tech-nology and patents....The telephone cable maintenance and construction product line of the Colorado Telecommunications Division has been sold to Communications Technology Corporation of Los Angeles. The products lie outside HP's current fields of interest.

## NEW HATS

**Jim Burns** is the new GM for the Data Systems Division, with **Bob Waites** replacing him as operations manager of the Cupertino Integrated Circuits Operation.... **Juan Miguel Parodi** is the new country manager of HP Argentina.... **Mike Leavell** is GM of a restructured Computer Support Division, combining the former division by that name and the Application Marketing Division.

## HP LABS' CHANGES

Two of HP Labs' centers were reorganized recently:

In the Computer Research Center (CRC), **Bill Worley** is director of the newly formed Distributed System Laboratories, comprising a new Systems Software Lab, new Systems Engineering Lab, and two departments. The Application Technology Lab under **Ira Goldstein** was also expanded. **Lance Mills** heads a new Personal Computer Group Operation within PCG that is located at CRC for close coordination with advanced research work.

The Physical Research Center was reorganized into five labs. Newly defined labs are: Physical Sciences, Mass Memory, Physical Electronics, and Measurement System. Unchanged is the Engineering Physics Lab.

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MOVED LATELY? CHANGE OF ADDRESS SHOULD BE REPORTED TO YOUR PERSONNEL DEPARTMENT.