

MEASURE



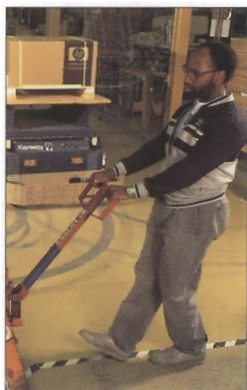
EXTRA CLEAN

FULL POWER

SALE

WARRANTY

Would you buy
a used computer from
these people?



page 7



page 12

soft wear & hard ware

As a prelude to HP's 50th anniversary in 1989, this issue of *Measure* includes a catalog of special HP items which can be ordered worldwide. Most of the items feature the HP logo, while some have the 50th anniversary symbol. The catalog is bound in the center of the issue between pages 12 and 13. Remove it and keep it handy for your year-round ordering needs.

FEATURES

- Would you buy a used computer from these people?** **3**
 HP's Finance and Remarketing Division isn't the stereotypical white-belted used-car salespeople, as humorously portrayed by three HP employees. It's a growing division. Cover photo by Ken Kobre.
- Peripheral vision** **7**
 HP printers, plotters and other hot-selling products are producing a banner year—in a series of good years—for the Peripherals Group.
- May the (flex) force be with you** **16**
 Two new groups of talented temporary employees help HP stretch its resources when business needs require a boost.

DEPARTMENTS

- ExtraOrdinary People** **12**
 Karen Abbott is having the experience of a lifetime as a volunteer at a summer camp for children with cancer.
- Your Turn** **18**
- Letter from John Young** **20**
- ExtraMeasure** **21**

MEASURE

Editor:
Jay Coleman

Art director:
Annette Yatovitz

Contributors:
Thomas J. Brown
Steven Cavallero
Ron Gedris
Gregg Piburn

Associate editors:
Rhea Feldman
Betty Gerard

Circulation:
Karen Flansaas
Kris Larson

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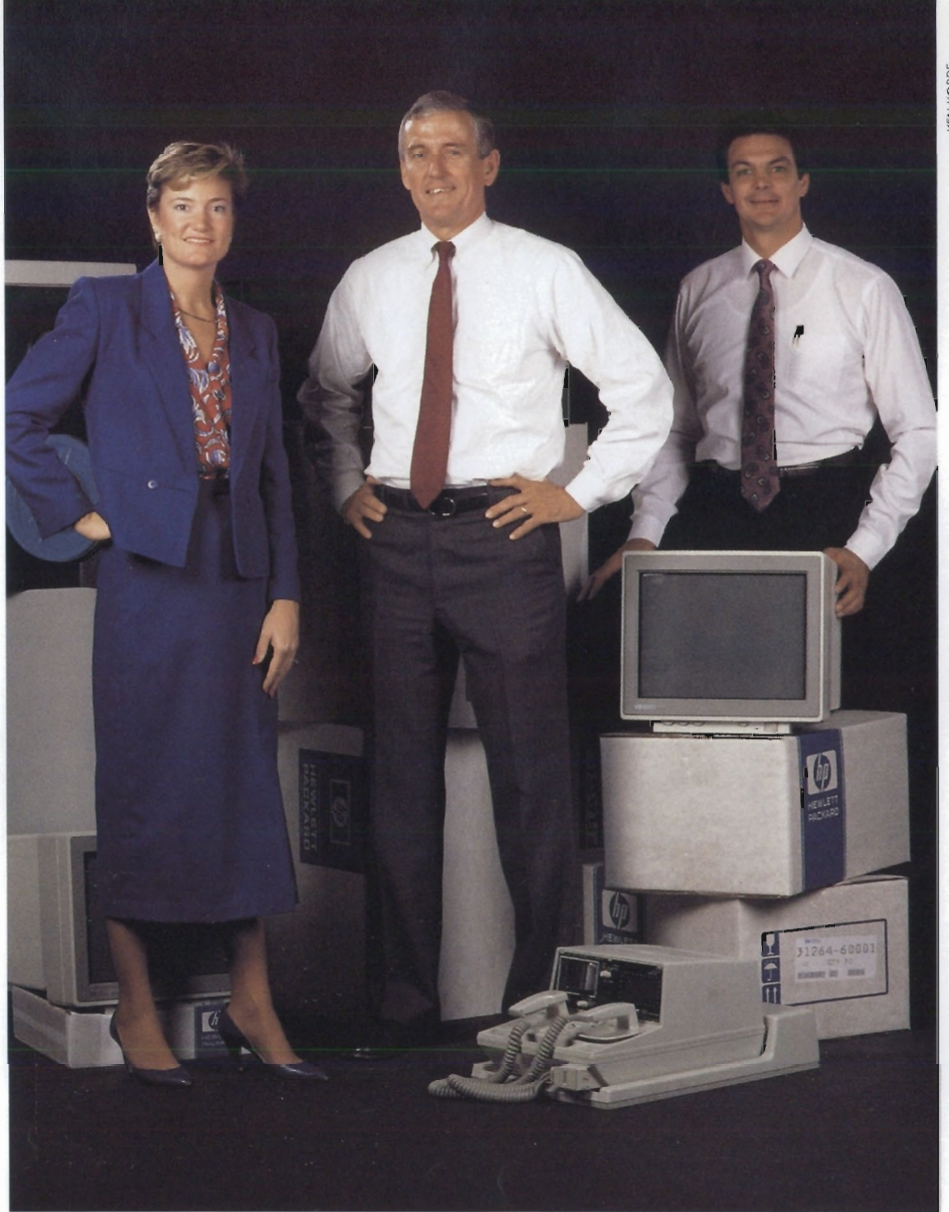
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Hewlett-Packard Company is an international manufacturer of measurement and computation products and systems used in industry, business, engineering, science, medicine and education. HP employs more than 85,000 people worldwide.

A growing HP entity called the Finance and Remarketing Division sells "refurbished" quality solutions to its customers. Would you buy a used computer from these people?

You bet!



Here in more usual garb: Michele Tedsen-Fazzino, FRD market-development engineer, and sales reps Dave Lyons, business-computers, and Dan Marostica, manufacturing-test systems.

David Letterman has long since gone to bed, and you are watching the 15th commercial just 10 minutes into the late-night creature feature.

Suddenly, you see on the screen a person with a voice as loud as that wild sport coat he's got on screaming something about a used HP 3000 Series 70 at low Low LOW!! prices.

As banners blow in the wind and the screen is filled with model numbers and low Low LOW!! price tags, you hear the machine-gun mouth say something about an HP Portable Plus personal computer for \$2,395 (that's right, just \$2,395!!) that was previously owned by a college freshman who rarely had it out of the case.

As the high-tech salesman's toothy grin fades into the next commercial, you wonder, "Would I buy a used

You bet!

computer from that guy?"

Aaaacckkkkk! You bolt upright in bed, sweat dripping from your sleeping cap as you realize it's all been a bad dream. Heh heh, HP would never sell used equipment, you say to yourself as you drift back to sleep.

You're right, it was a bad dream. But you're wrong, HP does sell used (read "refurbished") equipment.

Read on to find out how HP's Finance and Remarketing Division (FRD), located in Mountain View, California, turns refurbished products into profitable returns.

First, you need to know FRD does not use the same sales strategy to sell HP wares as a person might use to sell a

"We're selling products that are functionally equivalent to new."

'75 Pinto. "I don't like the used-car analogy," confesses Chris Arnold, operations manager for the remarketing side of FRD. She notes the classic caricature of such a salesman is one who is simply out to push a lemon. "He doesn't care whether it works or not," she adds. That philosophy is the antithesis of FRD's approach. "We're selling products that are functionally equivalent to new," Chris states firmly. And that means FRD sells quality solutions to its customers. In fact, FRD offerings carry the same HP warranty as new products.

FRD is certainly not the classic HP manufacturing division that designs, markets and manufactures new products. FRD's "product lines" (ranging from HP 3000 business computers and HP 9000 technical computers to disk drives and peripherals) come from a variety of divisions throughout the company.

"We have a tremendous diversity of products and a very small direct-labor



FRD refurbishes more than 200 HP products, notes Manufacturing Manager Bill Mohr, who oversees product packaging here with Vicki Enos, material handler.

force," says Manufacturing Manager Bill Mohr. His five test technicians, for example, have to know the inner workings of more than 200 HP hardware products.

And where do these products come from? FRD gets its product lines in one of three ways:

(1) At the end of lease or rental agreements (handled by the sales finance side of FRD);

(2) From sales office consignment and demo equipment when it has "aged" according to HP policy; and

(3) When a company trades in HP equipment for credit toward a more powerful system.

This new approach to experienced products has FRD General Manager Craig White smiling when he looks at the financial statement at the end of each year, he says. Revenue has doubled during the last two years.

So how does FRD get experienced equipment from throughout the world

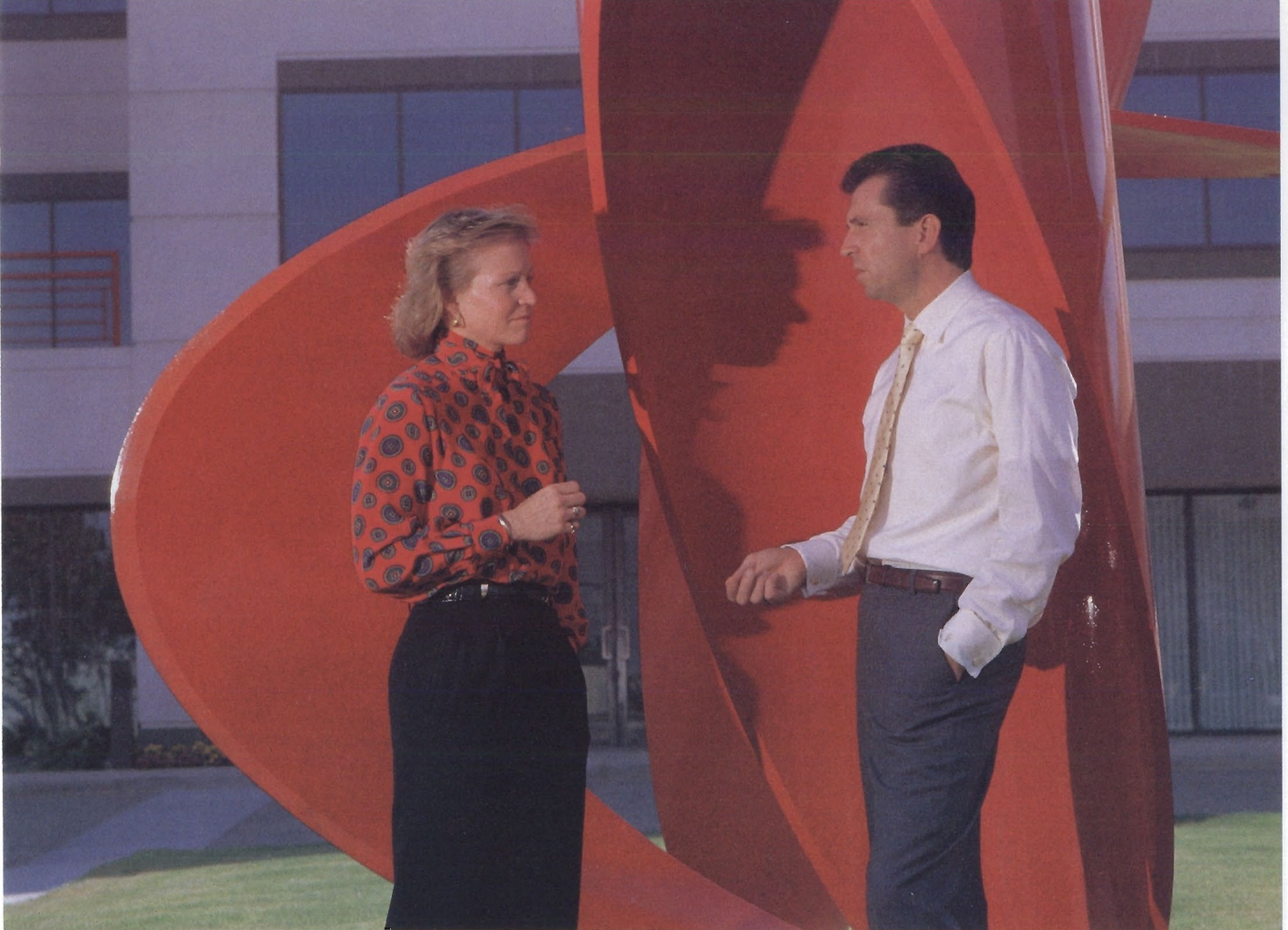
to customers looking for HP products with a more modest price tag?

First, equipment is packaged (in a variety of ways) and shipped to FRD's 25,000-square-foot warehouse in nearby Sunnyvale. At that point, says Bill, five basic steps occur in the process.

(1) Preinspection at the warehouse to determine what parts, if any, will make it remarketable. Equipment and parts are then shuttled up the road to the main Mountain View facility for the next four steps.

(2) The equipment is cleaned and upgraded, if needed, to the latest electrical revision of the product.

(3) Technicians test the product using the same standards that apply



Product diversity and a small direct-labor force have helped Chris Arnold and Craig White make FRD an increasingly profitable HP venture.

to new equipment about to be shipped.

(4) The spruced-up and checked-out product is moved across the hallway to assembly where newly painted panels are put on and appropriate accessories and manuals are packaged up.

(5) The refurbished product is placed in finished-goods inventory (or shipped if an order has already been placed) and a special FRD certificate of quality is filled out bearing the signatures of the assembly technician, test technician, final inspector and electrical inspector who refurbished that specific product.

"The two things I'm most proud of about our manufacturing team," says Bill, "are we are extremely customer-focused and the prime concern of everyone in the organization is quality. Any one of us can stop a shipment if he thinks something is wrong with it, and

I'll personally back up that decision."

Marty Luff, an installed-base sales rep at HP's Manhattan, New York, sales office, speaks for many of his counterparts when he says FRD products "work just like new." That high quality and lower cost, says GM Craig White, is why FRD is "an integral part of the total HP solution." He adds that high-quality refurbished equipment is becoming more and more attractive to customers because of tight budgets and changes in the tax law. "We're in a good marketplace."

IBM, DEC and HP have taken leadership roles in the refurbished business, and many other smaller companies are following suit. However, while most used-equipment vendors concentrate almost totally within the United States, HP has taken its refurbished show around the world. HP remanufacturing sites are also located in Böblingen, West Germany, and Melbourne, Australia. Marketing centers are located in the

U.K., France, Canada and Hong Kong. Current plans are to expand into most other countries which have a major sales-finance presence.

Bill Brennan, FRD's decentralization business manager, says 36 percent of the division's business comes from international sales. "Understanding local needs and matching those needs with FRD's capabilities is the basic challenge we face," he says. "We need to rely on local people who know those customers best. Our products can help HP get into the sales picture. For instance, we've had several unique opportunities with some foreign governments on tight budgets."

Despite FRD's financial success, Chris Arnold hopes it will one day be viewed as more than an operation that gives experienced products a second chance in life. "Four or five years ago we

simply waited for products to come in the door," she says. "Now we've proactively developed the business to play a more strategic role in the whole HP organization."

She cites three key roles FRD plays in HP's big picture. First, FRD hits a tier of customers that HP wouldn't be able to reach with just new-product offerings.

Second, FRD can better manage products at the end of their life cycles. "HP does not focus on managing a product after it reaches its maturity. Because these are the only products FRD deals with, we're very in tune with who our customers are—and our competition. New-product divisions often wait until they are selling only a few

"We've gone from making almost no money in 1983 to equaling or exceeding HP's profit objectives."

units a month of a specific product before it is discontinued.

"For awhile, both FRD and the division duplicate marketing and manufacturing resources, enabling the new-product division to focus its resources on new-product introductions and ramp-up."

Third, at the end of a product's life, FRD can turn excess equipment into spare parts. Preventing a division from having to buy or make new parts can save the company a lot of money, Chris notes. "It's good asset management from HP's standpoint."

Those sound words just wouldn't seem right coming from someone dressed in a loud sport coat.

—Gregg Piburn

(Gregg Piburn, site public relations manager at Loveland, Colorado, is—arguably—a snappy dresser with few Nehru jackets in his wardrobe.—Ed)

Battling the brokers

The word springs from their mouths with the same inflection of a dirt-caked farmer saying "drought." This nasty word also conjures up images of barrenness and financial pain.

The word is "broker," and it isn't a pretty sound when it comes off the lips of HP sales reps from around the world.

Brokers buy and sell used high-tech equipment. Before HP entered the remarketing arena, going through brokers was the only game in town for customers wanting to buy experienced HP equipment at cut-rate prices. "FRD helps HP sales reps meet and exceed quotas by providing them with alternatives they can offer potential customers," says Bill Brennan, FRD decentralization business manager.

HP Commercial Sales Rep Andrea Moskowitz of Purchase, New York, often uses the refurbished-equipment alternative "when dealing with customers hounded by brokers." She says it gets HP into the customer's price range. "At that point, customers typically feel more comfortable going directly through HP because they know they will get free installation, support and warranties backed by the whole HP team."

Max Tate of Knoxville, Tennessee, 1987 area sales rep rookie of the year, emphasizes his competitors aren't just IBM and DEC. "Used equipment vendors are everywhere," he says. "FRD provides products and creative ideas on how to compete with these guys."

There are sound business reasons why HP's financing and remarketing organizations merged in 1983 to form FRD. The two groups work side by side to develop quick and creative ideas to help the Max Tates of the world obtain signatures on the dotted line.

"They (FRD) have cut a lot of deals I wouldn't have gotten," Tate says with a tinge of thankfulness in his voice. "Their responsiveness was

especially critical for me as a rookie salesman," he adds. "They even helped me configure systems on the phone."

Andrea recalls how that same FRD responsiveness and creativity made the difference in securing major deals at two companies that had previously purchased only through brokers.

How do Max and Andrea respond to critics concerned that refurbished equipment might take away from new-product sales? With a collective "phooey."

"In my experience with FRD," Andrea says, "I couldn't have won the deals I did if I'd had only new equipment to offer. Pricing was the key issue."

"There are deals I would have lost if it hadn't been for FRD," Max says. "FRD has increased the bottom-line sales for us."

Marty Luff, installed-base sales rep at HP's Manhattan sales office, doesn't always wait until the last moment to explain the refurbished-equipment option. "I just presented a refurbished HP 3000 Series 70 to a customer as my first offer. I knew they were looking at brokers and I didn't want to waste any time." HP got the sale. "Presenting this option up front sometimes eliminates a customer's need to go to a broker at all," he adds.

When customers first hear about HP's refurbished program they are curious and pleased, Andrea notes. Reaction after purchasing FRD products is even more positive. Max says. "They want to buy more. Some of my people now ask me which specific products are available refurbished from HP."

"The top sales reps," Bill Brennan says, "seem to know how and why and when to use us as an option."

Like a sodbuster bemoaning the weather, Max says. "Every day I hear about new brokers springing up." Obviously, sales reps are looking for any advantage they can get in a marketplace that is getting tougher all the time.

—Gregg Piburn



One of eight robocarriers used in Disk Memory Division's (DMD) shipping area approaches as Mike Edwards moves a pallet of material.

It's not peripheral

The Peripherals Group's hot products play a central role in HP's fortunes.

Somehow, the word "peripheral" seems wrong for HP's Peripherals Group these days.

With a portfolio of world-class products and an increasingly diverse mix of customers, the Peripherals Group is having its best year in a string of good years. Far from being on the outer edge, peripherals are definitely central to the company's fortunes.

The phenomenal success of the HP LaserJet printer, rapidly on the way to becoming a legend (see page 11), is only part of the story.

The HP DeskJet printer introduced in February has redefined the low-end printer market by offering laser-quality output for under U.S. \$1,000. HP's own jet set includes the HP PaintJet, HP ThinkJet and HP QuietJet printers, also based on the company's proprietary inkjet technology and protected with a stout thicket of patents.

Plotters are hot. Disk drives and tape drives, once reserved for HP's own systems, have responded to the siren call of original-equipment manufacturers (OEM) outside the company and are

romancing new technologies.

Revenue of the Peripherals Group has tripled since 1984, when the present organization was created. The group has always had two primary businesses: the disk drives and tape drives that store computer data, and hardcopy products that scan, print and plot computer output.

In April, to deal with this explosive growth, the group organized into three business units, one for mass storage and two for hardcopy products. (See box, page 8.) At the same time the Corvallis Division joined the group, bringing added expertise in mass marketing.

In Hewlett-Packard's most recent quarterly earnings statement (3Q FY88), peripherals and network products together accounted for more than one-fourth of the company's net revenue. (HP doesn't break down the information by individual group.)

Peripherals Group headquarters is in the mountain-flanked town of Boise, Idaho, with manufacturing activities scattered worldwide in 12 locations. To enhance HP's presence in Europe, where the European Economic Community will create a lucrative common

market in 12 countries in 1992, the group has deliberately placed manufacturing in the U.K. and Spain. Similarly, an operation in Japan to customize system printers and inkjet-printer manufacturing in Singapore provide a strong base for the fast-growing Asian market.

Obviously, the Peripherals folks are doing something right. What's the secret of this success?

Vice President Dick Hackborn, the man at whom fingers point as the strategist who made it all happen, has his own explanation.

"We have been successful because of the tremendous effort by a lot of very talented people," he says. "It's been a real team effort among R&D, marketing and manufacturing—totally focused on user needs and competitive trends every step of the way."

The group's emphasis is on the specific. User needs are determined by constant testing through such marketing techniques as focus groups. Competitive trends are similarly tracked—with "radar diagrams" drawn to compare HP products point by point with outstanding rivals, and find weaknesses HP should attack.

Dick is also a strong believer in segmenting and sub-segmenting businesses to know exactly where "we really can focus on products that can be suc-

"There's a lot of technology in those little cartridges."

cessful." In his opinion, big surveys and generalized results don't yield the specific information needed for meaningful action.

He uses a segmentation model to track the degree of complexity of each product line (PL). The horizontal axis shows users and the vertical scale defines functionality. Each PL is a different-colored rectangle, so it's easy to



In Greeley, Colorado, Melody Mijares assembles PC boards for tape drives.

Segmenting the Peripherals Group

□ Mass Storage Business Unit

- Disk Memory Division, Boise, Idaho (on-line system disks)
- Computer Peripherals Bristol Division, Bristol, England (low-end secondary storage)
- Greeley Storage Division, Greeley, Colorado (high-end secondary storage)

□ Publishing Products Business Unit

- Boise Printer Division (desktop page printers)
- Network Printer Operation, Boise (shared-access system and network printers)
- Asian Hardcopy Operation, Tokyo, Japan
- Greeley Hardcopy Operation (page input scanners)

□ Hardcopy Technology Business Unit

- San Diego Division, San Diego, California (technical graphics imaging)
- Barcelona Peripherals Operation, Barcelona, Spain (European plotters)
- Vancouver Division, Vancouver, Washington (personal convenience printers)
- InkJet Technology Centers: Corvallis, Oregon, and San Diego, California

- Corvallis Division, Corvallis, Oregon (handheld calculators)

see the sequence or overlap of evolving products and technologies.

The same vision of the group's direction is articulated at every entity. Detailed versions of the segmentation chart are popular—it's commonplace to start meetings by posting one on the board so everyone has the same strategic picture in mind.

At one off-site meeting, San Diego Division's marketing and R&D management teams pretended to be major competitors constructing their own strategies for beating HP. What positions would they go after? What technologies would they need to develop to win in the marketplace?

Al Johnson, the division's R&D manager, has been with HP for 21 years. "I've seen a tremendous change in the way we do business in the last few years," he says. "In the past, we succeeded because of technology—we had a good idea and engineers developed it, then threw it over the wall to manufacturing who threw it on to marketing. That's not enough today. The Peripherals Group has been a leader in HP in recognizing the need for close teamwork."

Analyzing where the market is headed requires a good grasp of which new technologies are emerging.

In the hardcopy business, the Peripherals Group is in the happy position of having foreseen the move from impact to non-impact printing. As the dot-matrix printer business peaks, it is being replaced by electrophotographic laser printing (in which HP has become a world leader with the LaserJet family) and HP's proprietary thermal-inkjet technology (which uses heat to expel bubbles of ink in black and primary colors from small but technically complex cartridges).

"We think thermal inkjet has a number of advantages over other technologies. We're trying to bring high-quality

printing to a price where everyone can have it," says Bob Watson, general manager of the Hardcopy Technology Business Unit. The first thermal-inkjet product was a small portable printer developed in Corvallis, Oregon, to go with a portable computer. It was transferred to the Vancouver Division and evolved into the low-cost, high-resolution HP DeskJet printer.

Bob points out that grit-wheel technology developed in HP Labs was a

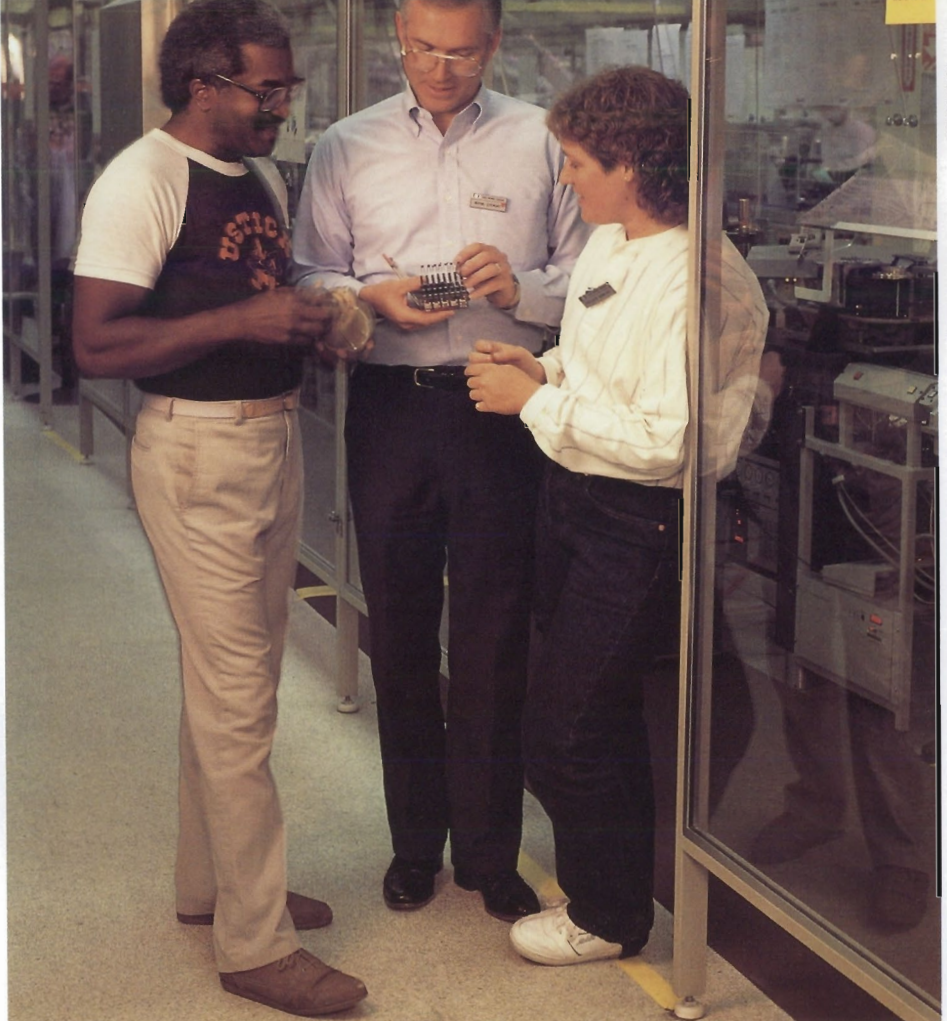
"It's been a real team effort between R&D, marketing and manufacturing..."

major ingredient in the San Diego Division's world leadership in high-performance drafting and desktop plotters. "I hope we can do the same with thermal-inkjet technology, which also began at HP Labs." Inkjet components operations in Corvallis and San Diego develop and manufacture the print cartridges which provide the competitive edge. "There's a lot of technology in those little cartridges," Bob says.

Ray Smelek, general manager of the Mass Storage Business Unit, is taking the lead for HP in working with Sony Corporation of Japan to develop a recording format for storing data on helical-scan digital audio tape (DAT). Sony holds most of the patents for DAT mechanisms while HP understands computer-system requirements. The two companies gave a seminar last March to offer to share their format as an industry standard.

"The need for data interchangeability and standardization seems obvious, but you'd be surprised how hard it is to reach agreement," Ray says.

The Greeley Storage Division is working on a rewritable optical disk, another new technology. Explains Hoyle Curtis, R&D manager, "We believe it will combine the advantages of the hard disk, which is fast but



Wayne Stewart, worldwide manufacturing manager for disk memories at DMD, talks with process operator Eugene Johnson and supervisor Colleen Rawlins in the clean-room area.

expensive, and tape, which is a removable media that's inexpensive but is slow to access."

HP's mass-storage business has opened up to outside customers. "We've been very traditional in the past, stressing high capacity and lower cost per megabyte," Ray Smelek says. "It's served us well to focus on HP's own system needs.

"But to get our volumes up and costs down and become a world-class competitor, we need to have a broader customer base."

Accordingly, two new programs were developed last year. Under the umbrella of the Peripherals Value-Added Business channel (PVAB) are a peripherals OEM program which targets large computer-systems manufacturers, and a peripherals distributor program to reach smaller integrators. Both programs also offer terminals from the Personal Computer Group. A special PVAB subsales force has been established within Sales Force 15. Among publicly known customers are AT&T, Pitney

Bowes Business Systems and Eastman Kodak.

Right now about 10 percent of mass-storage sales are to such customers, but the percentage is expected to go up to 30 percent soon. The Disk Memory Division (DMD), which builds the thin-film media, drive mechanisms and controllers, on November 1 brought out a line of 5 1/4-inch disk drives with high memory capacity designed to meet the needs of both HP systems and the OEM market.

Says Don Curtis, DMD general manager, "We've targeted a group of top-rated systems companies that look for the same thing in systems mass-storage that HP wants—reliability, performance, controller and systems integration, quality and competitiveness.

"And because we're from a systems company, we think we can better understand and meet their needs."

Disk drives, which are highly com-

Peripheral

plex mechanisms in themselves, must be integrated right into the guts of the customer company's system. Don explains that it's important for these outside customers—who are also HP's systems competitors—to understand both the linkages and the separations within the company.

"We don't talk internally about our non-HP systems customers' business any more than we'd discuss HP's systems plans outside the company," he says flatly. "We're absolutely tight-lipped when it comes to confidentiality."

HP systems divisions, which are still the largest and best customer for the

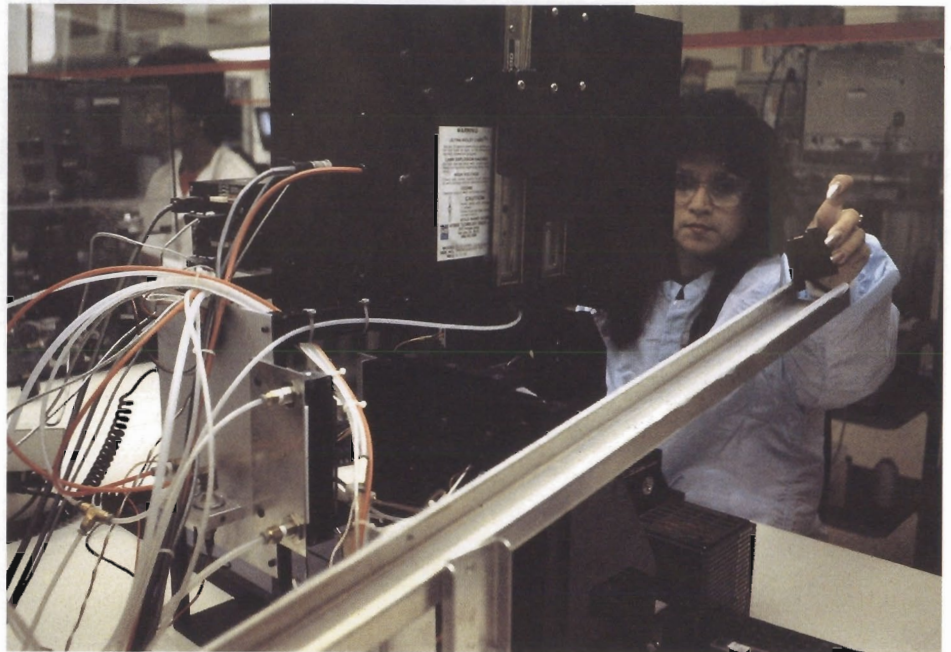
"Selling to outside manufacturers is a great way to calibrate ourselves."

company's own mass-storage products, benefit indirectly from the Peripherals Group's working relationship with other systems companies.

Steve Simpson, group marketing manager, sees selling to outside manufacturers as "a great way to calibrate ourselves."

"Nobody looks at a product as closely as an OEM customer," Steve says. Some grumbling within HP about "selling guns to the enemy" has quieted down. Products are one thing, but when it comes to leading-edge technology components, "we're very careful what we will and won't sell." A key component such as the 300 dots-per-inch plain-paper printhead used in the HP DeskJet, for instance, is not sold to outside customers.

The runaway success of the LaserJet family and growing interest in the HP PaintJet color printer and economical HP DeskJet printer have helped build a network of dealers for HP personal peripheral products. It's the first time



BETTY GERARD

San Diego Division's Rosa Chavez has finished aligning the head assembly to the pen body of a thermal inkjet cartridge and sends it down the chute to the next station.

the company has hit the shelves of the major computer-store chains. Heavy cooperative dealer advertising and promotion is managed by Peripherals marketing centers in San Diego and Cupertino, California, and Böblingen, West Germany.

"By selling primarily through dealers, we have a closer link to the end user," says Doug Carnahan, general manager of the Publishing Products Business Unit. Ninety percent of its products are sold to outside customers through dealers or HP's Sales Force 12. System printers are also sold to all of the company's product groups.

A major investment has been made in cultivating independent software vendors — the HP LaserJet family supports more than 700 outside software packages. To help customers with connectivity and other questions, a free assist hotline in Boise answers 25,000 calls a month.

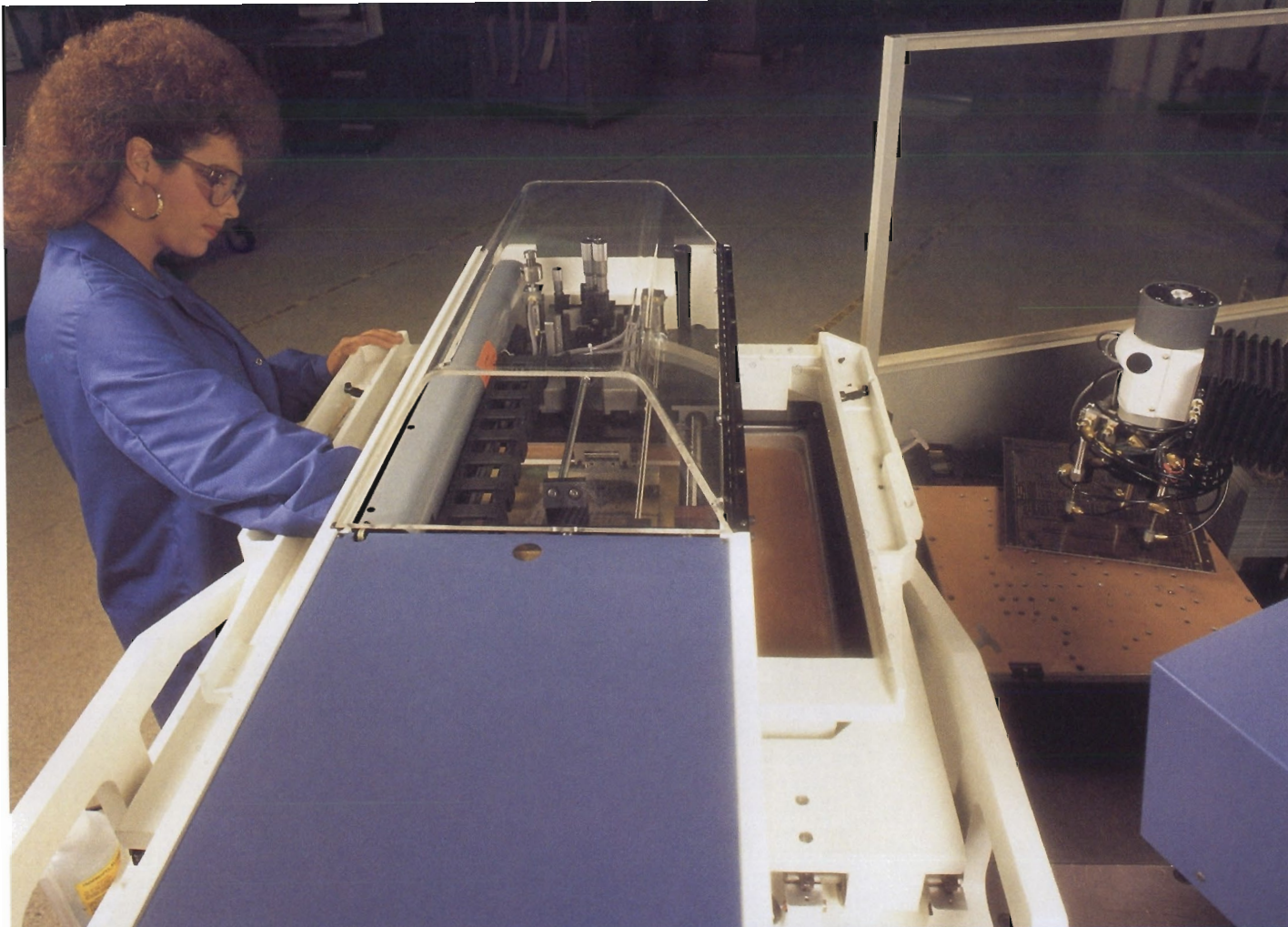
Momentum continues to build. Rick Belluzzo, general manager of the Boise

Printer Division (BPR) responsible for LaserJets, recently attended a large industry analyst's meeting in New York. "I came away excited that HP's position is greatly envied. There are a lot of people who want strategic relationships with us."

The Peripherals Group's long winning streak delights Bob Granger, San Diego Division marketing manager.

"There's a good level of teamwork within the divisions," he says. "Many of us have moved around and worked together in the past. We're willing to share ideas that will deliver."

"What's happening in the Peripherals Group reminds me of a pinball bouncing around and scoring a hit at every bumper. The score just keeps going higher and higher." —Betty Gerard



STEVE WELSH

At the Boise Printer Division, production of the formatter for the newly introduced HP LaserJet IID gets under way. Here, process assembler Della Trejo operates a stencil-printer in the surface-mount technology center.

Like a streak of light. . .

The superlatives continue to pile up for the LaserJet family of desktop laser printers, which on November 1 added a new member: the HP LaserJet IID printer, which can do two-sided printing.

More than a million LaserJets have been sold since the first model was introduced in 1984—making it the most widely distributed laser-printer line in the world.

HP has had a cordial relationship with Canon, which supplies the print engine for the LaserJets. HP's own early efforts to design a laser-beam printer had resulted in 1980 in the HP 2680, priced at a hefty

\$87,000. It included a microprocessor to look at the density of the copy and adjust print parameters.

A friendly personal contact between Bill Hewlett, then president of HP, and Canon founder Takeshi Mitarai led to an invitation to see Canon's prototype of a laser-beam printer at an industry show in 1975. John Young was part of the HP team that came back enthused by the possibilities. Don Hammond of HP Labs, now retired and a consultant to the company, negotiated the agreement for the two companies to work together on developing a product.

Until now Canon has been manufacturing the entire printer with HP handling distribution. Starting this November with the introduction of the third-generation LaserJet, the Boise Printer Division will build the

formatter/controller which Canon will install in their engine in Japan.

Among many awards from publications, *Personal Computing* in 1986 hailed the HP LaserJet as "one of the 10 most significant PC products of all time."

The LaserJet family has even reached museum status. The Gutenberg Museum in Mainz, West Germany—the world museum of printing—now has in its collection the 750,000th LaserJet produced: an HP LaserJet Series II. The original HP LaserJet has just been accepted for the national collections of the Smithsonian Institution in Washington, D.C.

Extra

ORDINARY

Call it dedication, commitment or love, San Diego Division's Karen Abbott brings a special quality to the kids at Camp Ronald McDonald for Good Times.

"Hey Karen—let me see ya get down!" shout the children from table seven across the camp mess hall.

Karen has just sat down to lunch. She's not in the mood to dance ("get down"). "Hey," she yells back, "can't you see I'm eating?"

"Hey Karen—let me see ya get down!" Mock anger swelling in her voice, Karen, trying and failing to keep a straight face, shouts, "Hey—do you mind?"

"Hey Karen—let me see ya get down!" "I'm busy," Karen pleads. By now the rest of the campers are chiming in. It's a mealtime ritual to randomly challenge as many as a half a dozen individuals to "get down" with the entire camp looking on. Everybody gets down. Everybody.

"Hey Karen—let me see ya get down!" If you can't beat 'em, dance for 'em. Enjoying every minute of it but pretending otherwise, Karen stands up, and for about 20 seconds, gets down to the enthusiastic beat of the clapping and hollering of 80-plus children and 50 or more camp counselors and staff.

Karen finishes dancing and everybody cheers. Five minutes later table three spots a target and the chant begins anew. Karen shouts as loudly as anybody. "Camp is a blast," she says, clapping and exhorting the next victim on to his inevitable fate. "Where else are you free to act like a kid again, do silly things and have fun like this?"

For years, Karen Abbott had been searching for something she felt was missing in her life.

She enjoyed her job as a personal productivity manager for Hewlett-Packard's San Diego Division, teaching others how to use computers more productively. She appreciated the stability of working for a large, successful company. She basked in San Diego's fun-in-the-sun lifestyle.

Whatever was missing, it cut deeper than that.

Then in May 1987, a fellow employee asked Karen if it was possible to provide a computer lab—consisting of HP

computers, printers and plotters—to "Camp Ronald McDonald for Good Times," a camp for children with cancer.

The camp is sponsored by McDonald's and a spate of other corporations, foundations and individual donors for children between the ages of six and 18 from around the world.

Karen liked the idea. She assembled a plan and sold it to division management, obtaining approval for resources and time to organize and teach the lab.

A year and one-half later, watching and listening to her work and play with the children at Camp Ronald McDonald, it's clear that Karen has found what she was looking for.

"This is one of the rare times in my life that I am doing something I fully enjoy doing. No *shoulds* and all *wants*. I want to do this; it feels so right to be here making a contribution," she explains. "I've never been so motivated, never believed in anything so completely as I do in helping the kids here at camp. That's a wonderful feeling to have."

Karen is a camp specialist, someone who volunteers time and expertise, whether it's computers or basket-weaving, to teach the children during one of Camp Ronald McDonald's eight, 10-day summer and winter sessions.

Watch Karen, 33, talk to Julia, a 17-year-old, three-time Ronald McDonald camper, and you'll understand that Karen is more than a specialist.

The pair huddle on Julia's bunk during an afternoon rest period, whispering and giggling like best friends at a teen-age slumber party, sharing camp gossip, personal secrets and an affection shimmering with trust.

"Karen is so sweet, she's like a mother to me. I can talk to her about anything... boys, girl-talk, stuff like that," Julia says with a shy shrug and



Extra

ORDINARY PEOPLE

a smile that lights up the tree-shaded cabin room.

Karen arranged for the equipment and taught the first round of labs during the 1987 summer sessions. She first met Julia when she volunteered to work as a counselor during several of the camp's winter gatherings.

Counselors are volunteers, often Camp Ronald McDonald veterans who accompany the children during the day and sleep in the same cabins at night. There they attend to each child's physical and medicinal needs. The ratio is usually one counselor to three children. There are exceptions when children need special, one-to-one care. Julia was one of those exceptions.

In December 1987, Julia had just completed an arduous round of chemotherapy and was reeling emotionally and physically when she arrived at the summer camp.

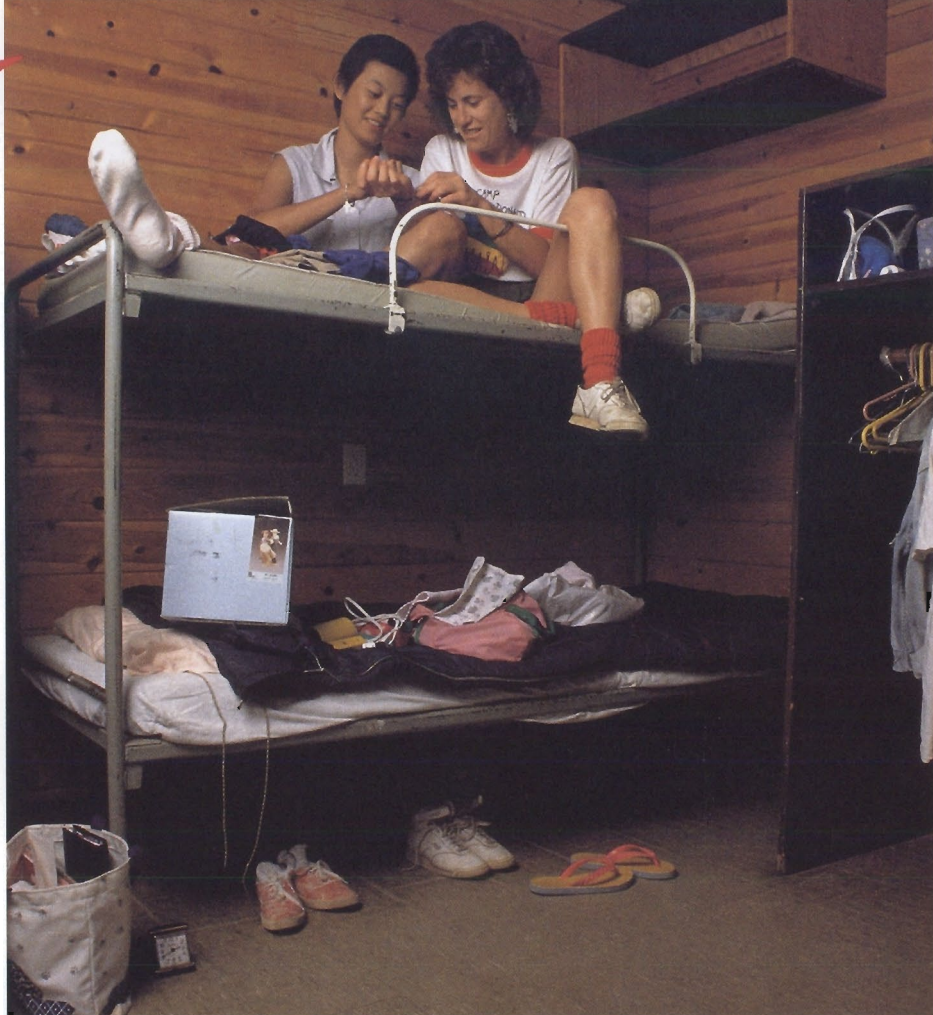
"I was sick, and as part of my treatment I had to take my medicine every three hours," Julia explains. "Karen stayed with me day and night. I kept forgetting to take my pills, but Karen always remembered. During the night she'd wake me up every three hours and make sure I took my medicine. I don't think she ever got any sleep."

"Where else are you free to act like a kid again, do silly things and have fun like this?"

When Julia learned that Karen was coming to the final summer session, she hand-crafted a friendship bracelet and gave it to Karen as a gift.

Karen is a popular camp veteran. To her surprise, she received five percent of the vote as a write-in candidate in a mock election to unseat the Camp Ronald McDonald director.

Equally popular is the generous supply of HP equipment in the camp computer lab. This year Karen arranged for the camp to use 10 HP Vectra PCs,



Whispering and giggling like best friends, San Diego Division's Karen Abbott and 17-year-old Julia share secrets during an afternoon rest period.

10 HP 7550 plotters, an HP DraftPro large-format plotter and an HP PaintJet color printer.

"There are no ifs, ands or buts about it," counselor Tony Smith says. "The kids enjoy the computer sessions, and they are the most requested activity in camp."

The kids and staff learn quickly and have fun doing it, Camp Director Stuart Grossman says, because the equipment is state-of-the-art, and more importantly, so are the people who teach them how to use it.

Karen and San Diego Division employees Phil Lawrence, Tanya Maurer and Mike Buckley have each instructed a computer lab at one of the camp's four summer sessions this year. Phil and Tanya are office-automation coordinators and work for Karen. Mike is the communications manager.

"We are grateful to HP for their machines and their people," Stuart says. "The people are wonderful, and they know a lot about computers. Without the former, the latter wouldn't do us a whole lot of good. They didn't just

come here to teach us about computers. They got involved with the kids and activities and became a big part of camp. And they have made learning about computers fun and exciting. Most of us here can't draw a picture to save our lives. But put a mouse in our hands and we can create masterpieces!"

That's why Karen decided to teach graphics at camp. "I wanted the computer sessions to be fun, easy to learn and out of the ordinary. That's why I didn't teach programming or provide computer games."

Julia is just one of the many campers who endorse that approach. "Computer classes in school are boring, spending too much time on words," she says. "Here at camp I enjoy designing my own pictures and I love all the colors."

Children and staff put the equipment and their new skills to immediate use.

Among other things, the children have drawn and printed personalized silkscreened T-shirt designs, campaign



LOIS GERVAIS

Through Karen's help, HP provides HP computers, printers and plotters—and instructors—for Camp Ronald McDonald summer and winter sessions. Says counselor Tony Smith, "The computer sessions are the most requested activity in camp."

signs, flyers and banners, and wall-decorations for an upcoming dance. The staff uses the computers to streamline

"I've never been so motivated, never believed in anything so completely as I do in helping the kids here at camp."

the camp roster and produce the daily activities schedule.

Stuart, speaking for everyone in camp who has designed a picture or played on an HP computer, is grateful to Karen. "She has worked so hard to make this possible, and we appreciate it."

While accepting some of the praise, Karen says she hasn't done it alone. "The whole San Diego site has been behind me."

That's not an overstatement either. Karen recites a list of contributors longer than her arm. Production, computer maintenance, personnel,

environmental testing, information systems, the Peripherals Group, facilities, 7550 engineering, shipping, Corporate Philanthropy—all have helped make the computer lab at Camp Ronald McDonald possible.

Karen also has received support from sites outside of San Diego, including the Personal Computer Distribution Operation and the Personal Computer Group.

Karen teaches the children about computers. But learning at Camp Ronald McDonald is a two-way street. The children teach Karen about life.

"The kids believe in themselves and never give up," Karen explains. "Relationships are the name of the game here. The kids support and take care of one another. They rise above their disease, act silly and have fun. They don't have time for insecurities and self-doubt because, for many of them, this is a rare opportunity to escape the hospitals and the limitations others place on them. This is a chance for them to play, and they enjoy every moment of it."

"The kids inspire me. My own insecurities and self-doubts don't make any sense when compared to what

these kids have been through. I draw strength and confidence from them."

After being away from camp for awhile, Karen says it's easy to forget some of what she's learned.

"As adults, we lose touch with some of the important things," Karen muses. "We act so terribly responsible and put up so many barriers. We become afraid to let people in and get close to us. We shut down the child inside of us who isn't afraid to act silly and to have fun, and who is willing to trust. When I feel I'm losing that, camp helps me get it back."
—Steven Cavallero

(Steven Cavallero, who can "get down" with the best of them, is the communications representative for the Neely Sales Region and editor of La Prensa magazine.—Ed)

May the (flex) force be with you

New employment categories help HP expand and contract to meet business needs



BRUCE ANDERSON

Retirement was boring for 73-year-old Dottie Smith, so she returned to HP's Waltham, Massachusetts, facility in the flex-force program.

Dottie Smith says there was a time when she couldn't wait to retire, relax at home and not go to work in the morning.

But at age 73, Dottie has a new vitality and a job that often requires 40-hour weeks in the transducer and clean room at the Waltham, Massachusetts facility.

"You can't work at one pace for several years and then just stop," says the spry septuagenarian. "So when they called and asked if I wanted to come back to work, I said, 'You bet!'"

Dottie is one of a number of retirees who rejoined HP in 1987 as the company piloted "flex-force" programs at six sites. The flex-force concept is simple and effective: When business needs require it, hire temporary workers for specific projects or periods of time to supplement the regular work force.

Flex force, which went into effect in the U.S. November 1 this year, entails two new types of temporary employees in addition to external temporary work-

ers and consultants. The new categories are:

- "On-contract" employees are hired for specific jobs lasting from one to six months.
- "On-call" employees are part of a standing pool of workers who may be called for short-term, varying assignments throughout the year. They can

"Being part of the flex force has given me a new purpose in life."

work up to 1,400 hours (about eight months) per year.

Both groups of workers are on the HP payroll. They choose to be part of the flex force because it offers them greater work flexibility through temporary employment. Many are college students or retirees.

Flex force is one response to HP's increasing need to be more flexible in a competitive marketplace, explains Nancy Calcese, flex force project man-

ager. Internal flex force employment categories aren't intended as options for HP regular employees because the assignments are temporary.

"The on-call and on-contract employment categories will be successful if we recruit the right people," Nancy says. "That is, people who prefer flexibility in work schedules over employment security and fringe benefits.

"It's a win-win situation: HP meets its business needs with a more flexible

"The flex force gives me all the advantages I need: more free time for school and my family, and a chance to continue working for HP."



Lisa Longstroth was a full-time secretary at the Boise, Idaho, site before opting for the flex force. Now she has more time for school and her family.

work force, and there are more opportunities for people who want this type of employment."

Dottie, for example, worked at the Waltham site in document control and incoming inspection from 1960 until her retirement in 1978. After nine years of retirement, she returned to work at HP in August 1987, and was trained as a production assembler.

"I enjoyed retirement at first, but after a while I got bored sitting at home," she says. "I'd go to the store and poke around, just to have something to do.

"Now I spend most of my work day cleaning transducers and soldering components under a high-power magnifying glass. I had my eyes examined recently and they're better than ever.

"Being part of the flex force has given me a new purpose in life. I'd like to continue working as long as HP needs my help."

Bruno Kovas worked in the recorder assembly department for 28 years at HP sites in Massachusetts before retiring in 1986. Like Dottie, he had worked most of his adult life and wasn't ready to slow down.

"I thought about going fishing, but

I never got around to it," Bruno says with a laugh. "I thought about getting a part-time job, so when HP called, it was a perfect match.

"As a mechanical assembler, I've learned how to do cable and assembly work, which I love. And I can earn up to \$8,400 a year without it affecting my Social Security income. I hope HP calls me back to work again next year."

In addition to Waltham, HP piloted flex-force programs at the Personal Computer Distribution Operation, San Jose, California; Lake Stevens Instrument Division, Everett, Washington; Disk Memory Division, Boise, Idaho; Direct Marketing Division, Sunnyvale, California; the Cupertino, California, and Corvallis, Oregon, sites; Eastern Sales Region, Rockville, Maryland; and Neely Sales Region, Los Angeles, California, during 1987.

While Waltham called on HP retirees for its flex-force pilot, the Boise site has used a temporary worker's pool for the last 10 years to gain work-force flexibility.

"When you're at a site with three divisions and a number of products trans-

ferring in and out over the years, it forces you to keep thinking of ways to remain flexible," explains Bob Trerise, personnel manager at Boise's Disk Memory Division (DMD).

"The temp pool has enabled us to expand and contract as the production volumes warranted without affecting our regular work force," Bob says.

Lisa Longstroth was a regular, full-time secretary in the DMD lab for two years before opting for flex-force work.

"I wanted to spend more time with my two young sons, and work on a degree in elementary education," Lisa says. "Now I still work at HP three days a week as a secretary, attend Boise State University part time and get to be with my kids more as they grow up.

"The flex force gives me all the advantages I need: more free time for school and my family, and a chance to continue working for HP. That fits my needs and HP's just right."

—Jay Coleman

YOUR TURN

Measure readers share their views on matters of importance to employees.

Not as simple as ABC

Thank you for the interesting and informative article, "Who's taking care of Baby?" It mentioned the Act for Better Child Care bill, which is currently pending in the U.S. Congress.

Unfortunately, the ABC bill does not benefit a vast majority of families. Child-care services provided by relatives, friends, neighbors, and spouses — as well as church or privately run centers that include any religious elements in their programs—are excluded from ABC's provisions. This leaves the secular day-care center, an option which only about 20 percent of parents are currently utilizing. Many of us find this to be the least-attractive choice in child-care arrangements.

Another drawback of the bill is the fact that it creates yet another federal bureaucracy.

For these reasons, many parents oppose the Act for Better Child Care, preferring an increase in tax deductions and credits instead.

KIRSTEN CARLSON
Lake Stevens, Washington

How about sabbaticals?

I understand it is difficult to provide benefits equitably in this area. How about the option of sabbaticals and "flex days?" Sabbaticals would give everyone a benefit (help HP in the competitive-hiring environment), and give working parents a chance to be with their child for an extended period of time. If you look at it, after the initial maternity leave, a working mother does not spend more than a vacation's worth of time with her child! A sabbatical would be so refreshing for families!

By flex days, I am referring to nine working days every two weeks of nine-hour days. This can be managed, department-by-department so that someone is there every day of the week.



This would give working parents the option of being home with their children an extra day, and it would reduce traffic congestion and time spent away from home commuting.

These benefits are focused on a little more time at home with the family, which I believe is very important.

BONNIE JUNG
Mountain View, California

More views on child care

Child care is not babysitting. It is about growth, development and maximizing potential—a SEED program. We are an aging population dependent on the next generation's ability to meet technological, political and economic challenges, while maintaining our institutions and a quality standard of living for our country.

One of HP's corporate objectives is volunteer contribution to the community. Let's contribute a role model for a private-industry solution to quality child care. Let's make it work on site (within HP or in an industrial park and supported by companies in the park)

and then expand to more sites.

HP sites are located near universities; we can tap into resources for consulting expertise and student interns in teaching, child development, psychology and business. Ideally, a child-care site can be divided into separate areas for infants, toddlers and preschool, and elementary students who could come after school. The students could feel safe, do their homework and maybe discover an early ability on—and loyalty to—HP computers.

Parents would be responsible for contributing hours above and beyond their work hours to cut costs and improve the teacher/child ratio. Parents who don't fulfill their volunteer hours could be charged through their paychecks.

My children are grown and I do not personally need child care. However, I would be happy to help in any way to find solutions to the child-care problem.

PAT PEKARY
Mountain View, California

This is progress?

My wife, Melissa, was eight months pregnant when she first interviewed with HP in 1981. Despite that fact, she received an offer. I was convinced at the time that HP was a fine, progressive place to work. Since that time, we have managed to juggle careers and child raising. Had there been on-site child care, our lives would surely have been more pleasant.

Your article on child care describes the problem well, but does little to offer any relief. The possibility of on-site child care is quickly dismissed as being not workable. What has happened to that "progressive" company of which I thought so highly?

I feel that at sites large enough to support such a program, on-site child care would work. HP need only to pro-

vide the space, then accept bids from others to provide the service. The price for this method of child care would be no greater than if the private providers were located outside of HP, but there would be a great convenience to employees.

On another matter, Melissa says she's disappointed that she cannot attend the first HP Technical Women's Conference, but she wonders when the first HP Technical Men's Conference will be scheduled.

RANDY BOYD
Corvallis, Oregon

Randy works for an engineering consulting firm in Corvallis and is married to Melissa, an R&D project manager.—Ed.

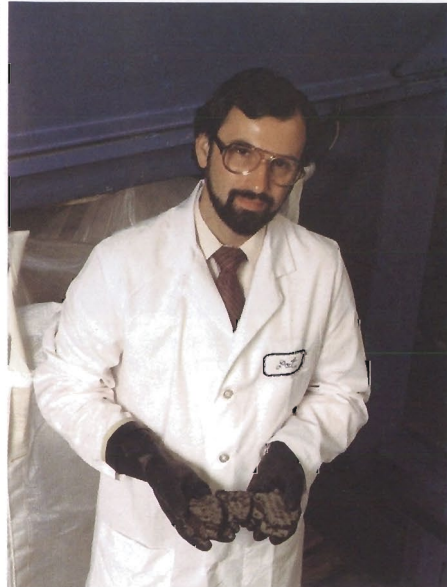
A new frontier

After reading "A new train of thought" (July-August 1988), I must say I am quite impressed. Several years ago I would never have thought Hewlett-Packard would join with mainland China and become China Hewlett-Packard (CHP).

Recently, I heard news about the government of Burma trying to change its present policy and start opening trade with the outside world. Being a native of Burma, I think this will be our new frontier; it holds good opportunities in business, medical sales, science and engineering of instruments and computers.

Since the political climate is slowly getting better in that area, we must keep an eye on this opportunity before other competitors jump in. So let's make sure the Hewlett-Packard name goes in first.

LUCAS LEE
North Hollywood, California



Pat Hunt

Breath of fresh air

After seeing "The Poisoning of America" on national television, it was a great relief to read the article about Pat Hunt ("Down and dirty with the sultan of sludge") in the September-October issue.

I hope all HP employees are working as hard as Pat to improve the environment. It's a very serious matter, especially when it's something we will be passing on to our children.

Keep up the good work, Pat!

ALEXA ADAMS
Fort Collins, Colorado

Hip, hip... hooray

Three cheers and a hurrah! Finally an edition of *Measure* (September-October 1988) that had an article of relevance (Who's taking care of baby?), and yet it did not contain another of those major omnipresent computer features. I'm not sure which makes me more pleased.

ALAN FRYER
Loveland, Colorado



Please send mail

Do you have comments about something you've read in *Measure*? Send us your thoughts. We want to share them with more than 85,000 other employees.

If your letter is selected for publication, you'll receive a *Measure* T-shirt. Be sure to send us a return mailing address and indicate your T-shirt size—unisex small, medium, large or X-large.

Address letters via company mail to Editor, *Measure*, Public Relations Department, Building 20BR, Palo Alto. Via regular postal service, the address is *Measure*, Hewlett-Packard Company 20BR, PO Box 10301, Palo Alto, CA 94303-0890 USA. Try to limit your letter to 150 words. We reserve the right to edit letters. Please sign your name and give your location. Names will be withheld on request.

LETTER FROM JOHN YOUNG

President John Young looks at the challenge of commercializing technology.

As you may know, I chair a group of U.S. leaders from business, labor and academia called the Council on Competitiveness. We recently issued a report about commercializing technology. I believe its conclusions are pertinent to everyone at HP, no matter what functional area you work in. I'd like to tell you a little about it here.

Technology companies, particularly ones in the U.S., face a key challenge, according to the report: In today's increasingly competitive global marketplace, success depends not only on developing technology, but on successfully commercializing it.

What is commercializing technology? It's turning new technologies into products and bringing them to market with the cost, quality and timeliness needed to capture the volume sales that generate major returns on our investment in innovations.

That definition implies we can't rely on just our technological or scientific breakthroughs to automatically translate into profits. After all, a state-of-the-art product will generate considerably less revenue if a competitor introduces something similar at lower cost and higher quality at about the same time. The definition also implies two factors are vital to our success: speed and cost-effectiveness.

We need to bring products to market more rapidly so we can take full advantage of the "market window" when a product is competitive. We need to bring products to market at lower cost so that we can increase our profit margins while passing savings onto customers. Achieving excellence in commercializing technology is a critical goal for HP.

To achieve that goal, we need to think of the innovative process in a new way.

The U.S. often views technological innovation as a linear process, one that starts first with a major technological breakthrough and then progresses through product design, development, manufacturing and, finally, distribution to customers. This view of creating new products is like a relay race: Each leg of the course is run by a single player who finishes his or her part by handing off the baton to the next participant.

A more realistic view of innovation,



John Young takes time out to visit with major account sales reps from Cincinnati, Ohio.

JAY COLEMAN

practiced by leading companies, is offered in the report issued by the Council of Competitiveness. It suggests that product development is at its best when it's not driven just by one function—research—but by many functions: marketing, manufacturing and support, to name a few. Why? Because the products one creates this way will be more responsive to the market. They'll meet customer needs better, be easier to build, to distribute and so on. Consequently, they'll get to market sooner. This kind of innovation isn't a linear process, like a relay race, but an interactive, interdependent process—much like a soccer game where many players get involved in moving the ball down the field to the goal.

This, of course, is exactly what we are doing at HP. By working across the organization's functions to create new products, we can optimize the overall result. We can design in manufacturability and supportability. We can ensure the product features meet customer needs, that the product is accompanied by appropriate documentation and is poised for distribution. By considering the process as a whole, we can make intelligent trade-offs to ensure that all aspects of the product are executed efficiently, cost-effectively and with superb quality.

What steps are we taking to work cross-functionally at HP? The Phase Review process, for example, is one way we ensure marketing and R&D work together in the early phases of product development so that customer needs drive design right from the start. Manufacturing people are getting involved

in the product-definition phase, too, so that their point of view can be incorporated into product design from day one. We're creating an information system that ties together functional areas so they can work as an integrated whole. For example, the Colossus data base links R&D with manufacturing. It provides design engineers with full information about those component parts that manufacturing knows to be reliable and cost-effective, allowing the best parts to be designed into our products.

To measure how well we bring products to market, we've selected a metric called BET, or "break-even time." I discussed this in my last *Measure* letter about our ongoing strategic issues. BET measures the time it takes a product, once released, to make back the money the company invested in it. It's a particularly meaningful measure because it takes into account the whole product-development process—including the roles of R&D, marketing and manufacturing. Also, BET focuses not only on how fast a product is released to market, but how profitable that product is. We're still working on the information systems and definitions needed to calculate BET. Determining how to measure and reduce BET is one of Dean Morton's key Hoshin objectives for 1989, so you'll hear a lot more about it in the coming year.

Now, how can you help HP commercialize technology? How can you innovatively help move products to market more quickly and cost-effectively? For starters, take a broader view of innovation; recognize it can be applied to costs and timeliness as well as to product contributions. You can also take a broader view of your job. Think about how decisions you make affect others at HP. We certainly have lots to do to improve in each function, but some of the real opportunities for innovation lie not within the boundaries of your function, but how you work across them.

EXTRA SURE

SEEDs meet Bill and Dave up close and personal

While co-founders Bill Hewlett and Dave Packard are loyal Stanford University alums, they also have a soft spot in their hearts for young people.

And that's how they found themselves the new owners of sweat shirts bearing the unfamiliar insignia of the rival University of California at Los Angeles.

The sports gear was a gift from a group of MBA students from UCLA who worked this summer in Silicon Valley divisions under HP's SEED student work program.

Len Sheppard, who set up the visit, was in Corporate Treasury before going back to school. "I wanted everyone to see that HP's open-



SEED students from UCLA presented gifts to Bill and Dave at summer's end.

door policy still works," he says.

At the start, Bill and Dave wanted to know the students' home towns, where

they had worked at HP and their projects, and if they liked what they were doing.

Said one, "We thought we'd just absorb what we

heard—we weren't prepared for such genuine interest in our lives. It was a neat experience."



HP rates among the 'best of everything'

If you could own anything you want, what would you buy?

When *Financial World* magazine posed that question recently to its readers, HP was chosen for its mini-computers, peripherals and calculators in the "Best of Everything" survey.

More than 300 companies were included in the survey, and HP's three awards were the most received by any company, including Learjet, Jaguar, Rolls Royce, AT&T, IBM and DEC.

Readers—primarily top business executives and high muckety mucks—rated consumer goods and business products from "cars to cigars; copiers to cognac."



One of the 1,000,000.

One in a million

Display terminals were a brand new venture in 1974 when HP introduced its \$3,000 model.

The venture proved successful, and in September 1988, the Roseville Terminals Division (RTD) shipped its 1,000,000th terminal—this one headed for the 3M company in St. Paul, Minnesota.

Of course a lot has changed in 14 years. HP terminals today have 95 percent fewer parts, take 92 percent less time to build and cost as little as \$375—one of the most-affordable terminals available.

Still, terminal users consistently rate HP terminals among the best-performing ones in the business.

In addition to RTD, which produces all HP terminals for the U.S. market, terminals are manufactured in Grenoble, France, and Guadalajara, Mexico.

"By designing terminals from a manufacturing point of view, we have been able to pass cost savings on to our customers," says RTD General Manager Larry Mitchell.

And HP customers are saying, "thanks a million."



STROWING

Danish marketeers are world class

The Markstrat competition, which pits teams of economists against one another to run a make-believe company, had its first world series this year. One of those in the playoff was a team from HP Denmark.

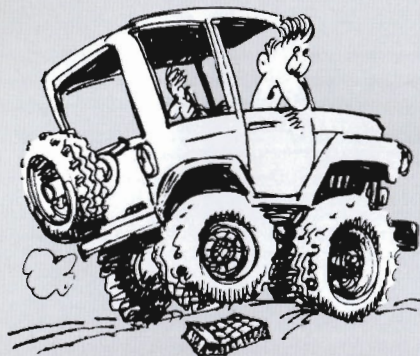
Winners of five regional contests—four in Europe and one in the U.S.—met in Cannes, France, in July for the first international final. In the regionals teams send in diskettes for weekly judging, so it was something new to meet face to face.

HP Denmark's team, which had run away with

the Scandinavian regional, came in fourth in the hard-fought final. Members (above) were Steen Skipper Rasmussen, Ove Holritz, Henrik Oegaard, Jes Suhr and Lars Boesen.

A new software package called Markops was used for the final. It's geared to operational and tactical marketing decisions (instead of strategical ones).

HP's name is tied into Markstrat in other ways: HPSA helps fund the competition as a sponsor (along with *The Economist* and others), winners receive HP Vectras and calculators as prizes, and the Markstrat office in Paris runs the competition using an HP Vectra system.



It takes a lickin' ...

It began as a bad day for Riverhead, New York, real estate appraiser Bob Reilly, but concluded with a happy ending.

After completing a recent field appraisal, Bob left his HP-12C calculator on the roof of his car. Five miles later he remembered his mistake, and doubled back.

"There in the middle of

a busy highway lay the HP-12C," Bob wrote recently. "Car after car ran over the calculator, as I waited for an opening to dash onto the roadway and rescue the unit."

Ten more cars flattened the calculator before Bob could grab it.

"I turned the unit on," he relates, "and recalled a few numbers that had been stored, (then) completed a few calculations. The HP-12C was once again working brilliantly. Although the case was a bit dented, the heart and soul of the HP-12C was like new."

"My compliments to Hewlett-Packard for manufacturing a product that can stand up to the rigors of everyday life."

BOTTOM LINE

Hewlett-Packard Company reported a 19 percent increase in net revenue and a 30 percent increase in net earnings for the third quarter (ended July 31) of the 1988 fiscal year. Orders for the quarter were up 13 percent over the same period for 1987.

Net revenue totaled \$2.434 billion, up from \$2.054 billion for the same quarter in FY87.

Net earnings totaled \$192 million or 80 cents per share on approximately 240 million shares of common stock outstanding. Net earnings per share were influenced by stock repurchases by the company. In the year-ago quarter net earnings were \$148 million or 57 cents per share on 259 million shares.

Incoming orders for the quarter were \$2.527 billion compared with \$2.238 billion in the year-ago quarter. International orders rose 27 percent.

NEW HATS

Katsuto Kohtani to GM of newly formed Asia-Pacific Geographical Business Unit in Medical Products Group... **Bob Tillman** to GM of Computer Peripherals Bristol Division, with **Dragan Ilic** succeeding him as GM, Northwest IC Division. **Dick Snyder** to GM of the Vancouver Division.

In Intercontinental Operations' Far East Region, **Suresh Rajpal** to newly created post of GM

for overall HP activities in India and **Alex Chan** to GM, ASEAN Area. **Victor Ang** to region marketing, sales and support manager.

Herb Ostenberg to GM of Neely Sales Region's Rocky Mountain Area. ... **Arnold Fuller** to GM for Middle East/Africa operations.

Joining HP Labs: **Laurie Rogers**, associate director; **Bob Ritchie**, director of the Computer Systems Center.

CHART CHANGES

The Electronic Design Division is consolidating all electronic design-automation software activities in Colorado, transferring in the Salt Lake City, Utah, branch.

The Boise Printer Operation is now the Boise Printer Division. ... Worldwide Customer Support Operations has formed a Multivendor Support Operation.

WORTH NOTING

Yokogawa-Hewlett-Packard has received the prestigious Ishikawa Prize for its integrated manufacturing productivity network at the Hachioji factory. ... **Dave Packard** received the Presidential Medal of Freedom at the White House October 17.

HP is one of nine leading personal-computer makers announcing a new 32-bit extension to the industry-standard bus architecture. HP helped design the Extended Industry Standard Architecture (EISA).



HP designs made it smooth sailing for Stars and Stripes and New Zealand in the America's Cup yacht race.

HP goes to sea

While the Americans and the New Zealanders battled off the coast of San Diego this September for the 1988 America's Cup, HP was assured a victory.

HP equipment helped design both the American boat "Stars and Stripes" and its challenger "New Zealand" in record time for the world-class yachting race.

HP 9000 engineering workstations were a key factor in moving the colossal but ultralight "New Zealand" from concept to the waterways in just seven months.

At the American team's design headquarters, six HP 9000 computers were instrumental in creating the "Stars and Stripes" in nine short months. The boat is believed to be the fastest and most technolog-

ically advanced catamaran ever built.

During the race, the large "New Zealand" had on board an HP 9000 Model 350 and several Vectra personal computers. The systems were used to collect and display such data as wind velocity to keep the boat on course.

The smaller "Stars and Stripes" didn't have room for such equipment, but its crew did make use of an HP-71B hand-held computer for navigation.

The strongly favored "Stars and Stripes" easily won the race. But in HP's view, there was no loser. Both boats established new standards for their respective classes and made significant advances in the science of sailboat design.

NEW PRODUCTS

New from the Peripherals Group on November 1: the HP LaserJet IID printer that does double-sided printing and two new drafting plotters—the E-sized HP DraftPro EXL and the D-sized HP DraftPro DXL.

The YHP Instrument Division's HP 4062UX process-control system uses the HP BASIC/UX operating environment, making it well-suited for semiconductor process-control applications.



HP-14B

On the market in time for holiday shopping are the Corvallis Division's economically priced HP-14B business calculator (suggested price, US \$69.95) and HP-42S RPN (reverse Polish notation) scientific calculator.

The Measurement Systems Operation has brought out two new instrument-control systems configured specifically for instrument control with HP BASIC/UX, and a new interactive-test-generator software package to reduce the time engineers spend in test development.

Other hot instrument introductions include the HP 82000 IC evaluation system for advanced IC prototype verification and

characterization (Böblingen Instrument Division); an optional enhancement for the HP 5528A laser-measurement system that doubles its measurement range from 40 to 80 meters (Santa Clara Division); and the addition of two precision multiple-output units to the family of HP-IB-programmable dc system power supplies (New Jersey Division).

The powerful HP Vectra QS/16, equipped with a 32-bit 16-MHz Intel 80386 microprocessor, joins the Personal Computer Group's HP Vectra PC family.

With the Böblingen Medical Division's fetal-trace transmission system, fetal-heart-rate information can be sent over the telephone. Women with difficult pregnancies may stay at home while being monitored. . . . The McMinnville Division has introduced an enhanced ECG workstation running on the HP Vectra ES/12 PC that offers many features of larger, more expensive management systems for clinics and medical groups.

To solve test problems in the rapidly evolving telecommunications industry, the HP 3065CT automated board-test system offers completely integrated, one-stage testing of all current board types and emerging ISDN circuits. It's from the Manufacturing Test Division.

PARTING SHOT

A caddy way to make a living

In one of his songs, Bruce Springsteen asks how it feels in the back of a pink Cadillac. Thanks to Geoff Kirkpatrick, folks who live in California's Santa Clara Valley are finding out—and they love the feeling.

Geoff, a financial analyst for the Santa Clara Tech Center, is also the president and CEO of Pacific Sunset Limousines Inc. And even though his fleet consists of only one car, his part-time business is booming.

"The car is the big hit of every prom," Geoff explains. "Most of my customers are women. They rent it for bachelorette parties. Recently I drove a group of young ladies around for nine hours and they were partying the whole time."

Geoff got the idea after reading a magazine article about a limousine company in New York City that has a fleet of late-model pink limos. "I thought, 'If you're gonna have a hot-pink limo, the ultimate has to be the 1959 Cadillac with its huge tail fins and generally out-



Geoff Kirkpatrick's one-vehicle limousine fleet is an eye-catching 1959 Cadillac.

rageous look.'"

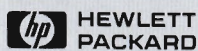
Geoff bought the car in New Jersey, then had it painted pink and outfitted with a bar ("My dad built it") and a state-of-the-art sound system. When he picks up his customers, they often

request that the pink Cadillac song be playing. And when Natalie Cole, who also sings a version of the song, was in the area for a concert appearance, guess whose car she rode around town in?

Even though one car is enough to take care of the demand now, Geoff says, "If the market is there, I'll look to buy other pink Cadillacs." That way more people can learn what it feels like in the back of a pink Cadillac.

—Ron Gedris

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