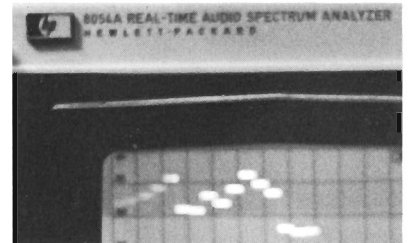
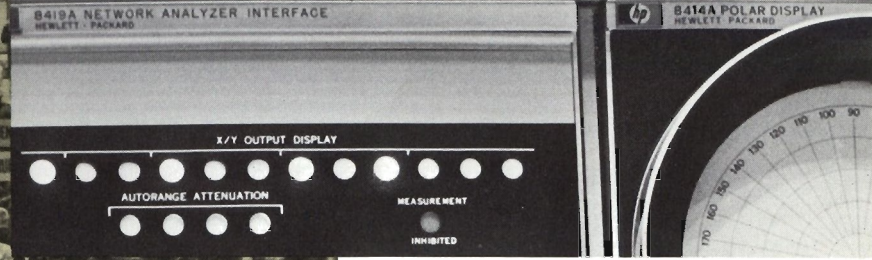


8541A AUTOMATIC NETWORK



Measure

For the men and women of Hewlett-Packard/SEPTEMBER 1968

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*HP perspective:
Neely Western Sales
Region*



On balcony of Los Angeles Sports Arena and backlit by exhibits of electronics industry, Norm Neely attends his 25th Wescon. Founded as Neely Enterprises in 1933, his firm — part of HP since 1962 — developed a number of the marketing innovations and concepts common to electronics industry today.

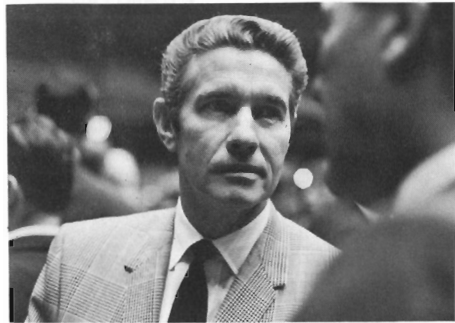


Fastest 'rep' in the West

□ In Los Angeles last month, representatives of the many segments of the electronics industry paused briefly in their concentration on the *now* and the *new* to say some kind words about the past. They took note of the fact that the Western Electronic Show and Convention was in its 25th showing. At the same time, members of the Western Electronic Manufacturers Association (WEMA) attending Wescon took time to cut a silver anniversary cake commemorating the formation of WEMA in 1943.

At the Hewlett-Packard booth there were the usual reunions and reminiscences as salesmen and clients got together again. But the talk seldom lingered on history. Norm Neely and other members of Neely's Western Sales Region manning the new HP product displays were much more interested in today and tomorrow. It is a fact, nevertheless, that some of the historical innovations that made electronics marketing what it is today had their origin in the Neely organization.

Well, just what does the record show? Ten years ago, when Neely Enterprises was celebrating its silver anniver-



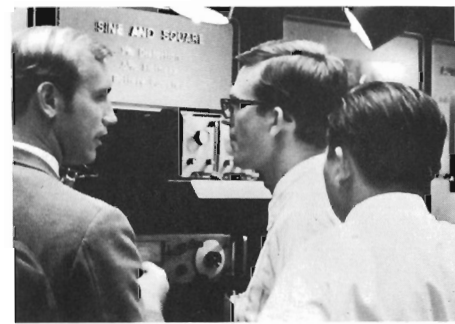
Bob Boniface, general manager, views the action at HP booth. Bob joined Neely in 1942, saw service in World War II and Korea.



Al Oliverio, sales manager, reviews schedule with Bill Shellooe (left), Neely field engineer on floor duty at Wescon booth.



Mike Talbert, sales promotion manager, keeps in touch with activities at the Neely North Hollywood headquarters.



Don Rowe, field engineer, discusses new product with Wescon visitors. Rowe will move to new Orange County office.



Bob Martin, senior field engineer, listens as customer reviews ink recorder needs. Western Sales Region now numbers 310 people.



Mike Lazlo, senior field engineer, is one of the veterans who have made Neely a highly effective sales team over the years.

**Wherever the sales action is —
Wescon or the 13 Western states —
look for the Neely men**

sary, Western Electronic News described this basic contribution: "Since its founding in 1933, Neely has endeavored to put into practice a new concept and philosophy of doing business as a manufacturers' representative in the electronic industry. This program is summarized as 'total service' in every phase of its operations as an extension of the manufacturer's own sales and engineering departments."

Noel Eldred, HP's marketing vice president, put it this way: "Because of his great ability to communicate — one of the best I've ever known — Norm Neely has always been able to make the manufacturing end see the customer's viewpoint.

"The road show product demonstrations and later the mobile laboratories were Neely innovations that became a model for other HP sales groups as well as outside the company.

"By surrounding himself with the most capable people, by meticulous attention to planning and detail, by letting everyone know exactly what was needed, by expecting people to always give their best effort, and by his humanistic

policies, he raised the manufacturing representative business to a peak?"

The Neely-HP relationship got its start as early as 1939, only months after Dave Packard and Bill Hewlett went into business in their Palo Alto garage. In Los Angeles to close a sale of oscillators to Disney Studios, they were introduced to Norm Neely by a mutual friend. A few weeks later in Palo Alto the partners and Neely shook hands to a verbal agreement appointing Norm as their first sales representative.

Thousands of oscillators and voltmeters later it was clear that, in the West, the long-range interests of Hewlett-Packard and Neely were almost identical. By 1962 sales of HP products by the Neely firm had reached a volume of some \$25-million annually, a very substantial amount of business for both parties. In August of that year the first written agreement was worked out by the principals in just one hour: Neely Enterprises became a part of the Hewlett-Packard organization.

Neely's growth since that event has been dynamic. At the outset of 1963 the sales organization was operating out

(continued)

Western Sales Region

of eight offices covering the states of California, Nevada, Arizona, and New Mexico. Today that coverage has been extended to the 13 western states, including Alaska and Hawaii. There are now 13 sales offices, and the staff—including headquarters personnel at North Hollywood—numbers some 310 people. The organization, headed by Norm Neely and General Manager Bob Boniface, and with Al Oliverio managing sales and Joe Chaplis the business operations, has been structured with a high degree of flexibility. The basic sales units are the districts supervised by district managers. In many cases these men call on customers in addition to supervising various combinations of field engineers, staff engineers and service engineers. In certain instances several district offices are grouped under an area manager.

The sales roles of staff engineers and of the telephone order coordinators are probably emphasized more in the Neely organization than at other regional sales teams. The order girls, for instance, are very carefully selected and trained to be highly sensitive and responsive to the most demanding calls coming in from customers, and actually handle a very high percentage of the day-to-day contacts with customers.

Based on its unique record and the creative drive of its managers and field people, Neely is certain to keep up the good work of contributing new ideas and methods to the marketing of HP products.

As in other HP sales regions, there is a definite trend in Neely toward specialization by field sales people. Indeed, because of its history in carrying varied manufacturers' lines such as closed-circuit TV products, there has generally been some degree of specialization within Neely at all times.

But innovation is not always a matter of adding things. Missing from the scene at recent Wescons have been the once-famed Neely cocktail parties. So popular did these events become that, at the 1959 show, the combined facilities of two large banquet rooms in San Francisco's Fairmont Hotel were inadequate to the job. Not even a man of Norm Neely's capacity could get around to greeting all of the people who showed up at what originally was intended to be a gathering of close business friends. The problem was how to bow out gracefully.

Well, the record shows that the Wescon board of directors in 1960 made an official request to exhibitors not to stage activities competitive to the show. Very much in the spirit of cooperation, Neely agreed to terminate its traditional gathering. Actually, there are some people who think Norm Neely may have had a hand in influencing the board to make its request.

But that's another story. □



This scene goes back more than 16 years to a 1952 road show, a technique in electronic exhibiting originated by Neely. Norm Neely is seen at far upper left. Bob Boniface stands on tailgate of wagon in center. Struggling alone with large case is Bob Brunner, now corporate engineering manager. Road shows led directly to mobile laboratory, a Neely innovation still widely used in the industry.

Customers get a closeup look at new HP products

□ What has Hewlett-Packard been doing lately? A good part of the answer to that question was given in Los Angeles last month when, at the Western Electronic Show and Convention, the company displayed its newest wares. Included were instruments and component products shown for the first time, as well as others that were getting their first West Coast showing. The verdict of expert viewers both within and outside the company was that HP's reputation for creativity was very much in evidence. Here's a broad sampling of what the company offered visitors to its Wescon '68 booth:

- Frequency measurement system (E40-5245L) provides superior performance, and by using standard HP instruments enables users with existing items to achieve excellent savings. F&T's new mixer (10534C) is a space-saving transistor that still is another entry on the company's original equipment (OEM) list. The division also showed two new 135 MHz counters (5248L/M), a time interval plug-in (5267A) that "has everything," and several improved counters.

- Multi-function meter (3450A) from Loveland that is the most versatile digital meter available so far and a very competitive entry into a market that is increasingly important because of growing computer applications. Loveland's wave analyzer (3590A) offers a wide range of spectrum and wave analysis. Non-tech types will just have to accept the word of engineers that its ability to make Bode plots up to 90 db is an excellent technological achievement. Also representing Loveland were a new network analyzer system (675A and 676A), offering a variety of technical advancements, and the desk top calculator (9100A) on hand for its first big national showing.

- Microwave transistor chips (35800 series) from Microwave Division represent a significant achievement — first because of the promise they hold for solid-state microwave technology, and secondly because they are an important addition to the small but growing list of items HP offers as original equipment.

- Real-time audio spectrum analyzer (8054A) from HP GmbH in West Germany broadens HP's growing line of acoustical measurement instruments important because of the increasing emphasis on noise control. The new instrument helps give almost instantaneous readings — vital in monitoring noisy airports and the like.

- Pulse specified step recovery diodes (5082-0202) by HP Associates were demonstrated in time-domain applications. At \$5.50 per in bulk, the SRD's attracted economy-minded digital design prospects.



Microwave's new transistor chip is inspected under microscope by customer. Neely's Ray Fenton was on hand. Chips will have big influence on solid-state microwave technology.

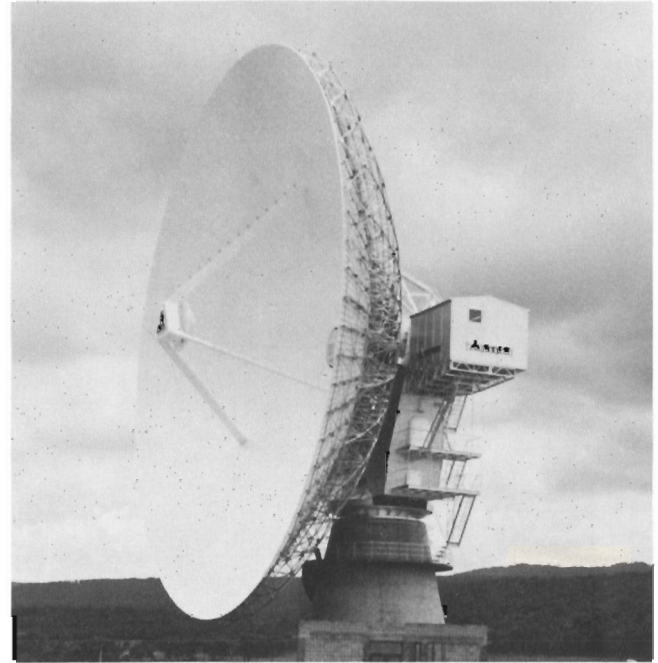
- From Colorado Springs came three new plug-ins — the 100 MHz 1802A, the 1820 and the 1822A — all adding significantly to the versatility of the 180A oscilloscope system. The Springs also showed its new x-y scope (1208A), the 143A scope with big 8" x 10" CRT and great versatility, and a positive version squarewave generator (221A).

- Analog-to-digital converter (5610A) from Waltham represents another versatile, low-cost computer-interface instrument, with particular application in the HP computer line. Also introduced by Waltham was its plotting or trend recorder (7825A) designed to display a record of up to four parameters over a long period of time.

Not all divisions had individual displays at the show, but several of those that didn't were represented in other division displays. The San Diego Division, for example, was represented by a variety of applications in other division displays which used its x-y and strip chart recorders. Palo Alto Division showed the 2114A computer, most powerful of the smaller computers offered today. Harrison power supplies were peripheral in several systems. All products contributed to an impressive showing that had significance for both the technical and marketing frontiers of the company's future. □

*The world's most modern microwave network
brings a new era in communications
to the land of the Aztecs —
right on time for the Olympics*

MEXICO 68 



Beamed at Intelsat communications satellite, this 105-foot diameter antenna near Mexico City will start next month's telecast of Olympic games across the Atlantic and become important link in Mexico's worldwide communications.



□ When the world videos in on the XIX Olympic games in Mexico City next month it will be witness to more than an international athletic event. It will be seeing a country come of age in one of the most important aspects of modern nationhood: communications.

The \$560-million communications complex has been rushed to almost 90 percent completion because of the Olympics. However, the project has long been a dream of the country's industrial and engineering leaders and particularly of the Ministry of Communications and Transport and its director general of telecommunications, Jorge Suárez Diaz. Its impact on the industrial ambitions of Mexico is expected to be tremendous.

Since it will also provide a new link between the north and south continents of America, tie in directly with worldwide satellite communications, and undoubtedly influence other Latin American countries regarding their telecommunications, here obviously is a development of extraordinary importance to the Western hemisphere.

In his offices within the giant Ministry building, Suárez Diaz described some of the major features of the project for MEASURE: A microwave network more than 8,000 miles long unifying the entire country and composed of 60 terminal stations and more than 220 repeating stations. The system, which is almost fully transistorized, will provide new facilities for telephone, telex, telegraph channels, as well as air and sea communications and navigation services. In addition, a 105-foot "big-dish" antenna has been installed at Tulancingo to lock onto an Intelsat communications satellite and provide communications with other ground stations in Europe, Africa, and Central and South America.

The country was not without long-distance communications prior to the new network. A call to a South American city, for example, could be made via radiotelephone, but circuit problems frequently would force the caller to route it through New York via cable — a very expensive alternative.

Although government and the radio and television concessionaires are expected to be its major customers, the

new system will provide major opportunities for business and industry, and for economic growth. The electronics industry in particular should be a beneficiary, and the hope is that the future requirements for spare parts and expansion of the system will foster the development of local industries to service these needs.

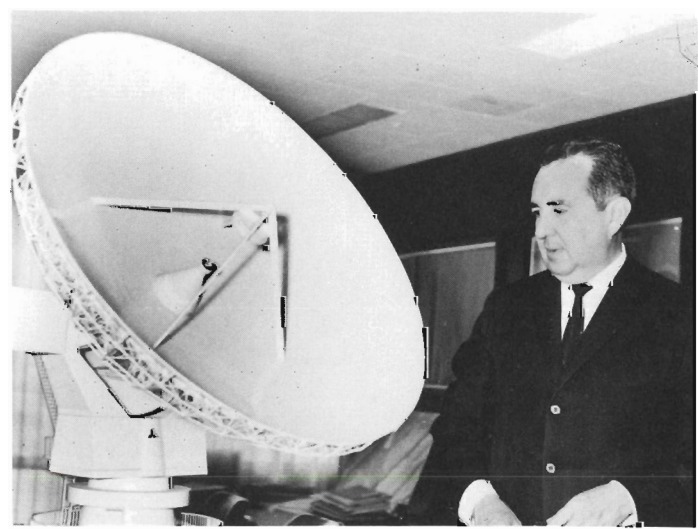
Hewlett-Packard products are being used extensively throughout the telecommunications network. A multi-division order in excess of \$400,000 was placed by the Ministry last November — by far the largest handled by Vicente García Aracil and his staff at the Mexico City offices of HP Mexicana. Vicente, a former engineering officer in the Spanish navy, a Stanford graduate and professor of electronics in Mexico who joined Hewlett-Packard in 1966, is very hopeful regarding the economic development of Mexico and prospects for sales growth.

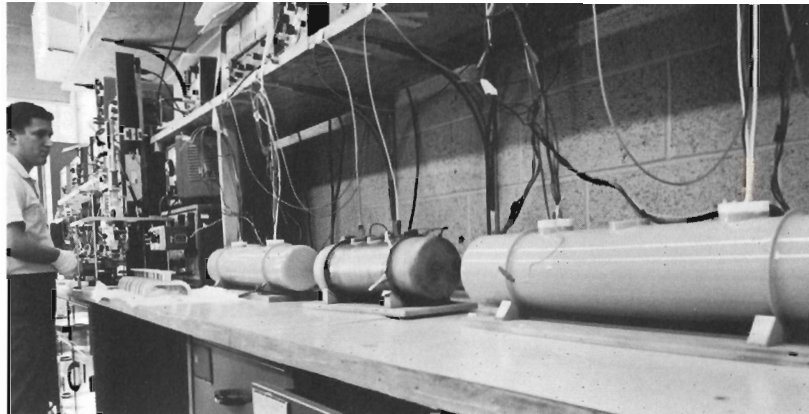
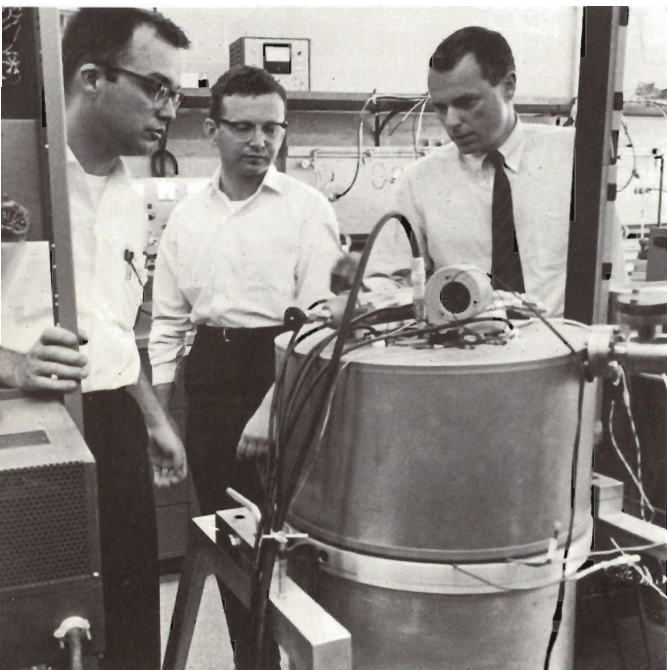
"More and more decisions here are being made by professionally trained men," he said. "These are men who understand the importance of technical excellence. They also have imagination, and they are very dedicated to their country's future."

The years of dedicated planning required for the national telecommunications system, for example, included not only the drawing-board work but also a worldwide effort to obtain financing for the project. The result is an ingenious and providential system by which a score of companies from around the world contracted for individual segments of the network. The companies are financing most of their own work and will start receiving payment for it two years after their equipment is operational. By then revenues should cover the cost of payments. And meanwhile a good number of the firms — all major telecommunications manufacturing or contracting organizations — have announced plans to locate service and production facilities in Mexico and to hire and train Mexicans to staff them.

Meanwhile, too, the system will have its first official workout next month — right alongside some other champions. □

Jorge Suárez Diaz, Mexico's director general of telecommunications, foresees great economic and cultural benefits resulting from \$560-million communications network. Electronics industry already is expanding rapidly to service the network.

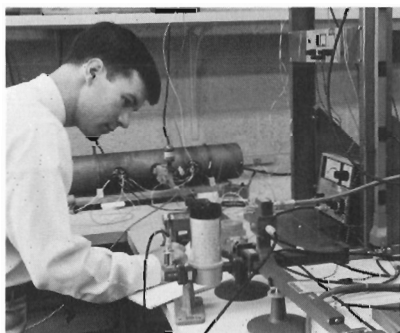




Experimental hydrogen maser, forerunner of units that soon will be orbited in Einstein theory test, is checked in lab by research team. From left are Lou Mueller, physicist, Martin Levine, who is responsible for electronic development, and Bob Vessot, manager of hydrogen maser program. Price of a similar unit for ground station use is approximately \$55,000. One major application is long base line interferometry by astronomers.

Final testing of cesium beam tubes is conducted by Arnold De Felice in production facilities supervised by Paul Rogers. Tubes then are shipped to Palo Alto to become major components of HP's cesium beam standards. Quality has been improved to 40,000 hours of failure-free operation.

Gary Seavey, a member of the beam tube research group, records test of thallium beam tube. Project is run by Dick Lacey, one of a half-dozen physicists who help make F&T East unique in scientific capabilities. Thallium tube, seen against wall to Seavey's left, so far has proved highly successful in lab trials.



Managers of F&T East gather to discuss important proposal. Clockwise from left: Randy Cornes, contracts; Bob Kern, cesium tube engineering/manufacturing; Len Cutler, manager; Joe Holloway, beam tube research; Abe Bromberg, business; Bob Vessot, hydrogen maser research; and Hans Van Heyst, technical services.

Time is

□ Contrary to rumor, when three new HP hydrogen maser clocks are rocketed into stationary orbit 22,300 miles above the equator sometime in 1972, John Cameron Swayze will not go along. The NASA operation, known as the "Red Shift" project, is intended to test Einstein's general theory of relativity as well as the feasibility of a satellite tracking system. If the orbiting atomic clocks run faster in comparison to hydrogen masers stationed on earth, then, as Einstein predicted, it will provide long-sought confirmation of the theory.

Red Shift will also reconfirm HP's preeminence in the field of time standards. In fact, the hydrogen clocks represent the ultimate in scientific time keeping. As yet, no one has come up with a need for anything more stable and precise—hydrogen atoms interacting at 1.42 billion cycles per second with the maser's radio frequency field. But when and if someone does need a better standard, the chances are very high they will come to the HP group known as F&T East, the same team responsible for the hydrogen maser clock.

In spite of this standing, it's unlikely that many people outside of the frequency standards field have heard of F&T East. Its main product lines of beam tubes actually are components—though major ones—in other instruments, principally HP's own cesium standards. Nor is it a large organization—some 40 people working in leased facilities situated in the rolling, wooded countryside of Beverly, Massachusetts.

For the record, F&T East became a part of the Hewlett-Packard organization nearly two years ago. Purchased from Varian Associates, it had operated as a part of Varian's



Distilled cesium is removed in flask by Allan Gerrard. Problem is to maintain highly reactive cesium in total vacuum at all steps of manufacture. A small ampule eventually will be inserted inside beam tube. A unique motion within the cesium atom is basis for use as ultra-precise time standard.



To meet own exacting requirements, F&T East developed and manufactures own electron multiplier. Clean-room assembly is handled by Rita Dunbar at microscope, and Gwen Rafferty. Other beam tube manufacturing operations at the Beverly plant include brazing, welding, vacuum processing.



Plans for new cesium beam tube that may be used in aircraft collision avoidance system are drawn by Harvie Phillips, draftsman. Technical services work also includes mechanical engineering design, experimental machine shop.



Only library in the world with its own hydrogen maser! Librarian Louise Gingrande doesn't mind the fellows parking their exotic product temporarily in her room — just so long as it keeps quiet.

of the essence

Bomac Laboratories since 1960. A strong relationship was established with HP in 1963 when the quantum electronics lab began development and manufacture of a 16-inch cesium beam tube under a contract with F&T Division. As time passed and the cesium standard business grew, acquisition became logical.

What HP got, in addition to hardware and patents, was a top-notch team of scientists plus a roster of engineering and technical people whose skills represent a unique amalgam of physics and electronics.

Caliber of the scientific talent at F&T East is indicated by the presence of four Ph.D.'s in quantum physics and one in electrical engineering, together with others having advanced qualifications in various science and engineering specialties. The principal areas employing these skills include beam tube research under Joe Holloway, hydrogen maser research under Bob Vessot, and cesium tube engineering-manufacturing under Bob Kern. The full organization, including technical services supervised by Hans Van Heyst, business by Abe Bromberg, and contracts by Randy Cornes, is operated as an entity within F&T Division, under the management of Len Cutler, himself a physicist who came to Beverly from Hewlett-Packard in Palo Alto at the time of acquisition.

In addition to the established beam tubes and the hydrogen masers, the team is developing other products that could result in significant contributions. One potentially important item is a small cesium beam tube. Work is also progressing on higher performance tubes, including a thallium beam tube which already has yielded excellent test

results, and a four-foot cesium beam tube which will become part of one of the U. S. Bureau of Standard's most accurate time standards.

The need for such ultra-precision devices is increasingly evident not only in the work of scientists, such as those conducting Red Shift and various radio astronomy programs, but also in some of the more sophisticated workings of the daily world.

A proposed aircraft collision avoidance system, for example, would employ small atomic clocks to provide the precision necessary to help measure the distance and relative velocities of aircraft, including SST types, closing on each other at rates up to several thousand miles an hour. Similarly, satellite communications and tracking operations have increasing need for precision clocks that will remain absolutely synchronous over long periods of time. At the tremendous speeds and distances that will be involved, any slight drift in time keeping could be disastrous.

These are among the present concerns of F&T East. One of its significant contributions has been to help establish HP's position as the only producer able to offer a choice between cesium, rubidium and hydrogen devices (and with thallium possibly in the future). As a result, the F&T East team has gained a unique ability to counsel customers impartially. At the same time, it is looking both inside and beyond the HP organization for new ways to diversify its efforts and utilize its talented people.

Based on past performance, that should be just a matter of time. □



**there are many reasons
for advancing your education —
and a number of ways your company
can help you . . .**

It used to be that once they had handed you your diploma your classroom days were pretty well over — a neat package never to be opened except for reunions or alumni meetings.

Now, along with the little red schoolhouse, all of that has changed. Huge numbers of high school and college graduates today extend their learning years far into the future. Their reasons for doing so are clear — to keep up with the knowledge explosion, and to prepare for the opportunities opened by technology's rapid growth.

Hewlett-Packard does more than just encourage its people in this direction. The company actively conducts or financially supports a broad variety of training and educational programs.

Over the years such programs have contributed significantly to the ability of employees in taking on new responsibilities and bringing in a continuing flow of fresh ideas that have been applied creatively in many areas of technical and business operations. At the same time, quite a few changes and refinements have been added to the programs themselves, with the result that many employees are unaware of many of the opportunities that exist today for in-plant instruction, on-the-job training, and educational assistance. Among the questions most frequently asked by employees are the following:



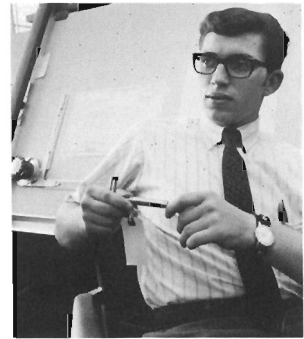
"I'll go to school the rest of my life — you're never too old to learn." That's how Carol Cozart, Palo Alto Division photographer, feels about education. Her company-supported photographic studies have contributed directly to her work.



"After a lot of soul searching I decided to work for a business degree," said Roger Santos of Mountain View Division. Roger is aiming for an AA degree next year, a bachelor's later. He joined HP in 1964, is married and father of two.



A special course in administration was one way Mollie Dosch, now an F&T secretary, qualified herself for personnel work. Cost of studies at accredited colleges can be reimbursed by company provided the courses are job-related or required for degree.



Professional growth through studies leading to advanced degrees in mechanical engineering is the goal of Charles Yoerkie, Waltham engineer. Time off is part of his program because required courses are given only during work hours.

What does HP mean by educational assistance?

If you take an approved course of study you can apply for reimbursement for all or part of the cost of tuition and materials.

Am I eligible?

Every educational program, including tuition refund, apprenticeship training, or in-plant instruction, is open to full-time employees. Applications should be made through your supervisor or personnel department.

What are the particular requirements for the refund program?

A course of study must be related to your present job or be clearly useful to you and the company in the future. The only exception is where courses in themselves are not work related but are required for a degree that is related.

Can I be refunded for courses I took last year?

It's recognized that many people are not aware of the educational assistance program. Refunds can be authorized retroactively in such cases. However, the personnel department strongly urges that application be made prior to registration—preferably two or more weeks ahead.

What qualifies me for a refund?

By achieving a grade of C or better in your course. Send a copy of the course completion certificate, plus any receipts, to the personnel department. A refund check will be sent to you.

Are my materials and books covered?

Costs for required books and materials are refundable. However, such items as books on approved or recommended reading lists that are available at libraries and other sources are not covered.

Can I get a refund for educational expenses other than courses and books—such as baby sitting and transportation?

Sorry. Next question, please.

As a veteran can I receive a company refund for courses paid for under federal or state veterans' programs?

No.

What kinds of colleges are approved?

As a rule, a course must be for credit and be offered by an institution accredited by a national or regional collegiate accreditation board. This year the company has added junior colleges to its approved list. If you have a particular college or course in mind, your personnel department can quickly check it out for you. Generally, commercial correspondence courses and non-tuition studies, such as adult education courses, are not eligible for reimbursement because they usually do not yield course credit.

How do I register for a college course?

The personnel training department can provide regis-

tration application forms for many courses. Or you can go directly to the college registrar.

If courses are given only during working hours, will the company allow me to attend?

This usually applies to individuals who must take required courses to complete a degree. Approval is up to your department head, who has to determine whether attendance will interfere seriously with your job.

What about special short courses?

Yes, there are a number of short courses and seminars available. Quality can vary widely, but it will be up to your supervisor or department head to satisfy himself on that point.

Under what circumstances will the company offer a course?

Every effort is made not to duplicate courses available outside, but quite a few are offered that relate specifically to HP's internal needs. These include various employee development courses for all employees, as well as specially tailored sessions for instructors and supervisors. Secretaries and administrative people can also find courses directly relating to their needs—letter writing, dictating, transcribing, type-writing techniques, and telephone procedures. Courses in technical troubleshooting are also available for electronic technicians. And let's not forget elementary electronics for non-technical employees.

What apprenticeship programs are available?

Electronic technician and machinist apprenticeship programs are increasingly important at HP. Each year in the Palo Alto area, for example, the company reviews more than a hundred applicants seeking approximately 50 openings. Both types of apprenticeship involve four years of on-the-job training plus evening studies in related subjects. The apprentices get full refund of their college costs—generally at a junior college—and of course they receive full pay for their on-the-job hours during the four-year period.

Is educational counseling available?

Yes. Counseling—particularly as it relates to your present job or job goals—is available on a limited basis at the personnel department. The department maintains a complete file of locally available college courses.

Suppose I just want to go to college but don't have a particular goal in mind at this time?

This is certainly encouraged, but such self development is basically the responsibility of the individual.

Whatever approach you take—company-assisted programs or self-development activities or both—you won't find yourself alone. Literally hundreds of your co-workers will move with you through registration lines, into lecture halls and out of examination rooms around the world. They, too, are motivated either by very practical career considerations or a desire for lifelong learning. Either way, you're in good company.



How's your productivity?

□ If you had worked in an old-time salt mine, any suggestion that productivity was to be increased could mean only that you were going to have to swing that pick harder or faster—or both.

There's no denying that extra effort is still often the answer to needed increases in output, and that a full day's work for a full day's pay is still basic to industry. Still, there are a number of other options available today that you can be sure never crossed the minds of salt mine managers.

There is, for example, the option of working smarter—rather than harder. Most modern managers, in fact, would much rather have their people take this route. They are interested in results—not self-sacrifice.

Likewise, the experienced manager much prefers not to have to set a quota on production. He knows that many people will tend to work right up to that quota and no further. On the other hand, he knows that the same people will respond to a challenge that is properly presented and not imposed, and will exceed his normal expectations. That spirit was much in evidence in the past year in the company-wide effort to restore rates of growth.

The “work smarter” approach, for example, was put to good use in the various methods improvement programs conducted around the company. Colorado Springs Division, for one, maintained a very active program.

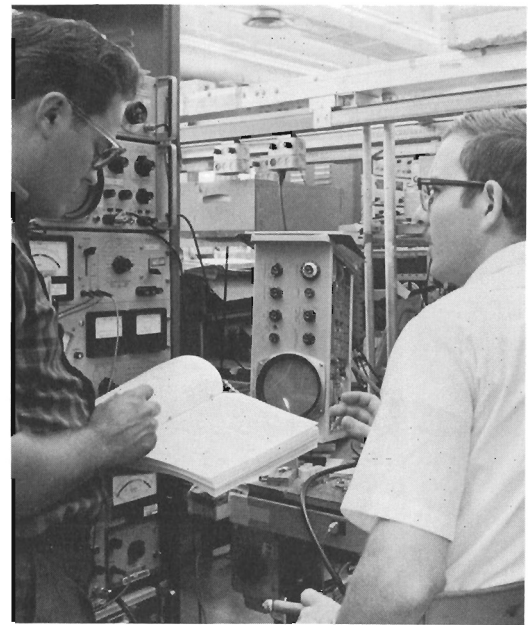
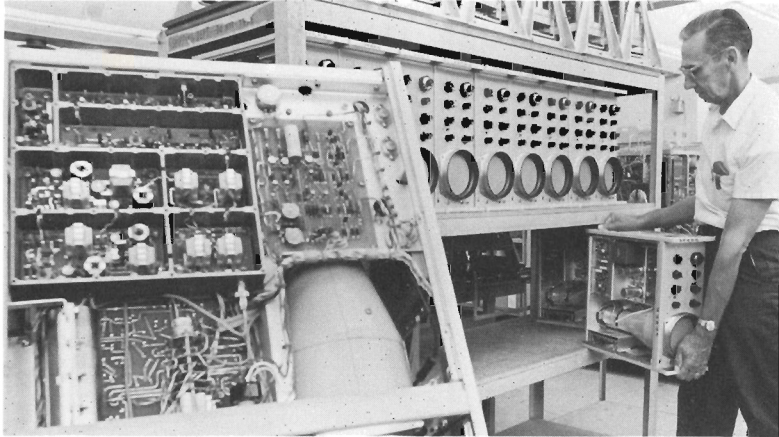
As a result of its efforts over the past several years, the Springs is able to record that almost 70 percent of employees

have taken the short course given on methods improvement. Just about all of the supervisors, too, have put themselves through the longer course devoted to such topics as process analysis, workload balancing, and the principles of motion economy. The objective, of course, is to encourage people to think about ways and means of improving work methods and to communicate their ideas.

The Springs has appointed a methods improvement coordinator to see to it that such ideas are evaluated and, where feasible, implemented. Hap Steiner is the man in question, and is considered something of a da Vinci when it comes to methods know-how. Demand by supervisors and line workers for his services has turned what started as a part-time assignment into a full-time program for the past six months.

Often the solution to a work methods problem will take the form of a relatively simple device, or a change in procedure—generally a simplification. If there seems to be no ready or practical way of implementing an idea, Hap will review this carefully with the person concerned or will bring in someone from the lab or engineering department qualified to give complete technical reasons. A general rule is that any equipment or tool installed must be easy and inexpensive to build and must pay for itself in a short time. However, exceptions are made where matters of safety and morale are involved. According to Dick Ouellette, personnel training director responsible for the Colorado Springs program, it is

Small, simple device to be used by Linda Garnhart in high-frequency production area at Colorado Springs plant is installed by Hap Steiner. As methods improvement coordinator, Hap is called on to help people implement work simplification ideas.



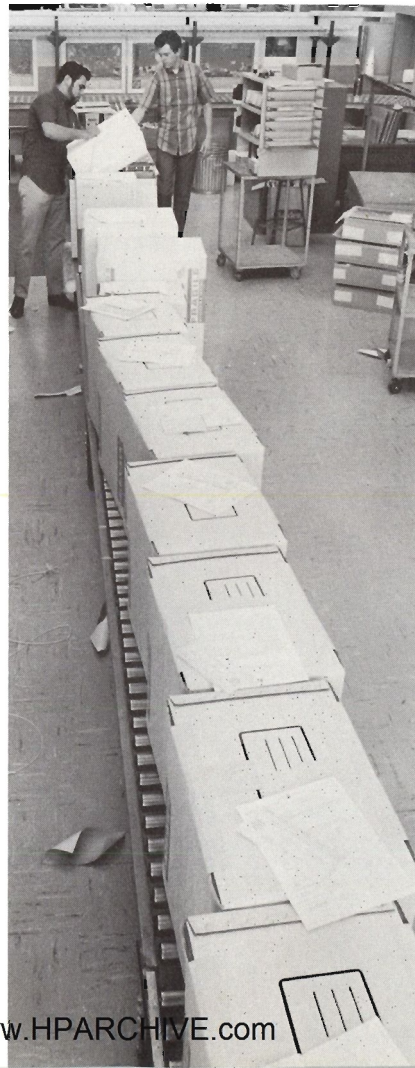
Responding to a customer's urgent need for spectrum analyzers, Microwave employees stepped up productivity dramatically. Pete Kroeker, left, assembly line leader, loads units. At right, Kent Croft and Rod Ralston check test results. Testing is more critical than ever at such times. Ability to respond flexibly to customer needs is a basic objective in HP manufacturing organizations.

not unusual to get a 50 percent improvement by changes resulting from such cooperative efforts. The essential ingredient, as Ray Wilbur, vice president-personnel, has said is a free and easy exchange of ideas.

The emphasis on the individual's role in achieving productivity gains that has become traditional in the company was illustrated dramatically a few months back by the response Microwave employees made to a rush order for 51 spectrum analyzers by the Air Force. According to Glenn Rathbun, in-plant scheduling coordinator, when the assembly and testing lines became aware of the urgent need for the instruments they responded with a surge in productivity that went well beyond what any supervisor would have asked. In fact, they beat the deadline for the order by two whole months.

Actually, such flexible response is not an uncommon experience in the HP manufacturing divisions. Ever since the company was founded some 30 years ago there have been deadlines and monthly rushes to meet shipping commitments. Meeting them was made possible because people have been respected as individuals and in turn have learned to accept individual responsibility for the performance of work.

That, flexibility, of course, has had much to do with the company's success — and with the opportunities for personal growth, profitability and sharing of profits made possible by that success. □



The real measure of productivity is how many completed, tested products can be shipped in a given time. Here, network analyzers are readied for delivery to Air Force by Larry Marconi and Mike Riney. Production engineers say that working smarter — avoiding errors and waste of time and motion — is the key to productivity.

News in brief

Palo Alto—For the nine-month period ended July 31 the company reported sales totaling \$196,114,000, compared with \$180,174,000 for the first nine months of fiscal 1967. Net earnings amounted to \$14,529,000, equal to \$1.16 a share on 12,546,101 shares of common stock outstanding. This compares with earnings of \$15,354,000, equal to \$1.24 a share on 12,405,945 shares, during the corresponding period last year. Provision was made in the 1968 figures for the recently enacted income-tax surcharge, amounting to \$948,000, or 8 cents a share. Sales for the third quarter totaled \$68.6 million, a gain of 12% over last year's third quarter, orders rose 20% to set a new quarterly record of \$76,153,000, and earnings amounted to \$5,626,000 compared to \$5,430,000 for the 1967 period.

San Diego—The San Diego (formerly Moseley) Division moved into its new plant over the Labor Day weekend. The new plant is a 30,000 square-foot leased building at 16870 West Bernardo Drive in the Rancho Bernardo Industrial Park, located north of San Diego near Highway 395. Initially, about 100 of the division's administrative, engineering, marketing and strip-chart-recorder production personnel will occupy the building. The division will continue to employ more than 300 people in the production of x-y recorders at the Pasadena plant, former division headquarters. The Pasadena site, however, did not lend itself to the expansion dictated by steadily increasing demand for the division's recorders. The San Diego facility is the company's 15th U.S. manufacturing plant.

Paris—Hewlett-Packard France employees have moved into their newly completed headquarters near Paris. The building is a 22,700-square-foot, two-story facility on a 1.7-acre site near Orsay, 15 miles southwest of Paris. It contains administrative and sales offices, service and repair facilities, display and meeting rooms.

Manila—Electromex, Inc., has been appointed as the first distributor of HP's electronics and analyt-

ical product lines in the Philippines. Electromex is headquartered in Makati, a Manila suburb. HP medical instrumentation is distributed in the Philippines by International Industrial Investment, Manila.

Palo Alto—HP payroll administrators advise that employees anticipating 1968 incomes in excess of \$10,000 may be liable for a sizable extra tax bite next April. In the case of employees claiming family deductions, the bite is that retroactive portion of the new surcharge on federal income taxes—from April 1 to July 15—not handled through payroll withholding. Employees in this group can increase the withholding rate to compensate for this by applying at the local payroll office for reduced exemption. For those employees who have elected withholding by requesting a percentage deduction, no adjustments have been made as a result of the surcharge, and individual requests will be necessary.

Bandung, Indonesia—Bah Bolon Trading Coy., N.V., of Bandung, Indonesia, has been appointed distributor for Hewlett-Packard products in Indonesia. Bah Bolon will market HP's electronic, medical,

analytical and data handling instruments.

Santa Clara—Construction progress at the company's major new manufacturing facility in Santa Clara is now highly visible. Three large buildings totaling 300,000 square feet are being erected initially and are scheduled for occupancy next spring and summer.

Milan—Company products were exhibited in the United States Trade Center during the Electronic/Electrical Characteristics Measuring and Test Equipment Exhibition held Sept. 1-8.

Palo Alto—Functions of the Corporate Standards Group are being decentralized. Members of the group are being assigned to the appropriate manufacturing divisions which will have responsibility for the standards they use in calibrating R&D and manufacturing instruments. Phil Hand, who directed the corporate group for the past 11 years, has been reassigned to Microwave Division along with Howard King, Bill Kresse, Les Vickery, Bev Thornton and Brent Palmer; Paul Hubbs will transfer to Loveland, and Jim Marshall has joined the F&T measurement standards lab.

People on the move

Corporate—Don Lutz, to staff publications, Customer Service Center, from product training, corporate Marketing; Chuck Reichel, to corporate accounting services, from accounts payable, Microwave; Bob Van Gilse, to draftsman, Physical Electronics Lab, HP Labs, from same position, Paeco.

F&T—Bill Stonas, to tool engineering, from shop services, Microwave.

Harrison—Chris Franks, to service manager, from QA manager, Rockaway.

HP Systems—Steve Shank, to R&D staff, from production engineering, Microwave.

Microwave—Jeff Ainscow, to R&D from tool engineering staff; Elwood Barlow, to production engineering, from R&D staff; Pat Bohn, to materials engineering, from R&D staff, F&T; Dave Davis, to inventory control, from inventory information, Customer Service Center; Larry Drysdale, to packaging engineering, from material management, F&T; Frank Lopes, to

manufacturing specifications, from plant engineering, building services; Larry Nagel, to R&D staff, from corporate process engineering; Blake Peterson, to marketing staff, from publications manager, HP GmbH.

Mountain View—Eldon Newton, to manufacturing supervisor, from production engineer.

Rockaway—Charles Fortune, to cost accountant, from IBM room; Andy Sweeney, to manufacturing engineer, from production engineering assistant.

Eastern—Joe Gill, to field engineer, from staff engineer, Roslyn; Erik Lessing, to staff engineer/electronics, from promotion and training, Loveland.

Midwest—Bill Poindexter, to service technician (Dayton), from same position, Eastern Sales-Syracuse.

Loveland—Al Hockley, to personnel staff, from corporate personnel staff.

San Diego—Pete Grady, to finance manager, from Palo Alto accounting manager.



from the chairman's desk

As indicated by our third-quarter financial figures, we are making good progress in strengthening and improving our operations, particularly in controlling costs and getting our profit margins up toward more satisfactory levels.

In the latter half of fiscal 1967 we began to fall short of our shipment targets and to allow some of our costs to get out of line. This trend continued during the first quarter of 1968 and as a result, our first quarter profits were considerably below target.

In the second quarter, however, our performance showed marked improvement and it's gratifying to note that this improvement has continued through the third quarter. Incoming orders totaled a record \$76 million, up nearly \$10 million over any previous quarter. Shipments of \$69 million were at a reasonably good level, up 12 percent over the corresponding period a year ago.

Most important was the fact that we were able to achieve an after-tax profit margin of 8.2 percent on sales. This reflects, in large part, a continuing effort by all divisions and departments to reduce costs and improve efficiency.

Certain groups did particularly well in keeping third quarter costs below their targeted levels. Research and development costs, for example, were \$800,000 below target. Production, factory-level marketing and corporate overhead costs also were well below.

Our big job now is to maintain our momentum and finish out the current fiscal year on October 31 as strong and as profitably as we can. For the nine-month period our net earnings were running 5 percent behind a year ago. I am confident, however, that if we can hold the line on costs and meet our shipment targets, we can match last year's earnings, even with the tax surcharge that is being imposed this year.

Looking further down the road, our operating divisions and sales groups are now developing targets and budgets for the year ahead. This is a highly important job and one that must be done well if we are to develop useful plans and allocate our resources effectively.

Targeting is especially difficult this year because of the many uncertainties confronting us — the situation in Vietnam, shifts in government spending, inflationary pressures, and other factors over which we have little control. I am hopeful, however, that we can develop realistic targets that will enable us to steer a positive course toward greater growth and profitability in 1969.

David Packard

Can you afford not to give?

That's really the question you should ask yourself at this time of the year — United Fund time in most parts of the country. After all, you do have an investment to protect: kids in your community who did not “trip” out with drugs or stolen autos — because they were deeply involved in Fund-supported activities; neighbors who did not bust up their household in a divorce court, because of help from a Fund-financed family service; old-timers who did not give up living, because they found companionship in a Funded community center; disturbed minds that did not give way to violence, because your United Fund put psychiatric service within reach; and youths who did not drop out, because, early in life, they were given needed care by one of the many children's agencies aided by your contributions.

In 1968 they need your help more than ever.



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