

October 1963



Measure

In this issue

Yokogawa and HP Join Hands

Fireworks in the High Sierra



from our president's desk

ONE OF THE MOST PROMISING areas for the future development of our business is in the international field. Although there is a large and growing need within the United States for the type of equipment we make, the international market has a greater long-range potential and is growing more rapidly. As an indication of this growth, our sales to foreign customers have increased substantially in the past few years and now represent about 18 percent of our total business.

As you know, we have been expanding both our sales and manufacturing activities in Europe and look forward to continued development of this important market. While the European countries account for the bulk of our international sales, there are other areas which offer vast opportunities for future growth.

I have just returned from a trip to Tokyo where we officially launched our new joint venture, Yokogawa-Hewlett-Packard, Ltd., on September 23. I spent several days meeting with the officers and directors of the Yokogawa Electric Works, our partner in this venture, and had an opportunity to visit their laboratories and factories.

YEW, as the company is known in abbreviated form, was established nearly a half-century ago. Down through the years it has earned an excellent reputation for the quality of its instruments, not only in Japan but throughout the world.

The new joint venture company will manufacture most of

the electronic type instruments formerly produced by YEW. In addition, it will manufacture many HP instruments and will handle the sale of all HP family products in Japan. This, of course, will mean that some of our products which were formerly made in the United States and sold in Japan will now be made in Japan instead. We will not make all of our instruments there by any means, and it is quite likely that our exports from here to Japan will continue to grow because of our stronger position in the Japanese market.

But there is one very important characteristic of international trade: It must be a two-way street. Japan cannot buy from us unless we buy from Japan. Because of this, we expect to sell some of the Japanese-made products here in the United States, and to buy some components and materials from the Japanese as well. In other words, we expect this new partnership to benefit our company in two important ways. First, it will enable us to achieve a substantial increase in the sale of HP instruments in Japan; some will be made there, some will be made here. Second, it will enable us to add some Japanese-designed and manufactured products to our line of instruments, thereby adding a significant increment to our world-wide business.

I am confident the establishment of Yokogawa-Hewlett-Packard, Ltd., will be an important milestone in our growth and progress, and will expand our opportunities not only in key international markets, but here at home as well.

David Packard



YOKOGAWA and HP join hands

THE OFFICIAL FOUNDING of Yokogawa-Hewlett-Packard, Ltd., on September 20 in Tokyo stands as a singularly important milestone in the growth of the electronics industry in Japan.

The new enterprise, formed by Yokogawa Electric Works, Ltd. (YEW), and Hewlett-Packard Company, brings together two of the most respected names in the field of electronic measuring instruments. Although many other advantages can be enumerated, the agreement provides each principal company with rich new sources of technological intelligence and broader markets.

Manufacturing of such products as oscilloscopes, counters, oscillators, and microwave test equipment will soon begin in a leased portion of YEW's large works in the world's biggest city. By October, 1964, a new plant will be completed in Hachioji-shi, a Tokyo suburb.

Yokogawa-Hewlett-Packard, Ltd., will have its own direct sales organization staffed by members of YEW's present sales force, and by people who will transfer from Seki & Co., HP's sales representative in Japan for the past 14 years.

MEASURE's cover shows part of Yokogawa Electric Works with magnificent Fujiyama in the background. The following pages give a closer view of HP's new partner in Japan.

Firm handclasp seals agreement between Yokogawa Electric Works (YEW) and HP to form new enterprise in Japan. From left: YEW president Iwao Yamasaki, HP president Dave Packard, and Shozo Yokogawa, president of newly created Yokogawa-Hewlett-Packard, Ltd. Banner in background spells out name of joint venture.



Rapt expression on face of YEW technician symbolizes great interest and competence Japanese have acquired in field of electronics.

手を結んだ
横河とエッチピー



The Japanese sensitivity toward beauty in architecture is revealed by this view toward the entrance of YEW's main office.

YEW'S FIRST HALF-CENTURY



Research laboratory, now housed in modern new building, has been responsible for creation of over 300 new products since World War II. Staff members shown here are with research and testing instruments department, one of five major R&D departments.

YOKOGAWA ELECTRIC WORKS' brand new R&D building in Tokyo, with its strikingly angular, contemporary lines, stands as a kind of monument to the modern, creative thinking which has placed the company in the forefront of Japan's electrical and electronics industry.

However, this look of newness is deceiving. By American standards, YEW is a mature company due to celebrate its fiftieth birthday in September 1965. In spite of its years, the only "middle-aged spread" to be detected is in the firm's wide range of products, and in its steady growth through the years.

The 3,000 people who make up Yokogawa Electric Works manufacture literally hundreds of products, including laboratory standards instruments, chart recorders, voltmeters, cycle counters, synchroscopes, instrument transformers, DC galvanometers, circuit testers, Q-meters, oscillographs, amplifiers, and attenuators, to name just a few. On a percentage basis, industrial instruments represent about 70 percent of YEW's annual \$30 million sales volume. Electrical indicating instruments account for another 16 percent and precision measuring instruments comprise the remaining 14 percent. The statement that Yokogawa is recognized as first in these three categories is supported by the fact that the company's instrument production amounts to approximately 25 percent of Japan's total output.

YEW's great complex of buildings is located on a parklike 90-acre site in Musashino-shi, a western suburb of Tokyo. The company's earliest beginning was in 1915 when a laboratory was established for electrical instrument research and production. The name, Yokogawa Electric Works, Ltd., became official in 1920. Since 1957, a sales office has operated in New York City. In Japan, sales and service branch offices are located in Nagoyo, Osaka, Kokura, Niigata, Hiroshima, and Kawasaki.

... a reputation for excellence, a big share of the Japanese market



Production areas, such as electrical indicating instrument assembly line, are remarkably clean and orderly.

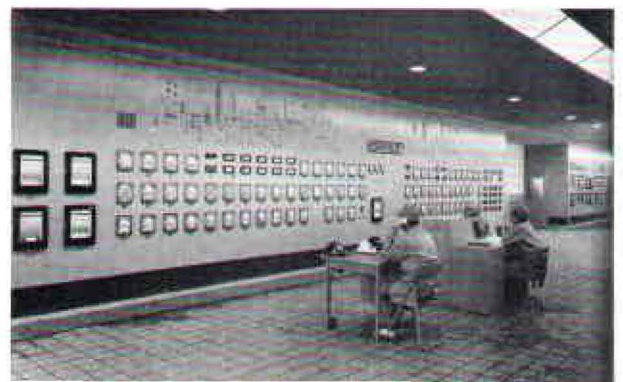


All departments use latest tools and equipment. Here, statistical work is handled by IBM computer.



Students at technical high school become familiar with YEW instruments donated by company for teaching purposes.

YEW electrical and electronic products are used by virtually all major industries and are sold throughout Asia, Australia, Europe, and in many countries of North and South America. Shown is an automatic control panel equipped with YEW products at a large oil refinery.



YEW'S ATTRACTIVE, INTERESTING PEOPLE

THE STORY of Yokogawa Electric Works begins and ends with people. The company's growth through the years to its currently pre-eminent position has been the result of wise direction from a management faced at one time or another with national economic depression, stiff competition from other manufacturers, and, of course, the terrible effects of World War II.

This fine managerial leadership, plus the determination and amazing skills of YEW employees, has enabled the company not only to survive, but also to gain in strength. In the past five years, for instance, annual sales and profits have risen more than 100 percent.

The people of Yokogawa are rightly proud of the products they design and manufacture. They are proud of the modern methods and tools they employ. And they are proud of their Japanese culture which, to Americans, is filled with beauty and fascination.



Employees pass company recreational facilities (right) on leaving plant at end of day.



Employee clubhouse provides numerous diversions at noon and after hours. Here Kyudo is practiced, one of Japan's most traditional sports.

Kendo, an ancient method of fencing, is performed by employees at clubhouse.



Japanese have long been famed for their skill in flower arranging. Interest in the art brings YEW women together after hours.



MORE THAN 400 PEOPLE, including many Japanese industrial leaders, gathered at Tokyo's Hotel Okura on September 23 to help YEW and HP officials celebrate the incorporation of Yokogawa-Hewlett-Packard, Ltd.

Among those attending the impressive ceremony were, left to right: Miyaji Tomota, YEW executive vice president; Bill Doolittle, HP vice president; Mrs. Yamasaki; Iwao Yamasaki, YEW president; Tokisuke Yokogawa, YEW board chairman; Mrs. Tokisuke Yokogawa; Dave Packard, HP president; Mrs. Packard; Shozo Yokogawa, president of Yokogawa-Hewlett-Packard, Ltd.; and Mrs. Shozo Yokogawa.

Directors of the new company are Dr. Tomota, Shozo Yokogawa, Bill Hewlett, and Bill Doolittle. Mr. Hewlett, HP's executive vice president, was unable to attend the Tokyo ceremonies.

Talk About Split-Second Timing!

IF THERE WERE A LORAN "C" station handy in Palo Alto, the clocks of HP's Loveland, Colorado, plant could be synchronized to within 0.1 microsecond of those at the Stanford plant.

Hewlett-Packard, in cooperation with the U.S. Naval Observatory and the Navy's Bureau of Ships, demonstrated this new long-range clock synchronization technique at the Naval Observatory booth during the Military Electronics Convention in Washington, D.C., last month. Horman Associates, HP's sales affiliates in the Washington area, was instrumental in arranging the demonstration.

HP's 310A wave analyzer was used to receive the LORAN "C" 100 kc signal. An HP 115CR frequency divider and

clock generated a time reference signal, which was fed to an HP 5245 electronic counter. A time interval measurement between the two signals proved to be accurate to 0.1 microsecond. It's all possible because the first few cycles of a received LORAN "C" signal contain only the ground wave and therefore have an accurately predictable transmission time. Using this new system, clocks at remote stations 1,200 to 1,700 miles from the LORAN "C" station can now be synchronized automatically.

Prior to LORAN "C", clocks at remote stations used WWV (National Bureau of Standards time signal) for comparison and synchronization. This method is only accurate to 500 microseconds (which wouldn't make you too late for dinner).

Coffee, Tea, or Milk?

TAKING THE TRAVAIL OUT OF TRAVEL



Emmy Lou Campagne makes trip planning look easy and practices what she preaches. She's flown over 25,000 miles, including one trip to Europe.

Finance Men Meet in Palo Alto

THE FINANCIAL ACTIVITIES of HP and its several affiliates in the U.S. and Canada were thoroughly discussed during a busy six-day seminar held in late August in Palo Alto.

Of the 40 in attendance, all manufacturing units were represented along with accounting people from most of the sales divisions and affiliates. The seminar—convening for the third consecutive year—was headed by Wayne Briggson. Ed van Bronkhorst, vice president and treasurer, gave an opening talk, and during the following days various department heads led discussions on such subjects as accounting policies, inventory control, order processing, pricing, taxes, and auditing.

Briggson comments that one of the most significant trends, as borne out in the meeting, is toward greater consistency in accounting and financial reporting among all segments of the company.

SO YOU'RE BEING PROMOTED to a new job in Europe—and everything is just great—only you don't know how to take your pet poodle with you.

Or you have a special instrument to demonstrate at a meeting cross-country and you must transport it personally—plugged into an electrical outlet all the way.

In other words, you've got a problem; but to Emmy Lou Campagne, who steers the HP reservations desk at Palo Alto, it's just another chance to eliminate worry for the weary traveler.

Miss Campagne sums up her job, which would seem to have more than its share of complications, in a single simple statement: "I try to get people where they want to go, when they want to go."

With her, getting a pet transferred in good health along with a family is strictly routine. "I just make the same arrangements as for the people," she says. "Well, maybe it's a little different, since the pet has to be crated and rides in the baggage compartment."

As for shipping an instrument under electric power, that's somewhat on the unusual side. But no more so than the time she arranged a trip for an engineer who planned to carry an instrument with a magnetic tube which could possibly affect the gyro system of the plane. In that case the aircraft's navigational system had to be specially adjusted—causing a slight delay in takeoff and a few grumbles, but a strong tailwind put everyone back on schedule.

Emmy Lou has no doubt that HP people at the Stanford plant get around—and fast. She makes out tickets yearly for about 200 business travelers whose combined trips stretch out a half million miles. Practically all of this travel is by air, with an occasional train reservation thrown in. During her five years on the job, she's only been asked to make two ship reservations.

Although ticketing travelers is her main responsibility, she also arranges 600 hotel reservations annually and rents about 1,100 automobiles. Busiest time by far is the two-week period prior to the IEEE show when at least 100 men want their travel arrangements firmed-up simultaneously.

ISA Honors Packard, Hewlett

THE INSTRUMENT SOCIETY of America bestowed honorary lifetime memberships on Dave Packard and Bill Hewlett at an awards luncheon September 10 in Chicago. The tribute read, in part: "In recognition and appreciation of their technical contributions to the field of electronic measurement; their management skills in developing a successful international company in the electronics industry; and their invaluable professional participation in programs centered in universities, professional societies, industry organizations, and civic associations."

Honorary lifetime members named in past years include: A. V. Astin, National Bureau of Standards; E. G. Bailey, Bailey Meter Co.; A. O. Beckman, Beckman Instruments; C. F. Behar (deceased), Instruments Publishing Co.; W. G. Brombacher (retired), National Bureau of Standards; Charles Draper, MIT; R. Rimbach, Instruments Publishing Co.; A. F. Sperry (deceased), consultant; I. M. Stein, Leeds & Northrup; and R. D. Webb (retired), Union Carbide Olefins Co.

around



the circuit

BY NOEL E. PORTER, *Vice President, Operations*

WITH CORPORATE incoming orders averaging well over \$9 million a month during August and September, we are now projecting total orders for fiscal 1963 (ending October 31) at about \$117 million. Although this is down a bit from the \$125 million goal we had set at the start of the year, it represents about a 7 percent increase over fiscal 1962. Shipments, while they will fall somewhat short of the order level, are also expected to show a gain over last year. More important, our backlog is up so we'll be off and running in fiscal '64.

This is the time of year we develop performance targets for the first six months of the next fiscal year. To prepare these targets, it's necessary to take a critical look at order forecasts, product by product, in order to establish hopefully realistic operating goals for production, shipments, budgets, and profits. While these targets are in the realm of educated guesses, they provide an excellent management tool for monitoring and measuring performance. We revise them periodically, generally twice a year but more often if necessary.

At this point, our outlook for the first half of fiscal '64 is quite bright. With the orders on hand, including large government contracts, and with the anticipated increase in orders over the next few months, we expect our operating level to rise about 15 percent over the current level.

Our new product programs are undergoing a careful review and analysis, not only to determine where we stand at

the moment but to establish some guidelines for the future. It's of utmost importance that we take a long-range view of our product development efforts and direct them toward instruments with maximum sales potential. Moreover, we have to continually develop new applications for existing devices and investigate new fields of instrumentation to insure the corporation's steady growth.

A highlight during September was the formal dedication ceremony in Tokyo of the Yokogawa-Hewlett-Packard joint venture. We're all greatly impressed with the Yokogawa firm, described in detail in this issue.

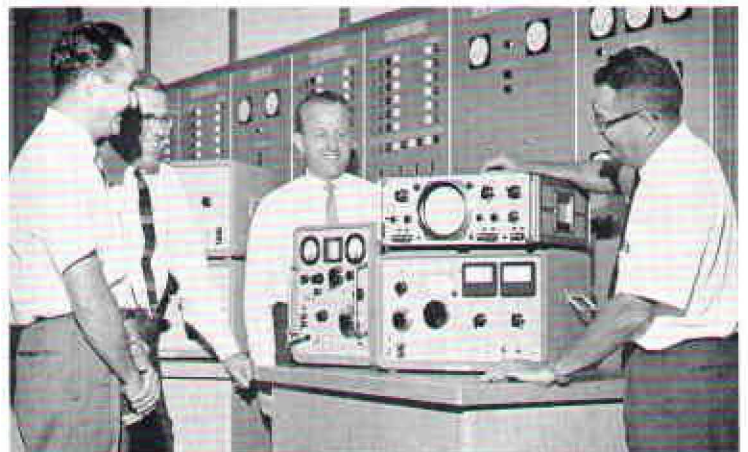
On the new building front we're moving ahead just about on schedule. The Harrison Labs plant is rapidly taking shape, and construction crews are making good progress at Colorado Springs. The renovation and expansion of the Paeco building in Palo Alto is nearing completion. This \$250,000 project will provide HP Associates with some much-needed elbow room. Plans for additions to the Moseley and HP GmbH plants are nearly finished so that actual construction can begin as scheduled.

Early next month our manufacturing management and engineering people from all operating units will gather in Loveland for a manufacturing seminar. The theme of the seminar is "cost reduction," an all-important factor in improving our corporate-wide efficiency and profits. We're looking forward to a highly interesting and productive session.

There are plenty of projects cooking on every front and certainly more than enough to keep us all going full steam.

Instruments Donated to University of Denver

AN HP oscilloscope and four generators were presented to the University of Denver recently for use in teaching and research in the electrical engineering department. Shown in the photo, left to right, are: Pete Lahana, head of HP's Lahana & Co. sales affiliate; Tom Kelley, Loveland Division sales manager; David Day, dean of the university's college of engineering; and Lee Stoner, Lahana field manager. Value of the equipment is \$5,520, bringing the total of HP instrument donations to the University of Denver this year to \$10,700.



FIREWORKS IN THE HIGH SIERRA



John Hoyte, organizer and leader of the unprecedented expedition, stands at the 13,700-foot summit of Mount Tom.

HP's John Hoyte organizes a unique expedition along America's rooftop



"A minute later our first flare was burning . . ."

The Mount Tom party included Hoyte, Kent Frewing, George Bechtel, and Joyce Dunsheath.



IT WAS NINE O'CLOCK Sunday evening on the first day of September. Our party had reached the summit of Mount Tom, which is spectacular, rising in a sharp, narrow ridge. We prepared our flares and sat down to wait. Suddenly at exactly 9:10 we saw a flare 25 miles to the south on North Palisade. A minute later our first flare was burning and Mount Abbott took up the signal to the north. We will never forget the strange beauty as the peaks continued to light up. Later, I heard that observers at Yosemite were able to see eleven flares burning at one time from the towering peaks of the Sierra.¹²

Thus HP's adventuresome John Hoyte describes the final dramatic moment in an unprecedented, and highly publicized, mass mountain-climbing expedition which he led over the Labor Day weekend. Object of the undertaking was to light flares linking 20 major peaks in the Sierra Nevada, commemorating the one-hundredth anniversary of Harvard professor Josiah Whitney's immensely valuable survey expedition to the same area in the early 1860's.

The 20 climbing parties involved included several HP people from Palo Alto, in addition to Hoyte. Norm Overacker and Miriam Garland climbed Mount Clark; John Borgsteadt, Ed Albert, and Janet Johnson lit their flares from Mount Vogelsong; and Alex Brandli trekked up the side of Mount Ritter. Kent Frewing from HP Associates was with Hoyte's Mount Tom party, which also included George Bechtel from Fairchild Semiconductor and Joyce Dunsheath from England. Mrs. Dunsheath was the leader of the women's Himalayan Expedition in 1956, and has climbed extensively in Asia and Europe.

Hoyte, a member of the process engineering staff at the Stanford plant, began organizing the expedition several months ago by contacting climbers throughout California and in other parts of the country.

"When the last flare had gone out," Hoyte relates, "we unrolled our sleeping bags and spent a rather sleepless night just below the summit ridge with a huge moon beaming down and frost creeping over everything. The ground was steeply sloping and gave challenge to lying still. Next day we took the long difficult descent, but with the strong realization that the expedition had been a success."



people on the move

LOVELAND

Stanley Bercich, supervisor of centralized accounting, State of Wyoming—to data processing, Loveland.

SANBORN

C. Joseph Brown, project engineer, medical instrumentation—to project engineer, special products.

Lawrence McCarthy, development engineer, special products—to sales engineer, medical division.

Tom Pickett, project engineer, H. H. Scott Co.—to manager, design section, medical instrumentation group.

Bill Pinkerton, sales engineer, Bomac Division of Varian Associates—to sales engineer, industrial division.

Arthur Reed, technical writer, engineering publications—to sales engineer, medical division.

COLORADO SPRINGS

Hal Edmondson, plant manager, oscilloscope division—to production manager, Colorado Springs.

Jim Williams, R&D engineer, oscilloscope division—to R&D engineer, Colorado Springs.

DYMEC

George Boyle, digital engineering—to field service engineering.

Bert Jackson, supervisor of tool engineering, Loveland—to tool engineer.

Ken Olsen, manufacturing engineering—to supervisor, manufacturing engineering.

Frank Schork, HP corporate marketing—to sales order processing supervisor.

Karl Schwarz, production manager—to manufacturing manager.

HP ASSOCIATES

Robert H. Beeson, senior engineer, Signetics—to semiconductor applications engineer, HP Associates.

Paul Gallagher, section head, engineering development, Raytheon—to semiconductor development engineer, HP Associates.

HEWLETT-PACKARD LTD.

Ray Smelek, manufacturing engineer, microwave division—to staff assistant, HP-Bedford.

CROSSLEY

William Vance, staff engineer—to field engineer, Chicago office.

Richard Vitales, engineer oscilloscope service group, HP Palo Alto—to field engineer, Indianapolis office.

Measure

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"I often say that when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind . . ." LORD KELVIN (1824-1907)



GERONIMO - 0 - 0 - 0



WHEN NATALIE CULLIMORE gave up knitting, she immediately became interested in another exciting sport—sky diving. Falling through the air, she says, gives a dreamlike sensation. The landing, however, can be a lot like ending the dream by tumbling out of bed. But if you're as well trained and experienced as Natalie (she's seen above in one of four jumps made last month), the sport is safe and extremely exhilarating. The 25-year-old Mrs. Cullimore, a pert secretary in HP Ltd's Montreal office, is a former airline stewardess who likes airplanes and the sky above. She is an active member of the Hi-Sky Club at St. Jerome and packs her own parachute which, with other equipment, weighs more than 50 pounds. Although she barely weighs 100 pounds herself, she falls just as fast and lands just as hard as someone twice her size. Or have you forgotten about Newton and the apple?