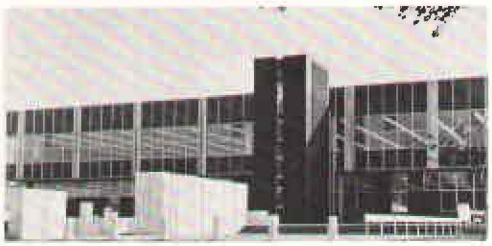
October 1966

Measure

In this issue



By yon bonnie brae

HP dedicates new Scotland facility

☐ History was very much on hand at the official opening of Hewlett-Packard's new plant at South Queensferry, Scotland, September 22.

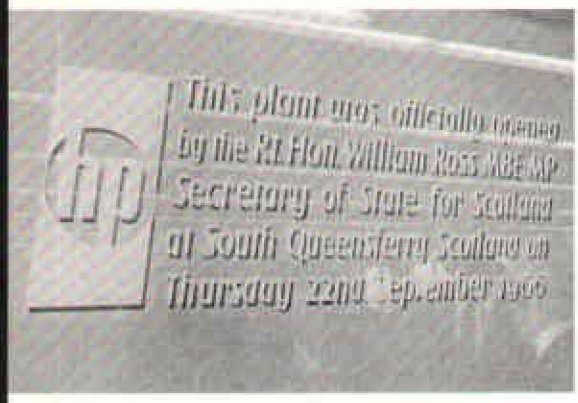
"This place," said guest speaker Lord Hughes, "is like a theatrical stage which has invited drama to be played on it since the days of Queen Margaret, the queen it was called for—when she crossed over it about 900 years ago."

Dave Packard, in his talk at the dedication, referred to "the great men of science and engineering whose brilliant careers unfolded within a few miles of where we are gathered." He noted that James Watt, developer of the steam engine, was interested in the design and manufacture of scientific instruments and that James Clerk Maxwell, the father of electromagnetic theory, and Alexander Graham Bell, were both natives of the Edinburgh area.

"It has been a fundamental policy of the company," said Packard, "to locate our laboratories near universities and colleges, recognizing that scientific achievement often stems from close collaboration between the academic and industrial communities. The proximity of world-renowned universities to our South Queensferry plant portends a bright future for us and, we hope, the universities."

A more recent kind of history was behind the company's decision to relocate its United Kingdom manufacturing and research facilities from Bedford, England, 370 miles north to Scotland. Following the start of manufacturing at Bedford in 1961, growth was very rapid in sales and new products. By 1964 expansion was needed, but the Board of Trade placed restrictions on industrial building at Bedford because the area was reported to have a labor shortage. As an alternative, the Board suggested that the company look over

Cover photo: Lord Hughes, representing Scotland's Secretary of State, unveils panel commemorating opening of HP's new South Queensferry plant near Edinburgh. At right is David Simpson, managing director of the new facility. Statement on panel says: "This plant was officially opened by the Rt. Hon. William Ross, M.B.E., MP, Secretary of State for Scotland on Thursday, 22nd. September 1966."



Finlay MacKenzie of HP Ltd.'s R&D department describes new product for visitors. Instrument is Microwave Link I.F. Test Set. South Queensferry plant is situated in scenic setting overlooking the Firth of Forth, and is close to rail, highway, and sea transportation.

Plant opening ceremonies attracted sizeable gathering of people from South Queensferry and neighboring communities. David Simpson is shown addressing the group. With him at the speaker's table are (l. to r.) Bill Hewlett, Dave Packard, Lord Hughes.

various "development areas" where industry is encouraged to locate. The encouragement often includes tax reductions on capital equipment and plant facilities, as well as provision for construction of local housing to accommodate the influx of company personnel.

For HP the major incentive was the opportunity for growth, and after careful scrutiny of the "development areas" available, it selected South Queensferry as the place to grow.

To insure that the new facility would get off to a good start, a carefully charted program of hiring and training preceded the move. As long as a year before, technical research and development people were being hired in the Edinburgh area and brought to Bedford for on-the-job training. When the time came, approximately 100 management and supervisory personnel transferred to the new plant. The move also required relocation of the HP Ltd. sales department to Slough, near the London airport.

The attractive new plant represents the first 94,000 sq. ft. phase of a planned 275,000 sq. ft. facility situated on 17 wooded acres above South Queensferry, adjacent to the Edinburgh-Perth railroad line. Some 300 people are now employed at South Queensferry.

They have the chance to make a history of their own. As Lord Hughes observed in concluding his remarks: "The directors will have gathered by now that there's a good deal of history lying around in Scotland, and you'll find enough of it in almost every Scottish village to be going on with. Where South Queensferry differs from the lave (rest) of them is that it keeps on making it." □

During tour of new plant, assembly of time interval units draws the interest of Dave Packard, Lord Hughes, and Bill Hewlett. Opportunity to grow with HP in the South Queensferry "development area" attracted more than 100 people from the former plant location in Bedford.

South Queensferry's Provost Lawson rests after completion of plant tour with Dennis Taylor, HP Ltd. sales department manager (left), and Bill Doolittle, HP vice president of international operations. Employment at the new plant is now approximately 300.

Ed White, Module I supervisor, gives young son a close-up view of integrated circuit on display in new Loveland building. They were among the more than 4,000 visitors to tour the HP facilities during the Saturday open house. Event was held as part of town's two-day Industrial Days celebration, September 16-17.

HP open house highlights Loveland's Industrial Days

September 17 was anything but an ordinary Saturday in Loveland, Colorado. It was, in fact, the peak of a two-day Industrial Days event held as a salute to the area's remarkable development. Among the major attractions was the open house staged by HP at its Loveland facilities.

Chief magnet for the more than 4,000 people who visited HP during the day was the new 120,000 sq. ft. plant addition—the third the company has completed there since 1962. Represented by 124 employees who manned and managed the open house, HP put on a good show.

It was soon apparent, for example, that sights of electronics manufacturing that employees take for granted are very fascinating to outsiders. Twenty stations at key points of interest were set up and staffed to explain products and facilities. The colorful array of components and assemblies, the seemingly exotic scientific uses to which finished instruments are put, and the complexity of the manufacturing organization visibly interested and impressed the Loveland guests. These included a high proportion of employee family members and friends as well as people from local communities and businesses.

On Friday, the first of the Industrial Days, HP's board of directors had previewed the Loveland plant, and held a regular bi-monthly meeting—the first such meeting in Colorado for the HP board. Following the meeting, where a regular dividend to shareholders was announced, the directors traveled some 120 miles south for a visit at the company's Colorado Springs plant. And at Saturday's conclusion of the Industrial Days celebration, Chairman Dave Packard returned to Loveland to address a Chamber of Commerce banquet at Loveland High School.

It was indeed an industrious two days.

Irene Bernhardt, line leader transformer winding section and one of 124 HP people who acted as hosts and guides during the day, describes stage in transformer production to Loveland visitors.

The Loveland facility's 100-ton hydraulic press is explained to visitors by Rod Pedersen, shop supervisor. Twenty stations were set up at various points of interest in the division's industrial park buildings, and in the components building in downtown Loveland.

You can't see it move, but it really is vibrating. Such was the reaction of visitors to the high frequency shake test machine demonstrated here by Jim Bennett, electronic maintenance, right. Loveland Division facilities were open continuously from 9 a.m. to 4 p.m.

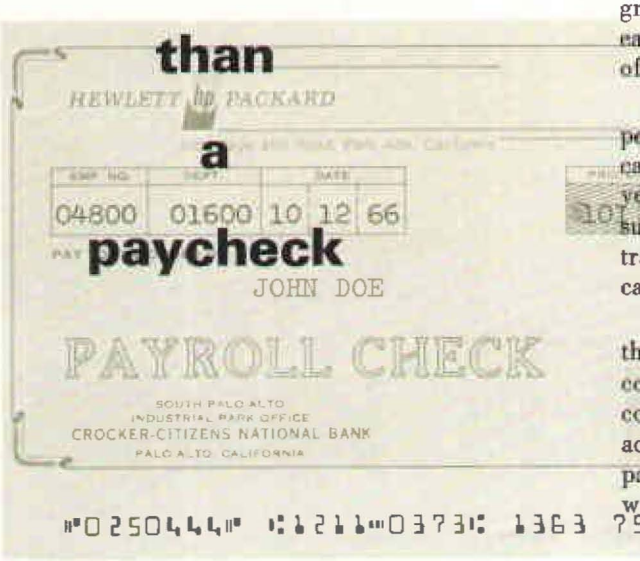
"Now can you hear it?" Test technicians Bryon Rudolph, left, and Carl Otteman use counter, scope, and oscillator to demonstrate the limits of high and low frequencies the human ear can hear.

HP directors Francis Moseley, left, and Robert Minge Brown, right, review Loveland product with Tom Kelley, division's marketing manager. Board members were given preview open house tour during plant visit.

Who said plant tours are all fun? This young fellow's candy was used in a demonstration of skin packaging. When he couldn't get it out of the new wrapping, the action started. All hands to the rescue.

Those sometimes forgotten extras:

Pay is more than a paycheck



□ Whoever thought up the word "fringe" in describing company benefits had best go back to the dictionary and look for a better—and bigger—definition. He'll need at least a $75-billion word because that's the sum which U.S. business is estimated to have paid out last year on behalf of employees, over and above wages and salaries.

According to a U.S. Chamber of Commerce survey, benefits now are rising almost twice as fast as wage rates, and these benefits now amount to 25 percent of total compensation for the average American employee. The survey also showed that the cost of benefits has risen 83 percent since 1955.

Historically, benefits have changed radically since their first introduction during the last century. It's rare these days to come upon a company store, or company town, or a company church and chaplain. Their intent was the establishment of a stable, self-sufficient organization. Their effect in the long run was to create debt and apathy. The view of industrial psychologists today is that people are at their best when offered a combination of personal security and incentive in their employment, and this of course is the aim of company benefit programs.

To get down to cases, here's a look at what's included inside HP's payroll package in addition to the paycheck.

It's worth noting, first, that the company's program is substantially broader and bigger than those offered by the great majority of firms in the United States. Last year it amounted to almost one third of total HP payroll costs, in contrast to the 25 percent national average. In cash, the company paid an average of $1.45 per hour per employee in benefits, whereas the national figure for industry was just half that at 72 cents.

Largest single item in the HP package last year was cash profit sharing. In two installments, each eligible employee received a share equal to 8.5 percent of total compensation for the year. The comparable national figure, according to the Chamber of Commerce survey, was under 1 percent.

A 6 percent slice of the payroll costs represented the company's contributions to the HP employee retirement program and retirement life insurance. In addition, of course, each employee's share in the retirement fund grew as a result of dividends received and other sources.

Company-paid insurance is another form of indirect compensation. The main elements here, of course, are the medical and hospital group plans whose costs to the company last year were in excess of $1 million. Other forms of insurance such as basic life coverage and travel insurance (when traveling on company business) are also included in this category.

Another major portion of the total payroll comes under the heading of "payment for time not worked." This, of course, refers mainly to holidays and vacations, but it also covers sick leave, and paid time-off items such as lost-time accidents, civic duty and military leave, emergency leave, paid meal time, and downtime. In all, the cost of time not worked reached 8.5 percent of the company's total payroll.

The costs of overtime, shift premiums, and even coffee and paid rest periods also show up on the books as benefit items. In 1965 they came close to 2 percent of payroll.

Then there are various other items that must be accounted for. These include the approximate $500,000 contributed by the company toward employee purchases of HP stock, the gift of 10 shares of such stock to employees reaching 10 years of service, educational assistance programs, and the costs of supporting sports and recreational areas and activities. Last year these "others" added up to just over 1 percent of the payroll dollar.

Also included in the benefits package are those required by law. These are made up of old age, survivor, and disability insurance, unemployment compensation, workmen's compensation, and federal unemployment taxes. The company's contributions to these amounted to almost 4 percent of payroll costs.

There is no question that the trend of company benefit costs is going up for HP, as well as industry in general. The most important factor now and in the immediate future is certain to be the rising cost of medical and hospital care. In this regard, HP's group plans have a built-in escalator to accommodate such increases so that employees are covered regardless of the higher rates for medical services.

Oh, yes—another increase took place this year when the number of official paid holidays was boosted from 8 to 9. Thank you again, George Washington. □

Now it's the S.S. Santa Leonor:

At Lima, Frederick Wakeham, left, director of medical electronics for H. W. Kessel firm, HP distributor in Peru, guides visiting air force medical officers aboard the Mormacwave (now S.S. Santa Leonor) during HP "showboat" maiden trip.

HP's successful "showboat" sails again

Three months ago, HP installed a display of medical instrumentation aboard the S.S. *Mormacwave* for exhibit in Latin American ports (MEASURE, June 1966). Now she's sailing again under new ownership, a new name, a new itinerary, and a new display of products. Here's a log of events:

On its first tour with HP medical products, the *Mormacwave* stopped at 11 ports en route around the continent, and more than 1,000 key medical people visited the ship's showrooms.

There was considerable enthusiasm shown for patient monitoring equipment. HP distributors report a rise in orders and interest, and the HP "showboat" was the subject of many complimentary newspaper stories.

The voyage proved to be an economical means of customer contact—on par with HP's landbased Travelabs.

Grace Line has now purchased the vessel and sailing rights, and her new name is S.S. *Santa Leonor*. The vessel sailed October 12 for a three-month cruise to nine ports in seven Latin American countries, and will be displaying HP instruments used in the communications field. Tentative plans call for a third trip to show chemical instrumentation.

Peter's Pond is picked for Sanborn recreation area

Sanborn Division's new recreation area will provide 85 acres of forest land for the enjoyment of employees and families.

An 85-acre area fronting on a Cape Cod lake known as Peter's Pond in Sandwich, Massachusetts, has been purchased by the company as a recreation area for Sanborn Division employees. According to reports, the 127-acre pond affords excellent swimming, boating, and fishing. In addition, volunteers from the division in Waltham are helping to transform the area into an all-around recreation area with facilities for sports and large gatherings. The property includes 1,220 feet of shoreline. The area is located only a few miles from some of the famous Cape Cod ocean beaches. In negotiating and concluding the purchase, the company was represented by Division Manager Bruce Wholey and Personnel Manager Jim Phelps.

Breaking the information barrier:

□ A major change—would you believe a revolution?—is quietly being developed within the HP organization. The leaders of this movement are working to facilitate the flow of useful information, and to speed that information directly into the hands of just those people who need it in order to do their jobs.

New computer and data programs go to work for HP

Programmer Bob Potter is shown working on conversion of employee stock purchase program to the new 360 computer. More than 300 programmed tasks are now on tape.

"What should I do next?" That, in effect, is what 360 processing unit has asked. Ed Besson, computer operator, types out new instructions.

Newest weapon in this effort is a computer system offering capabilities never before available in electronic data processing. It's the new IBM 360. Besides a huge memory capacity and enormously fast processing speed, the 360 is also compatible with data processing equipment in other HP divisions, can be hooked up to other computers at remote locations, and can be programmed to perform many operations at one time.

Those were some of the qualities which HP recognized when the 360 was announced by IBM in April, 1964. According to Bud Eldon, manager of corporate systems and operations analysis, who ordered the computer for the Palo Alto data processing department: "Normal growth in the programs we had then (1964) including payroll, billing, accounts payable, and a few others, already had forced us onto a two-shift operation. We simply had no computer capacity for growth or to undertake new profit-adding programs."

The Palo Alto data processing department, supervised by Matt Schmutz, is now involved in converting existing programs to the 360 and creating new programs to take more complete advantage of its capacities. Already there are over 300 programs written, tested, and stored on magnetic tapes. Many of these, in the process of being converted from previous computer programs, represent major advances in the ability to provide timely and appropriate accounting, personnel, and statistical data. This systems and programming effort is what really makes the computer effective.

Among the more important new systems being implemented now on the 360 are the following:

Test of 360 program for Dymec inventory control system is run by Jim Schlichting, Dymec scheduler/buyer. System may be prototype for all HP divisions in computerizing inventory control. It provides Dymec with reports on situations requiring decisions.

Parts order processing (POP) system: Now being used to process all orders for parts between Eastern and Western service centers, this new system soon will be expanded to the processing of all parts orders from all sales offices. POP relies on the 360 to keep inventory and sales records of some 18,000 parts and to initiate shipping papers, invoices, and all necessary reports.

Inventory control: At Dymec Division, the whole system of parts purchasing and production scheduling has been greatly streamlined since it was computerized in 1960. This month the system is expected to convert to the 360. Programmed on the "exception" principle, the computer reports only those situations that require decisions, such as reordering of parts. The computer output comes to Dymec in the form of "action reports" addressed to the purchasing and scheduling personnel who have responsibility for making the decisions.

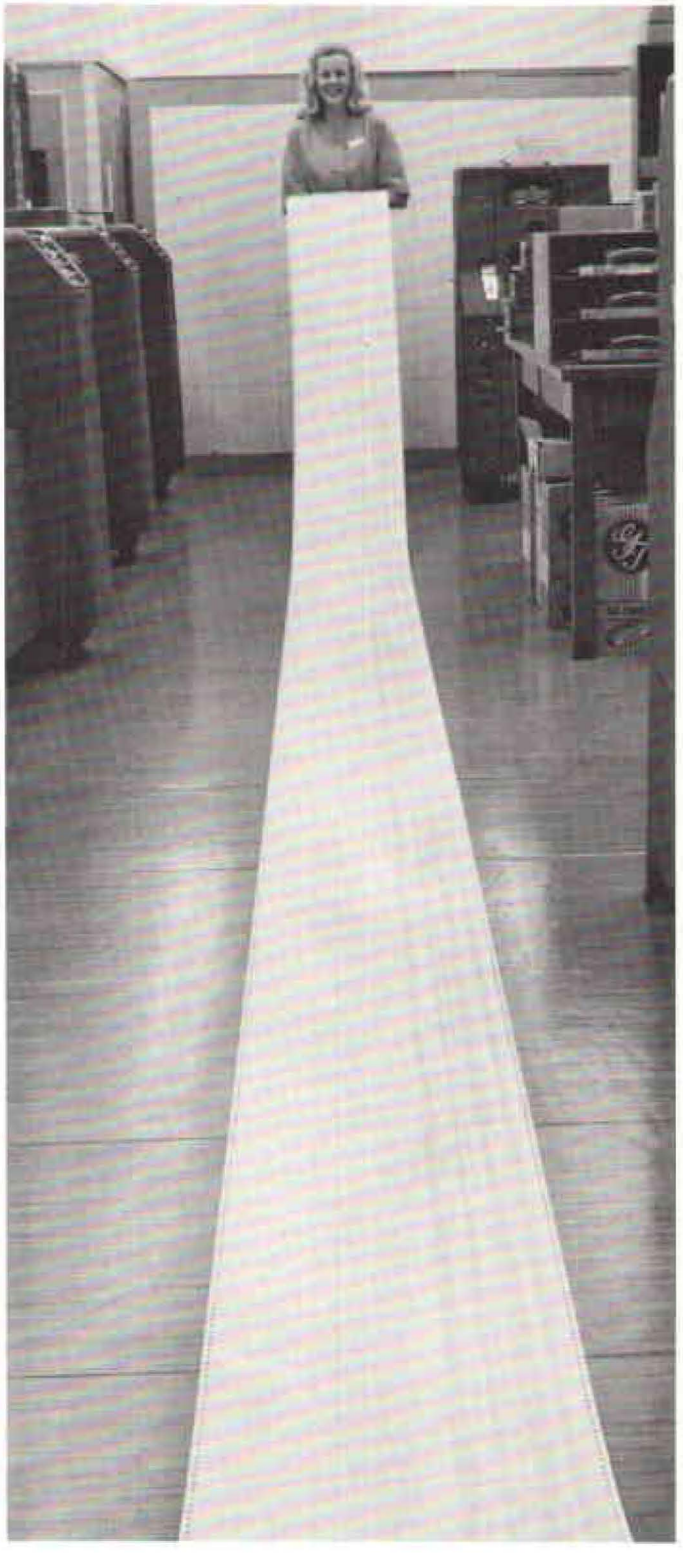
Reports computed by the 360 provide a complete activity history of any part in question—far beyond the memory capacity of the previous system—thus making it easier for the controller to decide what action to take. Hopefully, in its final development, this "instant information" system will be a prototype for all HP divisions.

Engineering and scientific tasks: In the past, HP has had to run its complex engineering and scientific management kinds of programs through computer service bureaus. Now these are being converted for processing on the 360, the capacity of which provides ample opportunity for expansion of this important activity.

Numerical control: The increase in tape-controlled machines in manufacturing operations has required an increasing load of calculating work. The calculations required for punch coding the tapes will be greatly speeded by the 360 and its supporting systems.

Nonetheless, HP's computer people are quick to explain that, fundamentally, the 360 is simply a "tool" which speeds up the processing of data. On the other hand, the very capacity of the machine—up to one billion times faster than the human brain—has created a whole new order of capability for deriving useful information rapidly from these data.

Does that sound like a revolution? Ask the 360. □



Only a few minutes' output from 360 computer is represented by this report displayed by Jonny Biddulph, key punch operator.

Action reports put out by computer enable Jonette Stainton, Dymec scheduler expediter, to help production supervisors, such as Jerry Worth of pre-fab section, schedule their parts and labor requirements.

"Electrocruiser" donated to Bradley University

The Educational Television Center at Bradley University of Peoria, Illinois, received a big boost recently when HP's Crossley Sales Region donated its "Electrocruiser" for use as a mobile educational TV studio. In accepting the gift, the university announced that the vehicle would be fully equipped and assigned to the job of developing on-the-spot programs of educational and cultural significance.

According to the director of Bradley's Television Center, the cruiser will permit on-site instruction in science and engineering by taking the mobile unit directly to the industry or laboratory. Programs also are being planned to provide job and career counseling for high school students.

The cruiser is built with features that make it virtually self-sufficient, including two 15-kilowatt motor generators, and four-ton air-conditioner with acoustical and thermal insulation. Its former mission was as an HP product demonstration vehicle operated out of the Skokie, Illinois, offices of the Crossley Sales Region. Presentation of the vehicle was made by George Zering, district manager, to Dr. Talman Van Arsdale, Jr., president of Bradley University.

PEOPLE ON THE MOVE

INTERNATIONAL

Gordon Brandt, staff assistant, HP GmbH—to staff assistant, HP Ltd.

MICROWAVE

Ron Church, production section manager, waveguide—to production manager, Microwave.

Maurice McGrath, in-plant production engineering—to production section manager, waveguide.

Doug Scribner, R&D staff—to in-plant production engineering, Microwave.

CROSSLEY SALES

Fred Harvey, office services manager—to assistant business manager.

Bob Roszkowiak, shipping and receiving supervisor—to assistant parts order processing manager.

Ed Zygowicz, shipping and receiving clerk—to shipping and receiving supervisor.

CUSTOMER SERVICE

Stig Hertze, Western Service Center staff—to engineering training, corporate Customer Service.

HP—PALO ALTO

George Blanchard, incoming quality assurance supervisor—to senior component evaluation engineer, materials management.

Tom Murphy, materials management staff—to materials corporate lab stock.

DATAMEC

George Bender, plant engineering, HP-Palo Alto—to maintenance lead man, Datamec.

DYMEC

Dan Bechtel, manufacturing specifications, materials management, HP-Palo Alto—to forming supervisor and analyst, material support, Dymec.

John Loustaunou, Palo Alto Finance staff—to general accounting manager, Dymec.

FREQUENCY & TIME

Kathy Johnson, secretary, patent counsel office—to secretary to engineering manager, F&T Division.

Olaf Meyer, R&D lab—to product promotion.

Jim Sheldon, sales engineering, marketing—to nuclear marketing manager.

MEASURE is published monthly for the employees of Hewlett-Packard and affiliated companies

Volume 4 October 1966 Number 10

EDITORIAL DIRECTOR, Dave Kirby

EDITOR, Merle Mass ART DIRECTOR, Tom Martin

CONTRIBUTING EDITORS—COLORADO SPRINGS, Dolores Rupp • CROSSLEY SALES, Ron Rozen • DATAMEC, Mickey Chase • DYMEC, Bill Dallenbach • EASTERN SALES REGION: New York City area, Dorothy Clink • Philadelphia area, Barrie Wilmarth • Syracuse area, Ann Ash • Washington, D.C., area, Colleen Molinou • F&M SCIENTIFIC, Charles Butler • FREQUENCY & TIME, Karen Austin • HARRISON, Dorothy McMahon • HP ASSOCIATES, Joni Miner • HP BENELUX, Amsterdam, Corrie Koeloon • Brussels, Helene Meyermans • HP (CANADA), Doug Pidduck • HP GmbH, Ann Patricia Haugler • HP (FRANCE), Mireille Cuhnet • HP LTD., Dennis Taylor • HP S.A., Doug Hertel • HP (ITALY), Hans Hohmann • LOVELAND, Walt Skowron • MICROWAVE, Dean Abramson • MOSELEY, Frank Hicks, Jr. • NEELY SALES, Mike Talbert • ROCKAWAY, John Ricci • SANBORN, Janet Dale • SOUTHERN SALES, North Carolina area, Virginia Thornton • Florida area, Gene Cline • Texas area, Helen Hibson • YEWELL SALES, Ruth Ambrose • YOKOGAWA-HP, Yosuke Ishikawa

from the chairman's desk

This month we are closing out one of the most interesting and successful years in the history of the company. It was a period of considerable growth—not only in orders, shipments, profits, and other financial yardsticks, but in many other ways as well. We developed a number of important new products, added nearly 500,000 square feet to our plant capacity, and created some 2,000 new jobs. All in all, it was an impressive performance and one of which all our people can be proud.

Looking to fiscal 1967, we anticipate another good year, although it will not be without its difficulties and problems. As I pointed out in my third quarter report to stockholders, there are some storm clouds on the economic horizon and these are of increasing concern to the business community.

Federal spending continues to rise, largely in support of our effort in Vietnam, but also to finance various non-defense programs. Inflationary pressures are becoming greater, as indicated by rapidly increasing prices. Consumer prices are now rising at a rate three times as fast as the annual average rate between 1960 and 1965.

Manufacturers are faced with steadily increasing costs of doing business. In periods of relatively full employment, both labor and material costs tend to rise, and there is marked evidence of this trend in all major industries, including ours.

As anyone knows who has tried to buy a home recently, money is scarce and expensive. The same holds true for companies seeking loans to buy new equipment or to build new plants. Interest rates are high and may well be higher in the coming year.

With government spending expected to increase in 1967, most economists are predicting a boost in income taxes after the November elections. Unless the Vietnam situation eases, it is possible these increases will apply both to individuals and to corporations. Some companies, in fact, are planning 1967 budgets on the assumption that the corporate income tax rate will be 50 percent or higher, against the present 48 percent.

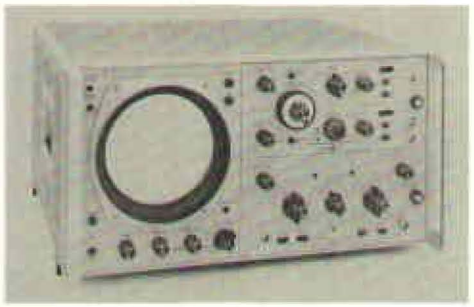
All of these factors add up to a general picture of uncertainty and concern about business conditions in the coming year. Against this background, I feel there are many things we can do to trim our sails and be better prepared for any unfavorable economic weather that may lie ahead.

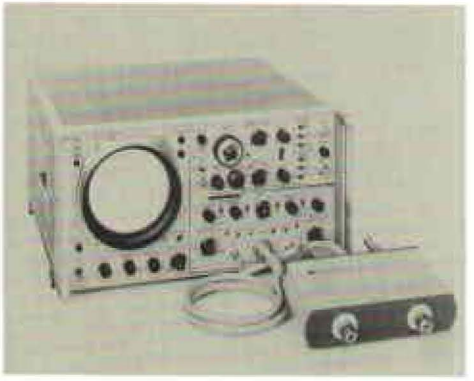
I have asked all our division managers to review all costs and to take a harder look at proposed expenditures for materials and equipment. I've asked them to pay particular attention to overhead costs, and to hire additional people only if a clear and urgent need exists for them. I've also asked that they do a better job of controlling inventories, including material and parts, work in process, and finished goods.

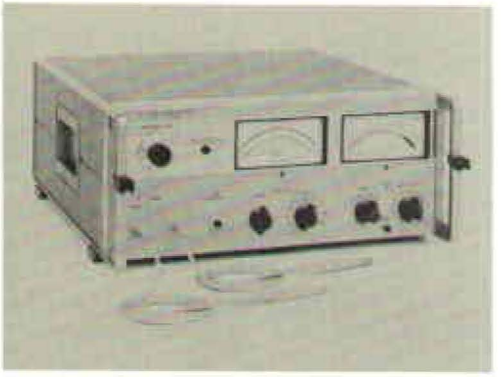
The fact that we have been growing rapidly in the past few years tends to make us careless. In some areas we've overhired and overspent. We still want to grow, of course, but I believe we can do a better job of directing and controlling our growth so that we build strength for the long-term future. Each of us has a responsibility and an opportunity to meet this objective.

I am confident that with your help and cooperation we can have another good year in 1967, whatever the economic climate may be, and that we can look forward to continuing growth in the years beyond.

David Packard







Four for the winner's circle . . .

The four HP instruments profiled above are now members of a very prestigious group: each was rated among the 100 most significant technical products of 1966. The selections were made by a panel of distinguished engineers and scientists sponsored by *Industrial Research* magazine. HP has won two awards in each of the two previous years in which the top 100 technical products have been named by the panel. To mark the occasion this year, a formal banquet was held in New York earlier this month, with NASA Administrator James E. Webb as principal speaker. Corporate Vice President Noel Porter was on hand to accept awards on behalf of HP's engineers responsible for the four products: the 141A variable persistance oscilloscope and the 12.4-GHz delayed sweep sampling scope from Colorado Springs; the 8405A vector voltmeter from Microwave Division; and the new standard resistors developed jointly by the Corporate Standards lab and Loveland Division.