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January 1965

# Measure

## In this issue



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## *from the chairman's desk*

WITHIN A FEW DAYS we will issue our annual report to stockholders covering operations for fiscal 1964. It was a good year for the company, with sales rising 8 percent to a level of $124.9 million, and incoming orders totaling $130.4 million, also up 8 percent over last year. The profit picture improved considerably over 1963, with a net after taxes of $9.4 million, an increase of 29 percent.

We were especially gratified at the improvement in our after-tax profit margin from 6.3 cents per sales dollar in 1963 to 7.5 cents in 1964. This is largely the result of your day-to-day efforts to reduce costs and do a more effective, productive job.

As you know, we spend a great deal of time talking about profits and their importance to our future growth and progress. Without a satisfactory profit level, of course, we would be unable to build the new facilities, buy the tools and equipment, and provide the other necessary ingredients for steady, long-term growth.

Profit serves another important purpose in that it is the best single measure of how well a company does in all areas of its operations. It indicates, in a very realistic way, the effectiveness and efficiency of our new product programs, our manufacturing operations, and our marketing effort. In view of this, you can be especially proud of the improved profit margin in 1964.

Looking to 1965, we are hopeful of doing an even better job and raising our after-tax margin to at least 8 cents per sales dollar. Considering the progress we have made this past year, this is certainly a reasonable target.

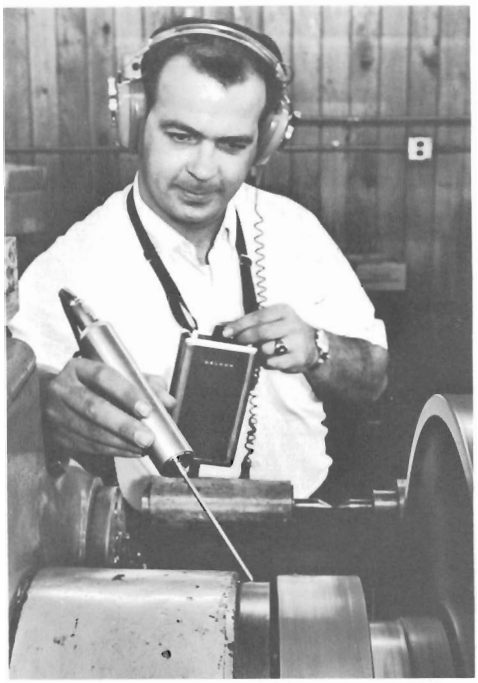
Another primary objective in 1965 is to achieve a substantial increase in our over-all volume of business. To do this, we are going to have to increase the flow of new and improved products from our laboratories, and get these products into production with greater speed and efficiency than ever before. Moreover, we expect our field sales people to do a more effective job of expanding existing markets for our products and tapping new markets, as well.

During this next year we will place increasing emphasis on diversification. With the slowup in defense spending and the expectation that the government will continue to curtail or modify many of its programs, we are working hard to broaden our base and expand our technology into new fields. We are doing this through our internal research and development program and, in addition, through acquisitions where we think they will enable us to enter new fields or markets.

While we are attempting to increase our penetration of commercial, non-government markets, in no way do we intend to reduce our efforts to obtain government business. Over the years our company has made an important contribution to defense and space programs, and we will continue to support these programs in every way possible. We also foresee an inevitable expansion of government activity in other technological areas, and expect to provide a large share of the instrumentation for these expanding requirements.

We are off to a good start in 1965, with shipments and orders running ahead of last year. I am confident that with your continuing enthusiasm and hard work, this will be one of the best years in the history of our company.

David Packard



Light, simple-to-operate Delcon detectors can be used to locate parts wear in machinery.

The new division has 30 employees in Palo Alto, expects over $1 million in sales this year.

# Science of silent sound

IF THE HUMAN EAR—marvelous organ that it is—could pick up sounds in the ultrasonic ranges, life would hardly be bearable. Not only would we be surrounded by the everyday frenetic noises of city traffic, the neighbor's TV set next door, the clatter and chatter of children, but we would also be faced with a vast array of "silent sounds." The private calls of tiny insects, the arcing of high voltage electricity in power lines, even running a comb through your hair would have nerve-shattering results.

Fortunately, man is spared of such aural sensitivity, leaving the detection of sounds in the ultrasonic regions to specialists like those in HP's newly acquired Delcon Division. During the four short years since it was founded as an independent firm in Palo Alto, Delcon has developed a remarkable group of devices for detecting sounds at frequencies far above the human ear's limit of 18 or 20 thousand cycles per second.

These lightweight, sensitive instruments, called Delcon Ultrasonic Translator detectors, are used most often to locate leaks in pressurized or vacuum equipment. Even in the case of a very minute leak, the instruments can detect sound waves generated by escaping gas molecules creating energy in the 36,000 to 40,000 cycle range.

Variations on the basic idea of the detector have led to new models for use in science and industry. Some manufacturers, for instance, use Delcon detectors to locate worn parts in machinery before breakdowns occur. Electric utility companies put them to work to zero in on corona discharge from high voltage transmission lines. And space research centers have had success using them to check out missile components.

Although Delcon specializes in the science of silent sound, this new division is certain to be heard from in HP's future.

THE COVER—A telephone service man uses Delcon Ultrasonic Translator to locate leak in pressurized cable. The probe is sensitive only to ultrasonic frequencies, which the detector translates into audible sound and meter readings.

# Oliver heads IEEE for 1965

BARNEY OLIVER, HP's VICE PRESIDENT of research, assumed leadership January 1 of the Institute of Electrical and Electronics Engineers. As president for 1965 of this organization, Dr. Oliver will also head its board of directors and executive committee.

IEEE was formed two years ago from the merger of the Institute of Radio Engineers and the American Institute of Electrical Engineers. Since that time, Oliver, as a vice president on the executive committee, has worked to integrate more than 70 former AIEE technical committees into the group system successfully developed by the IRE over the years. "With many of the merger details behind us," he says, "we now face the essential task of coordinating the group activities, to produce fewer and better meetings, and to establish publication policies that will better serve our membership."

## Membership of 150,000

The IEEE, one of the larger professional societies in the world, has 150,000 members. Headquarters are in New York, where a permanent staff handles administrative matters. There is a total of 151 local sections in the United States, 16 in Canada, and 16 in other countries. "As we go into 1965," Oliver says, "we have a single organization—the Technical Activities Board—responsible for all technical affairs of the IEEE above the section level. Reporting to TAB are thirty-one groups and five standing committees."

In commenting on methods for improving the quality of shows and meetings while reducing their number, he suggests the possibility of further mergers between groups that have overlapping membership. Thus a single meeting would benefit two or more groups. He also mentions the possibility of holding several symposia at one time to serve a larger segment of the membership.

## Long history of service to the industry

Dr. Oliver is the third president elected by the IEEE membership since it was founded. Ernst Weber of Brooklyn Polytechnic was the first and Clarence Linder of General Electric served last year. Oliver joined the IRE as a student member in 1935 and became a professional member in 1940. In the years preceding the merger he held a number of positions at the sectional and national levels.

In addition to his active participation with professional groups, Oliver has authored numerous scientific papers and articles. One of these, "Radio Search for Distant Races," was published in *International Science and Technology*, and will be buried next year in the Westinghouse 5000-year time capsule at the site of the New York World's Fair. It is one of several articles selected by the University of Pittsburgh Knowledge Availability Center to record the progress and significant changes in the world during the past 25 years.

WITH TRADITIONAL CEREMONY, the GmbH plant addition at Boeblingen, Germany, was officially opened November 24, marking another major step in the expansion of Hewlett-Packard operating facilities overseas.

The new two-story structure more than doubles the original plant's size, bringing the total under-roof capacity to approximately two acres.

Members of the local council, headed by the mayor of Boeblingen, joined with HP personnel in a tour of the facilities. In his address to the group, Manager Fred Schroeder emphasized the growth of GmbH, the company's first overseas operation.

GmbH plant addition adds 52,000 square feet of space to original building.

## HP dedicates new plant addition at Boeblingen

A group of HP's European personnel who attended the dedication ceremony are seen in a production area midway through the tour.

## Two new offices for Neely in Northwest

THE NEELY SALES DIVISION expanded its territory to the Northwest on the first of the year with the opening of offices in Seattle (Bellevue) and Portland. HP was previously represented in the region by ARVA, Inc., an electronic sales firm.

Bill Saxon, formerly with Neely in Southern California, has been named area manager with headquarters in Bellevue. The office there will also include Field Engineers Olen Morain and Joe Gattuso, Service Manager Tim Judy, Area Medical Manager Garry Lewis, and Bud Werts as medical sales representative.

Joe Mankowski, medical sales representative, will man the Portland office, which specifically serves medical markets. Neely also assumes responsibility for the Sanborn Division's San Francisco office, which handles medical sales in Northern California and Nevada. The area medical manager there is Austin Reblin, with Bill Bishop and Clayton Patenaude as medical sales representatives.

# The pace is fast

Total production area in Loveland has *tripled* since HP's first plant was established there in 1960.

THE HIPPS APPLIANCE STORE BUILDING on Lincoln Avenue is a kind of landmark for HP people in Loveland, Colorado. That's where everything began.

It hardly seems possible, but just five years ago a handful of engineers and specialists from Palo Alto rented the then-vacant building and set up shop for the purpose of training local people for jobs with a new HP division. A few months later a small plant was finished down the street and the new staff of 28 got busy there turning out transistorized power supplies and voltmeters.

The friendly citizens of Loveland, a community of 15,000 people, were happy that HP had come to town. This was just the kind of light, clean industry they wanted to complement their primarily agricultural economy. They were eager to learn the new technical skills and were accustomed to giving their best energies to any worthwhile job.

Plunging into their work with enthusiasm, the people of the division soon began surpassing production goals, setting new standards for the corporation in efficiency. The inevitable growth followed and more space had to be rented on Lincoln Avenue—the town's armory served for warehousing, and a quonset building provided room for manufacturing electronic assemblies.

In mid-1961, the original plant built just a year before was tripled in size, providing 32,000 square feet of working space. Incredibly, considering the short length of time, employment had grown to about 200 people, and a research and development department had been added.

# and sights are high

Production Supervisor Mel Baldock works out a power supply wiring problem with Carol Denny.

They grow tall and think big in Colorado, so hardly had the paint dried on the expanded plant in town than ground was broken once more. This time the plans called for a 140,000-square-foot plant located just inside the city limits on 84 acres of gently rolling land within sight of the towering Rockies. The plant was completed in 1962, and already they're talking about the possibility of additional expansion.

The division's original product line has grown at a similar pace. In addition to voltmeters and power supplies originally produced, there are now a great variety of other instruments including oscillators, multimeters, distortion analyzers, amplifiers, and calibrators. Sales and profits are among the highest of all HP divisions.

At present, the division employs 700, of which 30 percent are engaged in component design and manufacturing at the plant in town. At the new plant, the R&D staff has expanded to more than 50 engineers and there is a marketing facility staffed with 25 people. The remaining 60 percent take care of manufacturing, administration, and plant maintenance.

All in all, they're a fast-moving bunch at Loveland who want nothing more nor less than to be the company's top division.

A meeting of department heads brings together, from left: Tom Kelley (marketing), Roy Melin (components), John Lark (meter manufacturing), Marco Negrete (engineering), Stan Selby (division manager), Joe Barr (accounting), Dan Mirich (personnel), and Don Cullen (manufacturing).

# around  the circuit

By Ray Wilbur, *Vice President, Personnel*

*In this month's column, Ray Wilbur draws a profile of HP personnel today and suggests some goals for the future.*

IT WAS MY PRIVILEGE RECENTLY to visit five HP locations in Europe and three on the East Coast. One of the purposes of my trip was to study first hand the personnel practices in a variety of places.

Because of our rapid growth, state laws, local customs, and the company's general policy of management by objective, not all personnel practices can be the same. In fact, the retirement plan is the one benefit that is uniformly administered throughout the United States. In the United Kingdom, Germany, Italy, and Switzerland, personnel practices vary considerably in specific detail.

However, this is to be expected in a company on the move. We have become a diverse body of people, widely scattered but always working toward common goals. In early 1958, HP employed less than 1,500 people, all located in Palo Alto. Today we have 7,500 at some 80 locations. Now, 43 percent of our employees work in the Palo Alto area, 14 percent in Colorado, 22 percent at other domestic manufacturing locations, 8 percent in U.S. sales offices, and 13 percent overseas.

Of the total employment, 1,250 have college degrees and of this number 950 hold degrees in engineering or other physical sciences. During the past year, nearly 1,900 participated in day or night training classes held within the company; at least 300 attended neighboring night schools at the junior college level or above; and over 300 participated in outside seminars and special programs.

I mention these statistics because I think they indicate the kind of company we have become. They also support the reasoning behind HP's philosophy of decentralized personnel management. The company has long felt that the basic responsibility for effective personnel and human relations programs rests with the supervisor working directly with the individuals who do the job. The corporate personnel staff serves supervisors by setting broad guidelines of policy, keeping them informed on new developments, and carrying out the mechanics of various personnel programs.

Currently in Palo Alto we have 21 people in personnel who serve divisions in the vicinity and also advise the total corporation in various matters. Last year, more than 11,000 job applicants came into our Palo Alto employment office. Evaluating each applicant, following HP's strict policy of non-discrimination, is an example of the service performed for Palo Alto based divisions. At the corporate level, our staff is particularly equipped to advise on wage and salary policies, retirement programs, safety and security, personnel evaluation and development, and engineering recruiting.

In the past few years, as the company has expanded domestically and abroad, 180 people have been transferred from Palo Alto to other locations. Simultaneously, at least a dozen people have transferred to Palo Alto and there have been numerous shifts between plants and sales offices. All of this has pointed to the need for further development of our people and for a degree of uniformity in policies.

Gradually our group insurance plan will become more uniform among locations in the United States, although such things as local laws and practices may always necessitate particular variations.

We intend to continue our emphasis on employee development to meet the needs of changing technologies. The development of managers is just as crucial, and we intend to meet this need with intensified training programs and methods of identifying those people throughout the entire corporation who show promise in the management area.

There is also room to advance our safety programs . . . improve the performance review of our people . . . and establish more guidelines in the area of position evaluation and rate ranges. In short, if I may make a New Year's resolution for our personnel staff, it is that we will continue to dedicate ourselves to render the wisest and most effective service possible to all segments of the organization so that each in turn may more easily meet its objectives for the year.

## Trade journal cites two HP instruments

The editors of *Industrial Research* magazine were faced with a monumental task. They, and a distinguished list of scientists and engineers, had to select 100 of the "most significant new products of 1964." More than 10,000 entries were submitted by several hundred manufacturing firms. As it turned out, Hewlett-Packard was one of 14 firms with more than one winner. In the analytical instruments category, the Microwave Division's spectrum analyzer was cited, and, as a measuring and testing device, Sanborn Division's new "Viso-Cardiette," a portable electrocardiograph, was singled out for honors. Awards will soon be presented formally to representatives of these two divisions.

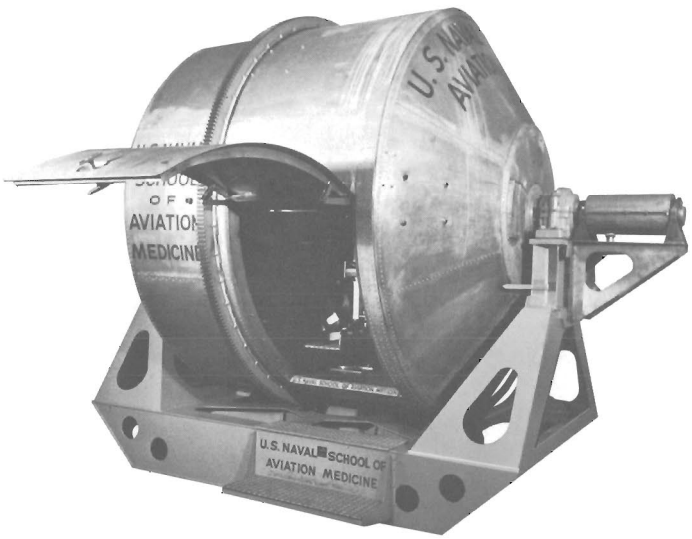
# Navy men spin in space research

THE NAVY'S HDD PROGRAM at Pensacola is enough to make a man's head spin. Literally, in fact. The initials HDD stand for human disorientation device, a piece of equipment and associated instrumentation developed by the Naval School of Aviation Medicine in conjunction with the National Aeronautics and Space Administration.

Although the device bears some slight resemblance to a science fiction torture chamber, its purposes are entirely noble and of great value to space researchers. A pilot, strapped inside the multi-axis rotator, is spun to determine how his senses and perceptions are influenced. Biomedical data on how man reacts to precisely controlled angular acceleration is collected and recorded by a highly sophisticated and extensive system of instruments.

The capsule within which the subject is seated is eight feet in diameter and can turn at speeds up to 60 revolutions per minute on its vertical or horizontal axes. Electrodes leading from various parts of the pilot's body convey information to the instruments for processing. Main elements in the recording system are a Sanborn 8-channel, direct-writing recorder, and an HP oscilloscope. Other pieces of equipment supplied by various HP divisions in the control and data centers include amplifiers, data storage readout devices, transducers, voltmeters, and oscillators.

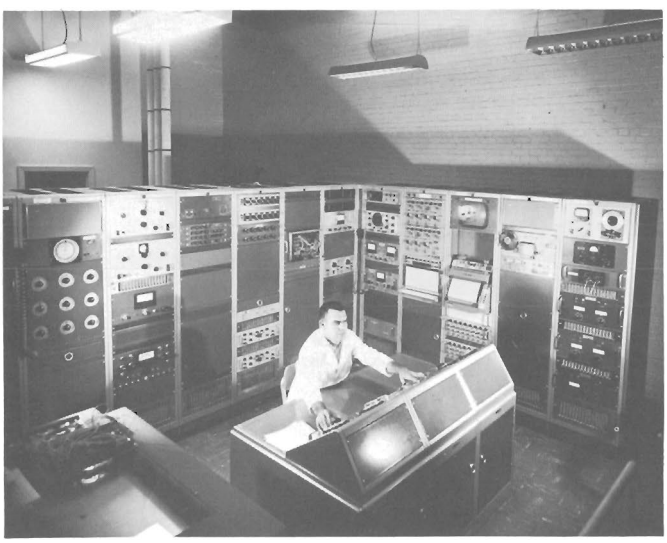
With such a lineup of instruments in use at Pensacola, HP can truly claim to have made a contribution to a science oriented toward the study of disorientation.




Human disorientation device is a capsule which can rotate up to 60 revolutions a minute.

PHOTOS COURTESY U.S. NAVAL SCHOOL OF AVIATION MEDICINE

Strapped in position with electrodes in place, a pilot is ready for a spin at varying angles.



Several HP instruments have been integrated into the bioinstrumentation control center, including an 8-channel Sanborn recorder.

# Hewlett gets close look at Russ economy

IN MID-NOVEMBER, HP President Bill Hewlett, along with some 90 other U.S. and European business executives, spent a week in Moscow talking to high-ranking Russian officials, economists, and industrial leaders. Sponsor of the trip was Business International, a private organization dedicated to providing information to its clientele on matters of international business.

Hewlett said the discussions were exceedingly frank and often pointed up the wide chasm between the economic philosophies of the U.S. and Russia. "A number of the questions asked by the Russians indicated that they are concerned with many of the same types of problems that we are . . . and they are anxious to draw from our experience."

The prospects for increased trade with Russia were thoroughly discussed with Aleksei N. Kosygin, Chairman of the Council of Ministers of the USSR, and Anastas Mikoyan, Chairman of the Presidium of the Supreme Soviet, among others.

"Mikoyan observed, somewhat humorously," Hewlett reported, "that before we recognized Russia, we had very good trade relations with them. But now that we have recognized them, trade has fallen to almost zero." Russia's urgent need to maintain a balance between exports and imports is one of several problems to be resolved before a significant increase in trade between the two nations can be effected, comments Hewlett.

In summarizing the discussions, Hewlett stresses two general observations. "The Soviet economy is in a period of transition where they will have to use more of the techniques of the free enterprise world. On the other hand, I heard or saw nothing that would indicate that Russia has given up the basic precept of world domination by the communist system."

New scaler-timer and power supply were among instruments shown at San Francisco AtomFair recently.

## New line for atomic measurements

A NEW GROUP OF HP INSTRUMENTS for the nuclear sciences has just recently been introduced, to be available by mid-1965. Included are scintillation detectors, scalers and scaler-timers, a high-voltage power supply, and other equipment for manual and automatic scintillation spectrometry.

Although their primary use is for gamma ray spectrometry, they are applicable to other types of radiation investigation. Whole system combinations will be available using already existing HP equipment.

Nuclear analytic methods including the use of these instruments have a vast number of potential applications ranging from agricultural research to crime detection.

## Christmas magic at Lahana

CHRISTMAS 1964 is past history for most, but in the Lahana Sales Division office in Denver the memory lingers on. Instead of the usual employee get-together, they invited 28 children from Saint Clara's Orphanage to spend Christmas Eve afternoon with them. The youngsters, ranging in ages from 4 to 11, were entertained by a mystifying magician and were filled to the brim with cake and punch. But the highlight of the heart-warming day was the distribution of toys and candy by a very convincing Santa Claus.

Senior Field Engineer "Saint Michalaus" Spano in action.

# people on the move

### HP PALO ALTO

**Jim Cochran,** corporate Marketing staff—to Eastern Travelab.

**Leonard Gibson,** engineering, F&T Division—to product training, corporate Marketing.

**Sid Mann,** engineering writer, Interstate Electronics, Anaheim—to technical publicity, advertising and sales promotion, corporate Marketing.

**Eli Warsaw, Jr.,** advertising manager, Infrared Industries—to exhibits manager, advertising and sales promotion, corporate Marketing.

**Don Wood,** inventory control—to tabulating department.

### HP ASSOCIATES

**Bob Santos,** advertising and sales promotion, corporate Marketing—to order processing and sales promotion, HP Associates.

**Don Vandergoot,** designer, Amelco—to tool and equipment designer, HP Associates.

### BOONTON

**Paul Bastow,** production manager, PAECO — to manufacturing manager, Boonton Division.

### COLORADO SPRINGS

**Mike Cunningham,** Advanced R&D, pulse generator group—to circuit designer, pulse generator group, Colorado Springs.

### FREQUENCY & TIME

**Fred Basham,** Advanced R&D, pulse generator group—to F&T engineering, digital section.

### MECHROLAB

**Harmon Traver,** Corporate manufacturing engineering—on loan to Mechrolab as manufacturing manager.

### SYRACUSE SALES DIVISION

**Don Barkley,** from Travelab—to field engineer, Syracuse Sales Division, Rochester office.

## New HPSA head

Dick Reynolds has been named managing director of HPSA in Geneva replacing Carl Cottrell, who moves to international marketing manager. Cottrell will remain in Geneva for a few months before establishing his office at Palo Alto headquarters. Reynolds was formerly marketing manager at Geneva and prior to that had served as corporate sales manager at Palo Alto. An electrical engineering graduate of Iowa State and Stanford, he joined HP in 1954.


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)

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# Highlights of '64

## JANUARY

During an impressive Shinto ceremony, ground was broken for the new Y-HP plant near Tokyo . . . Hewlett-Packard France was founded with a sales office in Paris . . . The company's contribution to the profit-sharing retirement plan amounted to $1,785,806.

## FEBRUARY

Plans were announced for an Eastern Regional Service Center at the Boonton plant in Rockaway, N.J. . . . First fiscal quarter sales were up 8 percent and earnings up 20 percent over first quarter of year before . . . The Board of Directors set the maximum age for retirement at 65.

## MARCH

HP had its biggest exhibit ever at the IEEE show in New York . . . Mechrolab, Inc., a Mountain View, Calif., producer of chemistry and biomedicine instrumentation, joined HP . . . Dave Packard moved from president to chairman and Bill Hewlett moved from executive vice president to president.

## APRIL

A new international company, HP Interamericas, was started in Palo Alto, and HP Italiana S.p.A. was established in Milan to handle sales in Italy . . . A four-day symposium in Palo Alto for customers was the first educational gathering of its kind for the electronics industry.

## MAY

Microwave Division's spectrum analyzer was introduced to trade magazine editors and the electronics industry . . . The corporate advanced physics section was formed at Palo Alto . . . HP's fiscal six months sales figures were the best ever.

## JUNE

Thirteen children of employees were awarded $500 each under the HP college scholarship fund . . . Sanborn unveiled a portable ECG machine, the "500 Viso-Cardiette" . . . Two HP cesium beam standards were flown from Washington, D.C., to Switzerland in unique time comparison experiment.

## JULY

The Bivins and Caldwell Sales Division became the Southern Sales Division and opened a new branch in Louisville . . . In another name change, the Stiles Sales Division became the Florida Sales Division . . . The Eastern Service Center went into operation at Rockaway, N.J.

## AUGUST

Spectrum analyzer, digital voltmeter among HP stars in WESCON exhibit . . . Plans announced for construction of fifth building in Palo Alto complex . . . Sanborn Northeast medical sales merged with Yewell to start series of similar medical sales-sales division consolidations.

## SEPTEMBER

A special issue of MEASURE called attention to the corporation's 25th birthday . . . Moseley employees moved into new addition in Pasadena . . . Third quarter sales and earnings report highlighted by all-time quarterly record for incoming orders.

## OCTOBER

The big microwave spectrometer was announced as an important new tool in materials research . . . A new look for the company's trademark and signature was unveiled . . . New plants were dedicated at Colorado Springs, Berkeley Heights, N.J., and Hachioji, Japan.

## NOVEMBER

Negotiations were completed for acquisition of Delcon Corporation, a Palo Alto manufacturer of ultrasonic devices . . . Plans were revealed to move Bedford, England, operations to Edinburgh, Scotland, and an addition to the Boeblingen, Germany, plant was opened ceremoniously.

## DECEMBER

THE WALL STREET JOURNAL devoted some 50 column inches of space to a story about HP marketing . . . Early estimates indicated 1964 to be a record year for HP sales, earnings . . . A new line of HP instruments was introduced for nuclear research.