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# M e a s u r e

## In this issue

*The search for good people*  
*Microwave in perspective*



## Good people searching for good people

THREE HP ENGINEERS walked together up the steps of the university administration building and headed for the placement office. They were a team—a recruiting team—and their mission would be profoundly important to Hewlett-Packard.

They were not what you would call professional recruiters. The youngest of the team, in fact, had butterflies in his stomach. This would be his first visit to help his company search out top talent from the graduating classes of the nation's leading engineering schools.

The other two men had more experience with interviewing and evaluating students. They were pretty relaxed about the matter, but they didn't take it lightly. All three knew that the Hewlett-Packard of tomorrow will be shaped by the people hired today—and these people have to be the best. Just like baseball, the teams with the best farm systems win the ball games.

□ For Hewlett-Packard and about 3500 other corporations in America, the nation's colleges and universities serve as a gigantic farm system peopled by something near five-and-a-half million students, most of whom will be looking for jobs sometime within the next few years. The competition for the more outstanding of these young men and women is terrific. Many of them can boast of receiving a half-dozen attractive job offers months before they have completed their final exams. The problem in their case is to select the right company for the right reasons.

HP recruiters, like the three men on the cover, are sent to leading engineering schools to seek out such students and to help them make their decisions. At present there are about 80 such recruiters in the various domestic divisions and they are organized into two to six-man teams. Each man is an experienced engineer, possibly an engineering manager, and he works full time for HP in a responsible, decision-making position. This is the key to the company's professional recruiting program. The men implementing it are outstanding engineers who have thorough knowledge of their company, its objectives, and its overall needs for engineering talent. "It's a matter of good people looking for good people," says Norm Williams, who coordinates professional recruiting.

"Frankly, we have a rather unique program," he continues. "We stress the person-to-person approach and bend over backwards to keep clear of third-party elements. The goal is to get the job candidate together with the people he would work for as quickly as possible with a minimum of red tape and distractions. The central recruiting office in Palo Alto does not call the signals for the recruiting teams in the field.

Instead, we try to provide them with basic tools for the job and assistance in setting up interviews."

The pivot man in HP's recruiting program is the team leader. Visits by the entire team are generally made several weeks before the end of each semester. However, months prior to that, the team leader makes a pre-recruiting visit to set interview dates, contact professors and university placement officers, and get names of promising engineering students. He may also give talks before classes to promote knowledge of HP and the company's products.

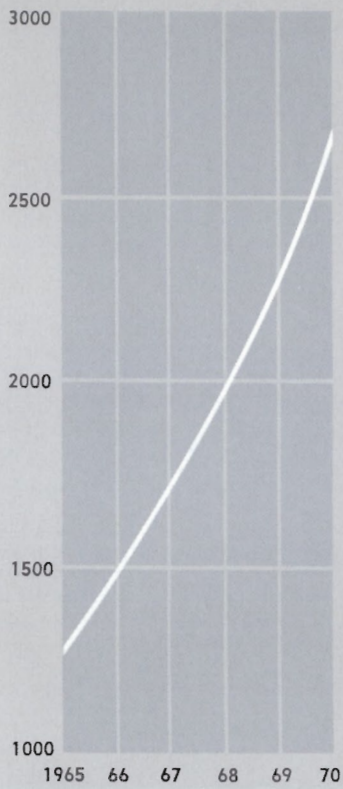
□ As the day for interviewing approaches, he sees that his team members are supplied with corporate literature, lists of graduates, and other materials sent by the central recruiting office. If overnight lodging is required, he makes necessary arrangements.

On the day of the visit, each man will interview from 10 to 12 graduating engineers, an exhausting schedule as any recruiter can attest. But the day does not end here. The team members then return to their hotel or other convenient meeting place to discuss the candidates. Eventually they decide which ones should be invited to HP plants for a close-up look at the company and further discussions with the people they would work with if they are hired. The files on these candidates are later given to central recruiting in Palo Alto and at this point the team has completed the major part of its job. The central office sees that the dossiers on all candidates interviewed by all teams are routed to the divisions who in turn may ask to have particular candidates visit them.

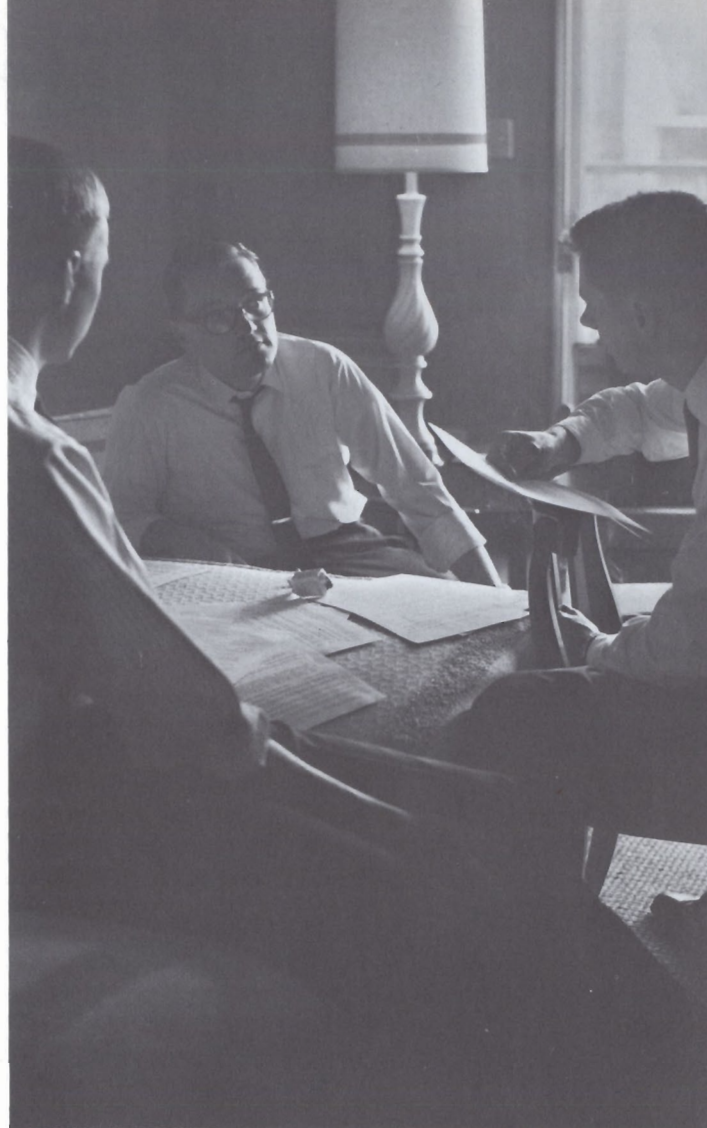
□ Last year 350 college students were invited to HP plants after 1102 interviews had been completed at 80 schools. Of these, 158 were offered jobs and 82 accepted. One reason for HP's high ratio of acceptances to job offers, according to Williams, is the fact that the recruiting people in the field, and other marketing and engineering people, have done a good public relations job with the schools. "Even before they graduate, the students are familiar with our instruments and have probably met several HP people." The company works hard at maintaining good relations with a large group of colleges and universities where high caliber engineers are likely to be found. Schools are continually being evaluated as sources for talent by the recruiters and other qualified people at HP. The smaller, lesser known institutions are not overlooked because they very often spawn some of the finest engineering talent.

Looking to 1966, Williams predicts that the company will hire nearly three times as many graduates as in 1965. "This will require a major effort by our people in the divisions," he points out, "but when it comes to recruiting, there's no question they are our own best salesmen." <





**Growing corps of HP employees with technical degrees. 1965-1970 (est.)**





## Second new building planned for Mountain View site

The company has announced plans to construct a second 65,000 square-foot building in Mountain View, California.

The facility will be a duplicate of a building now under construction for the Datamec Division, and will be located on the same 16-acre site on Middlefield Road. The site is just a few miles south of HP's Stanford Industrial Park complex in Palo Alto.

Construction of the new \$1-million building is expected to get underway within the next sixty to ninety days, and is to be completed by the end of this year. The new Datamec facility will be completed later this summer.

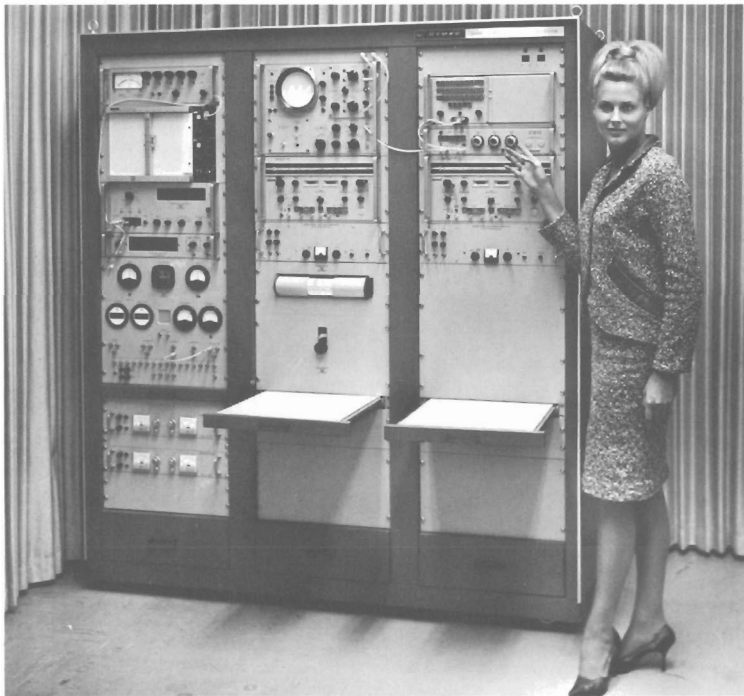
The new building will house the Western Service Center and the Delcon Division, both of which are presently located in Palo Alto. The Western Service Center is currently sharing space in the Dymec Division facility, and Delcon is

presently occupying a leased plant. Combined employment of the Western Service Center and Delcon is approximately 150 people.

The Western Service Center provides instrument parts, accessories, and factory-level repair and calibration service to HP customers west of the Mississippi River. The Eastern Service Center in New Jersey provides similar service for customers east of the Mississippi.

The Delcon Division manufactures ultrasonic detection and test devices, widely used in industrial maintenance and production.

This second new facility, like the one being built for Datamec, will be a one-story structure of prefabricated concrete construction.



### Seven divisions contribute to advanced system

This highly specialized system being used by the Navy to test missile guidance packages was produced by Dymec, utilizing instruments from seven HP divisions and one supplier. Called the DY-6824 stabilized sweep frequency system, Dymec was responsible for its design, assembly, check-out, and installation. Can you identify products from all seven divisions? Clearly visible are a Moseley recorder, F&T counter, Dymec digital voltmeter and special instruments, Loveland oscillator, a Microwave sweep oscillator and a modulator, Harrison power supplies, and a Colorado Springs scope, a plug-in, and a power meter.

## Crossley takes over sales, service in Kansas and Missouri

The Crossley Sales Division has assumed responsibility for the sales and service of the full line of HP instrumentation in the states of Kansas and Missouri.

Frank Waterfall, Crossley Division manager, said that new office locations have been established in St. Louis and Kansas City, Mo. to serve these areas. In addition to HP electronic instrumentation, these offices will also handle sales and service of HP medical and chemical instrumentation.

Harold Harris has been appointed manager of the St.

Louis office, and William (Woody) Meyer will serve as manager of the Kansas City office.

It was also announced that the Division's area of responsibility now includes Kentucky and the northern and western counties of West Virginia.

In addition to headquarters offices in Skokie, Ill., and its new offices, the Division has branch offices in Cleveland, Dayton, Detroit, Indianapolis, Monroeville (Pittsburgh), and St. Paul.

**J**ANUARY IS THE MONTH of our all-important annual management meeting known as the Monterey Conference. This year over 100 key managers, corporate officers, and directors convened at the Mark Thomas Inn in Monterey, Calif., for a four-day concentrated program of review, discussion, and decision.

Having just completed a record year in sales, profits, and growth, we are well reminded that the often used word "planning" is most important to a company that has reached the size and structure of ours. Hence the theme of this year's conference was "Planning Ahead for Change."

In the first two months of this fiscal year 1966 (November and December of calendar year 1965), incoming orders were up substantially over the same period a year ago. The order rate exceeded our projections for the first two months of FY 1966, giving us a good start in meeting our objective of doubling in size by 1970.

□ The Monterey Conference convened on Wednesday evening, January 12, and several hours were spent reviewing our 1965 performance, long-range goals, and corporate objectives. Thursday, we spent the entire day reviewing and discussing in detail the programs for achieving our objectives, both for the current year and long range.

These discussions covered such matters as our engineering programs—both divisional and corporate, our U.S. marketing program, international operations, personnel development and recruitment, capital facilities and equipment, and finance.

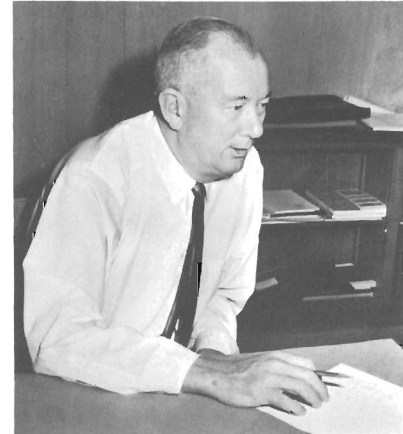
On Friday morning we split up the conference into functional groups of general management, engineering, marketing, and manufacturing. The Board of Directors met concurrently, in regular session. The functional meetings were generally panel discussions to further explore and develop policies in the areas of communication, personnel, pricing policies, international support, decentralization, and engineering contribution. That afternoon, the group reconvened to review the morning's results.

On Saturday morning we had a report on the status and future of our corporate management information system (electronic data processing, for example), and held final discussions on a number of subjects brought up during the conference.

We left for home on Saturday afternoon with a better understanding of the tremendous impact the implications of growth will have on our company in the future. For example, in the next five years we are certain that we will need to hire an additional six to seven thousand people throughout the corporation, at all levels of the organization. We will have to invest many millions of dollars in new product development, much of which will be in new areas of measurement. We will have to add nearly two million square feet of plant space, equipped with the most sophisticated machinery and equipment available.

□ Without question, an underlying theme of the entire conference, and a major objective of the future is the importance of each individual making a contribution. Not only in terms of profit, but in terms of new products, in quality, performance, service, and economy. There is a great job to be done in the months and years ahead, and we are all extremely enthusiastic and ready to meet the challenge.

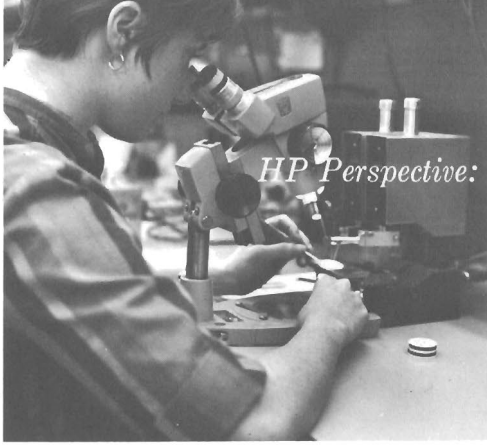
The very high level of orders over the past few months has put a great strain on our manufacturing capability. We are having to work extra shifts and long days in some areas. Moreover, we're really tight for space all around the circuit. Unfortunately, this will have to continue for awhile until new space under construction is ready for occupancy. I know we can count on all our fine people to help us over this hump. ◀



Noel E. Porter, Vice President, Operations

## At Monterey— planning ahead for change





*HP Perspective: Microwave Division*

Microwave Division management team reviews floor plan blueprints of new administrative quarters in Building 5, now under construction. Left to right: Paul Ely, R&D; John Doyle, manufacturing; Walter Selsted, magnetic recorder engineering; John Minck, marketing; Jim Ferrell, manufacturing engineering; John Young, general manager; Bill Johnston, accounting; Hank Taylor, materials handling; Dave Weibel, quality assurance. Although administratively assigned to the division, Taylor's materials handling department serves entire corporation.



## For Microwave, it was th

**C**AN SUCCESS EVER BE A PROBLEM? In the Microwave Division they're beginning to think so . . . and it's the kind of problem they love to face. Sixty-five was a spanking good year. Sales up 33%, profits up better than that. But the division is having to display plenty of fast footwork to keep up with orders.

□ It was strictly a lull before the storm. In 1961 the market for the entire microwave industry plateaued and lay inactive for nearly four years. This had a tremendous effect on all companies producing microwave products. As Division Manager John Young states, "Some companies maintained or enhanced their market positions under the adverse business conditions, while others were less fortunate and had to pursue alternate strategies."

In his opinion, the microwave companies that came through in healthy fashion were those which were able to make "a genuine contribution to the marketplace by introducing superior products. Such contributions stem from a unique ability to couple a real market need with creative engineering."

HP's Microwave Division certainly demonstrated this ability and thus holds a stronger position in the industry than at any previous time. "But we're only on the threshold," says Young. "We expect to grow at least 15% each year for the next five years. By then our total sales should be greater than Hewlett-Packard's entire sales for 1958 and the division will probably have plants in other parts of the country."

□ To meet immediate demands of the marketplace and to be ready for such an anticipated growth is Microwave's chief "problem." The division needs more space and will expand shortly into the upper level of new Building 5 in the Stanford complex. All of Building 4 will continue to house Microwave including "Mole Hall," plus portions of several other buildings in the area. Right now the division occupies 231,000 square feet of space, and by March 1 that will be increased to 300,000.

Burgeoning activities mean that more highly trained people are needed—production employees, technicians, machinists in particular. At present Microwave is one of HP's three largest divisions, employing 1000 people. Young expects that this will increase substantially within the year.

In the area of "working tools," the division has well over \$2 million in capital equipment—lathes, automatic screw machines, die casting equipment, tape controlled milling machines. Already the Microwave machine shops are perhaps the finest in the electronics industry. But major additions of equipment are continuing to be made to meet future

## e year that was

needs. A new 600-ton die casting machine has just been installed and a new \$200,000 Milwaukee-matic mill and four automatic screw machines are on order.

Microwave products—waveguides for instance—are made up of many cast and precision machined parts and for this reason the division long ago established its own shop facilities rather than depend on contracting the work outside the company. This has proved of great benefit to many other divisions who depend on the Microwave machine shops as a major source for precision parts. Not only are there substantial economies involved, but quality and delivery can be controlled much better.

□ Although the division already produces nearly 500 microwave products, ranging from signal generators, sweep oscillators, and amplifiers to modulators, test sets, and numerous waveguide instruments, there is increasing effort to develop new instruments. The new spectrum analyzer was the hero of 1965 and can claim a fair share of credit for the year being so successful. A whole family of spectrum analyzers will follow.

In a way, the division's name is a misnomer because many of the instruments operate at frequencies below 300mc which is generally considered the lower limit for microwave. For example, the line of signal generators provides instruments operating from 50kc to 40gc. This enables HP to serve virtually every conceivable application in communications, ranging from amateur short wave to radar.

Then too, the division is entering into entirely new fields. One example is the exciting, new HP 3950 magnetic tape recording system just introduced. There is nothing quite like it on the market for scientific testing and telemetry. With most of the performance features of available high priced systems, it is of greatly simplified design and sells for much less. As John Minck, marketing manager, pointed out, "We are offering a recording system that will do most anything you'd want it to, without the bells and whistles."

□ In selling these and other instruments, the division has made extensive use of "Application Notes." These are comprehensive brochures which give detailed explanations on how a particular instrument can be used in a particular application. One ran to 80 pages. Several have been distributed to as many as 25,000 people. The Application Notes are not only valuable for customers, but they serve well as a training aid for field engineers.

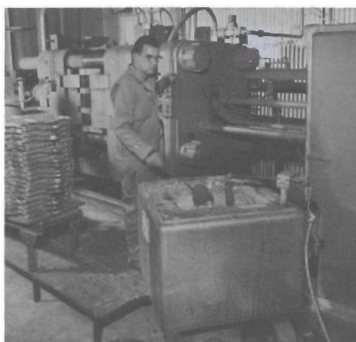
The Microwave Division moves ahead with increased momentum, and there is renewed enthusiasm among its members. As John Young says, "We don't have any problems we can't solve." ◁



Fred Tibbs (left) and Mike Verdone work on pilot model tape transports.



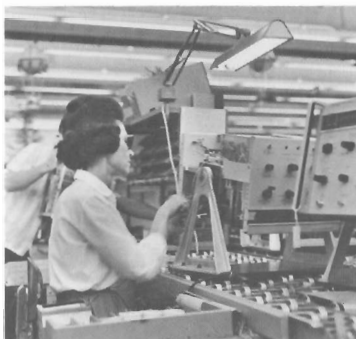
Spectrum analyzer helps Rod Carlson check new frequency comb generator.



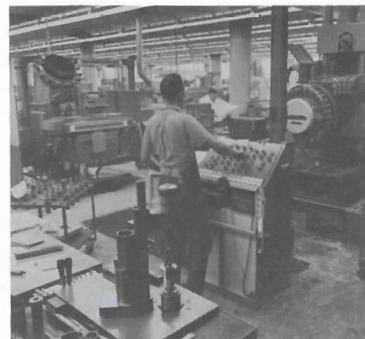
Bill Smith prepares to pour aluminum into new die casting machine.



Richard Sermol works behind line of waveguide directional couplers.



Wiring of spectrum analyzer is completed by Verena Golick.



Bob Hoffman operates one of several tape controlled milling machines.

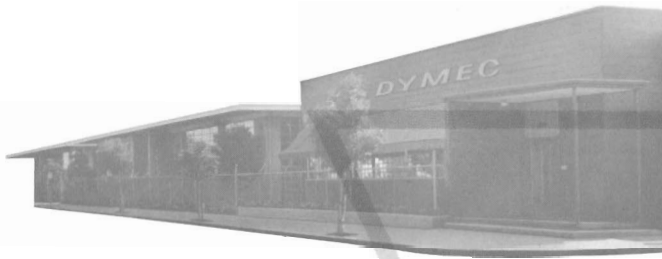


Jim Macrie verifies figures in new Application Note with pilot set-up.



Illustrations for technical publications are drawn by Mee Chow.





How long does it take for a business enterprise to achieve success? Obviously there is no answer to that. Some never make it. Some take many, many years of trial and error, organization and reorganization, before arriving at a position of leadership. But by any conceivable standard, the success HP's Dymec Division has achieved was reached in rapid-fire order.

The division is celebrating its tenth anniversary this month, and it seemed appropriate to MEASURE editors to

## Dymec's decade of progress

highlight Dymec's first decade because it is in many ways representative of Hewlett-Packard's philosophy of growth by significant contribution and hard work.

□ It all began officially on January 3, 1956, when an independent company called Dynac was formed in Palo Alto with a half dozen employees. Purpose of the organization was to carry on "a business of measurement system engineering and custom-designed instrument manufacture."

Two years later, the name was changed to avoid confusion with another company's existing tradename.

At first, the tiny company, financed in part by HP and HP employees and in part by some of Dymec's early employees, was housed in the front portion of the Hewlett-Packard Redwood Building. The first production instrument was the DY-2500 Variable Time-base Counter.

Many new products followed, employees were added, and

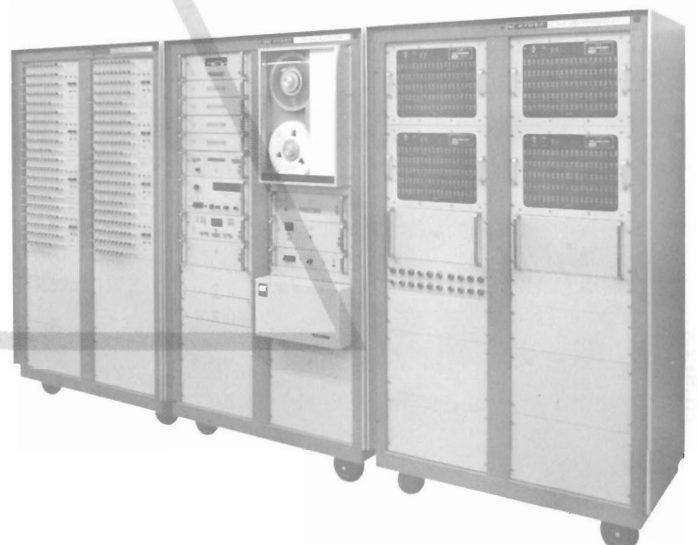
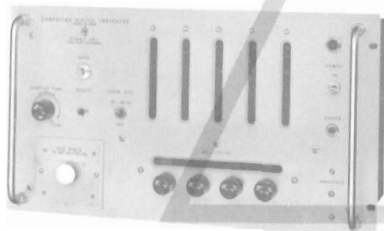
more and more space was needed. In mid-1960, the company moved into a portion of its present building, which was formerly occupied by HP. That same year, the DY-2401 Integrating Digital Voltmeter was introduced. This instrument has been called Dymec's single most valuable product in terms of both contribution to the measurement art and dollar volume.

□ Early products included RF and digital instruments and systems. As far back as 1957, the company had become involved in the data acquisition systems business with development and production of a large multi-channel system for Boeing.

However, 1962 was the first of the big years for Dymec systems. A "first" was scored in the data acquisition market with the introduction of the DY-2010 series which combined several standard Dymec and HP instruments. These products brought into reality the much-needed "standard systems" approach to systems manufacturing and afforded customers the chance to fill their specific needs by ordering systems comprised of readily available catalog instruments.

Subsequently, Dymec, which became an HP division in 1959, moved into the data plotting instrumentation business and most recently has entered the new field of quartz thermometry.

Simultaneously with its successes in product development, manufacturing, and marketing, the division has expanded floor space fifty-fold, and now employs 500 people. All this in ten exciting years. ◀



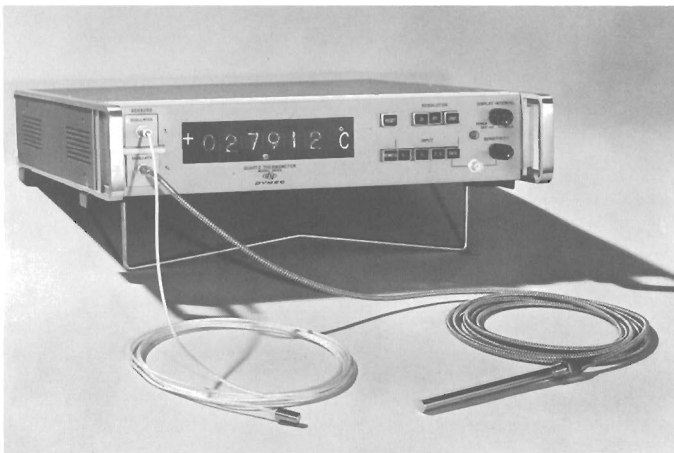


## F & T cesium frequency standard, Dymec thermometer win top awards

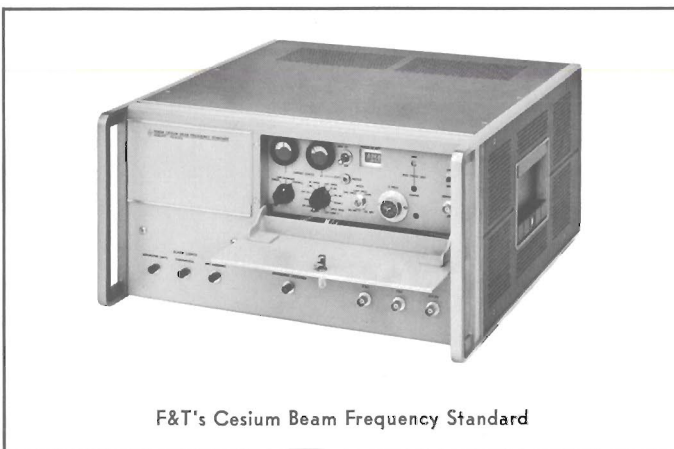
Two Hewlett-Packard instruments have been cited by *Industrial Research* magazine as among "the one hundred most significant new products of 1965." The magazine's editorial advisory board, selecting from thousands of entries from companies throughout the nation, judged the F&T Division's cesium beam frequency standard and the Dymec Division's quartz thermometer as winners.

The 100 winning products were selected for their uniqueness, importance, and usefulness by the distinguished 30-man panel. They described the cesium beam clock as "the lightest, most portable, primary time standard yet available." The thermometer was praised for its compactness and precision, and for its usefulness in obtaining accurate readings of temperatures in remote locations.

*Industrial Research* officials presented awards to several of the winning companies at a luncheon December 14 in San Francisco. Barney Oliver, vice president of research and development, accepted HP's two awards and served as a featured speaker. He gave an interesting talk on the meaning of the terms "engineering" and "research," a major portion of which is quoted at right.



Dymec's Quartz Thermometer



F&T's Cesium Beam Frequency Standard

*An address by Bernard M. Oliver, vice president, research and development, given December 14 at the INDUSTRIAL RESEARCH magazine awards luncheon, San Francisco.*

"First of all, on behalf of the HP engineers who were responsible for the design and execution of the two award-winning products, I want to express their thanks and appreciation for the recognition you have afforded them. Then, to all the award winners present here today I'd like, as one engineer to another, to offer my personal note of congratulation. You can all be proud of having your products—your efforts—selected as a winner from a very tough field of top products by a very tough group of highly competent judges.

Though I might quibble about the use of the word "research," and would prefer the term "engineering" as more accurately descriptive of the effort behind most of these products, I do recognize that both kinds of effort are represented. These two words are so confused today by loose usage that they are fast losing their original very clear meaning. To me this seems a shame.

Research is inquiry into the principles of nature. Research is done by scientists. Scientists analyze, and the fruits of their labors are *discoveries*.

Engineering is the application of known principles of nature to human need. Engineers synthesize, and the fruits of *their* labors are *inventions*—new products—new technologies.

Of course much research involves *inventing* the tools to do it with, so scientists become engineers; and much engineering involves finding new principles that permit a desired device to operate so engineers often do some research.

I think we should get over the pernicious idea that being a scientist is somehow more respectable than being an engineer. And let's stop using the word research as a euphemism for engineering. True, engineers would face a static future if scientists did not continue to make discoveries. But, on the other hand, all discoveries of the scientists would not have benefited the world very much if engineers had not applied them.

Science and engineering—or science and technology if you prefer—are a cooperative pair of disciplines whose synergy has changed the world and will continue to do so. The winning products we honor here today have a high content of scientific discoveries made over the last decade and certainly represent the best of modern engineering in applying those discoveries.

Engineering progress has many facets. There is of course the direct application of new discoveries to do an old job better or to accomplish something heretofore impossible. There is the modernization of old products through the use of newly discovered techniques and newly designed components. There is the straightforward application of known techniques—old and new—to solve a newly felt need. And there is the utilization of characteristics long known, but regarded as undesirable. Turning bad properties to advantage, so to speak.

One of the HP awards illustrates this nicely. I single it out only because I am familiar with this case.

For years, quartz crystal designers have been cutting quartz crystals at special angles so that the oscillators using them would have zero temperature coefficient of frequency at some temperatures, or small variation over a given temperature range. One day one of our engineers, Don Hammond, decided to see if he could find a cut for which the temperature coefficient was not zero, but instead was very constant, so that a linear change of frequency with temperature resulted. He programmed our computer to do the search and found indeed a linear cut. The result: a new product—the quartz thermometer which quickly delivers temperature readings over a wide range with 0.01 degree accuracy in digital form.

I sometimes think engineering progress would be more rapid if we all did more of this kind of thing—if we all used conventional devices in unconventional ways."



## PEOPLE ON THE MOVE

### DATAMEC

**Gordon Eding**, manufacturing engineering manager, HP Palo Alto—to general manager, Datamec Division.

**Art Walton**, Palo Alto finance staff—to cost accounting, Datamec Division.

### F&M SCIENTIFIC DIVISION

**Chuck Lundeen**, corporate manufacturing engineering—to electronic engineer, R&E group, F&M Scientific Division.

### FREQUENCY & TIME

**Dick Knock**, regional quotations manager, corporate Marketing—to marketing staff, F&T Division.

**Ross McCann**, F&T production—to F&T engineering lab.

### INTERNATIONAL

**Jim Cochran**, Eastern Travelab—to overseas sales, International Operations.

From Hewlett-Packard Inter-Americas to commercial administration, International Operations: **Mary Andrews**, **Dolores Bogue** and **Ann Short**.

### SANBORN

**Bill Craven**, Advanced R&D staff—to engineering staff, Sanborn Division.

**Stan McCarthy**, Advanced R&D staff—to engineering staff, Sanborn Division.

### WESTERN SERVICE CENTER

**Don Greening**, product training, corporate Marketing—to Western Service Center (repairs).

### PAECO

**Harmon Traver**, on loan to Mechrolab—to production manager, tape head department, PAECO.

### NEELY

**Art Dauer**, marketing department, Frequency & Time Division—to staff engineer, Palo Alto office.

**Chuck LaPorte**, field engineer, North Hollywood office—to district manager, Sacramento office.

**Rudy Poucher**, district manager, Sacramento office—to district manager, Denver office.

### EASTERN SALES REGION

From Sanborn medical sales (Bethesda office) to Eastern Sales Region, Rockville (medical instrumentation group):

**Richard A. Jennings**, manager

**Robert J. Coco**, sales representative

**John C. Macey**, sales representative

**Guy S. Capone, Jr.**, sales representative, Sanborn-Baltimore—to sales representative, medical instrumentation, Baltimore office.

**Ed Fleischer**, asst. office/accounting manager, New York office—to office and accounting manager.

**Morriss B. Frazier, Jr.**, sales representative, medical instrumentation, Florida Sales Division—to sales representative, medical instrumentation, Rockville office.

**H. Court Smith**, sales representative, F&M Scientific-Washington—to sales representative, chemical instrumentation, Rockville office.

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## HP Associates group transfers to corporate research and development

As first announced in the October issue of MEASURE, a section of the research and development staff of HP Associates has transferred to the corporate advanced research and development group. The transfer was effective at the end of December.

Specializing in advanced solid-state research, the former HPA group reports to Barney Oliver, vice president of research and development for HP. Also included in Dr. Oliver's group are Paul Stoff's circuitry organization, and Don Hammond's measurement techniques organization.

John Atalla will continue as manager of the transferring group, which includes William Ansley, Robert Archer, Robert Brown, Robert Burmeister, Maxine Burton, Dick Chang,

William Davis, Robert Dean, Thomas Diesel, Roger Drabin, Reinhart Engelmann, Richard Ewing.

Kent Garliepp, Elmer Gowen, Paul Greene, Herbert Hall, Elizabeth Hatch, Thomas Hunt, Teruko Inouye, Chang Kang, Eleanor Kelly, Dietrich Kerps, Larry Lawrence, Egon Loebner, Anne Lucas, Richard Lucas, Frederick Ludeman, Hermann Luechinger.

Kay Malone, Gustave Marshall, John Marshall, Kathleen Murray, Bert Nolan, Gregory Peck, Ronald Regehr, Elizabeth Richards, Kenneth Saito, Dzidra Samsonovs, Mary Lee Shepherd, Nina Silcock, and Nicholas Spilling.

John Feustel, formerly with Mechrolab, has also joined the solid-state research group.





*from the chairman's desk*

**W**ITHIN A FEW DAYS we will issue our annual report to stockholders covering operations for fiscal 1965. It was another good year for the company, with sales rising 22% to a level of \$163.6 million, and net earnings totaling \$13.9 million, a gain of 38% over 1964. Earnings per share of common stock equaled \$1.12. This compares with 80 cents in 1964 and 60 cents in 1963.

Our international business is continuing to grow rapidly and has more than doubled in the past three years. It reached a level of about \$37 million in 1965, accounting for 22% of our total corporate business. HP products are now sold in 101 foreign countries, indicating the truly world-wide nature of the company's operations.

In reviewing year-end figures, we are especially pleased at the continuing improvement in our after-tax profit margin. This increased from 7.5 cents per sales dollar in 1964 to 8.5 cents in 1965, reflecting the effort all of you are making to do a more efficient, productive job.

Because our new product programs are the most important single factor in our continuing growth and profit, we are placing even greater emphasis on these programs than we have in the past. Our total corporate expenditures for research and development rose to \$15.7 million in 1965, equal to 9.7 cents out of every sales dollar. This compares with 9.2 cents in 1964.

We are budgeting nearly \$20 million for R&D in 1966, which will probably be in excess of 10 cents on each sales dollar. Moreover, it is about twice the amount we spent on R&D in 1963.

Investing more dollars in product development is no guarantee of a company's future success and growth. The important thing is how those dollars are spent. Down through the years we've attempted to get maximum benefit from our R&D expenditures by seeing that they are directed toward the development of products that make a real contribution to technological progress and add a useful increment to our sales and profits. We intend to put increasing emphasis on this objective during 1966.

We also want to get our new products into production and into the customer's hands with greater speed and efficiency than ever before. This is a challenge for everyone involved in our engineering, manufacturing and marketing effort.

I am confident that with your continuing enthusiasm and hard work, 1966 will be another period of growth and progress for HP. It will not be without its problems and difficulties, but there will be ample opportunities for each of us to make important contributions.

*David Packard*

**CONTRIBUTING EDITORS**

- BOONTON, John Ricci
- CENTRAL SALES REGION, Fred Harvey
- COLORADO SPRINGS, Dolores Rupp
- DATAMEC, Sharon Taylor
- DYMEC, Bill Dallenbach
- EASTERN SALES REGION
  - New York City area, Dorothy Clink
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  - Syracuse area, Ann Ash
  - Washington, D.C. area, Colleen Molineu
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- HP VmbH, Hans Hubmann
- LOVELAND, Walt Skowron
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- NEELY SALES, Patti Cooper, Englewood
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- SOUTHERN SALES, Virginia Thornton
- SOUTHWEST SALES, Helen Hobson
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# 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)



## Making waves

**J**OHAN MINCK HAD MIXED EMOTIONS when final figures showed that the Microwave Division had exceeded its sales quota for fiscal 1965. As the division's sales manager, it was heart warming news. But there was a chilling aspect to the matter. It meant that he would have to honor an earlier campaign promise to ceremoniously swim the Palo Alto Country Club pool if the quota should be met. This commitment was made a year ago, but they have long memories in Microwave. When the division soared over the top in August, not a word was said about the swim. Weather was much too comfortable. Instead, they waited for their Christmas party when Minck was asked to pay off. Appropriately attired against the near-freezing winds, he plunged with style into the unheated pool.