

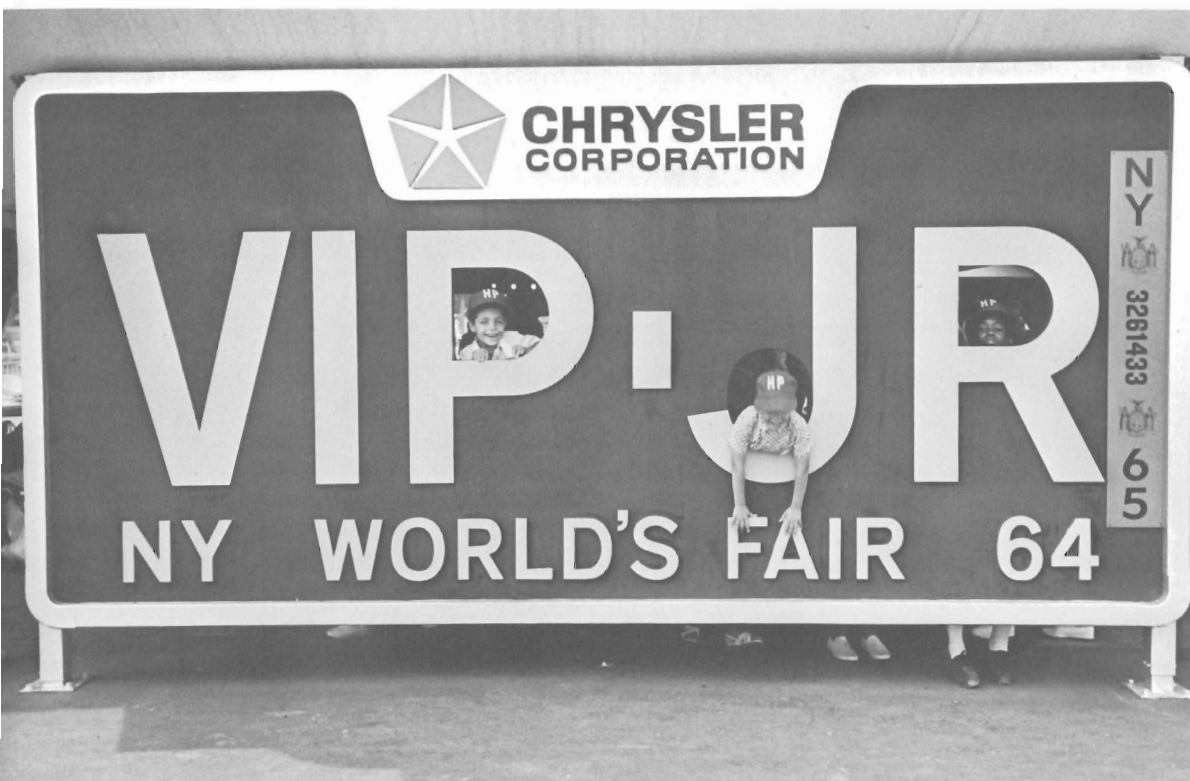
MR JOHN WARMINGTON
SAMPLE ELECTRONICS -VIC- PTY. LTD.
9-11 CREMORNE STREET
RICHMOND E. 1
VICTORIA, AUSTRALIA

July 1965



In this issue

A day at the fair
Mariner's big trip



Five-year-old Edward Echevarria, center, becomes an honest-to-goodness VIP, as he and other happy HP kids, Johnny Ricci, left, and William Johnson, peer out of Chrysler exhibit at Fair.

A child's wide-eyed

ALICE IN WONDERLAND, story-book animals, Walt Disney's most imaginative creations, and daredevil Mexican acrobats!

These are only a few of the memories that five-year-old Edward Echevarria and eight other youngsters, all children of employees at HP's Boonton Division, will cherish after an exciting June day at New York's World's Fair.

The children were accompanied by parents Pedro Echevarria (a multilith operator) and his wife Mary, John Ricci (Boonton's personnel manager) and his wife Julie, and Mrs. Ann Setchik of Boonton's machine shop.

□ Besides little Edward, youngsters making the journey were Betsy Ricci, 8, Johnny Ricci, 7, Jimmy Tasker, 12, William Johnson, 12, Diane Setchik, 10, Susan Setchik, 12, Laura Setchik, 14, and Pat Setchik, 17.

Ninety-five degree weather and a 50-mile drive (in three cars) from their Rockaway, N.J., homes hardly mattered as the HP party set out for Flushing Meadows. There was too

much to see and do to let little things like heat, humidity and a long drive stand in the way.

And the group wasn't disappointed! Other highlights of this exciting day at the Fair included IBM's "People Wall," where a man seemed to come down from the sky to introduce educational movies; an enormous, futuristic automobile hanging from the ceiling; and life-like children from 26 different countries, all in colorful native attire.

□ If that weren't enough, the children also devoured mountains of ice cream and drank several gallons of soda pop. And William Johnson, son of Bill Johnson of HP's Eastern Service Center at Boonton, even got behind the wheel of an open-air Avis car and drove a few of his companions around the fairgrounds.

Edward Echevarria and his friends stayed at the Fair from 11 a.m. until 10 p.m. It may have been a long, long day, but one these children won't soon forget.

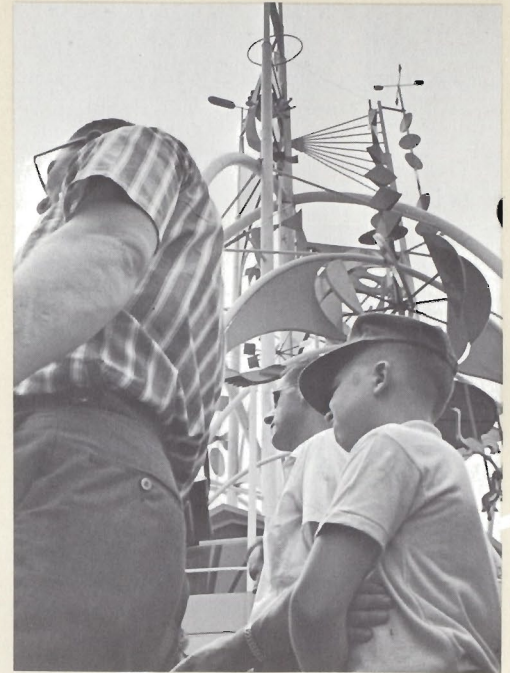
Besides, Master Echevarria got to stay up way past bedtime.



The story-book rabbit from Alice in Wonderland captures the attention of little Edward Echevarria at the Fair's Pepsi Cola exhibit.



Johnny Ricci (right) waits his turn as Jimmy Tasker, 12, seems to say "Let's shake" to Alice in Wonderland's make-believe bear. At left is 12-year-old William Johnson.

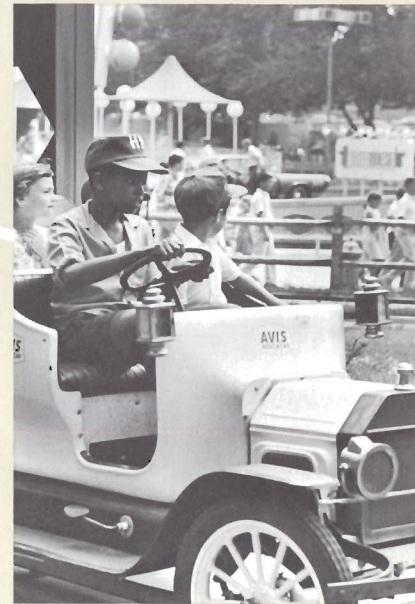


From Edward's vantage point, his dad, Pedro Echevarria, left, looks almost as tall as the Fair's highest sculpture. Also shown are Jimmy Tasker, center, and HP's John Ricci.

view of the Fair



Susan, 12 (left), and Diane Setchik, 10, share Edward's excitement as they ride through "It's a Small World," a Walt Disney creation. Edward and other HP kids saw animated figures of children from 26 countries here.

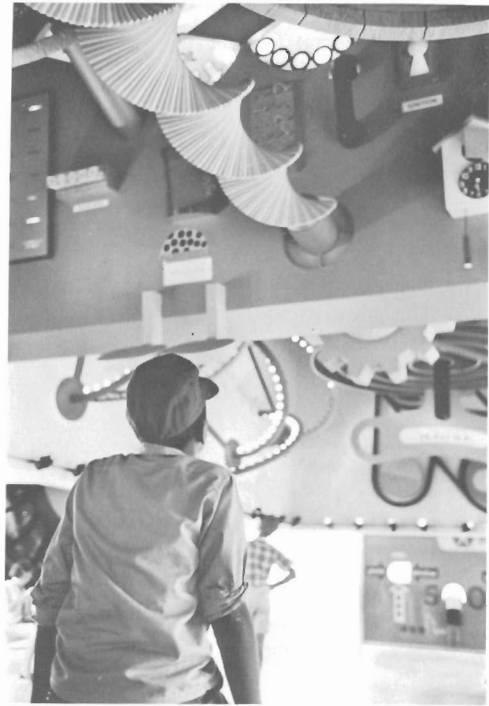


Edward is hidden in photo as he and Betsy Ricci, 8, sit in back seat while William Johnson (at wheel) and Johnny Ricci enjoy free ride through Fair grounds.

(continued)



Four gaily-costumed acrobats on 100-foot-high pole in distance seem to fascinate Edward (back to camera). Stunt was part of Mexico exhibit.



Edward's buddy, William Johnson, watches huge ceiling-hung cutaway of a car at Chrysler exhibit.



Edward (left, third row from bottom) and his pals are watching an announcer come down from ceiling to introduce several educational movies to be watched by those seated at IBM's "People Wall." Pedro and Mary Echevarria are seen in bottom row, second and third from left.



"This water is colder than I thought," squeals eight-year-old Betsy Ricci, as she and other HP kids refresh themselves before resuming visits to Fair exhibits. In background are uni-sphere, a Fair landmark, the exciting sky cable ride, and some of the site's magnificent sculpture.

JUST A LITTLE OVER A MONTH AGO I completed a trip to Europe and Japan. Except for England, which is having a balance of payments problem, and Italy, which is fighting an inflationary situation, business conditions are quite good in most all of the countries I visited. I was especially impressed with Spain's increasing industrialization and improving economic health.

□ Europe is still our largest and fastest growing overseas market. In fact, it accounts for nearly two-thirds of our international business. This is due partly to a maturing of the post-war European economy. Its goods-and-services vacuum is being filled, and full employment is the rule rather than the exception. This, in turn, creates a short labor supply and encourages the European industrial and business community to buy more sophisticated instrumentation to make up for the labor shortage.

We are taking advantage of this situation by putting more new products into the European pipeline, stepping up our sales promotional efforts, and in general doing a more efficient, vigorous marketing job. As an important step in this direction, we will be making some changes in our international marketing organization over the next 30 to 60 days.

For example, we are setting up a Commercial Administration Department to handle all international order processing, U.S. export licensing, invoicing and expediting. This department, which becomes operational August 1, consolidates functions previously handled by HP Inter-Americas, Overseas Sales, and Manufacturing Services.

The establishment of this new group will provide us with important advantages. It will enable us to reduce overall shipping costs, speed the delivery of instruments to overseas customers, improve communications, and reduce costly paperwork. Moreover, it enables HPIA to devote full time to expanding our Latin American market, and Manufacturing Services to increasing its assistance to our overseas manufacturing facilities.

□ We are also setting up a new international planning and market research group. The activities of this group will be especially helpful as we move deeper into such new markets as medical and chemical instrumentation.

During my recent trip I had an opportunity to visit our manufacturing plants in Europe and Japan. These are continuing to expand, turning out a broader line of products to meet increasing competition. As these facilities grow, of course, they place greater demands on our domestic produc-



William P. Doolittle
Vice President, International Operations

AROUND THE CIRCUIT . . .

New vigor in international marketing

tion since many of the components and parts supplied to our overseas plants are manufactured by our U.S. divisions. In fact, for every three new employees hired at our overseas plants, one new employee is needed at one of our domestic facilities.

□ HP's success internationally has more of a direct effect on our domestic operations than we tend to realize. And because it does, we can all be encouraged by the gains we have made on the international front during the first half of this fiscal year.

Domestic orders during this period showed a good increase of 14% over the first half of 1964—but for the same period our international orders were up 34%. This represents about 23% of our total corporate business.

Although our international markets have grown considerably in the past five years, we anticipate that their rate of growth between now and 1970 will be at least as great. So our big job is to build strength for the future, and to take advantage of our increasing overseas opportunities as they unfold. ◀



Product applications keep growing and growing

HP Perspective: Moseley Division

THEY SAY THAT EVERY ROLLS ROYCE is given a rugged road test before delivery. If the slightest thing goes awry, it's back to the shop for adjustment.

□ Moseley products are like that. As the Rolls Royce of the electronic recorder industry, this division can't afford to produce less than the best. Each Moseley recorder is operated for hours before the quality assurance engineers even consider passing it along for shipment.

Aside from the fact that the division's people are dedicated to quality, there is another reason Moseley X-Y and strip chart recorders are road-tested. These products are electronic instruments, to be sure, but they are also mechanical devices with motors and moving components which must serve faithfully over long periods of time with unerring accuracy. Where there are moving parts, friction is unavoidable, but Moseley engineers have developed means of minimizing wear and thus prolonging the life of recorders. Since the practice of operating each recorder for at least four hours was begun two years ago, the failure rate has been even further reduced.

One reason Moseley can maintain such a firm control over the quality of its products is that the division's plant in Pasadena is about as self-sufficient from the manufacturing standpoint as you can get. Virtually all of the mechanical and sheet metal parts in a Moseley recorder are fabricated in-house . . . not just cabinetry, writing arms, and chassis, but even the motors that make the recorders go.

□ With such diverse capabilities, the plant is very interesting to tour because there is so much going on. A machinist can be seen making a precision bearing, a pretty girl in motor manufacturing winds a coil with fine copper wire, a large group of women assemble complex circuit harnesses with infinite patience and dexterity.

In all, the division employs 350 people, an increase of perhaps 15 per cent over a year ago. This growth parallels the growth in sales Moseley has enjoyed in the past five years when sales have grown from 15 to 25 per cent each year.

□ The X-Y recorder industry in America includes a dozen manufacturers, and HP's Moseley Division is by far the largest. This is not especially surprising when you consider the division's origins and the contributions its people have made to the science. Francis L. Moseley (who remains as special advisor to the company) built the first X-Y recorder in 1935, and in 1951 he founded a company bearing his name to manufacture the first commercially available models. For scientists and engineers everywhere, this meant that they now had a means of recording the relationship between two variables without going through laborious manual plotting. Friction to heat, vibration to velocity, current to voltage—whatever the variables, Francis Moseley made it possible to trace them on chart paper automatically.

The contributions Moseley engineers have made since then are too numerous to mention other than to state without exaggeration that the majority of significant advances in X-Y recorders have emanated from the heart of Pasadena

where the division has its roots and continues to thrive. (E. L. Moseley Co. joined HP in 1958 as a subsidiary and became the Moseley Division in 1964.)

The plant's downtown location makes it somewhat unique among Hewlett-Packard operations. Division Manager Ed Austin calls it a "citized operation," where many of the employees live within walking distance or a short drive.

With the completion of the extremely attractive new plant and office building on Fair Oaks Avenue last year, the entire complex now has about two acres of floor space. Most of this is devoted to manufacturing, which employs 275 people. Another 50 people work in engineering and the remainder are in marketing, accounting, and general administration.

□ X-Y recorders, produced in over 50 models with a catalogue full of options and accessories, account for 80 per cent of sales. Strip chart recorders make up the balance. Applications for these two lines of instruments are broader than for most Hewlett-Packard products. To cite some far-ranging examples, recorders may play a role in aluminum anodizing operations, artificial diamond manufacturing, tire testing, medical diagnosis, astronomy, cryogenics, motor wear testing, food packing, nuclear physics, and for testing the strength of metal railroad cars.

Most of these applications involve testing and laboratory research. Ed Austin believes that sales will continue strong in these areas, and he anticipates a significant growth to come in industrial applications. As automation and semi-automatic production operations become more prevalent, X-Y and strip chart recorders will become indispensable devices for monitoring and control.



Mary Bottchen cables a harness with blueprint as guide.



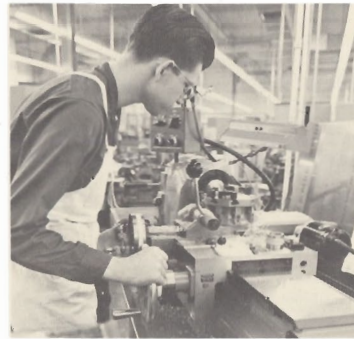
Designer Dick Kemplin (r) checks prototype with Malcolm Frey.



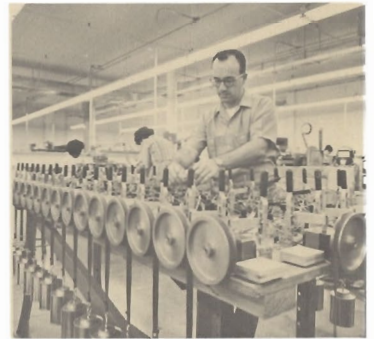
Cable assembly is handled with skill by Barbara Lopez.



Wilsey Martin makes changes to large circuit diagram.



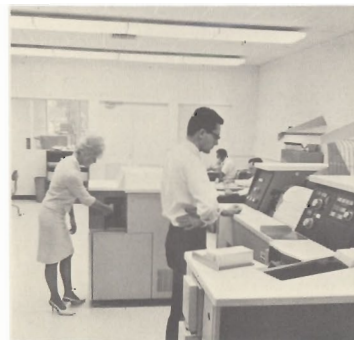
Gear housing is turned out by Bob Jensen in machine shop.



Moseley motors are tested under load for hours by Steve Liberino.



Facade of handsome new building serves as backdrop for Moseley management team. Left to right: Ed Austin, general manager; Jim Bunnell, marketing; Dick Langworthy, engineering; Jim MacGregor, finance; Myron Hunt, manufacturing; Bob Loughlin, quality assurance.



Computer dept. handles accounting, does chores for Neely.



A coil for servo motor is wound by Dorothy Alexander.

Sanborn's '500' captures new honors



(Picture at left) Recent Alcoa award ceremony includes, from left, Sanborn's Del King and Bruce Wholey, and Alcoa's William McChesney. (Picture at right) Product Engineering Editor E. J. Tangerman, left, presents coveted design award to Sanborn's Don Coburn.

Two new design awards have been won by Sanborn's 500 Viso-Cardiette. With these new honors, the "500" has now captured four major, national design prizes since the product's introduction a year ago.

Latest sponsors to bring national design recognition to the Sanborn product are *Product Engineering* magazine and the Aluminum Company of America. *Product Engineering*, a McGraw-Hill publication and one of the country's foremost trade magazines, selected the "500" as one of 12 prize winners from 275 entries in its Design Awards Competition.

The Alcoa Award, announced at formal dinner ceremonies in Waltham, Mass., in early June, was given for excellence of functional design and imaginative use of aluminum in a new product.

Earlier design awards won by Sanborn's electrocardiograph, many of which are now in service in doctors' offices, hospitals, clinics, and research facilities to record the tiny electrical potentials generated by the heart, were received at the 1964 Wescon show in Los Angeles, and by *Industrial Research* magazine. In the latter competition, the "500" was one of 100 products selected from 10,000 entries.

Thomas W. Pickett and Indle G. King designed the portable ECG machine.



Sidewalk display of wide variety of Sanborn products attracted many visitors at recent medical exhibition in Rome. Man with back to camera is Celestino Somaruga of HP Italiana. To his right in dark suit is Giulio Andreotti, Italy's minister of defense. High ranking Italian army officers look on.

Groundbreaking for HP Ltd.

A fog-shrouded hillside in the suburbs of Edinburgh was the scene of warm Scottish hospitality a few weeks ago, when local government officials welcomed Hewlett-Packard to Scotland in a colorful sod-cutting ceremony.

The groundbreaking was for Hewlett-Packard Ltd.'s first 80,000-square-foot building, scheduled for completion in mid-1966. Eventually, the complex will include three or four buildings on a 16-acre site, and will house HP Ltd.'s engineering, manufacturing and administrative operations. Upon completion, HP Ltd. will move from its present, smaller location at Bedford, England.

HP Ltd.'s new facility will be located eight miles west of Edinburgh on the south bank of the Firth of Forth, within the borough limits of South Queensferry. A new school and park and recreation area are planned for the property adjacent to the plant site.

HP President Bill Hewlett was on hand for the event, and an accompanying picture on the right indicates he was indeed an active participant.



(Top picture) Ceremonial spade in hand, Minister of State Willis breaks ground at HP Ltd. plant site as, left to right, David Simpson, Lord Polwarth, Bill Hewlett, and Provost W. Lawson smile approvingly. (Bottom picture) HP President Bill Hewlett, with a bit of mechanical help, appears ready to do his part at sod-cutting event.



PEOPLE ON THE MOVE

HP - PALO ALTO

Fred Becker, purchasing agent, Dymec Division—to systems analyst, corporate systems group.

Norm Bowers, tool engineering, F&T Division—to tool engineering, Advanced R&D.

John Corcoran, systems analyst, IBM, San Jose—to programmer, Palo Alto data processing group.

Carl Cottrell, International marketing manager — to eastern regional sales manager (corporate).

Matt Schmutz, control supervisor, data processing—to Palo Alto data processing supervisor.

Bob Stephenson, business manager, HP Inter-Americas—to corporate order processing administrator.

Don Wood, tab—to inventory control.

MECHROLAB

Bob Heller, Microwave Division marketing—on loan to Mechrolab.

Jim O'Briant, environmental test—to quality assurance manager, Mechrolab.

NEELY SALES DIVISION

Dick Blasing, regional sales engineer, Dymec Division—to staff engineer, Neely-Palo Alto.

Herman Hinton, electronic engineer, White Sands Missile Range—to staff engineer, Neely-Las Cruces.

SANBORN

Burton Dole, process engineering, HP-Palo Alto—to production engineer, Sanborn.

EASTERN COMMERCIAL SERVICES

Warren Hoffman, commercial manager, HPSA — to manager, Eastern Commercial Services office (Boonton).

LOVELAND

Alfred Gort, Advanced R&D—to R&D, Loveland.

INTERNATIONAL

Dick Alberding, International manufacturing manager—to manager, HP Inter-Americas.

Tom Christiansen, manager HP Inter-Americas — to manager, International planning.

George Fredrick, International operations staff — to International manufacturing manager.

Ken Tingley, product research (International)—to International marketing services manager.

Y - HP

Harry Lang, sales manager, Boonton Division—to co-manager, marketing, Y-HP.

Jack Murata, line supervisor, Loveland Division — to production manager, Y-HP.

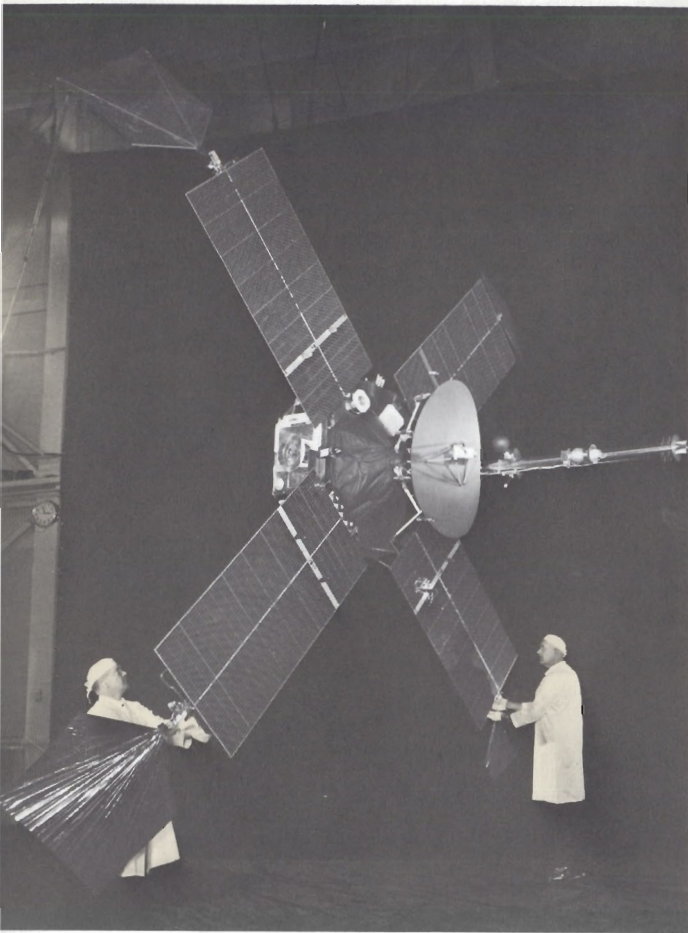
Sy Ramey, product training (corporate)—to product training manager, Y-HP.

Karl Schwarz, section manager, Frequency & Time Division—to co-manager, Manufacturing, Y-HP.

SYRACUSE SALES DIVISION

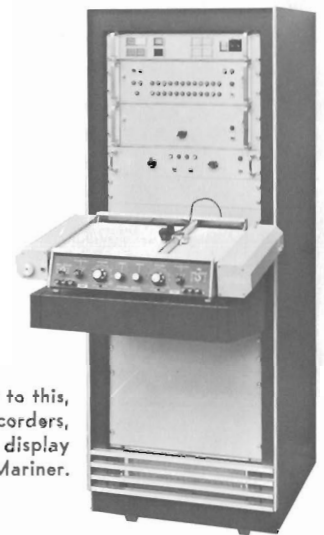
Glenn Muller, staff engineer—to field engineer, Poughkeepsie office.

Clyde Powers, Syracuse service group—to staff engineer and service, Poughkeepsie office.



The not-so-ancient Mariner

Mariner spacecraft has 138,000 components in a 575-pound package. NASA assigned project management to Jet Propulsion Lab.



Dymec systems similar to this, incorporating Moseley recorders, give scientists immediate display of information from Mariner.

AT THIS WRITING, one of the longest, most informative, and most expensive voyages in history is coming to an end. Mariner IV—that windmill-like spacecraft launched over eight months ago—has already covered nearly 350,000,000 miles in its journey to Mars.

□ The incredible complexity of Mariner can only be described in cold statistics. The 575-pound spacecraft is composed of some 138,000 components, each of which must function faithfully for the 6,500 hours in space. The primary power source is an arrangement of 28,224 solar cells mounted on the four vanes which have faced the Sun during most of the trip. During the earlier stages, the power reached a maximum of about 640 watts and has decreased to a little over 300 watts as the spacecraft moved away from the Sun toward Mars.

Mission objectives are to provide engineering experience in executing long-duration space flights and to perform scientific measurements. Several of these investigations are designed to measure radiation, magnetic fields, and micrometeorites in space. In other experiments, a television camera will take closeup pictures of Mars and a series of meas-

urements will attempt to determine the planet's atmospheric pressure.

□ This variety of data is transmitted to the earth where it is picked up by a globe circling tracking network. From the network's stations, all data flows to Jet Propulsion Laboratory's space flight operations facility in Pasadena for processing. Among the Hewlett-Packard instruments serving this center are a series of special Dymec plotting systems incorporating Moseley X-Y recorders. The Dymec systems, operating on-line with the computers, permit scientists to take quick looks at certain data processed by the center's computers. The systems receive the data in digital form and display it in convenient analog X-Y chart form. ◀



from the chairman's desk

DOWN THROUGH THE YEARS our company has developed a broad program of employee benefits, including group life, hospital and medical insurance plans. These plans are periodically reviewed and updated to be sure they offer the utmost security and protection to HP people and their families.

Recently, following one of these reviews, we decided to include some additional benefits in our hospital and medical insurance plan. You will be hearing more about this expanded plan in the next month or two, but there is one aspect of it which I would like to mention now and which I'm sure will interest all of you.

Effective August 1, a new Long Term Disability Insurance program will become available to all HP employees in the United States. As the title indicates, this program is designed to protect you and your family from the financial hardship imposed by long term disability.

Every wage earner is faced with the threat of incurring a serious illness or accident which might disable him and prevent him from earning sufficient income to support him and his family. Our new program eliminates this threat. It provides income should you become disabled for a prolonged period.

This month you will receive a booklet describing the new program. Space doesn't permit us to outline all the details here, but I would at least like to point out some of the program's more important features.

If you enroll promptly in the program, you can do so without a medical examination or evidence of good health. Once enrolled, you are protected on and off the job on a 24-hour basis.

Should you become disabled and unable to work because of illness or injury, you will receive monthly payments following your 90th consecutive day of disability. The amount of the monthly payment, not to exceed \$1500, will be equal to two-thirds of your basic monthly earnings (your monthly wage or salary exclusive of bonuses or commissions). This amount will be reduced by any other payments you may receive, such as HP sick leave, workmen's compensation, Social Security, etc. The total combined payment from these "outside" sources and the HP plan shall not exceed 75% of your basic monthly earnings.

If you are disabled because of illness, you will continue to receive payments until you reach age 65 or return to work, whichever occurs first. If you are disabled because of an accident, the payments continue for the rest of your life or until you return to work.

The cost of your coverage, which will be deducted from your paycheck, is remarkably low—about one-third of one percent of your basic monthly earnings. For example, if you earn \$600 a month, your weekly cost for the program would be only 48 cents. And if you became disabled, you would receive monthly payments of \$400. It is interesting to note that one monthly payment in case of disability would exceed your total contributions to the program for 15 years.

These are merely highlights of the program and you should, of course, study the details in the booklet before enrolling. Once you do this, I am sure you will agree that you and your family cannot afford to be without this disability coverage. ◁

David Packard

CONTRIBUTING EDITORS

BOONTON, John Ricci
COLORADO SPRINGS, Shirley Cochran
CROSSLEY SALES, Fred Harvey
DYMEC, Bill Dallenbach
FLORIDA SALES, Gene Cline
FREQUENCY & TIME, Nancy Jones
HARRISON LABS, Dorothy McMahon
HP ASSOCIATES, Bob Santos
HP BENELUX, Conny Koedam, Amsterdam
HP BENELUX, Monique Embourg, Brussels
HP (CANADA), Bob Russell
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HP LTD., Dennis Taylor
HP S.A., Doug Herdt
HP VmbH, Hans Hubmann
HORMAN SALES, Colleen Molineu
LOVELAND, Walt Skowron
MECHROLAB, Peter Chiesa
MICROWAVE, Dean Abramson
MOSELEY, Frank Hicks, Jr.
NEELY, Mike Talbert, North Hollywood
NEELY, Patti Cooper, Englewood
RMC SALES, Dorothy Clink
ROBINSON SALES, Barrie Wilmarth
SANBORN, Tom Lifrieri
SOUTHERN SALES, Virginia Thornton
SOUTHWEST SALES, Helen Hobson
SYRACUSE SALES, Ann Ash
YEWELL SALES, Donna Coffey
YOKOGAWA-HP, Katsuto Kohtani

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Editorial Director DAVID KIRBY
Editor WILLIAM BIGLER
Associate Editor MERLE MASS

HEWLETT-PACKARD COMPANY
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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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With any of three DY-2010 systems providing a recorded output on punched paper tape that differing in input capabilities) you can measure data from up to 200 three-wire sources. Measurements of dc volts, low-level ac, ac volts, resistance and frequency are made by the fasted and patented DY-2010B Integrating Digital Voltmeter, heart of each versatile 2010 system. Then the data can be played back immediately on the DY-2030 Plotting System. The tape editor in the system lets you (1) plot any channel on punched paper tape against real time recorded on the tape; (2) plot any channel on the tape against any other channel on the same tape; (3) plot any recorded channel against an internally generated step. Variables can be plotted in either x or y coordinates, with scale factor set for each, and independent of each other.

All of these Dymec systems are fully specified and priced, and may be ordered from the catalog. And never before have comparable capabilities been available at the price. \$10,800 for the DY-2010B, for example, plus an extra \$10,875 for the 2030B with 273AA Editor. (Data subject to change without notice. Prices f.u.m. factory.)

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Electronics | November 2, 1964

Another Russian 'first'

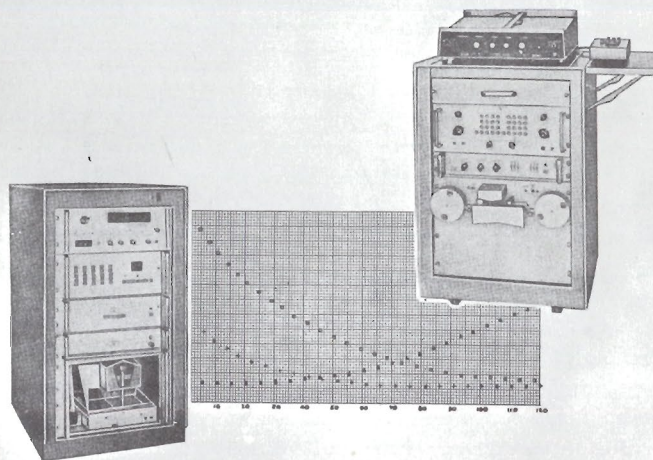
IF, as Englishman Charles Caleb Colton wrote more than 200 years ago, "imitation is the sincerest form of flattery," HP's Dymec Division should feel honored. But perhaps with mixed emotions!

Since 1963, it seems, the Russians have been lifting portions of McGraw-Hill's respected *Electronics* magazine, translating the copy, and using the material in a USSR publication. McGraw-Hill hasn't found a way to stop this Russian practice yet, and can't even claim increased readership for the magazine's advertisers.

Dymec got into the act when the Russians reprinted in toto a full-page November 1964 ad on the division's 2010 data acquisition systems. Ivan can't buy the Dymec systems, but this doesn't dissuade Soviet editors from extolling their virtues.

РЕКЛАМНЫЕ СООБЩЕНИЯ

КОМПЛЕКТ АППАРАТУРЫ ДЛЯ ИЗМЕРЕНИЙ НАПРЯЖЕНИЯ, ЧАСТОТЫ И СОПРОТИВЛЕНИЯ С ПОСЛЕДУЮЩЕЙ ЗАПИСЬЮ РЕЗУЛЬТАТОВ



Фиг. 1. Измерительный прибор DY-2010B.

Фиг. 2. Самописец DY-2030B.

Выпущен в продажу комплект оборудования, состоящий из измерительного прибора DY-2010, двухкоординатного самописца DY-2030 и перфорационного устройства DY-273AA.

Измерительные приборы DY-2010 выпускаются в трех вариантах, каждый из которых обеспечивает измерение напряжений постоянного и переменного тока, сопротивление в частоты сигналов, поступающих от трехпроводных источников. Количество таких источников может достигать 200. Основным элементом

прибора является интегрирующий цифровой вольтметр DY-2401B. Результаты измерений могут непосредственно вводиться в самописец DY-2030, а затем в перфорационное устройство, которое позволяет записать сигнал либо как функцию времени, либо как функцию любого опорного сигнала, формируемого самим перфорационным устройством. Переменные величины могут регистрироваться либо в X-Y координатах, либо с масштабным коэффициентом,

устанавливаемым для каждой величины отдельно, либо независимо друг от друга.

Стоимость всего комплекта 22 тыс. долл. Измерительный прибор DY-2010B продается по цене 10 800 долл. Самописец DY-2030B и перфорационное устройство DY-273AA стоят 10 875 долл.

Dymec, a Division of Hewlett-Packard Company, Dept. E-11, 385 Page Mill Road, Palo Alto, Calif.