

# Measure

For the men and women of Hewlett-Packard/APRIL 1970

*For years, the digital voltmeter has been considered one of the slower links in the electronic measurement chain.*

*Well, it's clear from this photograph of Judy Metzler, Loveland assembly and wire girl, that things have sure changed for the better. The 3480A model now brings DVM speed up to 1,000 dc or ohms readings per second. The products featured on these pages were far from being the only new and important HP instruments introduced at IEEE; in all, some three-dozen new items were shown there for the first time.*

*However, years of exhibit experience have made clear that visitors need something special on which to focus their attention. The eight "products on a pedestal" provided that focus. Speaking of focus, Judy's wardrobe was furnished courtesy of Neusteter's of Denver/ Boulder.*



## Put 'em on a pedestal!

□ Steady on there. I say, "cool it" back there. No pushing please. Each and every one will have a chance to see the show. It starts any moment now. And what a show! Ladies and gentlemen, this is the show they didn't dare do at IEEE last month!

I take that partly back. They did display these same magnificent eight new HP products at the big New York convention. They placed each of them on a pedestal—in recognition of its newness, its contributions to the ever-evolving art and science of electronic measurement, and for its potential impact on the market. A fine display it was, too, seen by many thousands of experts representing the leading buyers and users of electronic products.

Ah, but here we intend to show you these same choice products in their unspoiled native environments, attended by local girls from the manufacturing divisions, dressed in the exotic costumes typical of the everyday dress of the production area. Never before have such sights been revealed to an unsuspecting world—and perhaps never again. So hurry, hurry . . .

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**COVER:** This was the way things looked to the camera in the HP booth for opening day of the 1970 IEEE show in New York's Coliseum on March 23. For an entirely different view of the products featured there, check the four pages following.

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Meet Santa Clara's Dawn Tovar—and the elegant 5326A Timer/Counter, first of an entirely new family of 50 MHz IC counters introduced at IEEE. According to Dawn, who helps assemble the new counter, its purpose is to "measure impulses," which is a good idea. By the way, Dawn's little black dress and earring set are her own creations, whipped up overnight when she decided her wardrobe was "hopeless." Impulsive girl!



(continued)

Here we are on the fab-line floor of the former PAD part of the newly named Automatic Measurement Division, and here we see Candy Vossbrinck admiring the new 2570A Coupler/Controller, otherwise known as the Data Link. According to the description given to IEEE visitors, this "versatile instrument enables bi-directional communication between as many as eight digital devices." A major application will be computer-controlled research and production testing. Candy, who came to HP as a secretary about a year ago, is attired in hostess pajamas—courtesy of I. Magnin.



*If there's a bit of possessiveness in the look with which Myra Kidd regards the 3721A Correlator, it's understandable. Myra first began working on this very promising new instrument months before it emerged from the South Queensferry (Scotland) R&D department, seeing it through the stages of prototypes, pilot runs and now production line. As noted for its IEEE showing, the correlator is a new time-domain analyzer with broad applications in engineering and research including some fields new to HP.*

## on a pedestal



*Well, the products may be getting more compact, but the names sure are getting out of hand. Witness this Microwave Division entry demonstrated here by line leader Helen Harris: "8620 Economical Expandable Multiband Modular Microcircuit Microwave Solid-State Sweeper System." Did someone say "E<sup>2</sup> M<sup>4</sup> S<sup>4</sup>"? In any case, Helen is very proud of the 8620. She helped bring it through the prototype stage by advising the development engineers on practical production aspects. She's a highly motivated person: her son is a straight-A law student at Harvard.*



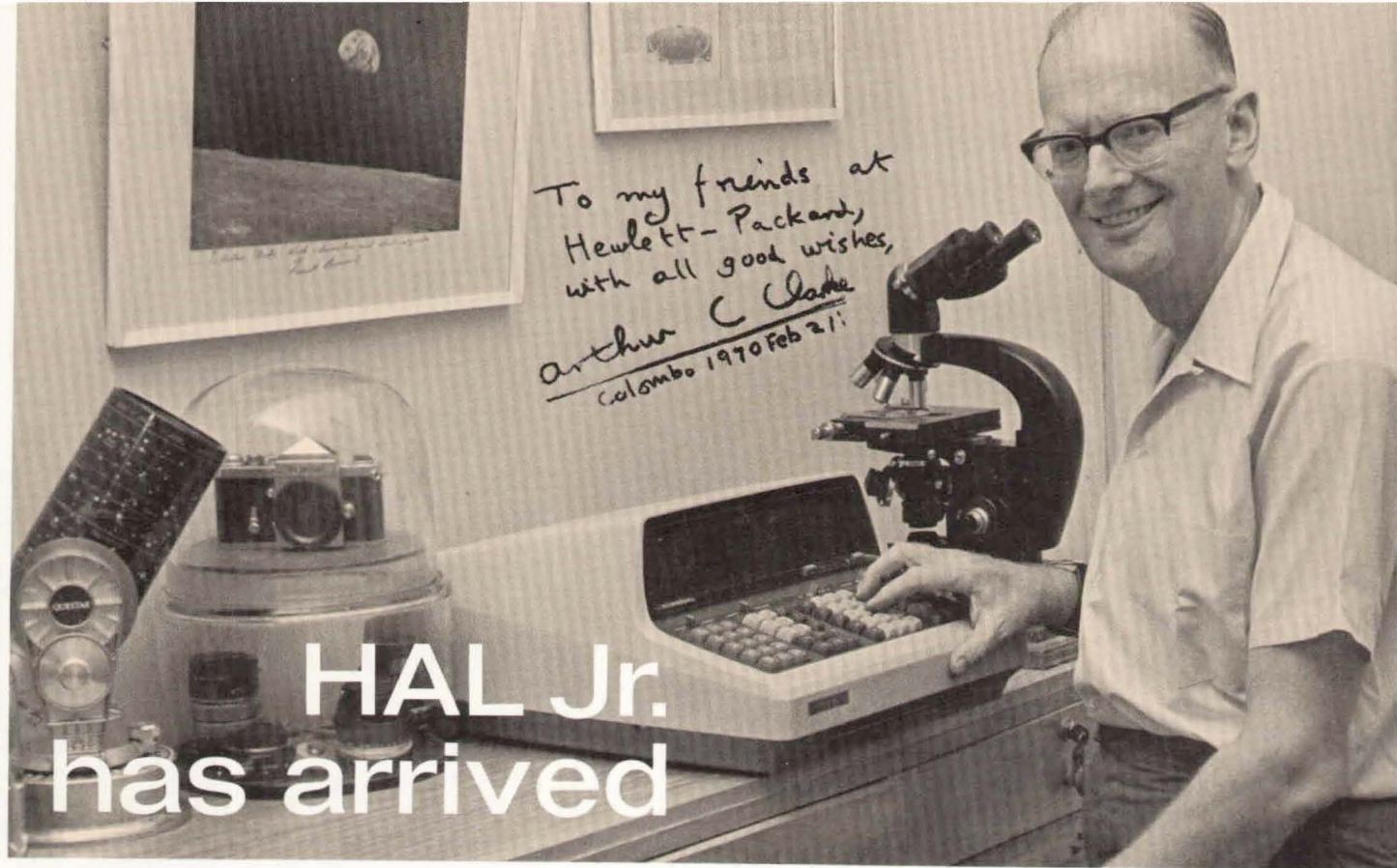
*Looking Jane Fonda-ish, Betty Bowman, assembly and wire girl at Colorado Springs Division, is quite ready to use that air hose in defending the great new 183 oscilloscope (shown with dual channel vertical amplifier and time-base plug-in) against all contenders. Actually, the 183, as a key part of the very versatile 180 system that provides up to 250 MHz bandwidth, doesn't need a lot of defending. But who cares, if it's performed by the likes of Betty. Her futuristic outfit was designed by Rudi Gernreich, loaned by May-D&F of Colorado Springs, and given prior approval by Mr. Bowman.*



*"I think I'll just mark this 8443A down as OK!"*  
*As production engineering assistant for Microwave signal analyzers, Judy Pocan can and does prepare production change orders. But none are needed now for the new tracking generator/ counter. It passed IEEE scrutiny with great success, and a fine future is anticipated, particularly in partnership with the 8553 spectrum analyzers already on the market. According to those in the know, this product team will be able to make "all those RF signal and network analysis measurements an engineer long had wished he could make."*



*If you will shift your gaze from HP Associates' Linda Burkinshaw for a moment and focus on the little oblong shape at left on the table, your introduction to the latest in Alpha Numeric Indicators can begin. It's a solid-state device with a 5 x 7 dot array. The dots light up to create easily read characters, just as in the display unit shown here that helped launch the new product at IEEE. Using what are known as "GaAsP light-emitting diodes" as the source of light, the alpha numeric indicators offer extremely long life under rugged conditions. Linda is secretary to the engineering department that developed this bright new product.*



**... a true story in which a famous science-fiction writer's quarter-century-old dream of a desktop calculator is revealed... in which dozens of his HP fans band together to make his dream come true with a Christmas gift of a 9100 EMANCIPATOR!... which he promptly dubs HAL\* Jr.**

□ Neighbors of 47/5 Gregory's Road, Colombo 7, Ceylon, may well have noticed a recent and sudden increase in visitors to that address—university scientists, government engineers, mathematicians and surveyors, and students of all ages. They come there because the occupant, a Mr. A. C. Clarke, made a half-whimsical Christmas wish last year and had it unexpectedly come true. In recent months it has been Clarke's pleasure to share this good fortune with these visitors: they have important and interesting things to do, and for them his Christmas wish—a Hewlett-Packard 9100A Calculator—goes a very long way.

If this begins to sound like a bit of science fiction—consider the source: Clarke of Colombo is the very same British-born Arthur C. Clarke whose richly imaginative science fiction writings and film work, including "2001," and whose pioneering proposal for synchronous orbiting of communications satellites, have made that name world famous.

The story more or less began late last year when an airline magazine editor asked Mr. Clarke—along with several dozen other celebrities—to name his choice of Christmas gifts. Very casually he replied "a Hewlett-Packard 9100A desk calculator."

We take you now to Palo Alto where R&D vice president Barney Oliver, acting on behalf of the scores of HP science fiction fans who eventually helped donate the cost of the gift, set the following correspondence in motion:

*\*"HAL" is the name of the super computer that controls the deep-space mission portrayed in the film and book "2001—A Space Odyssey."*

Plaque reading "Presented to Arthur C. Clarke by his many admirers at Hewlett-Packard, Christmas 1969" is affixed by Roy Ozaki of Corporate industrial design staff. At right, Barney Oliver, the moving spirit behind the gift, offers cheerful encouragement.

In this autographed photo taken in his studio in Colombo, Arthur Clarke discovers the preoccupying pleasures of an HP 9100 Emancipator, "the most wonderful present I have ever received at any Christmas."



**December 19, 1969**

Dear Master Clarke:

Yes, Arthur, there is a Santa Claus. Your Christmas wish for a Hewlett-Packard 9100A Calculator was noticed by many of our people who fly American Airlines to spread our blessings and who read *THE AMERICAN WAY* en route.

Many hundreds of our toy makers would like to repay the pleasure your works have given them by building one of these marvelous little machines especially for you. And many of our engineers will join them, wishing to honor your early proposal for synchronous communication satellites.

Had you still believed in us enough to write us directly, your present would have reached you by Christmas eve. (Our North Pole office is linked to our Loveland plant by satellite.) But we will do our best to restore your faith and it will get there as fast as our reindeer can fly.

Merry Christmas!

Barney Oliver

**December 27, 1969**

Dear Barney,

Your delightful letter of December 19 was just what the doctor ordered; I have been recuperating for the last two weeks from a devastating attack of virus infection.

I still haven't seen the magazine *THE AMERICAN WAY*, which printed my piece of wistful thinking and I am certainly glad I didn't ignore its editorial request—which I must admit I answered tongue in cheek and very much on the spur of the moment. I have always been fascinated by calculating devices, and spent much of my youth prowling round the mathematical section of the Science Museum in South Kensington.

I am here until the middle of March, which may give me time to take a crash course in mathematics when the machine arrives. I am going to make it available to the few top scientists here so that it will be fully occupied . . .

I look forward to hearing from you again, and will write in more detail next time. (I am dictating this lying on my back which is not a very convenient position.)

Again my sincere and flabbergasted thanks for your great generosity.

All good wishes for the New Year.

Arthur Clarke

**January 9, 1970**

Dear Arthur,

I was very sorry to learn from your letter that you had been ill. I hope this letter finds you completely recovered.

It will be a week or so before we will be able to ship your calculator. Meanwhile our export people are checking to see how we can best prevent customs problems. When we do ship it will be by air, so hopefully you should have it before the end of January. The 9100A can be switched to operate on either 110–120v or 220–240v, 50 to 60 Hz. You probably will have to buy an adapter to the kind of outlet used in Ceylon or else replace the U.S. style plug with your own. In the latter event, the black wire is the hot side of the line, the white is the neutral and the green is ground (or "earth").

So that you may use this delay to some advantage, I am sending under separate cover an Operating Manual, a Program Library and some programming pads.

Best wishes for a Happy New Year!

Barney Oliver

*(continued)*



"Even a child can use it—ideal for homework!" wrote Arthur Clarke on the back of this Polaroid shot of Colombo's young Tony Wilson with HAL Junior. The HP computing calculator is being used extensively by the scientific and engineering community of Ceylon.

**January 16, 1970**

Dear Barney,

Thank you for your letter of January 9. I am happy to say that I am much improved now, although I had to check into a nursing home and am still a little shaky.

I have already started the necessary action here and have obtained permission to import the computer. My application went right up to the Prime Minister, who promptly granted it.

Now I am tackling the Customs boys and don't expect any serious problem here. I have enlisted the local scientists and mathematicians on my behalf.

Now that I feel better, I can tell you why I fell in love with the HP 9100A. You see I recognized it from thirty years ago.

In 1941, when I was doing my Radar training in the RAF, and writing my first electronic papers, one of my technological daydreams involved a computer precisely like the 9100A in shape, size and function. (Except that the one that I envisaged could also display graphs on its screen—a pretty but not very practical idea which your attached X-Y plotter does on a more useful scale.) When I first saw your advertisement, I recognized my fantasy at once.

I look forward to receiving the Programme Library when it arrives. It will certainly wreck *my* programme when it does.

A friend of mine from 2001 days has just made a horrible pun. He says he hopes the 9100A doesn't suffer from HALitosis . . .

Meanwhile Stanley Kubrick has expressed considerable envy, and I am happy to be one up on him.

Again, many thanks and my best wishes,

Yours,

Art

HEWPACK PLA B. OLIVER  
HAL JUNIOR ARRIVED SAFELY  
SINCEREST GRATITUDE ARTHUR CLARKE  
UNDERSEA COLOMBO

**January 24, 1970**

Dear Barney,

I hope you received my cable of the 22nd announcing the safe arrival of HAL Junior. This morning your letter of January 16 also arrived.

You were perfectly right, of course, about the habit-forming characteristics of this machine. It is also rather difficult to find time to eat or sleep—I was dreaming numbers last night—and the first short story I have tackled for many years (one about the Transit of Earth as seen from Mars, which will be visible 11 May 1984) has been stopped in its tracks.

As soon as I get the hang of the programmes, I'm going to invite the local scientists and mathematicians around for a demonstration, and will report to you in due course.

I expect to be in California around the middle of April—lecturing at San Pablo on April 15—and am in Montana and Washington on the 20–21. I don't know my schedule yet, and won't until I reach New York at the beginning of April. But I will certainly do my best to visit you and express my personal thanks to those who have contributed to the most wonderful present I have received at *any* Christmas.

All good wishes,

Arthur

P.S.: I am just trying to work out why the red light—which should be in the shape of a Dunce's cap—doesn't go on when I ask for  $\pi$  or  $e$ !

**4 February 1970**

Dear Arthur—

I was glad to learn from your wire and letter of the safe arrival of HAL Jr., and am delighted to hear that you may be able to visit us around the middle of April. I would like to learn the exact date as soon as possible, as I would like to hold a reception for you at which you could meet your —hp— friends and contributors. Don't worry about accommodations; you are most welcome to stay at our house for the night or nights involved.

Sorry we didn't think of the Dunce's cap shape—maybe you should consult for our Industrial Design Group. On second thought, we'd probably have lost the educational market, whose Dewey-eyed professionals consider such symbols anathematic.

Glad you're enjoying your new toy. When we develop HAL Sr., we'll let you know.

Best regards,

Barney Oliver





Topographia Sueviae 1643

## Where we live:

□ The armies of Rome circled through there to avoid the nearby Black Forest and its hidden dangers and lurking enemies. Indeed, the area now known as Böblingen would have been a welcome relief to the imperial legions: its ground was high, clear and easily defended, and a good point from which to counterattack—for a while. For with the end of the Romans and their empire, all that was left were the outlines of small city states and petty kingdoms.

Out of this pattern grew Böblingen, site of the Hewlett-Packard-GmbH manufacturing facility in West Germany. The original founders built a great castle to survive the marauders who swarmed in after the collapse of the Caesars. Around 1100 A.D., the names of a Gebehardus de Bobelingen and other freeholders, presumably builders and masters of the castle, appeared in documents for the first time. In the centuries that followed, a township of charming character evolved. Officially named Böblingen in 1250 A.D., it spread around the castle in the form of a horseshoe. Its main market was Stuttgart, capital of Baden-Wurttemberg (or Swabian Union), an easy day's ride just some 15 miles away. In time the area's reputation became tinged with the myths and folklore of the Black Forest and Schwabian life: quaint villages, the arts and crafts of the cuckoo-clock, and forestland adventures of the Hansel and Gretel kind.

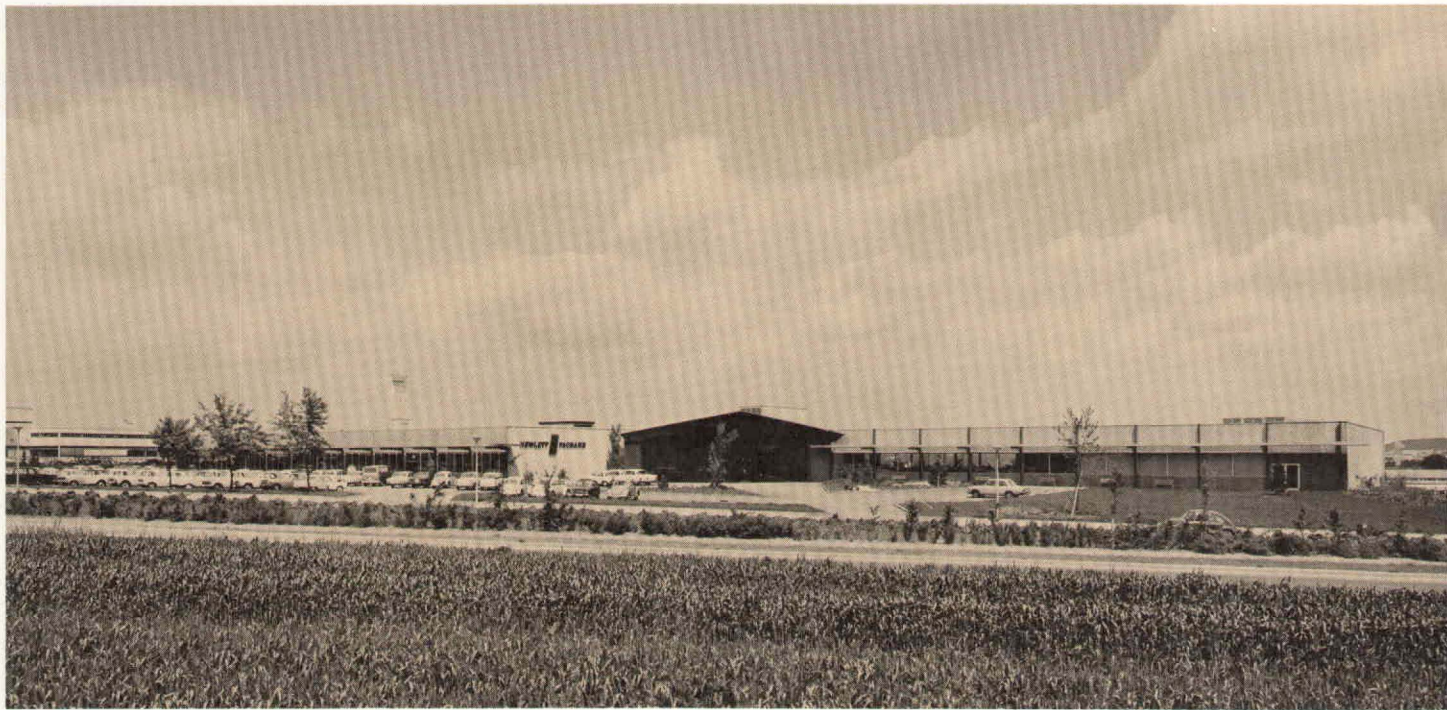
Then, in October 1943, the past came tumbling down in a hail of bombs. Almost all of the structures in old Böblingen were leveled.

Today, this city of some 36,000 people bears the unmistakable stamp of a modern European industrial community. Yet, because of the natural beauty of the region it still imparts some of the impression of a provincial idyll.

Industry, including some of the big names such as IBM and Mercedes, has found the region attractive and established major facilities nearby. HP-GmbH has been a part of that community growth over the past ten years. The company's operations there have grown from an original staff of three to more than 650 people today.

What is it like to live in this community, to be a part of this great industrial renaissance? Let's ask some of the HP people who now call it home:

*(continued)*



## Böblingen



**Ruth Martin, production line supervisor:** “After leaving my home town of Leipzig in Eastern Germany in 1958, I came to Böblingen with the help of relatives. It was not very easy to accustom myself to the new surroundings, but the cheerfulness that is native to my homeland helped me out, and

in the end I managed. Today I can say that I really feel at home here.

“Since we had to start from the beginning when we arrived here, I decided to look for work, and after a bit of back and forth I applied at Hewlett-Packard. I was lucky to be able to start here in March 1960.

“The town in those days was much smaller and more country-like than it is now. Industry was just beginning to move in, as HP did. Now there are shopping centers, industrial buildings and apartment complexes, and many, many more people.

“HP-GmbH has changed, too. When I started it was just like a family. Everybody got to do a bit of everything. Now we are divided by instrument types. But I must say that working on the digital and counter lines—recently as a supervisor—has been a pleasant task. The time just passes so quickly!”



**Paolo Scotti, technician in training** for a year at HP-GmbH from HP-Italy, recorded these impressions of his Böblingen visit: “I left Italy with some apprehension because I had heard that the attitude of the German people toward Italians coming there to work was somewhat frosty.

I was worried, and in the beginning it was all very difficult because the work was new and unfamiliar. However, with the help of the people working with me, I am learning and settling into my job and liking it.

“I look forward very much to the Springtime, for I live in a very pleasant part of the country, in the direction of the Black Forest. Böblingen itself is right in the middle of the ‘state’ of Wurttemberg, and with the autobahn only minutes away, you can conveniently reach any of the many beautiful spots of the area. These include the castle of Hohenzollern, the beautiful 19th-century spa and casino at Baden-Baden, the Bodensee lake for sailing and swimming, the Alps of Austria and Switzerland, the Neckar Valley and the Black Forest itself. I feel the benefits of this all the more because I come from Neapel, a very crowded town in Italy.

“I am also very glad to have the opportunity of increasing my knowledge of the English language, and in learning some German—be it with a Schwabian accent.

“I could not expect anything better: a pleasant place to live, friendly people, and interesting work. However, I think you will understand when I tell you that sometimes I take up my guitar and dream a little bit of Italy . . .”

*As other industries are discovering, Stuttgart and its environs in South Germany, including the town of Böblingen where HP-GmbH is located, provide an excellent base for manufacturing operations. It's very central geographically and industrially. Its people have a centuries-old tradition of craftsmanship and industriousness. Many of Europe's finest cultural and recreational centers are within easy range.*



**Wolfgang Glietsch, acoustics specialist, Import Marketing, Palo Alto:** "What's it like to live back in 'my' part of the world—Stuttgart and Böblingen? It's changing, I'll say that—Böblingen especially has changed in the past ten years due to industrialization and immigration.

"To give you some perspective, Böblingen bears the same kind of relationship and identity to Stuttgart, say, as San Mateo does to San Francisco—or Waltham to Boston. Stuttgart is the center of culture, business, education and industry for Southern Germany. It has a population of about 600,000 people.

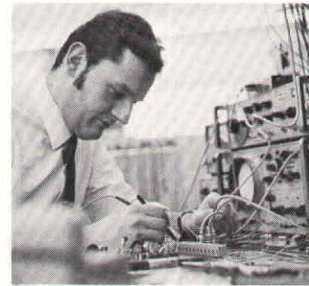
"The people—the native Schwabian people—are what you might call conservative. There's a saying about them (and I'm one of them) that translates: 'Saving, saving, build a house, and pass away.' I guess it means that they are quite thrifty. But it also means that they put a lot of pride in their homes and families. You can see this in the homes along the Black Forest. They like to build their own homes, and spend all of their time tending them—paint them twice a year and things like that. They take great pride in their gardens.

"The countryside is more or less rolling hills. The Neckar Valley just to the east of Stuttgart is very good wine-growing country.

"My year in the U.S. has shown me a great deal of the difference between living here and in Europe. The first thing I noticed was the ease of finding housing here. It's very scarce at home. But perhaps it will become that way here,

too, from what I read. My wife is enjoying her stay very much, particularly with the help of the Newcomers' Club of Palo Alto where she has made many friends. She is now so busy with these activities that she often doesn't have time to prepare a lunch for me when I occasionally come home. Still, in spite of the attractions of California living, it was a pleasure going home to Germany for Christmas!"

**Michael Wollgast, R&D engineer:** "It was after finishing my studies at Technical University in Berlin, my hometown, that I joined HP-GmbH and came to Böblingen. That was just last December.



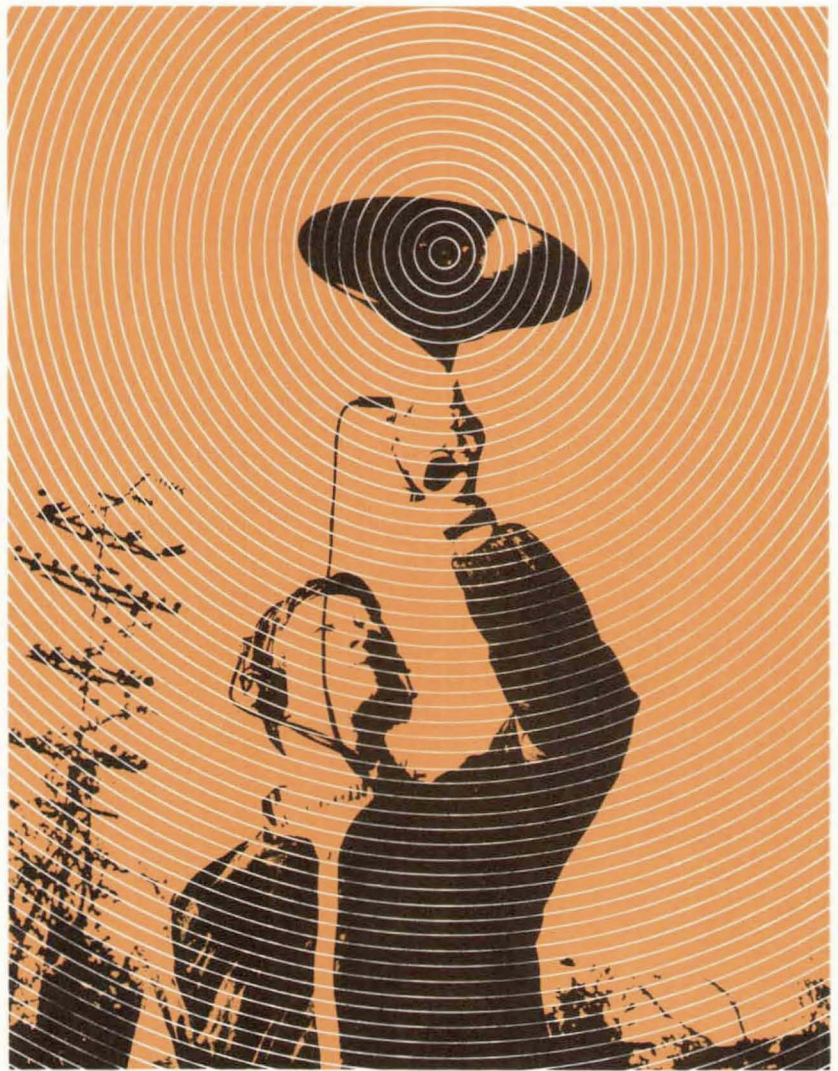
"There's a great contrast between the two areas, particularly for a young person.

Berlin is a big, beautiful city that offers all the variety and opportunities that major metropolitan centers provide. The only lack is that there is no countryside, that there is that border of barbed wire around Berlin.

"So I came down here to the Southwest of Germany in order to find out how it feels to live without borders. Well, at least the ones down here can be easily crossed.

"Stuttgart is a big town, too, and has some nice surroundings. I've learned that the town is rather quiet at nights. There's very little that compares with Berlin night life. I understand, though, that there is much to do when you get to know the people. I hope it will somehow compensate for the absence of Berlin."

When remote testing is preferable to climbing a pole or tower, telephone and other utilities service personnel can use a Delcon ultrasonic reflector incorporated with the division's ultrasonic leak detectors. Corona or pressure leaks can be located to within a few inches with the reflector, which comes in handy near highways, railroads, rivers and other hazardous locations. Like other Delcon products, the reflector saves service time and effort by helping pinpoint damaged portions of transmission lines quickly and accurately so repair operations can proceed swiftly.



## The HP fault finders

□ Considering the tremendous ratings enjoyed by TV soap operas, how much hysteria do you think would be generated if "As the World Turns" were to go accidentally off the air for a day? Then, as millions of protesting phone calls flooded in, what if telephone service were disrupted? National paranoia, that's what!

Fortunately, the telecommunications industry has many safeguards against such breakdowns and many methods of detecting them. In particular, it has the services of a Hewlett-Packard product line that's probably better known to telecommunications people than within its own company—Delcon Division.

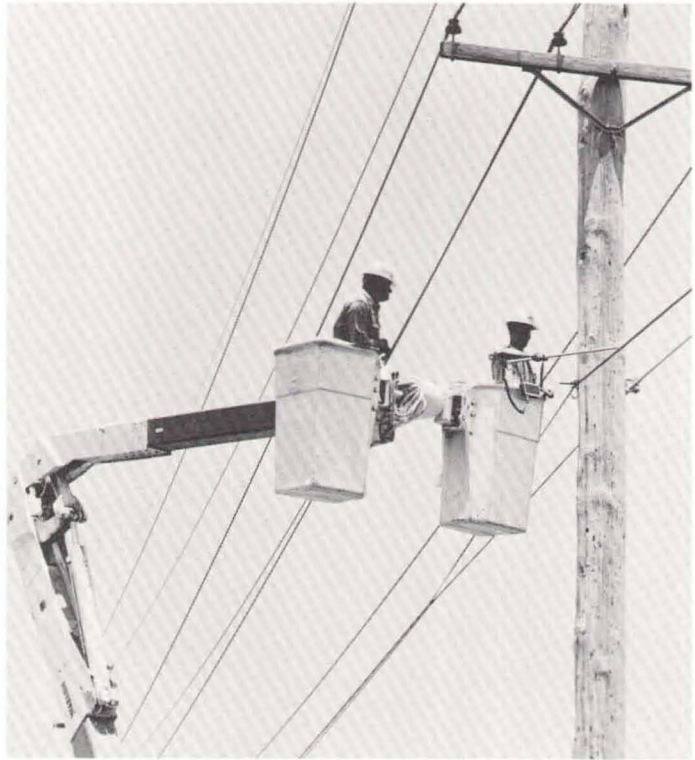
If a telephone line goes out in your hometown, for example, chances are good that the repair crew will come equipped with a Delcon open fault locator or a tone cable fault locator. The accompanying photographs show

how these are used to locate problems that otherwise cannot be determined by the eye.

Cable television is another industry that looms importantly for Delcon. The division's new co-axial cable analyzer was designed specifically for this fledgling market, its function being to pinpoint cable faults over long distances—to within 20 feet for problems occurring just over one mile away.

Obviously, Delcon's products don't relate very closely to other HP products either in the ways they are used or in the markets that use them. But there's no question that Delcon—HP's smallest division, with some 50 people—still has an important contribution to make, whether it's helping to restore communications after a hurricane *Camille* has devastated a region or in helping some real-life *Camille* get through the day with her favorite program. □

Telephone servicemen use a boom truck and a Delcon cable fault locator to find shorts in a control cable. Shot pellets from a hunter's gun were the culprits in this case, but, in California, it's often a tiny "short-circuit beetle." While agriculturalists work on ways to control the beetle's appetite Delcon products are helping phone companies with their methods of finding fault locations in their lines. Even with the numerous industrial applications for Delcon products, the telecommunications industry remains the division's biggest customer.



Delcon products are more and more relying on electronic rather than ultrasonic means for fault detection. This dual frequency cable fault locator, for example, sends out a toning signal into the cable; cable faults are located by noting the variations in intensity of the transmitted tone.

# News in brief

**Palo Alto** — Four electronic instrument divisions have been combined into a new operating group to be headed by Ray Demere, previously general manager of the Loveland Division. The new group includes San Diego, Loveland, Colorado Springs, and New Jersey divisions. These divisions were among several operating units reporting to Vice President Ed Porter. Porter will continue to oversee a major segment of HP's operations, including its medical and analytical instrumentation activity and its Delcon Division, and will also serve as a special assistant to President Bill Hewlett. Hewlett said the new group includes "four closely related divisions producing a broad range of electronic instruments and systems, and employing more than 4,000 people. Formation of the group is another step in the restructuring of our corporate organization along product

lines, as previously undertaken with the Electronic Products Group and Data Products Group." Succeeding Demere as general manager of the Loveland Division is Marco Negrete, formerly the division's engineering manager. Ed Porter's responsibilities as assistant to the president will include the coordination of many activities in the area of public affairs and community relations. Hewlett noted that "The efforts of private corporations to work toward the solution of some of our major social and environmental problems are becoming increasingly important. Hewlett-Packard already is heavily committed to these efforts. The assignment of a senior executive to this activity will assist the president's office in assuring we continue to devote top level attention to our corporate responsibilities in the communities in which we operate."

**Palo Alto** — Several key managerial appointments within the Data Products Group were announced today by Carl Cottrell, group general manager. Gordon Eding was named to the newly created post of group manufacturing services manager, Bill Abbott to general manager of the Mountain View Division succeeding Eding, and Ed Miller to manufacturing manager of the Cupertino Division succeeding Abbott. In his new position, Eding will be responsible for vendor relations, component evaluation, and plant and site selection programs. He will also oversee the management of the group's central manufacturing services. "These appointments reflect the continuing growth of our data products activity, which includes the production and marketing of digital computers, desk-top calculators and their peripheral equipment," Cottrell said.

## People on the move

**Corporate** — Nick Moll, to member technical staff, HP Labs, from same position, Microwave R&D.

### *Electronics Products Group*

**Manufacturing** — Wayne Mehl, to components manager, from manufacturing engineering manager, Avondale Division; Al Wooldridge, to tool engineer, engineering, from same position, Products.

**Santa Clara** — Del Fillmore, to finance manager, from finance, Customer Service Center.

### *Instrument Group*

**New Jersey** — John Blokker, to Rockaway operations manager, from engineering manager, New Jersey; Art

Darbie, to Berkeley Heights operations manager, from marketing manager, New Jersey Division; Dick Gooding, to marketing services, New Jersey Division, from advertising and promotion manager, Berkeley Heights; Charlie Horvath, to administration manager, New Jersey Division, from finance manager; Bill Myers to manufacturing services, New Jersey Division, from Rockaway operations manager.

### *International*

**Intercontinental** — Sid Shreeve, to foreign assignment, HP Singapore, from business manager, HPIA.

### *Sales Regions*

**Midwest** — Dave Kirkey, to medical staff engineer, Skokie, from service

technician, Skokie; Jack Nally, to area manager, Eastern Midwest Sales Region, from district manager, Southfield (Detroit); Al Palmby, to regional sales manager for analytical instruments, Skokie, from analytical field sales, Southfield (Detroit); Bill Pape, to medical sales engineer, Monroeville, from medical service technician, Monroeville; Al Roraus, to data products field sales, Indianapolis District Office, from application engineer, Automatic Measurement Division.

**Southern** — Jerry Appleton, to electronic field engineer, High Point, from electronic field engineer, Atlanta; Ed Dobranich, to district service manager, Houston, from service technician, Atlanta; Jerry Rose, to calculator field engineer, Atlanta, from staff engineer, Atlanta; Manley Siler to calculator sales manager, Atlanta Regional, from electronic field engineer, Huntsville.

## From the president's desk

I am writing this letter after having spent the best part of an afternoon wandering around the many exhibits at the IEEE show in the New York Coliseum. If to be imitated is the highest form of flattery, then HP should be most flattered indeed. There certainly is a marked trend (that has existed for some years) for others to adapt not only the HP styling on new instruments, but to also closely approximate HP specifications on a broad range of our products. There is an uneasiness that many of us have shared this year, as in years past, that results from viewing all of this potential competition. Yet, in the past we have found that this competition has rarely materialized to the degree that we have anticipated. It is interesting to speculate on possible reasons for this.

To probe for reasons, one must consider all of the aspects that make a particular product successful in the marketplace, and then estimate HP's strengths vis-a-vis a competitor. The first aspect is creative design at the R&D stage. Good as HP is in this respect, we have no corner on talent. We must assume that many of the competition's designs are indeed innovative.

A second consideration is production capability. Here, we do have an advantage of years of experience in taking sophisticated designs and devising ways of producing them efficiently and economically. A third aspect is the concept of reliability and ruggedness that we try to design into each product.

This brings us to a more subtle area of consideration and that is our philosophy on our responsibility to our customers. Expressed simply, it states that we are interested in helping him solve his problems with reliable, long-term solutions. This philosophy which is deeply ingrained throughout the company poses severe constraints on both the marketing organizations to not oversell and the factories to produce instruments that will give long trouble-free service; and yet in the long run it binds our customers ever closer to us.

The moral that I think can be drawn from all of this is that although creative and imaginative design from the R&D organizations is the essential starting point—and one where we have shown outstanding capability over the years—there are other factors that are vital to obtaining and holding an edge over the competition. Namely, the ability to produce reliable and trustworthy equipment, the skill to sell the customer that which he really needs and no more, and the capability to provide the essential back-up services that will maintain his instruments in useful service over long periods of time.

Determination on our part in each of these areas will insure that at next year's show we will have maintained or improved our competitive position with respect to a new generation of budding competitors.



*Bill Hewlett*

# Project Pegasus



Next November, in a repeat performance of last November, 14 Britons will jet from London to San Francisco while attached to a battery of recording instruments, including HP medical monitoring systems. There's nothing particularly wrong with these people. In fact, they were volunteers chosen for good health, since what is really being tested is the curious and disturbing effects of jet travel on the physiology of travelers. "Jet lag," as it is often called, leaves so many jet passengers so out of sorts for hours and even days after arrival that they are unable to participate properly in business or to enjoy their visit. The problem is believed to arise from the inability of the body's "biological clock" to adjust to rapidly changing time zones. SSTs will only make the problem more acute. In any case, Syntex Corporation and Trans World Airlines created Project Pegasus to look into this mystery, and called on Hewlett-Packard Ltd.'s London office at Slough for help in the areas of heart rate, electrocardiogram, temperature and respiration. However, with someone such as Syntex's Dr. Miriam Moore-Robinson, above, on hand to attach electrodes and transducers, it might be difficult to think of oneself as a scientific guinea pig—but a volunteer, yes!

## Measure

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