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Measure
For the men and women of Hewlett-Packard / DECEMBER 1968



HE CHRISTMAS SEASON is not only an appropriate time to pause and look back over the past year's activities, but a time to take a forward look as well. This is as true today as it was back in 1939 when we celebrated our first Christmas Season as business partners. We hadn't been in business too many months, and although we were still excited about getting the new firm underway, our thoughts were primarily of the challenges and opportunities that we knew awaited us in the months ahead.

This Christmas, nearly 30 years later, is much the same. During the past 12 months or so we have, between us, visited nearly all of our manufacturing plants, and a great many of our sales offices, both here in the U.S. and overseas. Even our most optimistic expectations in 1939 fell far short of the Hewlett-Packard Company we saw on our travels this past year. Our 17 manufacturing divisions and 160 sales offices serve many thousands of customers, and there are more than 13,000 HP men and women carrying out the daily activities at these worldwide locations.

But these statistics only reflect the past and the present. It was the future we were thinking about as we traveled around the company. With each mile we became more firmly convinced that there really is no limit to HP's growth and progress.

This conviction came about not just from the knowledge that there are many exciting product ideas in our labs, or from knowing that we are entering new markets and making important and unique refinements in our marketing techniques, or because of the many innovative approaches we see in our manufacturing operations. Our optimism for the future of the company really springs from the new levels of enthusiasm we sensed as we visited the plants and offices.

If there is any one thing that has distinguished HP from other companies over the years, it would have to be the enthusiasm of HP people in all areas of our operations. This attitude in the past enabled the company to make many worthwhile contributions to scientific and industrial progress, and this same attitude will have a significant bearing on our future—not only that of the company, but the future of each and every person in the company as well.

Hewlett-Packard is still a relatively young company in comparison with many of the other nationally and internationally known firms. We have years of growth ahead, and growth brings opportunity. There is no question but that there will be a tremendous variety of jobs opening up in the months and years ahead that will provide you with opportunities for assuming broader responsibility, for tackling new and exciting challenges, and for realizing greater rewards.

The enthusiasm and dedication that we detect today is the propellant that will project the company and each individual to new heights in the future. We are very appreciative, and very thankful, that we have such a wonderful group of men and women in the Hewlett-Packard organization.

We sincerely hope that each of you will have a most enjoyable holiday season with your families and friends. We hope, too, that you will enjoy the full sense of accomplishment which you so richly deserve and which assures our company additional strength, vitality, and opportunity in the years to come.

Dave and Bill



Fifty Years Ago—President Wilson was preparing for Christmas with the American Army in France. American Food Administrator Herbert Hoover held a meeting with the president to discuss the acute food shortage in parts of Europe. In welcoming the victorious U. S. dreadnoughts, Navy Secretary Josephus Daniels lauded "the primacy of sea power in making land victories possible." In Paris, the Allies decided that the "order-loving, patriotic elements in Russia" must save their own country. The Third Army in Coblenz announced the suspension of drills for Christmas.

Such are the key events recorded on the front page of the New York Times, December 25, 1918. None of them made any impression whatsoever on the memories of a dozen Hewlett-Packard people who were, however, old enough to recall recently for Measure things that were important to them that holiday season a half-century ago.

Those memories are quite mixed: Some had it good, others not so good. And not all of the memories are quite accurate. But essentially they describe the way things were — or seemed to be to youngsters of that time — as the world moved from war to peace, from times of want into a period of prosperity, and from an age of considerable naiveté into the roaring '20s.

Was Christmas a happy time for a 13-year-old boy growing up in southern Wisconsin? "It was much more a sacred time," recalls Perry Anden, F&T quality assurance. "There wasn't the commercialism. With the exception of lutefisk — our traditional Norwegian Christmas Eve fish dinner — and a store-bought loaf of bread and an orange or two, everything was farm grown and homemade." So was the entertainment: Grandma Freeman, the family matriarch, telling tales of how the Indians used to raid the farm — for chickens. The snow was so high Perry and his friends skied or sleighed to school right over all the fences. It was a good life, but hard. Even on Christmas Day there were 18 cows to be milked by hand. Every job was done by brute strength — there wasn't a machine on the horizon. But hunting was good and so was the fishing. There was always plenty to do.





Christmas in a log cabin in the wilderness of Idaho: Marge Wooley of F&T assembly thinks of that as a fabulous time in her life, "I don't think I even knew what a town was. Dad and his brothers had cleared the land by skidding logs down the hills to Coeur d'Alene lake and selling them to the mill. Our home was a two-story log building. We had a smokehouse for game -- mostly venison. Mother worked like mad all summer putting up berries. All the cousins would come to our place for Christmas. The day before, Mother sneaked away to town on the 'Georgia Oaks' ferry and brought back the presents. A fresh tree was put up in the afternoon and decorated with popcorn, paper and candles. After dinner there was a terrific commotion outside - bells and shouting. Then in staggered Santa with a big beard and snow and a sack of gifts. It was Uncle Tom. Not even his daughters guessed that at the time. Ours was a real 'Santa Claus' kind of Christmas tradition. Mother brought that with her from England. I know it wasn't Dad's. He was a Scot who had been brought up in a sod home way out on the plains where things were very hard."



Oh, the embarrassment! All of that rehearsal! The worry! The words repeated over and over 'til he was sure they were stuck in his mind. Then — as Freeman Davidsen of Loveland Division maintenance now remembers — he plain forgot his lines in the church Christmas program: "I just stood there and stared at the audience." Well, a seven-year-old boy living on a farm 50 miles west of Des Moines, Iowa, may be excused stage fright on his first appearance. And pretty soon it was forgotten in a busy round of visiting, gatherings, and gift exchanges. The presents, many of them homemade, meant "that someone was thinking about you, staying up late to work on it, using a precious commodity like a scrap of real lace or a very good piece of wood."



(continued)

### CHRISTMAS 50 YEARS AGO



"I remember that Christmas too well. I was eight years old. It was not a good time for our family." Speaking in the accents of his native Hungary, Dezi Halmi, Microwave machine assembly, recalled that time of troubles in post-war Europe: "My mother had to line up very early in the morning for bread. There was no butter or sugar — very little to eat. When my father died we had to move into one very large room. It was impossible to heat." But there were brighter moments. Dezi's two brothers came home from the army. Christmas was observed, with emphasis on a Christmas Eve family gathering. Candles were lit, prayers said, songs sung, and "everybody kiss each other." Then modest gifts were exchanged, with Dezi getting his first chess set, the start of a successful lifetime hobby.



The hills of Tennessee were a pretty good shield against the outside world of fifty years ago, Margaret Rosén of Palo Alto Division recalls now. The first plane the seven brothers and sisters ever saw flew over the farm just before Christmas, 1918: "We ran all the way to my uncle's just to watch." There were no newspapers except for the occasional weekly that Grandpa brought from Nashville. Uncle Willie Clark came back from France just in time for Christmas in his uniform - the puttees and medals, and his souvenirs, "We had a fine Christmas, Everything was prepared on the farm — six or seven kinds of cakes. sausages, wild berries, partridges, a goose, and baked possum with sweet potato. It went on for a week. One day at one house, next day at another. We had Victrola music. Toys were things my dad or uncles made. Mother made the dolls stuffed with raw cotton we grew. We always had to wait for daddy to sell the cotton crop before we got new shoes. One year we got a horse and buggy - with a fringe. We thought we were rich."







John Harrison was just a little small at 13 to handle the big workhorses and mules his father used in his excavation business in Okmulgee, Oklahoma. Now, if he could just get hold of something like a billy goat and a small wagon, why he could really help out — maybe even make some money hauling things. Well, for Christmas, 1918, John — now in maintenance at Loveland — did get his own team. The wagon was like a small hay wagon, painted red and blue. He had a great time harnessing and driving the goat. Then Mrs. Harrison began noticing laundry missing from the clothesline. The goat became increasingly mean, possibly from an overdose of Levis, He had to go — but it had been fun.

"I burned the barn down — that's what I can remember." Vic Moran, a Microwave spectrum analyzer test line leader, was recalling the event that lit up the skies of Platea, Pa, (population 150) on Christmas Day fifty years ago. "I set fire to an old kerosine wick, tried to kick it out, but it caught the hay. I ran and hid under the bed. Fortunately the cow was outside. I got my britches warmed." Platea is relatively unchanged today, Vic found on a recent visit. The apple crushing plant — "free fresh cider" — is gone, the fields are fenced, and people are much better off economically. But you can still find dirt roads, the general store is still in business, and after the first frost there are plenty of chestnuts to roast.







"The soldiers were coming home. I remember my daddy renting a room overlooking the street to watch them, My two brothers were among them." So, for Reinhard Boeninger and his parents, Christmas in Frankfurt am Main, Germany, began on a happy note, Now in the customer service group of Palo Alto Division, Reinhard recalls a very festive season: "Since my father was born in England we had such things as plum pudding with coins hidden inside. But the main dish was fish—carp—the dish of German families who are, shall we say, going by the book. I remember hearing of some shooting in town—a riot—but for a boy of 11 it was a good time. Later on Germany went through a terrible inflation and conditions became not so good."

Christmas of 1918 started for Virginia De Boer on December 17 when a wagon pulled up in the Minnesota snow to deliver a big box. Her parents were quick to hide the box, but its arrival meant that the great Christmas guessing game had begun. By today's standards it contained little, But even that little represented the combined giving of parents, grandparents, aunts and uncles, so it was especially important. Opening that one big Christmas box culminated weeks and even months of delightful suspense. Parenthetically, Virginia, R&D secretary at Loveland Division, feels that most children today miss something of the season's meaning and excitement because they receive too many presents.







An Overland car — gadzooks! what a luxury, with a vertical two-cylinder motor and 78-horsepower engine — just had to raise temperatures around Carrington, North Dakota, Christmas Eve of 1918. Tony Tschida, now of the model shop at San Diego Division, recalls the almost-new vehicle as the biggest thing to hit town, ever. Trouble was, the roads were unpaved and snowbound, so up on blocks went the Overland until the summer. Meanwhile, Tony worked with a tool chest his dad had given him. "We each had our stocking filled with cookies and hard candy," he recalled, "Not much, you probably think. But we were a happy family, we had good food, good health, and we gave thanks for our blessings."

## The real-life battle of Toyland

Barbie and her fun-loving friends again are fighting it out for a bigger share of the \$2.7-billion toy market. Their makers think 52 Christmases a year would be swell . . .

So, on your way to buy Barbie doll you suffered a couple of sharp elbow jabs to the mid-section. And the in-fighting around the Tog'l Toy corner cost you a torn pocket, while the battle for an F.A.O. Schwarz' "Fort Mohawk" ended with scuffed shoes, not to forget assorted bruises to the ego as you gave ground, reluctantly, to even more determined shoppers in the mad, mad pre-Christmas rush to the toy counter.

Well, count your blessings. Your scuffles are mere teaparty stuff compared with the billion-dollar toyland donnybrook staged each year with increasing frenzy by the toy and games industry. This year the competition has been escalated beyond all previous dimensions.

The battle lines are shaped by the fact that, traditionally, the industry must put most of its eggs in one small time basket - the few weeks and days of selling prior to Christmas, Actually, it begins selling to itself at the distributor level in March. This year, some 15,000 buyers showed up at New York's American Toy Fair to sample 5,000 new games and playtime goodies. The orders they placed became the basis for much of the manufacturing activity by 1,800 toy and novelty producers during the summer and fall months. By October, any item not yet in the distribution channels - packaged, shipped, priced and backed by promotion plans - stood little chance of reaching the retail counter and becoming part of the year's \$2.7-billion toy sale. An executive of F.A.O. Schwarz, the country's oldest and largest toy retail organization, described the market cycle as "a very pleasant, leisurely business for ten months of the year, followed by two months of sheer hell"

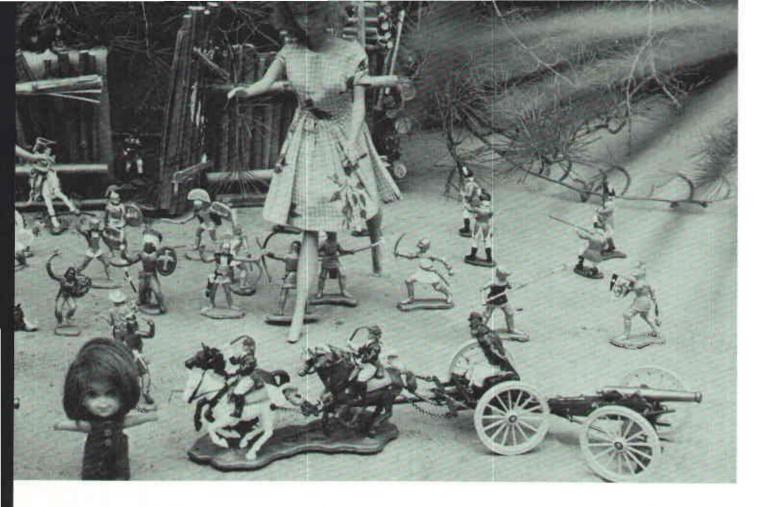


Now, even that traditional pattern is threatened with massive change. This year the 10-month truce period has been pretty well shattered by the sounds of television advertising telling your little ones every Saturday morning of the year how swell it would be to get a new toy. The goal of the Mattels (who pioneered TV toy advertising in 1955), the Revells, the Remcos, the Wham-Os, and the others involved in this strategy is, of course, to make toy buying a year round business, and reduce their dependence on Christmas.

Indeed, that once-a-year rush is highly risky. The mold for one major new toy part, for example, may cost up to \$100,000. That investment has to be made early in the year. Then millions of more dollars may have to go into the plastics and parts as well as distribution cost. Finally, after many months without any turnover of those dollars, it reaches the retail shelf where it must compete with hundreds of new items and thousands of traditional toys. Then it's up to you — and how you and your youngsters respond.

The big TV toy promoters, of course, hedge their bets with a tremendous amount of market research. In super-secret rooms at Mattel's big Los Angeles headquarters, real-live children of employees are given experimental or prototype toys to play with, and observed rigorously through one-way glass walls by psychologists, engineers, executives and advertising people. A toy that passes that scrutiny has better than an even chance of success.

Still, the risk element cannot be totally eliminated. Duplication of ideas is one of the bigger hazards. The very secrecy with which the industry conceives its products



contributes to the possibility of two almost identical toys clashing head-on in the market. In this situation, even the television networks that get to see the competing commercials well in advance of showing are prohibited from disclosing the fact that duplication exists.

One way the TV-oriented toy industry faces up to such problems is to develop brand-new lines of toys each year, price them high with plenty of cushion for discounts, promote the dickens out of them, then hope to come up—at least once in awhile—with a real blockbuster. For Mattel that has been Barbie, that lithe little figure who to date has accounted for more than a half-billion dollars in retail sales. For Wham-O it was the Frisbee saucer, then the Hula Hoop. For Revell it's been the slot-car craze, And so on.

Fighting it out on the opposite side of Toyland is the traditional toy industry, made up of several thousand manufacturers and many more thousands of retailers. Actually, much of the retail industry enjoys only a seasonal existence, switching back and forth, for example, between toys and garden furniture. Only a very few, notably F.A.O. Schwarz, succeed in remaining exclusive to toys.

The Schwarz success is unequivocal and unique. It is both the world's largest and oldest toy store organization, manufactures many of its own items, and imports thousands of others. The Schwarz mail-order catalog changes only slightly from year to year, and illustrates more than 2,000 toys ranging from a 15-cent bubble pipe to an antique German toy kitchen priced at \$1,000. The 14 Schwarz stores, including the giant Fifth Avenue Children's World in New

York, between them carry as many as 12,000 different toys.

Christmas is naturally very, very big at Schwarz—
"wall to wall customers" as one manager said, "with a great

"wall to wall customers" as one manager said, "with a great deal of money and willingness to spend." It's not unusual for a parent or grandparent to run up a charge of over \$1,000 in a matter of minutes.

Even so, the toy makers and retailers would dearly like to discover some formula other than the Christmas rush as a means of selling their wares. For its part, Schwarz recently launched a Three Worlds ("play, learning, and growth") program of educational toys, complete with expert advisory committee and catalog.

There is no question the toy industry is becoming increasingly sophisticated as it caters to the affluence of our society and reflects in its products the upward surge of technology. It is not a major recognizable market for Hewlett-Packard products, but applications of the company's instruments are widespread among the many firms supplying parts and products to the industry and also in the R&D activities of the big producers. Mattel, for example, employs some 400 people in its research and development laboratories, including a number of electronic engineers utilizing some pretty complex — but hush-hush — equipment.

The kids may be the ones who inspire these efforts, but it's a fact that 99 percent of toy customers are adults. It brings to mind the Schwarz belief that "the more clever the toy, the greater will be the interest of the grownups, who really want to play with it themselves." As they say in Toyland, "never trust anyone over 13."

# Who are the givers?

The news stories—those ugly reports about people standing around doing nothing while outrageous crimes were being committed before their eyes—came originally out of New York City a couple of years ago. That great de-personalized metropolis with its subways and concrete canyons and ghettos seemed a likely site for such chilling episodes. But then a rash of similar headlines began to pop up elsewhere—including some from the nation's more sunny suburbs. Suddenly, editorial writers and television pundits were telling or asking "what's wrong with people today."

If you had listened only to them you might have concluded that the country — the world, no less — was in the midst of some sort of psychopathic/apathetic bind. Fortunately, other observers were able to take a more balanced view. Look long and hard enough, they said, and you can always find civilization's leaky seams. Look equally hard for the good things — the genuinely kind and considerate acts people do for one another — and you will discover why our civilization survives in spite of our shortcomings.

The fact is, it's not always easy to get news of such activities: people are often reluctant to have their roles publicized unless that somehow contributes to the cause. That, at any rate, has been the experience of MEASURE in uncovering such stories within the company for the past three December issues. This year it was no different—to the point where, in several stories, the HP people involved asked for complete anonymity.

So be it. As Euripides put it, some 2,400 years ago, their "goodness does not perish, but lives though they are gone."



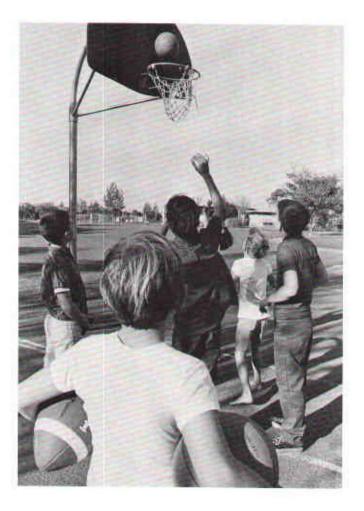


"The best thing is when one of these boys finds out what he would like to do in life. That's the challenge of Explorer Scouts, and the fun of it, too." Big "Hub" Brown, a draftsman and aspiring tool designer at Colorado Springs Division, has been adviser to an HP-sponsored troop for just over a year now. A 1961 Junior College All-American tackle at Colorado's Trinidad State College, Hub spends many hours each month teaching his boys something about radio and electronics, and taking them on tours of important industrial centers. "The goal is to open up their opportunities by broadening their own capabilities and their outlook on life."

At Eastfield, volunteers don't have much opportunity of working directly with the emotionally handicapped children who find a haven in this 101-year-old Santa Clara County center. These are children who have retreated so far into a shell and "internalized" their anger or who express it so constantly and aggressively, that only professional supervision can handle them. But there still are many needs that can be met only by sympathetic onlookers — special equipment, special occasions.

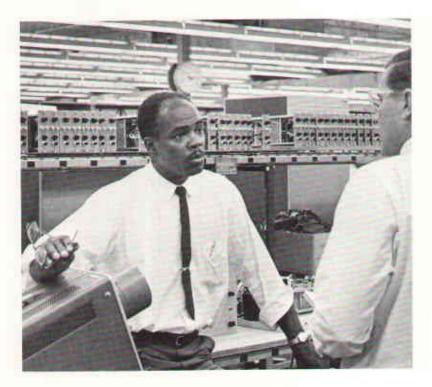
The 15 people who staff the Palo Alto Division stock room have taken on the role of Santa Claus. On December 24 they will set up and decorate a big, spreading tree at the center. Then they will carry in loads of carefully selected presents, games, toys, and sporting equipment — things that are important in helping lighten the loads of burdened young lives.

Looking around the facilities of Palo Alto's Community Association for Retarded you might get the impression that here is an organization with considerable resources as well as imagination. Up to a point you would be right. That point is reached when you go beyond the new facilities and professional staff that make CAR one of the most advanced organizations of its kind. You learn that volunteer help is a very significant part of the program. You learn that transportation of many of the less privileged day-care children is a pressing problem. And you learn that items such as repair of cycles cannot be covered in an already stretchedout budget. About five years ago a group of Palo Alto Division sheet-metal fabrication people heard about that. Since then they have made a joint project of repairing or replacing the well-used playground equipment.



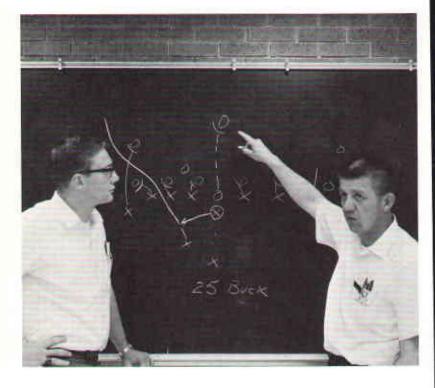
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## the givers



"There is so much that needs to be done, and so few people to do it.' Indeed, all of Charles Pierce's spare moments on and off the job at Waltham Division, where he is a test technician, seem somehow to get taken up in projects that help others. For the past three years he has headed an on-the-job drive for food and clothing on behalf of poverty-stricken towns in Mississippi. A recent letter from the River Side Community of Gunnison confirmed the need: "We have a great many senior citizens and dependent children who do not have ways to get proper food and clothing". In Cambridge, where he lives with his wife and their three children, Charles is active in city and school organizations. He has also been of very material assistance to HP and other companies in the area by bringing them into direct contact with black youths who otherwise would not have learned of employment opportunities.

How does a boy come by his body skills and confidence? Not all that he needs can be acquired in school and home. He needs something more. He needs to test himself within his own peer group. But it shouldn't be a wild thing. Men are needed to guide and inspire him. At Loveland, Colorado, for example, kids in the Midget Football League learn the fine arts of the block and the tackle only after they understand the values of training and fitness and the need for rules and boundaries. In time, say Bob Hardin, PC fabrication supervisor seen at blackboard, and Ron Vogt, inventory control, coach and assistant coach respectively of the Hiway House team, the boys begin thinking past the game itself. They discover the meaning of team play and sportsmanship, and of winning and losing - with grace, too.







Everybody knows that Friday evenings are special, a time to go out, get away, or get together. Two girls at the Neely North Hollywood office have given up that lately in order to help some children at the Rehabilitation Center of Children's Hospital of Los Angeles discover that life is not all pain or sickness. Many of the children that Donna Albrecht, left, and Marilynne Brammer see at the Center are victims of parental neglect and brutality — "battered" children. Others are recovering from major operations, and a few are beyond medical help. The needs of all of them are painfully obvious to the volunteers, particularly on a night when the rest of the world is trying its best to forget.

Many retarded and handicapped children can learn to take care of themselves and even become contributing members of the community. At Loveland, Colorado, that's the goal of the Foothills Activities Center, and it hopes to do this on a largely voluntary basis. That's where Jack Kirkpatrick comes in. As manufacturing control manager at the HP plant, he serves also as coordinator for work that is subcontracted through the Center—routine jobs that are within the capability of the children. In the process they receive a small salary, acquire training, and the Center benefits financially. But Jack's involvement goes far beyond the sub-contract work—up to thirty hours some weeks, helping in the many ways it takes to keep a volunteer organization alive and lively.



### News in brief

Palo Alto - The company reported record sales and earnings for the fiscal year ended October 31, 1968. Sales totaled \$266,500,000, an increase of 10 percent over 1967 sales of \$243,500,000. Net earnings increased from \$20,117,000 in 1967 to \$20,600,000, a gain of two percent. The 1968 earnings equaled \$1.64 a share on 12,564,219 shares of common stock outstanding on October 31. This compares with \$1.62 a share on 12,431,632 shares outstanding in 1967. In reporting Hewlett-Packard's operating results for 1968, Chairman Dave Packard pointed out that the company's earnings increase was minimized by the income tax surcharge of approximately \$1.5 million, or 12 cents a share. Packard described 1968 as a "reasonably good year" for the company. He said that orders were up to expectations, totaling \$280,000,000, compared with \$249,790,000 in fiscal 1967. "We are particularly pleased with the continuing high level of international business," Packard said. "Orders from our overseas customers increased 23 percent to a total of \$73,000,000." Looking ahead to 1969, he said that although the company expects further gains in sales and orders in the coming year, there are many signs on the horizon pointing to some slowing down in certain areas of the economy: "We expect that it will be a good year, but there will be periods of uncertainty ahead."

Palo Alto—A new 150,000-squarefoot manufacturing plant in Cupertino, California, was purchased last month from Varian Associates. The plant, not previously occupied, is located in the Vallco Industrial Park. Price for the building and 46acre site was approximately \$5.5 million. The one-story building will provide additional space for data products operations which are growing even faster than anticipated. Plans call for having the building outfitted and ready for occupancy within a few months. The new Cupertino facility is a mile northwest of the 300,000-square-foot plant that HP now is building on a 55-acre site in Santa Clara. The Santa Clara plant is about one-half completed and will be fully occupied next fall.

San Diego-A 71-acre plant site in the Rancho Bernardo Industrial Park in San Diego, California, has been purchased for future expansion of the San Diego Division. There are no immediate plans to develop the property. Located a quarter-mile from the division's recently leased 30,000-square-foot plant, the new site is near U.S. Highway 395 about 22 miles north of downtown San Diego. The land was purchased from Rancho Bernardo, Inc., owners and developers of the industrial park, from whom the division leases its present plant.

Fort Wayne, Indiana — Magnavox Corporation has taken delivery of the first computer-controlled custom test system from HP's recently formed Systems Division. The system, costing about \$180,000, automatically checks out new Magnavox thick-film receivers.

Completed in October, the installation marks HP's initial entry into the custom electronic test systems business. A backlog of four more computerized systems plus some fifty other custom instrument sets is reported by the division.

Paramus, N.J. — The company has leased a 4.6-acre site and a 24,500-square-foot building now under construction in the King of Prussia

Park, near Valley Forge, Pennsylvania. When completed this winter the one-story, brick-and-steel building will be occupied by about 90 administrative, sales engineering, and service personnel. They will transfer from HP's West Conshohocken, Pennsylvania, office, which will be closed.

Cape Town—A sales subsidiary has been established in the Republic of South Africa. Through offices in Cape Town and Johannesburg, Hewlett-Packard South Africa (Pty.) Ltd. will distribute HP's entire product line. Director and manager of the new company is Henry Flanter. His firm, F. H. Flanter & Co. (Pty.) Ltd., has been a distributor of HP products for several years and will continue its other business activities.

San Antonio — The Contract Marketing office, formerly a part of Corporate Marketing, joins the Southern Sales Region effective November 1. Earl Davis will be contracts marketing manager for the region. The office will assist all of the region's offices in their government purchasing activities. In addition, it will function as a field office under the Houston District, with responsibility for all industrial, medical and analytical instrument sales in San Antonio.

Washington — FICA (Social Security-Medicare) tax payments will increase again next year, beginning in January. Although the tax base of the first \$7,800 earned during the year remains unchanged, the tax rate will increase from 4.4 percent to 4.8 percent. The maximum tax will thus be \$374.40 per year, compared to \$343.20 in 1968, an increase of \$31.20.

### People on the move

Corporate — Ron Potter, to electronics research lab, HP Labs, from F&T nuclear.

Avondale — Carroll Moore, to marketing manager, from district manager, Southern Sales-Huntsville.

International — Gary Geiger, to finance staff, from corporate Finance staff; Walt Ross, to order processing supervisor, HPIA, from F&T marketing.

Mountain View — Ken Collins, to marketing, from open order processing, Customer Service Center.

### Palo Alto Electronic Products Group

F&T — Abe Bromberg, to material manager, from administrative manager, F&T East; Don Collier, to office services, from Palo Alto administrative services; Dave Johnstone, to in-plant engineering, from corporate Personnel staff; Bob Letsinger, to marketing, from Mountain View marketing; Walt Noble, to in-plant engineering, from instruments, Palo Alto Division; Wallace Ross, to section leader, nuclear R&D, from technical staff.

Microwave - Derek Cowan, to product engineer (in training), from HP Ltd.; Jim Detrick, to marketing staff, from materials handling, Customer Service Center; Martin Edgar, to systems manufacturing, from signal generators; Eric Johnson, to special handling, from systems network analysis; Callum Logan, to inplant tooling, from tool engineering; George Springer, to marketing, from environmental test; Don Thompson, to printed circuit process shop supervisor, from corporate Process Engineering; Dick Vrzal, to systems production, from inventory control, Customer Service Center; Charles Walter, to shop production control, from production control; Bill Whitney, to marketing, from production engineering.

San Diego — Bill Grein, to development engineer, from high frequency lab manager, Colorado Springs; Bob Hobson, to development engineer, from development engineer, Colorado Springs; Dick Jablonski, to product engineer, from marketing, Loveland; Burt Jackson, to manager, new product tooling, from tool engineering manager, Palo Alto Diengineering manager, Palo Al

vision; Al Louchard, to publications manager, from marketing, Microwave.

Systems — Ray Calmes, to project engineering, from instruments, Palo Alto Division; Jay Mellies, to finance manager, from accounting staff, Colorado Springs. Customer Service Center — Paul Gearhart, to computers supervisor, from production assurance, Palo Alto Division; Tom Wisdom, to order processing, from Palo Alto personnel.

Eastern Sales - George Abbott, to information systems manager, from programming, corporate Management Services; Chuck Daucher, to sales representative, medical instrumentation, from field service technician, chemical (Rochester): Jerry Hyde, to field engineer from staff engineer (Lexington); Tony Martinelli, to district manager (Lexington), from account manager (Baltimore); Norm Paquette, to district manager from account manager (Lexington): Art Somers, to account manager (East Hartford), from field engineer (Norwalk).

Southern Sales — P. K. Weir, to district manager from senior field engineer (Huntsville).

### Measure

EDITOR Gordon Brown

ART DIRECTOR Tom Martin





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