

# THE HP WAY

## How Bill Hewlett and I Built Our Company

DAVID PACKARD

- 1930 David Packard and Bill Hewlett meet at Stanford University.
- 1938 Packard and Hewlett begin working part-time in a rented garage in Palo Alto, California. Working capital: \$538.
- 1939 Packard and Hewlett form a partnership. H-P releases its first product: an audio oscillator.
- 1943 H-P enters microwave field.
- 1947 H-P incorporated as a company on 18 August. Sales: \$679,000. Employees: 111.
- 1951 New HP frequency counter revolutionizes frequency measurement field. Sales: \$5.5 million. Employees: 215.
- 1957 First public stock offering.
- 1958 First acquisition: F.L. Moseley Co. Sales: \$30 million. Employees: 1,778. Products: 373.
- 1959 H-P opens European offices and manufacturing plant.
- 1961 H-P listed on the New York and Pacific Stock Exchanges.
- 1962 H-P makes the Fortune 500 list, ranked at 460.
- 1963 H-P produces first synthesizer generating precise frequency electrical signals.
- 1965 H-P enters analytical instrumentation field. Sales: \$165 million. Employees: 9,000.
- 1966 H-P laboratories formed. H-P releases its first computer onto the market.
- 1968 H-P releases light emitting diodes and its first programmable calculator.
- 1970 H-P releases fully automatic microwave network analyzer. Sales: \$365 million. Employees: 16,000.
- 1971 H-P releases laser interferometer capable of measuring to millionths of an inch - suitable for use in manufacturing computer chips.
- 1972 H-P releases HP 35 hand-held calculator. Product quickly becomes engineer's tool of choice in preference to a slide rule.
- 1973 H-P releases general purpose computer system featuring distributed data-processing.
- 1974 H-P first to release minicomputer using dynamic access semiconductor memory instead of traditional magnetic cores.
- 1975 H-P developed computer interface bus becomes widely adopted as the industry standard for connecting instruments to computers.
- 1980 H-P releases first laser printer for large scale applications and a new ultrasound medical diagnostic device allowing the production of real-time images a a beating heart. Sales: \$3 billion. Employees: 57,000.
- 1981 H-P manufactures a silicon chip with 600,000 transistors embedded on it. This would be more than any other chip on the market for several years to come.
- 1982 H-P develops first major wide-area commercial electronic mail system using minicomputers.
- 1984 Release of first HP LaserJet printer. The product rapidly becomes the world's most popular personal laser printer.
- 1985 Sales: \$6.5 billion. Employees: 57,000.
- 1987 Walter Hewlett and David W. Packard (sons of the founders) are appointed to the Board of Directors.
- 1989 H-P now listed on Tokyo, London, Zurich, Paris and Frankfurt Stock Exchanges as well as New York. Company surpasses \$10 billion annual sales mark.
- 1990 New research lab opens in Japan. Sales: \$13.2 billion. Employees: 91,500.
- 1991 HP colour scanner and plain-paper colour printers released. Palmtop personal computer also released.
- 1993 H-P introduces most compact personal computer available on the market. H-P ships its 10-millionth LaserJet printer. Sales: \$20.3 billion. Employees: 96,200.
- 1994 H-P sales reach \$25 billion. The company donates more than \$64 million to nonprofit organizations.

## 1. Getting Started

In the last half of 1930, David Packard left his home town of Pueblo, Colorado to attend Stanford University. There, he became a good friend with another freshman who started his university studies at the same time, Bill Hewlett.

David Packard's parents were well educated - his father was a lawyer and his mother a high school teacher. He was a good student at High School, excelling in science and on the sports field. His passion, however, was the relatively new field of radio and he decided to go to Stanford University to study electrical engineering.

Bill Hewlett's parents were also academically inclined. In fact, his father was a Professor at the Stanford Medical School until he died when Bill was 12-years old. Despite the fact that he was dyslexic, Bill did quite well at High School, graduating with honours in science. He entered Stanford not really certain whether he would pursue a career in maths, chemistry or engineering.

While at university, Packard and Hewlett formed a close friendship with Ed Porter and Barney Oliver. In fact, the four friends got along together so well they thought of starting their own business in the new field of radio during their senior year. Professor Terman, head of engineering at Stanford, encouraged their plans but advised it would be better to obtain some real-world experience first. Therefore, upon graduation in 1935, Packard went to work for General Electric.

While David Packard was busy gaining some experience at GE, Bill Hewlett stayed on at university. He earned a Master's Degree at Massachusetts Institute of Technology and then went to work for Jensen Speaker in Chicago.

Even though they were working apart, Packard and Hewlett still had the ultimate objective of starting their own company. Therefore, in August 1937, they got together in California and held their first meeting to discuss forming a company, tentatively called The Engineering Service Company. They decided to concentrate on high-frequency receivers, medical equipment and the newly announced field of television.

In fact, Professor Terman from Stanford had taken a close interest in Packard and Hewlett and he helped organize jobs for both of them in California so they could support themselves until their company started making money. Together, they rented a small house on Addison Avenue in Palo Alto, California which had a garage that became their workshop. (This house and garage would later become famous as the birthplace of Silicon Valley).

In these early days, Bill Hewlett and David Packard did almost every small job they could become involved with. They found their talents complimented each other well - Hewlett had a stronger background in circuit technology whereas Packard was good at manufacturing processes.

By 1939, it actually looked like they might be successful in business together, so Hewlett and Packard signed a partnership agreement. They flipped a coin to see whose name would come first, and Hewlett-Packard was born.

*"From our efforts in building various devices, we'd made a little money, and in the back of our minds was growing the notion that just maybe one of these devices could be developed into a viable product. In recognition of our progress, small as it was, Bill and I began 1939 by signing a partnership agreement. I don't remember the exact terms of the agreement, but I know it was pretty informal. Bill advanced some money to buy some components and tools, and I contributed the equipment I brought*

*from Schenectady. We flipped a coin to see whose name would come first in the company name. Needless to say, Bill won."*

- David Packard

## 2. A Company Is Born

Hewlett-Packard's first product turned out to be an audio oscillator designed by Bill Hewlett. It was the first low-cost machine of its type which could generate high-quality audio frequencies necessary for scientific research. They called it the Model 200A so nobody else would realize it was their company's first product.

*"Bill's audio oscillator represented the first practical, low-cost method of generating high-quality audio frequencies needed in communications, geophysics, medicine and defense work."*

- David Packard

When displayed at a Radio Engineer's conference, there was a lot of interest in the Model 200A. Acting on a whim, they arbitrarily priced their product at \$54.40 because they liked the sound of that price and it reminded them of the 1844 slogan used to establish the North-Eastern border of the United States in the Pacific Northwest.. The only problem was it actually cost more than that amount in materials alone to build a Model 200A. Luckily, their nearest competitor's product was priced at \$400 so they had some room to maneuver.

Hewlett and Packard did everything themselves on that first product from building the wood cabinet through to individually calibrating each machine. Fortunately, there was a healthy demand for the machines, with several orders coming in during their first few weeks of sales.

*"When we started making the studio oscillators, we bought the cabinets but made the panels ourselves. We sawed them out of aluminum and drilled the holes. Then we'd spray paint them at home and use the kitchen oven to bake on the paint. Then I'd take the panels up to Charlie's and engrave all the designations on the panels through the paint. Next, we calibrated the dials by setting up a frequency standard. then we marked the dial with a pencil and I'd go back up to Charlie's and engrave those pencil lines. In the beginning, each of those oscillators was individually calibrated."*

- David Packard

Included in the early sales for that early audio oscillator was the Walt Disney Company who were assembling equipment to make their innovative new full length cartoon feature, Fantasia. They ordered eight of Hewlett-Packard's products.

*"Through the years there has been considerable over-statement about this sale to Disney. Contrary to some views, H-P did not make a technical contribution to the production of Fantasia. Instead, we enabled Disney to buy a good product at a price considerably less than our competitor's. It's also been said if it wasn't for this sale to Disney, we might have gone out of business. The truth of the matter is that with or without the Disney sale, Bill and I were determined to move ahead with our company."*

- David Packard

By the end of their first full year of business in 1939, Hewlett-Packard had sales of \$5,369 and a profit of \$1,563. This was to be a firm habit of theirs, and the company is highly unusual in that it has shown a profit every year since then.

