



Bill Hewlett 200A Oscillator Prototype
as shown in the MEASURE "Wrapping it up" issue
Courtesy of Hewlett Packard Company

Before the First

At the origin of the story is this audio oscillator built by Bill Hewlett for his Stanford University thesis project in 1938.

It is a resistance tuned oscillator covering from 35 cps (frequency unit was the cycle at this time) to 35,000 cps in 3 ranges. The major problem with such a resistor / capacitor tuned Bridge is to obtain a constant level output over a full decade frequency range. Bill Hewlett solved the problem by inserting a non-linear element in the feedback loop of the oscillator. This element controls the amount of feedback in accordance with the amplitude of oscillation and consequently maintains the proper operating point in the system. And what makes the idea a genius one is that the non-linear element is nothing else than a simple 3 Watts light bulb.



The HP 200B first HP Product
Oldest Showpiece of the Kenneth Kuhn Collection
Courtesy of Professor Kenneth Kuhn

The First HP Commercial Products

Bill's prototype became the HP company's first product the HP 200A.

As shown in the wiring diagram below, two options with different frequency ranges were available: the 200A and 200B. A small modification of 6 resistors values resulted in different frequency ranges 35 to 35,000 cps for the 200A and 20 to 20,000 cps for the 200B.

All other specifications are common for the two units. A two-stage power amplifier with transformer-coupled output delivers 1 Watt into a 500 ohm resistance load. The output voltage is controlled ahead of the output amplifier from a front panel level control. The total harmonic distortion is lower than 0.5 %.

The HP 200B with rounded corners shown in this photo comes from the [Kenneth Kuhn](#) collection. Units with this particular case style are very rare today. This unit was manufactured in 1941, probably at the Polly and Jake's location and may have been handled by Bill and Dave themselves.

Professor Kenneth Kuhn of the University of Alabama Birmingham is the owner and curator of one of the world's largest collections of HP original early instruments. Almost every instrument produced by Hewlett Packard during the first 20 years can be seen on his Web Site at : <http://www.kennethkuhn.com/hpmuseum> - Ken's site is also a huge source of information on the HP history.

From original Instruction Notice - october 1943 - Owned by the HP Memory Project

