

70 Oscilloscopes Monthly Built Here By Firm Engaged in Tektronix Industry



Ivan Arnold, left, 2741 S. E. 87th avenue, and R. J. Davis, 1704 S. E. Lexington street, assemble complex parts of a delicate electronic measuring device in Tektronics plant.



Howard Vollum, president of Tektronix, inspects "one of the simpler" oscilloscopes in process of manufacture in East Portland plant of the fast-growing new electronics industry.

Tektronix may sound like a new political party or a food fad, but it's big business—one of the biggest in Portland's important new electronics industry.

Tektronix, Inc., was born in the inventive brain of Howard Vollum, physics student at Reed college, back in the depressed '30s. Vollum built his first oscilloscope in 1933 just for the fun of it. He built another in 1935 which is still in use at Reed college.

Now he and his partners are building 70 of them a month in a two-story factory at 1516 S. E. 7th avenue. That first 'scope, then a laboratory toy, has grown into an important new tool for research—and into a \$750,000 industry in itself. Tektronix, Inc., employs about 50 skilled workers, about a dozen of them highly trained scientists in their own right. It is one of several related new plants which collectively make Portland an electronics center of growing importance.

An oscilloscope looks like a combination of an old-fashioned radio and a modern television set, in which a family of magpies has built its nest out of baling wire—only more complicated. Actually the oscilloscope is the microscope of tomorrow—the measuring device used to push back the walls of knowledge in most of the major sciences.

How quick can a cat wink its eyes? The oscilloscope can tell you, show you and draw you a picture to prove it. How fast can a man think? The oscilloscope tells all.

Researchers at the University of Oregon medical school use a series of Vollum's oscilloscopes to determine how much you hear while you are asleep.

The instrument can measure the speed and amount of any action than can be translated into electric current. The scientists "plug in" to the brain of the laboratory animal in seven different places in this case. Then they blow a horn. The sound travels along the animal's nerves to his brain, giving off a "brain wave" of electric current, which can be measured both for speed and amplitude by the oscilloscope.

Heart Action Mapped

In the same way the human heart broadcasts a "program" which can be picked up and projected onto the screen of the oscilloscope's cathode ray tube.

One of Tektronix' machines is used to count atoms in a B-29 engaged in cosmic ray research. Others are used to measure the degree of deflection or "wobble" of high-speed flywheels, the deflection or strain set up when a train crosses a bridge, the source of vibration in a marine railway.

One of the company's best customers now is the growing

television industry. Oscilloscopes are used to measure the characteristics of the radio waves transmitted by television stations, which determine the quality of the reception. They also are used in major university laboratories throughout the country. They are even being sold to rival electronics companies, whose own oscilloscopes not only cost twice as much, but weigh more and are more limited in their uses.