

Tektronix Makes Headlines in Englands Wireless World

Quoted from an Article by A. J. REYNOLDS, British Isles Representative

As most everyone at Tektronix knows, we have a number of distributors in other countries. These firms have been carefully selected for their industry, integrity and, of course, technical capabilities as well as their sales ability. Sometimes it becomes apparent that several additional characteristics, such as humor and writing talent have been obtained at the same time.

As a good case in point, the September, 1955 Wireless World contains an article about Tektronix by Mr. A. J. Reynolds, Sales Director of Livingston Laboratories, our representatives in the British Isles. Wireless World is one of the more highly-thought-of English technical magazines that our library receives.

Mr. Reynolds begins his article by reminding his readers of the practically non-existent instruments industry in pre-war years in England.

What follows is a verbatim transcript of the less technical portion of his article:

Pre-War Views

"Those readers who were in the radio industry in pre-war days will remember the very high regard in which instruments by such American companies as General Radio, Boonton, Ferris and Measurements Corporation were held. In the early and mid 'thirties the British Instrument as we know it today hardly existed. We had, of course, famous companies such as Cambridge, Muirhead, Sullivan and Tinsley, but they were fully occupied making what can be regarded as laboratory standards, bridges of extreme precision, potentiometers and variable air capacitors of exquisite workmanship. Little was then available, British made, for those awkward characters who required to generate few

microvolts at many megacycles or who cherish a notion to measure the Q of the Litz-wound glass-former inductors in their super short-waver.

Scope Beginnings

The founder member of the new brigade of instrument firms was undoubtedly Marconi-Ekco who, in the late 'thirties', began to make American style instruments in this country. Having a relatively clear field they expanded rapidly, but when war broke out most of the serious work in British laboratories was still done with instruments of American manufacture. During the war few American instruments found their way into the country and the small British industry expanded enormously. It had to: in pre-war days the Standard Signal Generator was an object of awe and veneration enshrined amongst the

Wireless World Gives Early History of Company (Cont.)

polished teak and lacquered brass binding-posts of the standard room, one per factory being about the number required. In the Services thousands were necessary, and such old favourites as the Marconi TF144 were bounced across the desert in 15-cwt trucks and dragged across the gooey mud of forward airstrips by sodden 'erks'.

After the war Britain found herself with a new industry--electronic instruments. New names appeared: Advance, Airmec, Cintel, Dawe, Solartron, Wayne Kerr and a whole host of others. The well-publicized dollar shortage precluded the entry of American instruments and as a result the styling, electrical and mechanical design of the products of the two countries have moved steadily apart. A somewhat similar state of affairs exists to that in the motor industries of the two countries.

Tek Enters the Field

Across in the States conditions were very similar to those at home. The war gave the instrument industry a tremendous fillip and while the old-established companies grew enormously, and along lines that could have been fairly easily predicted, a horde of new companies shot up overnight. (Some of them also shot down again pretty quickly.) Amongst these were two destined to become the giants of the industry. They are Hewlett-Packard, born in the garage of one Dave Packard just before the war and now the largest instrument company in the world in terms of turnover, and our heroes on this occasion Tektronix.

Tektronix, Inc., was organized as an Oregon corporation in January 1946, for the purpose of developing and manufacturing cathode-ray oscilloscopes. The owners all had extensive wartime electronic experience in either military or civilian capacities. The president, Howard Vollum, actually worked in this country on radar development during the war. The company and its products form a useful guinea pig for a miniature study of current American thought in light current engineering. It is a successful company; from small beginnings as late as 1946 it now dominates the American wide-band oscilloscope market and is by far the largest producer of these instruments in the world. Before going on to the instruments let us look at a few points concerning the general organization and see how they tie up with your own conception of an American company and normal British practice.

Vollum au fait

First, the president Howard Vollum, is a distinguished engineer completely au fait with the performance of his company's oscilloscopes and the designer of some of them. This is a theme constantly reiterated in the new generation of U.S. instrument companies. Bill Hewlett and Dave Packard designed all of their company's original products. Rarely is the accountant-cum-financier type of director found over there. On enquiry you will be told, 'You can always take an engineer and train him as a business man but rarely does the converse apply.'

Secondly, at Tektronix they are more nearly self-sufficient than any other comparable company in the world. The only bought-out components are those such as valves and resistors. When the commercially available article is not good enough there is no hesitation in setting up a department to improve on current practice. Commercial capacitors could not be bought that were sufficiently good for use in their time bases, so they wind their own to 0.25%. Bought out c.r. tubes were insufficiently linear for the sort of accuracy sought--so they made their own, incidentally solving a major tube manufacturing problem in the process. The new Tektronix tube uses a helical post-deflection accelerator ring that starts at the top of the tube neck and runs helically right up the flare of the screen. This, of course, is an old idea and obviously the right way to make a p.d.a. tube, but up till now no manufacturer has succeeded in holding the resistivity of his material sufficiently constant to achieve a uniform potential gradient down the tube. Hating the conventional tag-strips and group boards, they developed and manufacture their own ceramic group boards that contribute greatly to the internal appearance of the instruments. This may surprise those who thought, as I tended to, that the American manufacturer produced a set of drawings that were effectively a stock list enumerating the bought-out parts that merely had to be assembled in the parent works. This philosophy, once prevalent, is now regarded with disfavour by the most progressive companies.

One World?

A third feature is the generosity of the electrical performance compared with the specification. Many experienced observers in this country have been forced to apply a 'transatlantic factor' to written specifications emanating from the U.S.A. It has sometimes even appeared that in the Great Democracy the

output watts were larger than ours and input watts smaller. (Something to do with the size of the U.S. gallon no doubt) Here, however, is a conservatism of claim at least equal to the best of the British firms. On the Type 535 oscilloscope, for example, the claimed Y amplifier bandwidth of 10 mc/s measures as 3 db down at 13.5 mc/s.

Profit Share

The last point, which I am sure has a sizable bearing on the company's success, is the method of payment. Every month 22½% of the company profit is divided among the employees in the ratio of their salaries and a further 7½% added to the pension fund. A simple enough payment by results system, but one which ties an individual's earnings to the performance of the company as a whole. Under this system what matters to each employee is that the customer is satisfied. Surely all men should be working to please the customer rather than to put one over on an inspector three benches away!

As examples of the instruments themselves we have space to deal with but two, the fabulous Type 517 and the latest of the line, the Type 535."

517 — A Favorite

He then goes on to describe aspects of the 517. An amusing paragraph at the close of this describes our sweep timing system: 'The time base on it's fastest speed runs at 10 mμsec/cm, that is, a complete sweep of 8 cm in 80 mμsec. Although their invariable practice, and one well suited to the method of calibration, this style of specifying time base speed strikes me as slightly ludicrous. It is rather like saying 'Poor old Charlie was nicked for failing to exceed 0.033 hours per mile in a built-up area.' Come to think of it, they are in effect quoting the time base slowness rather than the time base speed.

That then is Type 517, a slightly fabulous beast in that few of us could live up to it. Owning a 517 must be rather like owning a 4½ Ferrari or being married to Marilyn Monroe. Let us examine another model, just as outstanding in its own sphere but more applicable to everyday problems, the Type 535."

Mr. Reynolds then describes the Type 535 in highly laudatory terms, and goes into its unique operation, comparing it to radar equipment. He closes with an observation that "oscilloscope design at any rate has been progressing along lines rather different from our own."