

To Our Customers On Our Twenty-Fifth Year

Tektronix is now 25 years old. There is no magic in that number to make it significant, any more so than being 24 or 26. Yet the quarter-century mark does suggest a time to pause and reflect.

In those 25 years, we have seen great changes in technology. Tektronix has changed too—not in basic ways but certainly in size, in complexity and in its role, moving from unknown challenger to recognized leader.

It would be convenient for me to trace Tektronix' past by citing certain of our products which, over the years, may have taken on particular historical importance. A fairer assessment of our influence on the field of measurement would be gained by scanning that field today. If you do, you will soon realize that a very great number of the basic oscilloscope features and functions—things so common to all scopes that we now take them for granted—began as Tektronix innovations. It is for this reason as much as any other that "Tektronix" and "oscilloscope" have become so nearly synonymous.

I should note here that "first"—like "biggest" and "fastest" and so on—are transitory things. A true measurement of a company must also include its quality of workmanship, its adherence to high standards and the lasting value of its contributions. Still, innovation is certainly a key part of leadership; and our history is studded with important "firsts".

Here are a few of many ideas on which today's oscilloscope art depends; each was pioneered by Tektronix:

Triggered sweep. Before the Tektronix 511, commercially available oscilloscopes used synchronized rather than triggered sweeps as their basic time base.

Remember the problems of keeping a stable display? And sweep times shorter than the period of the signal were impossible. The introduction of a *hold-off time* to assure that the sweep circuit recovered completely between sweeps is now routine with oscilloscope designers. But it, too, was a Tektronix invention.

Trigger-level selection, both manual and automatic, was another Tektronix innovation. The more recent "peak-to-peak auto" trigger-point control continues our effort to make the oscilloscope easier to use.

A simple thing that nevertheless added greatly to ease of use was the 1-2-5 scale used for volts/div and time/div. Now universally adopted, it first appeared on the 315.

Regulated power supplies, including the oscillator-type high-voltage supply, were introduced commercially in the 511A and 512.

Non-resonant probes, now used with all high-impedance wide-band oscilloscopes, are covered by Tektronix patents. I feel this is one of our more important inventions.

Still another Tektronix "first" was *alternate-sweep* dual or multi-trace amplifier circuitry.

Plug-in units. A sweep that would work as slowly as 12 s/cm and as fast as 20 ns/cm was developed in 1952. It was obvious that, to fully use it, a variety of signal amplifiers would be needed. Thus the plug-in idea was born. Our competitors poked fun at it—but our customers loved it.

Today, our 7000 series uses two sweep and two vertical plug-ins, providing very great flexibility. In addition to numerous preamplifier units, we also offer plug-in sampling systems, counters and DMMs. And there are many more to come.

Direct-viewing bistable storage. Development of a simplified storage CRT that maintained its image without fading out made the storage oscilloscope a widely used instrument. Since our tube required no meshes, as existing ones did, large storage

screens became practical, such as those used in our 611 display units and our computer terminals.

In the area of CRTs, *ceramic tunnels*, a feature Tektronix alone offers, provide dimensional precision and lighter weight—and they permit good *edge illumination of the internal graticule*.

Portability. Almost unique to Tektronix are truly portable oscilloscopes. These small, lightweight instruments combine laboratory quality with the ruggedness necessary so that, despite being carried about day after day, they will perform reliably.

The 321 was the first battery-operated portable; the 454A is the fastest, the 323, the smallest and lightest.

In our "new-generation" instruments, this innovativeness continues. For instance, *circuit-board switches* have replaced troublesome wafer switches. *Cathode-ray-tube readout*, incorporated in the 7000 series, makes possible the readout of scale factors, counter and DMM output and other information on the screen of the CRT. Thus the oscilloscope is converted into a true integrated test system. The four Tektronix-developed ICs that provide the necessary character generation contain 1200 emitters each. Although these innovations are recent, history suggests that they, too, in time may become so commonplace in the scope field that we may forget, unless reminded, that they started here.

Now, in our 25th year, the instruments in this catalog continue Tektronix' tradition of innovation, performance and value. Let me mention two examples: the 5100 series and the 7400 series. Both move advanced performance down into a new price range.

The 5100 series is by far the most versatile low-frequency system anywhere. Made in two modules, display module and plug-in module, it's an oscilloscope which the user can convert to and from a cabinet or 5½-inch rackmount at his convenience. Four interchangeable display modules give a choice of single or dual-beam, storage or non-storage CRTs, with a 4 x 5-inch graticule area. The 5100 is the only low-frequency plug-in scope. It accepts up to three of nine plug-in units, with more to come—a combination of features and prices that should prove very attractive to many users.

We are equally enthusiastic about the 7400 series. The DC-to-50 MHz performance range meets more customer needs than any other. Combining three-plug-in capability, smallness and light weight, and offering a 6½-inch CRT, the new 7403 is a most attractive oscilloscope.

Tektronix' pioneering has not been limited to design. Our field organization, the industry's first move to close direct marketing, has become a model for the industry. There are now 220 field engineers operating from 79 offices in 13 countries.

Our manufacturing is highly vertically integrated, producing a large and growing share of the key components and materials on which our technical progress depends. And it makes increasingly creative use of advanced methods, including computers and automation. Factories are located in four key areas of the world.

All of this cannot be otherwise. For, if we are to continue to lead in technical excellence, service and reliability, innovativeness must not only be continuous but also pervade the company. At Tektronix, we intend to continue to live on the edge of the state of the art.



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