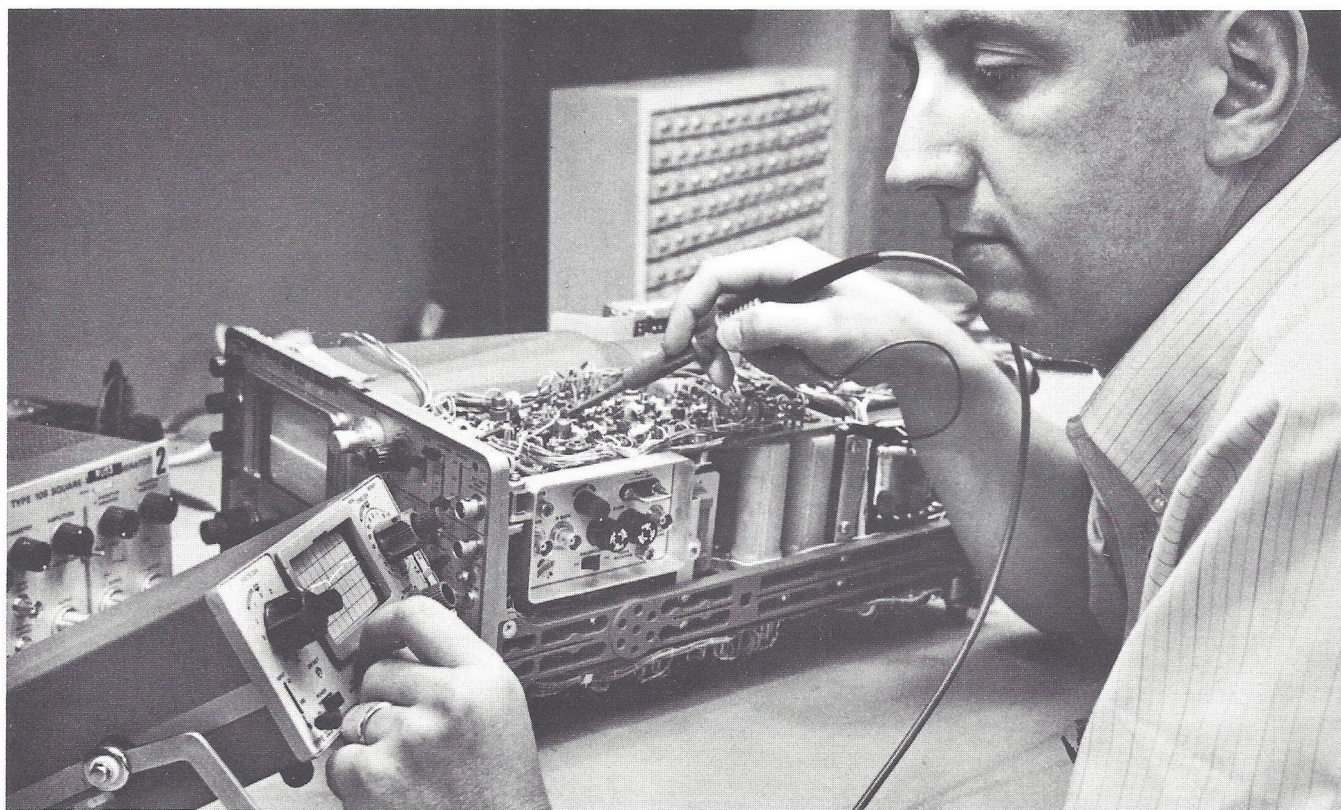


small wonder

JOHN GATES



The 323 mini-oscilloscope is 4¼" high and weighs 6¾ pounds with batteries. John Gates is 5'11" tall and weighs 175 pounds, with clothes on.

John is project manager of the 323, the first Sony/Tektronix instrument.

John came to Tektronix in 1960 from Hickok Electrical Instrument Co., where he was involved in "copy" contracts for the military for three years—specifically, developing oscilloscopes for the Signal Corps and the Air Force almost identical to the Tektronix 535 and 543. The military requires that procurement bidding not be "sole-source"—hence their desire to put Hickok into the "copy" business. This activity on Hickok's (and other companies') part resulted in the suit Tektronix has pending against the government. In working on these instruments, John became very impressed with Tek. He also had a strong desire to gain more original design experience—particularly with a progressive, growing company.

He stopped by our IEEE booth in 1960 and talked to John Kobbe, now Advanced Instrument Development manager. After this conversation, he was flown to Beaverton for interviews, and subsequently hired.

Some of the projects he worked on were the 82 dual-trace plug-in, the 81A plug-in, and the 581 and 585 oscilloscopes. He designed the 82, 84 and 86 plug-ins, the vertical amplifier for the 545B and the calibrator for the 544, 546 and 547. And he worked on other advanced instrument designs and concepts in John Kobbe's AID department that have yielded some of our high-frequency techniques.

In May 1965 he was named to head the first Sony/Tektronix development project, the 323, and to start an engineering department at Sony/Tektronix in Tokyo. He had been active in product planning, which had discussed small oscilloscopes for some time; also, he had had design experience, plus interest and ability to adapt to new situations.

Soon after that, some Sony engineers came to Tek to begin work on the 323. In November he went to Japan; subsequent stages of the design of the project were done at the Sony plant. In July 1966 John and the engineers returned to Beaverton, where the project was completed.

The 323 is the first attempt to combine Tektronix' experience

in oscilloscope design with Sony's skill in miniaturization—as exemplified by their "personal"-sized TV sets.

Other than its cathode-ray tube, the 323 is completely solid-state. Due to these solid-state components and an "instant heat" cathode, the 323 can provide a usable display in two seconds. By contrast, a typical scope "warm-up" is 15 to 30 seconds.

No oscilloscope is directly competitive. There are one or two about as small, but their CRTs are not as large and the instruments do not have the quality of the 323.

The 323 may be the choice for on-site applications that are within its performance capabilities, such as industrial controls, slower computers and business machines—and the military field, since the 323 is classed as an environmental instrument (which means it can be battered around quite a bit) as well as being very small. The quick-warm-up and its 10-hour battery time insures that the 323 will remain operational for a full work day. The instrument has a 4 MHz bandwidth. It is 3¼" high, 7" wide and 9" deep. The batteries can be charged at full rate while the scope is being operated from an AC line. There is no need to interrupt normal work to charge batteries; no other scope has this unique ability. Traveling electronic-service men may find it particularly useful.

The 323 is being manufactured and assembled in Japan at Sony/Tek. This is the first time one of our overseas assembly operations has depended primarily on local sources for manufactured and purchased parts. The CRT is being manufactured there also. However, the 323 was designed with components that for the most part have equivalent sources available in both Japan and the US.

John attended Oberlin College in Ohio, where he received his BA in physics in 1956. Later he attended Case Institute of Technology, and earned an MS in electronics engineering, while working part-time for Hickok.

John, his wife, Kathryn, and his two children, Jennifer and Ted, enjoy camping, fishing, hunting, hiking and sightseeing.

After the 323 project, John is in the process of fitting back into the engineering organization for new assignments. It will be hard, he says, to top the 323 for a different situation or design experience.