

He's still on the leading edge

By DON LEIGHTON

(Editor's note: This interview is part of a series with Tek's chief engineers and scientists. The Chief Engineer/Scientist designation represents the highest level in Tek's six-step career path for engineers and scientists.)

Gene Andrews seems quiet and unassuming. But don't let that Jimmy Stewart "Aw, shucks, ma'am, it warn't nothin'" personality fool you.

A strong faith in his own ability has led to 12 patents for his work at Tektronix and has earned him a position as one of Tek's 10 chief engineer/scientists. If he has an idea that he thinks will benefit Tektronix, he sticks with it.

"Even though I'm a quiet person, I've not been discouraged by the reactions of other people to my ideas. I'm fairly tenacious and stubbornly pursue something if I have confidence in the idea. And my confidence isn't shaken by skepticism of others. In fact, my tenacity may be spurred on a little by others' skepticism."

Once upon a time, for example, he proposed an idea to Jerry Shannon, a Tek engineer now retired. Now Jerry was known for his keen mind. And also for being, shall we say "outspoken." Turns out Jerry disagreed with Gene. But Gene forged ahead anyway.

"I proposed putting a stacked attenuator in the 453 (oscilloscope) to reduce the number of mechanical parts and make it easier to build. Jerry thought I was taking quite a risk in trying to make it work. We did have a lot of hard work to get it done on time, but I knew it could be done. I didn't give up.

"Jerry was in product evaluation at the time and was fairly critical of trying to do the project in the time we had. He told me years later that he appreciated that I wasn't shaken by his criticism because it had a good outcome."

Today, Gene talks about a new pet project with similar determination. It's officially on the back

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burner, but Gene is convinced it will eventually benefit Tektronix (we can't tell you what it is, for business reasons). Gene figures it's just a matter of time until more people understand the concept the way he does. You might call his approach "determined patience."

Unlike some of our other chief engineers who started tinkering with mechanical and electrical gadgets in high school, Gene started at University of Oregon in 1950 with the intention of contributing his math skill and logical thinking to the world of accounting. But in his sophomore year, he decided electrical engineering looked more exciting and transferred to Oregon State University. He went on to get a master's degree in electrical engineering at Stanford in 1956 while working in the Bay Area.

But Gene and his wife, Carole, decided they'd rather live in the Pacific Northwest, their home territory. With that move as a goal, Gene was delighted to have the opportunity to come to Tektronix in 1962. He's played a key role in development of oscilloscopes ever since.

Besides having a strong faith in his own technical abilities, Gene also has a strong religious faith. That faith is expressed as an active member of the Cedar Mill Bible Church where he sings in the choir. Other interests include tramping through Northwest forests and mountains. But he admits to have gotten away from that lately.

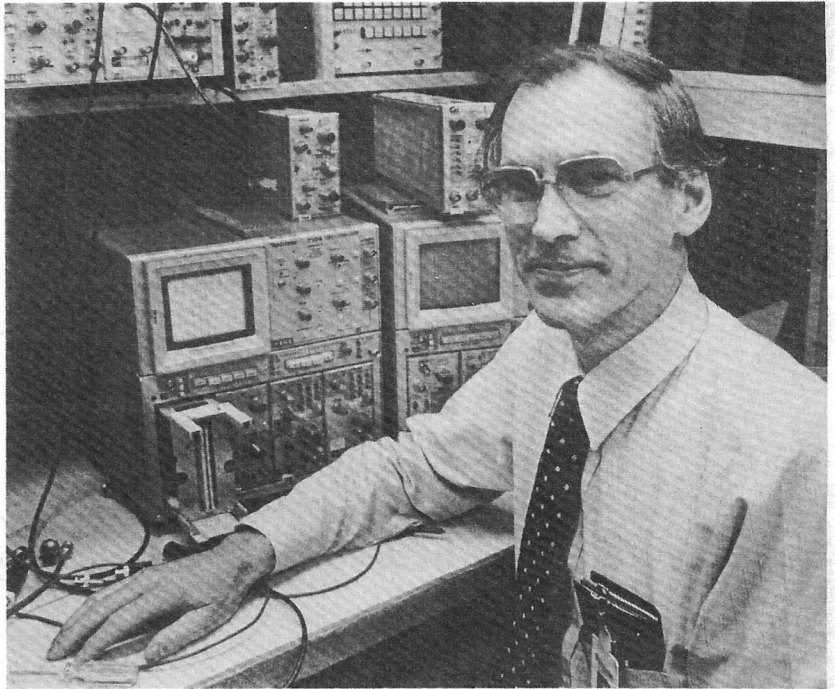
Gene and his wife also enjoy visits with their daughter, Susan, and son, Joel, both of whom live in Washington's Puget Sound area.

Although Gene was involved in the design of 7000 Series oscilloscope products from the beginning of

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that work in 1967, he says the 485 portable scope would probably be his favorite project. "It was a comprehensive package and we were free to do it all without many restraints." When it was introduced in 1972, it was Tek's fastest portable oscilloscope, and it held that claim to fame until this year when the 2467 was introduced. It's 14 years in the marketplace have been a notable achievement. Gene was not only project manager, but also did some of the technology development himself.

Even though Gene shows pride in his role as project manager for the 485, you can tell that he also



Many of Gene Andrews' ideas are at work in 7000 Series products.

takes special delight in some simpler projects. On the 7B80 plug-in, for example, they wanted a light to indicate when each of 11 control buttons was depressed. Some solutions called for a light bulb for each button. The second best solution required four. Then Gene got involved, and with the help of technician John Larson, developed a "light pipe" system that did the job with a single bulb: "There is some pride in getting a simple solution that was obviously unique," Gene said.

How does he get ideas? "In engineering and science, I think having a good grasp of fundamentals is important. That allows you to put the fundamentals together in a lot of sound ways to try various ideas," Gene explained.

Now Gene is both managing and engineering. He manages a group, but is also assigned the task of coordinating some of the technical details among several groups. His work is in the area of high speed digitizing. He went into some detail, then added, "We can't talk about it in print for competitive reasons, but I wanted to let you know that I am doing something."

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leading edge of technology after so many years," Gene commented. "Helping to develop new products that will be state-of-the-art is still exciting."

Gene admits to being a little intimidated by some of the new technology, especially software. But he's dabbled enough with all the new things that have come along to have a keen appreciation for the talents of the younger engineers that he works with. "Software's not my strength, but I had to give it a try," he added.

"We've always had the opportunity to do things well," Gene says of his Tektronix work environment. "The things I've worked on weren't products we could just throw together. They required a lot of persistence and hard work on the part of the teams involved. Getting them done well and seeing them sell over a long period of time is really rewarding. That's an opportunity you don't get in a lot of jobs. Helping other people do their jobs better with our products makes me feel good."

Doing things well is still the Tek way, says Gene. But a noticeable change is time-to-market-pressure, he said. "Not only do we still have to do things well, but we have to significantly reduce product development cycles and get products to market faster to stay competitive."

Gene says being a project leader today is much tougher than in the past because of a broad range of disciplines. In the past, project teams were smaller,

and it was possible for the leader to have a closer grasp of what everyone was doing. That was before "digital" and "software" and "systems" entered our vocabularies. "The span of things a project leader needs done well has grown considerably, and a lot more hangs on the leader's ability to lead this multidisciplinary team. But, as always, it's all the project-associated people that make things happen. I'm fortunate to have a group with skills to cover the disciplines."

Gene says he seldom turns off his work (at least in his head), and having a computer at home doesn't help. He does, however, enjoy a two-week vacation now and then, "one week to turn off the work, and another week to really enjoy it." But turning the work back on full speed takes awhile. Says Gene, "Engineers have the same problem as everyone else in getting back into the work routine after a vacation."□