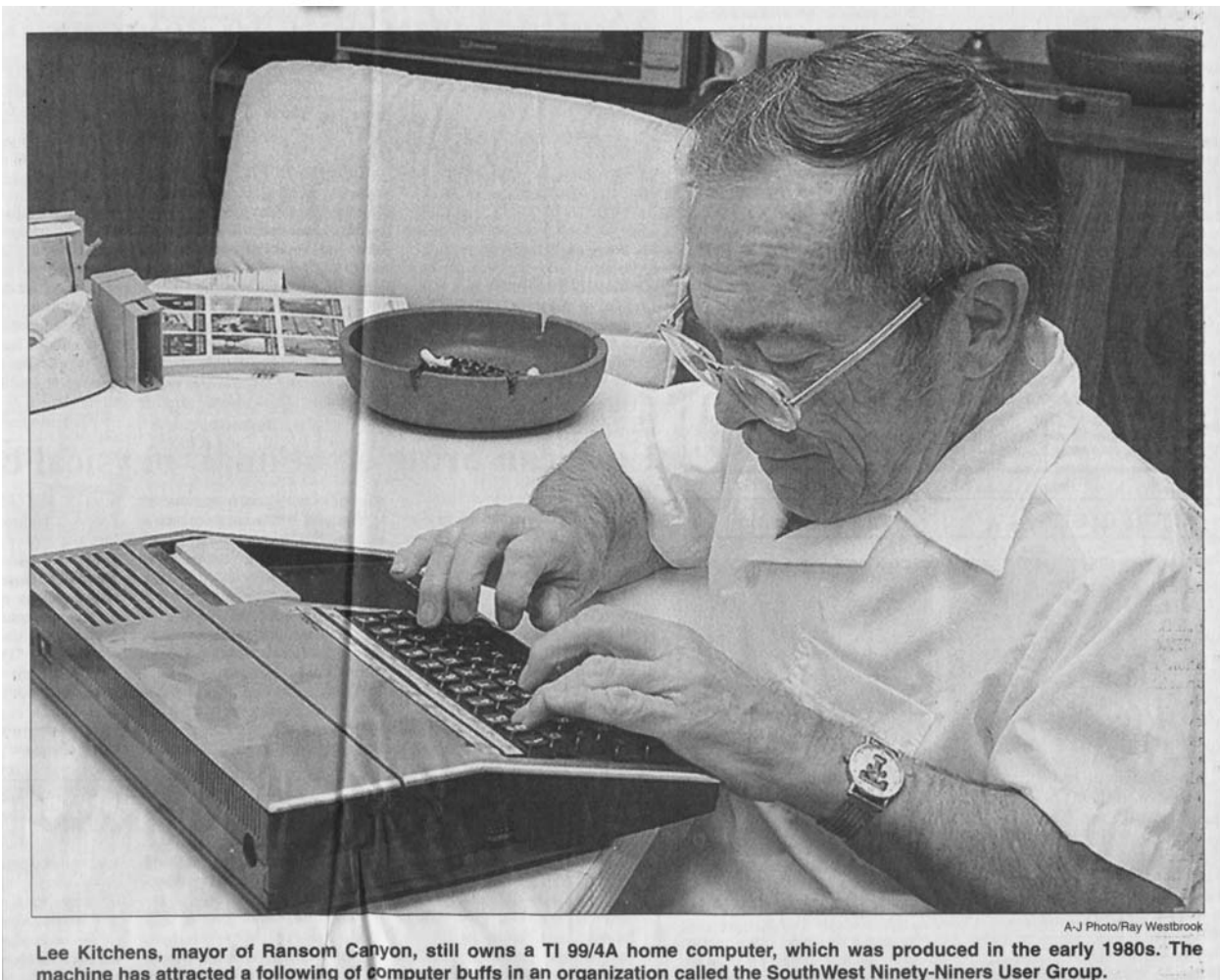


Computer Memory



Old Texas Instruments computer continues to attract users group

By Ray Westbrook
Avalanche-Journal

Timeline 99 - preserved for the benefit of the TI-99 Community

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In the computer age, nostalgia comes quickly. It was a bare 15 years ago that Texas Instruments was pushing the technology envelope with its 99/4A home computer. The machine was burning up the computing world with three megahertz of speed and zero gigabytes of memory in its hard drive - the TI 99/4A had no hard drive.

And if Texas Instruments officials at Lubbock had known Tom Wills of Tucson, Ariz. they might not have ended production of the 99/4A in October 1983. "They were very slow," Wills said of the 99/4As. "But at that time they were three times faster than an Apple computer. The Apple computers ran at one megahertz."

Wills is president of an organization called the SouthWest Ninety-Niners User Group. The focal point of their existence as a club is the TI99/4A.

At 8 a.m. Saturday, the SouthWest Ninety-Niners will gather at Texas Instruments' Lubbock site to remember the glory days of the recent past and to tour a plant that no longer builds home computers.

Texas Instruments does, however, keep one of the computers enshrined in a glass case at its plant.

"Lubbock to us is like Mecca is to Muslims," Wills said. "Because the TI 99/4A was built there, Lubbock has special meaning to us."

He said nostalgic users of the 99/4A will travel to Lubbock from as far away as England and Germany.

"We think of this as a classic computer, kind of like a classic car," Wills explained.

"If you really want to get something done, you use the newer equipment, such as a PC that has Windows 95 and all of that on it. It runs at like 200 megahertz.

"But if we are going to have fun, we go back to our TI's and use those."

The 99/4A came standard with 16 kilobytes of memory, Wills said, which is a diminutive capability compared to even the introductory 16 megabytes of memory often available on basic laptops of today.

"But we could expand them up to 48K," Wills contends.

The original 16K, meaning about 16,000 bytes - or letters - was roughly equivalent to five sheets of typed material.

Memory in today's computers typically is rated in megabytes, with each single number representing 1,000 kilobytes.

And modern hard-drives move into a classification called gigabytes, each of which represents 1,000 times a megabyte, for a total of more than one billion bytes, or letters.

The TI 99/4A had none of that. It captured the imagination of computer enthusiasts with just a keyboard locked into a single console.

Wills, whose group meets every year to share experiences and information about the 99/4A, says the machine is still being used in some businesses and by a lot of home computer buffs. He explains the phenomenon this way:

"Part of it I would have to attribute to the way Texas Instruments made it. They made it so this machine had so much capability that even after they stopped producing it, we were still finding out how much more it could do.

"Every time we thought we had found everything that could be done, somebody would find something else, and we were able to expand upon that. So, it just kept expanding what we could do with it."

According to Wills, the mathematical capabilities of the computer were characterized by phenomenal accuracy.

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"We have a company here in town (Tucson) that used to be called Hughes Missile Systems. It was just bought out, but they still use the TI 99/4A to do some of their programming for their missiles because the math capability on it is so accurate."

The users group will be hosted by TI's Lubbock plant from 8 a.m. until noon Saturday, and then will move to the Sheraton Four Points Hotel at 1:30 p.m. for a free-wheeling swap meet that will continue until no one is without replacement parts and new software.

Gabriel Flores, human resources representative for TI at Lubbock, is among those scheduled to welcome the computer operators.

"We are happy that the TI 99/4A users group is kicking off its annual meeting at TI," he said.

"Even though the kickoff is not open to the public, most of the event is being held at the Sheraton, and that is open to the public."

Lee Kitchens, Ransom Canyon mayor, also remembers the 99/4A, and still has one in near-mint condition on a table in his home.

He was manager of engineering for the consumer operation of TI when the company was building the computer from 1979 through most of 1983.

Knowing its inner workings, he had utmost confidence in the machine. "Oh, yeah. I mean it was the greatest thing since sliced bread.

"The problem with computers in those days was that most of them required some esoteric-programming language that nobody understood. But with this thing, you could plug in one of-the plug-ins and run a program.

"You could expand the memory, you could put a printer port on it to drive a printer, you could put a serial port on there to put a joy stick on. It had several accessories that were developed over time."

Kitchens remembers the machine sold in its original form of the 99/4 for \$1,150 each. At the end, in its 99/4A version, the machine was being sold for \$49.95. Today, Wills says, the TI 99/4A can sometimes be picked up on the used market for \$10.

Kitchens thinks it has lasted so long because of the manufacturer's near-perfection mentality.

"TI was a stickler for quality. Quality was just, an environment. Our heritage was military electronics, so we designed for rugged environments."

Kitchens said the monitors supplied with the 99/4A were built by a television company, and some of the first ones didn't survive shipment.

"Our requirement was that you had to be able to drop that thing, in the box, three feet and open it and it would still work."

Once that packaging flaw was corrected, the 99/4A could be expected to arrive in operating condition.

Hundreds of thousands of the computers were made for the U.S. market.

Kitchens is proud of the work put into the computer, which can still run respectably in a race dominated by the high-speed multi-media versions of today.

"I think we did a heck of a job."

He is going to save his own 99/4A until March of this year.

"The reason I still have one is that I have a granddaughter who will be 3 in March. I am going to set her up with it, so she can get comfortable with the keyboard."

Then there will be a new generation of TI 99/4A users.