



Barbara Manning wears a work outfit in this family portrait from about 1980. Her oldest daughter, Robin Decker, left, is a consultant with Johnson Controls working at Fermi National Accelerator Laboratory in Batavia, Ill.

Photo courtesy of Barbara Manning

Computers, disco, and double-knit

The late 1970s were a special time for me. The radio played disco, George Lucas released the first of the *Star Wars* movies and Alice Waters, at her Berkeley restaurant, Chez Panisse, was shaping a cuisine featuring fresh, local ingredients. I lived in Los Gatos with my husband and three young daughters. Just out of technical school, I was hired by Digital Equipment Corporation (DEC) as a computer field-service technician. What a trip! I couldn't believe my good fortune; I would have access to companies and organizations that the ordinary citizen on the street did not have.

I discovered I was the only female in a group of 34 service technicians, confirming my suspicion that affirmative action played a role in getting the job. I did not mind; I was starting a career that would be much more interesting than working on an assembly line. The DEC technicians dressed in suits and ties; I followed their example by acquiring a wardrobe of double-knit pantsuits and blouses with floppy bows. I was sent to work at places like the US Geological Survey, *Sunset* magazine, Lockheed Missiles & Space, Ridge Vineyards, Stanford University and Hospital, and The Nielsen Company.

Our maintenance contract with Stanford Linear Accelerator Center required us to respond within two hours of a service call, 24/7, when the beam was on. After assisting with several service calls, I finally got to perform preventive maintenance on the PDP-8e systems in the lower tunnel. Although the computers were the size of large microwave ovens, sometimes they were stacked with their peripherals in bays more than five feet tall, forcing us to crawl inside or stoop to make repairs. I would take off my jacket and neckwear for these jobs, and even had my hair bobbed so it would fall back into place after being

upside down. The PDP-8e was a 12-bit computer with 32KB of memory—less than 1/100,000th the storage space of the smallest iPod nano now available—and operated with eight basic instructions. Today it seems unreal that such limited computing power could have guided a beam of electrons. As I recall, most of the other DEC computers at SLAC were from the larger, 16-bit PDP-11 family.

Once in the tunnel, I was warned to be careful when using the restrooms. The architects never envisioned women working down there, so there were no separate facilities, and the closet-sized bathrooms had no locks on their doors. My outfit also seemed out of place; it was so hot that many of the scientists and technicians wore loose khaki shorts and sandals.

Having finished the preventive maintenance in the lower tunnel, I got to go upstairs for a glimpse of the klystron gallery. It was a jaw-dropping experience. I had never seen a klystron, a device that generates microwaves used to accelerate particles in the beam below. Here were hundreds of them, in a line nearly two miles long. I was in awe of the work the entire complex performed.

One day, as acting supervisor, I reminded a technician that he needed to complete preventive maintenance on a particular PDP-11. He returned about three hours later. Scott was a big, charming man, a veteran of stage and stand-up comedy. He rolled his eyes, shrugged his shoulders and put on a pathetic face. "I went right to where the computer was. It wasn't there," he said. "The **%#! building wasn't even there! I drove around a couple of hours trying to locate the correct hut. Do you think SLAC will complain about not complying with our contract if we can't find the system?" This produced a hearty round of laughter; SLAC was notorious for moving computers around. I suggested that he call the information center, get the group's new phone number and ask for directions. Of course my advice worked, and there were no repercussions from getting the job done a day late.

Looking back, my seven years with DEC were a highlight of my work life. Those fond memories include the actual work I did at SLAC and the experiences and stories of other technicians who performed vital jobs there. Today, I am older, tire easily, and have grown too large to crawl inside a computer system and fix it. Just as well; today's computers are too small for that.

Barbara Manning lives in Fremont, California, and works part-time as a human resource consultant.

