

## U.S.Army Signal Corps Electronics

## **Computer Development & Camp Evans**

- 1941: Designs for a parabolic radar antenna, which researchers believe was a Camp Evans project, inspired University of Penn. physics Prof. John Mauchly to expedite his digital computer ideas leading to the secret Project PX his pioneering ENIAC in 1943. ENIAC was not the first computer, but its general-purpose design augmented with stored-program methods began the modern computer age.
- 1943-1945: Several members of the Evans staff join top American engineers and scientists on the National Defense Research Committee's Vacuum Tube Development Committee, based in the Empire State Building. VTDC pushed for commercial development and military applications of this essential technology.
- 1945: Veterans of the camp led by Arthur Adamson and Lloyd Christianson form their own company, Electronic Associates (EAI), which became a leader in analog computing. EAI employees later formed another significant local company, Interdata (Perkin-Elmer, Concurrent), which challenged giants such as DEC and IBM in the booming minicomputer industry.
- 1947: Camp Evans again partners with the University of Penn. by contracting to use its differential analyzer, "Required for numerical evaluation of integral equations."
- 1948: Evans research director Harold Zahl witnesses Bell Labs' new invention, the transistor, and becomes a strong advocate for its use in the Signal Corps. Zahl also ensured that the invention was made public, thereby helping spawn the modern electronics industry.
- 1953: IBM and MIT personnel visited Camp Evans to learn about cathode ray tubes. They applied the knowledge to Whirlwind II, which evolved into computers for the U.S. Air Force SAGE air defense system.
- 1956: With an Electrodata 205 computer becoming inadequate and no funding available for a new IBM 704, Camp Evans decided to build its own computer how difficult could that be? Sylvania won the contract, resulting in MOBIDIC (Mobile Digital Computer) "mobile" meant it was small enough to fit inside a 30-foot Army truck. Several MOBIDIC systems were used at Evans and in Europe. They were among the first all-transistorized computers, and possibly the first to share data between computers. They performed well, but their heat and weight often caused the trucks to break down! MOBIDIC also led to Fieldata, which became the modern ASCII system. Meanwhile, Evans staff remained tech-agnostic, hosting IBM's Scientific Computing Seminar. Lecturers came from IBM, RCA, and the Evans staff.
- 1956: IBM picked Camp Evans to host its first Scientific Computing Seminar. The seminar merged into the nascent IBM user group called SHARE, which pioneered open-source software.
- 1957: Camp Evans was a testing lab for the Army and RCA's "Micro-Module" project. Micro-Module was an early competitor to integrated circuits and helped spread component miniaturization in the industry.
- In the 1940s-1950s, a who's who of the computer and electronics industries also worked at or with Camp Evans. They include Frederick Terman, a founding father of Silicon Valley; Bill Hewlett, of Hewlett-Packard fame; Howard Vollum, co-founder of oscilloscope giant Tektronix; Jay Forrester, known for perfecting magnetic memory; and Kurt Lehovec, a pioneer of light-emitting diodes and chip assembly techniques.

