

Silicon & High Standards: Sperry's Foray into Semiconductors



Above: Sperry employees working in a clean-room setting. Making semiconductors requires a tightly controlled environment. From the early 1950s up to the 1990s UNIVAC maintained a state-of-the-art failure analysis laboratory. If its suppliers' parts were defective, they were asked to take corrective action. Semiconductors finally became more reliable in the 1980s.

UNIVAC's military computers demanded a high standard and were built to be extremely reliable – even in dire situations. The quickly changing pace of technology from the 1950s and onward meant greater possibilities but also increased scrutiny. Semiconductors, components of transistors and integrated circuits, are an essential component of all computerized devices. The first semiconductors used germanium which was later replaced with silicon in the 1960s. Sperry UNIVAC remained at the forefront of keeping semiconductor standards high and ensuring their reliability.

Right: A testing facility at Sperry's semiconductor plant. Silicon can be used at higher temperatures than germanium, but it needs to have a higher conductivity in order to be used. Doping is the process of adding elements to the silicon. As shown in the picture, the boron-doped silicon wafers are being heat tested.



*We were...
a major
contributor to the
standardization of
testing procedures
used by the
semiconductor
industry.*

Larry Bolton
Former Sperry
Employee

*From: Semiconductor
Technology Progression
by Larry Bolton*

Sperry had been producing semiconductors for some time when they decided to build a new production facility in 1980. The new plant was a move to produce computer components internally instead of purchasing from other manufacturers. However, the rapidly expanding commercial computer market overtook the military market in the 1980s and '90s, making such a venture too costly. Sperry closed its Eagan semiconductor plant shortly thereafter.

Below: A picture of Sperry's semiconductor facility in Eagan, Minnesota. The \$50 million, 280,000 square-foot facility was only used for a total of 5 years. The building was later sold to Northwest Airlines

