

## **Making High-Tech Components Without High Costs**

Intevac, which employs 200 people worldwide and occupies a large, modern manufacturing facility in California's Silicon Valley, specializes in two distinct high-tech fields. One is design, manufacture, marketing and servicing the 200 Lean -- a proprietary hard-disk sputtering system. The other is design and production of high-tech camera equipment, and advanced technology sensors produced in the company's Imaging Division.

"The 200 Lean deposits or sputters a highly engineered thin film onto disks used in computer hard drives," explains Hob Bosold, model shop manager. "In 2003 our systems sputtered nearly half of all the thin-film disks made worldwide."

Bosold's challenge was to create a shop capable of rapid-response prototyping and lights-out production. At first he considered replacing the old equipment — a bridge mill big enough to park a car under, a couple of low-budget vertical machining

centers and three large horizontals — with more modern, same-size or bigger machines.

Instead, Bosold decided to purchase two machines from Mazak. One was an Integrex 200-IIIS multi-tasking machining center. The other was a 120-tool Mazak PFH-4800 horizontal machining center with a Palletech system, one load station and 64 pallet stations. “With this combination we had the best of two worlds,” he says. “With the palletized PFH-4800, the ability to do production runs is just tremendous. When we first got it, I picked a handful of parts from the 200 Lean to bring in house, and we saved 40-45% on them. The finishes we’re getting are typically less than four RA (roughness average), which significantly reduces part detailing and polishing.”

The Integrex allows Intevac to do a lot of parts with a lot less labor, Bosold adds. “We used to do four or five operations to get a part. Now the Integrex does it in one. It’s a tremendous time saver. We’ve cut part costs from \$275 in some cases down to \$20 on the Integrex. Our management likes that and wants more.”



John Calhoun (left) Hob Bosold and Avtar Singh, CNC programmer operator (right), discuss quality of finish required on a part to be produced on the Mazak PFH-4800.



Four modules of the Intevac 200 Lean hard disk sputtering machine in process of being assembled.



Shop leadman/programmer Diamond Hart sets up Intevac's Mazak 200-IIS multitasking machining center to run a prototype part.