

Custom Open Frame Computer for Laser Systems



Situation

With over 300 aerospace installations worldwide, Prima Power Laserdyne, LLC, derives its strength and competence from its 30+ years of experience in laser and sheet metal machinery. The company's unique software and hardware developments, in conjunction with its applications expertise makes Prima Power Laserdyne's products a standard in aerospace, turbine engine, and medical industries.

One of the company's key pieces of machinery requires a specialized industrial computer to function. Tired of reaching out to multiple vendors to provide the different components needed for assembly, Laserdyne wanted to find a single supplier who could serve as an "all-in-one provider." In addition to this need, the company hoped to work with a vendor who was quick to respond, reasonably priced, and could offer stability.



Prima Power Laserdyne specializes in 3-dimensional laser cutting, drilling, and welding.

While searching for possible vendors, Laserdyne learned of Foxguard's recent purchase of Envirosealed, Inc., a manufacturer of computer and printer enclosures for harsh environments. This acquisition enhanced the FoxGuard product line by allowing it to provide cost-effective, fully-integrated industrial workstations. Wanting to determine whether Foxguard could serve as the "one-stop-shop" Prima Power Laserdyne was looking for, the company contacted FoxGuard.

Solution

Eager to hear FoxGuard's recommendation for a solution, Laserdyne outlined the project requirements for the FoxGuard team. Laserdyne explained its need for a self-contained, dual computer system that was capable of running off a single power supply. Having a dual system would allow one computer to serve as an interface between the machine and the user while the other controlled the laser, machine axes, and process sensors. Because each application required different operating systems, the solution provided needed to be very versatile. Due to space constraints, it was important that the computer have a minimal footprint. In addition, the product needed to be extremely robust and capable of maintaining a long lifecycle.

After considering the project parameters, the FoxGuard team proposed that the best solution would be a custom open frame computer. Two versions of this computer were designed. The first version has Intel® Core™ 2 Duo processors and



To meet Laserdyne's specific project requirements, Foxguard designed a custom open frame dual computer system with a long lifecycle in mind.



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runs Microsoft Windows®. It has space for a second operating system, giving Laserdyne the ability to integrate its own Linux software on a case-by-case basis. The second version has Intel Atom™ N270 processors and runs Microsoft Windows® and MS-DOS 6.22. Both versions have dual system backplanes with PCI and ISA expansion slots. The systems were designed to be small in size and withstand extremely harsh conditions. They would also be created using long lifecycle components, to ensure longevity. FoxGuard was capable of installing the necessary software and providing all the elements needed for the solution. Impressed with the design presented, Laserdyne placed an order for these systems to go into production.

All-In-One Provider

Eight years after the initial order was placed, Laserdyne continues to request the same custom open frame computers from Foxguard. Mr. Conrad Workman, IT Systems Administrator for Prima Power Laserdyne, describes the company's experience with FoxGuard: "The team at FoxGuard is great to work with. Whenever a production issue comes up, we are always told immediately. We've found that FoxGuard engineers are very savvy. The group is quick to investigate the alternatives and propose a solution."

"What most impresses us about FoxGuard is the company's ability to get things done without needing much direction," said Mr. Workman. He continues by explaining that "if Laserdyne presents a change, the engineers at FoxGuard are able to implement the request easily and efficiently. It's clear that FoxGuard is very experienced."

"We were extremely satisfied due to the fact that FoxGuard was able to provide a complete solution that worked right out of the box. Encompassing the computer, the chassis, and the software, the solution saved us time and money that would have been spent working with multiple vendors," disclosed Mr. Workman. He also shared that "Laserdyne was amazed with the longevity of the product. The long lifecycle solution FoxGuard provided has not only given us the stability that we were looking for, but has also reduced engineering time and rework of documentation, testing, and inspection." Summing up his experience, Mr. Workman added that "We are very pleased with the expertise of the FoxGuard team, and would absolutely recommend Foxguard to others."



Laserdyne uses FoxGuard's custom open frame computer to control this CNC system.

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