ASTRONICS AES TEST LAB BUILDS BETTER EQUIPMENT WITH LESS WORK

Dewey Colvin is an electrical engineer with over 20 years of experience in avionics. He runs the System Integration Lab at Astronics AES, a Redmond, Washington based subsidiary of Astronics Corporation. Astronics AES is a leader in custom rugged and reliable electrical power systems for commercial and military aircraft, as well as missiles.

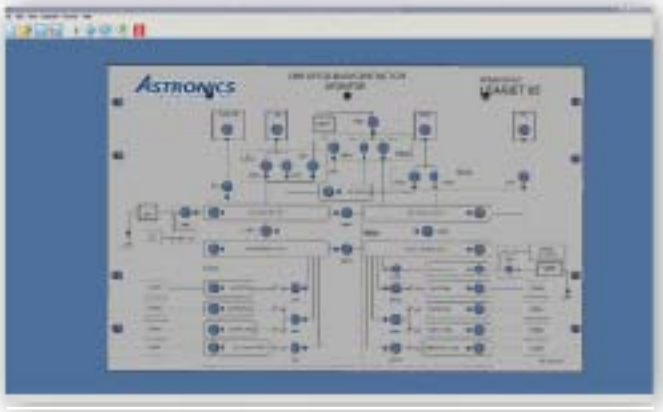

Fig 1. Astronics panel viewed in Protocase Designer

Mr. Colvin's lab provides an environment that simulates the conditions found on real aircraft, in order to check out and test the company's products. As one might expect, rigorous testing is especially important for aircraft power systems, as electrical power is essential for keeping aircraft fl ying and keeping passengers and crew safe. Like most testing laboratories, they heavily depend on custom built test equipment, and as a result, designing and building this gear (and the enclosures in which it is housed) forms an important part of their work.

The devices they build are almost exclusively low –volume, and often unique one-offs. Before working with Protocase, Mr. Colvin and his staff relied on local sheet metal shops to build their custom enclosures. But these shops were usually less than enthusiastic about such small jobs, and had cumbersome coordination of drawings and information from his electronics-oriented staff.

Their lead times varied dramatically, and they also lacked finishing touch capabilities, such as silkscreening and painting. As a result, Mr. Colvin's staff found themselves doing more work to get less-than optimal results. For example, staff usually ended up doing things like hand-applying adhesive labels on front panels, giving results which, although functional, were somewhat home-made looking.

Recently, Mr. Colvin and his staff began to use Protocase Designer® 3D custom enclosure design software.

This free CAD software allows users to quickly and easily design custom enclosures (including cutouts, fasteners, and silkscreens), get instant online price quotations, and then have their design manufactured in 2-3 days.

Fig 2. Completed Astronics panel installed in rack

According to Mr. Colvin, "Protocase Designer is a simple tool that is very easy to use. We have plenty of access to full-featured CAD software like Solidworks, but my staff is trained in electronics, and these fully featured mechanical design packages have steep learning curves. Protocase Designer is so easy to use that my staff can be up and designing electronics enclosures right away. Its speed of design, and online price quotations allow us to work through design iterations, and optimize for cost, in a way that we never could before."

Mr. Colvin says that working with Protocase has had a positive impact on his lab. "We now have easy access to fully finished enclosures, with quality powdercoat and silkscreen, even at one-off quantities. As a result, our equipment racks look more professional. This has a positive impact during customer visits, both in the way customers view us, and in the confidence that they have in our capabilities. And the best part is, we spend fewer man-hours getting there."

For information please visit the following websites:

- www.astronics.com
- www.protocase.com