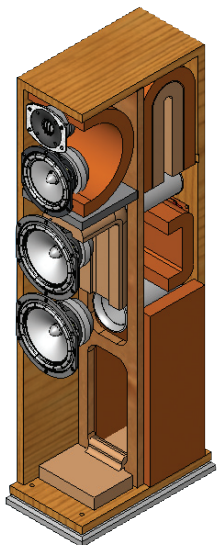


# AUDIO PRODUCTS INTERNATIONAL CORPORATION

## Boosting audio speaker development with SolidWorks Professional



*The combination of SolidWorks Workgroup PDM and 3D CAD software improves API's data management and compatibility capabilities.*

Audio Products International (API) Corporation designs, manufactures, and markets several of the world's leading brands of audio loudspeaker systems. In 2003, management decided to upgrade its design engineers from the Mechanical Desktop® design platform to a parametric 3D CAD system as part of the company's efforts to accelerate the development of new products. Having used Autodesk® software in the past, API decided to implement Autodesk Inventor® software for all new product development. However, the company's engineers soon realized that Inventor software was not meeting their needs, according to Bianca Jerca, the company's CAD engineer.

"We tried to use Inventor, but encountered a wide range of problems," Jerca explains. "All the engineers who attempted to use Inventor were dissatisfied with the software because it was not stable and frequently crashed. The software proved to be incompatible with many Mechanical Desktop® files, producing unstable, corrupt files. Every time we had an issue and sought a support solution, the problem was never resolved. Inventor was also missing some of the capabilities that we needed. In short, we hit a dead end with Inventor, so our IT department started looking around for a better 3D solution."

After evaluating the Pro/ENGINEER® and SolidWorks® 3D CAD software systems, API decided to switch to the SolidWorks Professional suite of mechanical design software. The company chose SolidWorks software because of its ease of use; stability and reliability; wider range of capabilities, including sheet-metal design, mold development, and design configuration tools; data compatibility; and its integrated SolidWorks Workgroup PDM product data management software.

### **Greater functionality, reliability, and support**

By implementing SolidWorks software, API not only has increased the design capabilities available to its engineers—expanding its use of sheet-metal design, mold development, and design configuration tools—but also has experienced better software stability, reliability, and support.

### **Results:**

- Boosted new product development by 100 percent
- Increased design innovation and complexity
- Improved organization and management of product design data
- Alleviated application stability and data compatibility problems

"In designing our speaker systems, we rely heavily on the use of patterns," Jerca explains. "In SolidWorks Professional, patterns and arrays are more stable—and when used with assembly configurations, they provide us with a lot more options. We use the sheet-metal capabilities found in SolidWorks software to develop speaker-mounting brackets, as well as draft analysis and cavity-and-core capabilities for prototyping.

"SolidWorks software is faster and more stable," she adds, "and the support we have received from Javelin Technologies, our SolidWorks software reseller, has been great. If we ever have questions or problems, they are very responsive in providing answers and solutions."

### Improved data compatibility and management

SolidWorks software has also enabled API to resolve the legacy data and application compatibility issues the company experienced with Autodesk software, while improving the organization and management of design data through the implementation of Workgroup PDM.

"We have had greater success bringing Mechanical Desktop files into SolidWorks software and working with vendors," Jerca notes. "We use FeatureWorks® feature recognition software to work with legacy designs when necessary, and have had less data compatibility problems. Mechanical Desktop did not have a STEP translator, so we had to use huge IGES files with vendors, which led to many problems. With SolidWorks software, we can send STEP and eDrawings® files to our vendors. That approach has worked out well, and has improved turnaround times with manufacturing vendors, as well.

"SolidWorks Workgroup PDM also provides us with design data management capabilities," she adds, "which help us to keep design data clean, organized, and secure."

### Expanding new product development

Since implementing SolidWorks software, API has achieved its ambitious new-product development goals, including the development of new, high-performance loudspeaker systems for use with computer gaming consoles. "We were unable to complete a single project in Inventor. But with SolidWorks Professional," Jerca stresses, "we have nearly doubled new product development—the software is faster, more reliable, and more capable."

"SolidWorks Professional also enables us to be more innovative since we no longer have to consider workarounds and have the capabilities to do things we could never do before," she explains. "Because we are more confident in the quality of our designs and the capabilities that SolidWorks software provides, we can be much more innovative, increasing the use of complex shapes and geometries while working within smaller envelopes.

"Because we are faster and encounter fewer problems, we have expanded our new product development efforts," Jerca notes. "SolidWorks software makes it much easier to experiment and change things, so we can now spend more time looking into new products instead of trying to figure out how to do something with the CAD system."

*"IN SOLIDWORKS PROFESSIONAL, PATTERNS AND ARRAYS ARE MORE STABLE—AND WHEN USED WITH ASSEMBLY CONFIGURATIONS, THEY PROVIDE US WITH A LOT MORE OPTIONS."*

Bianca Jerca  
CAD Engineer



With SolidWorks 3D CAD software, developing speaker systems is faster and more innovative at API.



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