

## JL AUDIO, INC.

MODERNIZING SPEAKER INSTALLATION INSTRUCTIONS WITH SOLIDWORKS COMPOSER



With SOLIDWORKS Composer software, JL Audio can more efficiently create high-quality illustrations for assembly instructions and documentation, helping the audio industry leader accelerate time-to-market.

### Challenge:

Accelerate time-to-market by creating product installation instructions and user manuals concurrently with product design while simultaneously improving the quality of documentation materials.

### Solution:

Implement SOLIDWORKS Composer technical communication software.

### Results:

- Accelerated time-to-market by at least one month
- Produced higher quality documentation faster
- Leveraged QR code scanning technology
- Enabled documentation and BOM creation concurrent with design

From its beginning as a pioneering manufacturer of premium subwoofer drivers for car stereo systems, JL Audio, Inc., has grown to become one of the most respected brands in the audio industry. Based in Miramar, Florida, the company has consistently focused on unique engineering, superior quality, and high-performance audio to sustain its expansion into the home, mobile, powersports, and marine audio markets.

JL Audio not only broke new ground in the audio industry through the development of some of the first subwoofers specifically designed for automotive use, but also set an industry benchmark for technical support documentation through the creation of the JL Audio Reference Manual in the early 1990s. The audio systems manufacturer is passionate about everything involving audio systems, including the materials used to assemble, install, and service its products.

In 2012, JL Audio embarked on an effort to modernize the creation of its product installation instructions, dealer documentation, and user manuals to take advantage of the delivery of informational content via digital devices. According to Stephen Turrisi, Director of Training and Technical Services, the audio company needed a solution for creating documentation materials in parallel with product development in formats suitable for consumption via smartphones, digital tablets, and the web.

“Until recently, we relied on digital photography and desktop publishing tools to create instruction sheets and documentation materials,” Turrisi explains. “Our design engineers would produce renderings from the SOLIDWORKS® design package on occasion, but they are often reluctant to produce visuals before a design is finalized due to the likelihood of unanticipated design changes. For the most part, we had to wait for actual product to shoot photography and develop documentation materials.

“Creating documentation on the back-end adds another month to the process and delays the launch of a product,” Turrisi continues. “What we needed was a way to develop product visuals that would update as the design changes, so we can release documentation in formats that support digital devices as soon as the first units are ready to go.”

An engineer suggested that Turrisi check out SOLIDWORKS Composer technical communication software. “SOLIDWORKS Composer is exactly what we need because it allows us to work with the design prior to its release, automatically update visuals, and output animated content,” Turrisi stresses. “We acquired the software in mid-2012 and immediately started using it.”

JL Audio first used SOLIDWORKS Composer software on its popular Stealthbox® line of hidden subwoofers. Using 3D scan data, JL Audio engineers designed vehicle-specific, fiberglass enclosures. While that process takes two to three weeks, creating the Stealthbox installation instructions used to take another month. Using SOLIDWORKS Composer, the company can develop documentation using the scan data, and then update the visuals once the design is finished.

“Doing documentation after the fact in a linear fashion is the old approach to development,” Turrisi notes. “With SOLIDWORKS Composer, we can accelerate time-to-market by a full month.”



SOLIDWORKS Composer software also enables JL Audio to improve the quality of its documentation and automate bill of materials (BOM) creation. For example, the speaker manufacturer works closely with boat manufacturing partners. On a recent project with a large boat manufacturer, JL Audio needed to produce an instruction sheet on how to install a mounting bracket on the side of the boat. Engineers had provided a digital photograph showing how the bracket is mounted to a block of wood.

Using SOLIDWORKS Composer, Turrisi's group utilized SOLIDWORKS files of the bracket and boat section to create a detailed animation of how to complete the installation and posted the animation to YouTube. JL Audio uses BOM information from SOLIDWORKS to accelerate the development of assembly instructions. "Instead of a photograph of a block of wood, we quickly produced professional, detailed installation instructions as animations, which dramatically improved the representation of our product and our partner's product," Turrisi says. "Automating BOM creation eliminates production errors."

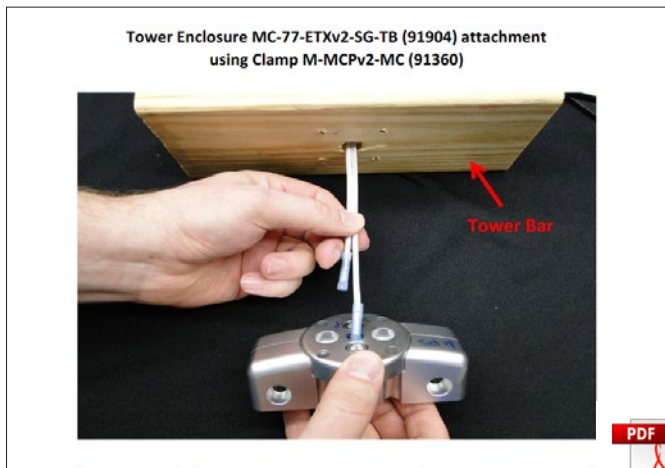
JL Audio's plans for SOLIDWORKS Composer are to combine interactive content and animations with Quick Response (QR) code scanning technology to push the company's documentation effort into the digital age.

"After a half-year with SOLIDWORKS Composer, we're really just scratching the surface of what it can do," Turrisi says. "Ultimately, our customers, dealers, and partners will be able to access higher quality, product-specific documentation in a variety of formats on their smartphones, tablets, and computer screens simply by scanning a QR code associated with each product."

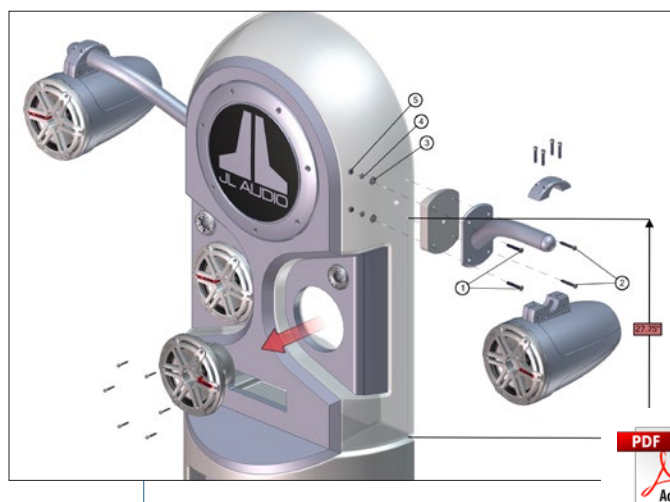


Click here to view animated assembly instructions created in SOLIDWORKS Composer.

Assembly instructions before SOLIDWORKS Composer



Assembly instructions after SOLIDWORKS Composer



SOLIDWORKS Composer software enables JL Audio to replace old 2D documentation (top) with higher quality 3D instructions (bottom), which gives the audio equipment manufacturer the ability to leverage digital and QR code scanning technology.

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