

## CASE STUDY: High-spec Design Engineering Streamlined

Harman Becker Automotive Systems is a specialist loudspeaker producer for in-car entertainment systems. Its South Wales design and engineering team is dedicated to developing speaker systems that both are aesthetically pleasing and also produce exactly the right sound quality and integrity that audio system providers specify.



**“Having the machine in the room purring in the corner and constantly delivering our prototypes has made it an integral part of our team.”**

*– Robert Emmanuel  
Harman Becker Project Engineer*



Balancing design efficiency with technical output demands precision design engineering. *“There is a real ‘touch and feel’ element to our business,”* notes Project Engineer Robert Emmanuel. *“Manufacturers demand aesthetics, even when what we have developed will be hidden within the car system or behind walnut or plastic. We are delivering casings and speakers for world-class brands and they expect the very best look, fit and feel.”*

*In just six months a Dimension 3D Printer enabled the Harman Becker team to be more productive, more competitive and better able to meet production schedules provided by clients – on time, every time.*

Customer demands often constrict design phases, and deadlines are even more stringent with one-off custom design solutions. As a result, the Harman Becker team is left with tight timelines to produce prototypes, test and project-manage production, and deliver the final product on time and on budget. Before integrating the Dimension 3D Printer into their development process, the team used outside suppliers for 3D printing – which often ate up between seven to ten days of valuable and already squeezed time.

### The Dimension Solution

The Harman Becker design team sought a quick, effective and, above all, high-quality solution for developing functional 3D models. They demanded ease of use, replication that captured the quality of their designs and, most importantly, a robust output material that would not fracture, distort or require too much refining and cleaning up prior to fitting. (continued on next page)



Running twenty-four hours a day, the Harman Becker design team agrees their Dimension 3D Printer is simple and reliable to use. As Robert Emmanuel explains: *"We take our design, the software orients the image, we send it down, and in just ten clicks we are off to the races, knowing that in a matter of hours we will have a top spec output which can be mounted in a trial vehicle, shown to the potential owner, signed off and in production in a matter of days."*

Margins have improved and efficiencies are up. Emmanuel comments: *"The machine paid for itself in a matter of weeks. An excellent result all around."*

**An essential tool for everyone on the design team.**

Dimension 3D printing can help you quickly fine tune designs and cut weeks – even months – from your development schedule. Now you can test form, fit and function and explore as many design iterations as you like – over your network, right from your desktop.

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