

## Da Wikipedia

**Wilson Benesch** is a manufacturer of high end audio loudspeakers and turntables for domestic and professional use, based in Sheffield, England. The company manufactures its components from raw materials under one roof on high precision CNC plant and equipment and precision dedicated moulding technologies. The company was founded in 1989. It is currently run by Christina Milnes (Managing Director) Craig Milnes (Design Director) and Luke Milnes (Media and Communications Manager). Wilson Benesch is located in the heart of England's industrial manufacturing, Sheffield. The company collaborates with scientists and engineers from Universities and advanced manufacturing organisations. The company manufactures all of its components from raw materials. The company has developed unique manufacturing technologies to process raw carbon fibre and resin systems as well as Pre preg systems and high temperature P.E.T. molten matrix systems to realise complex structures that are highly optimised in terms of specific stiffness. These systems are ideally suited to audio structures being Low mass, High stiffness, anisotropic, intrinsically self-damping structures. Other notable materials that have been exploited include the isotactic polypropylene that was developed in collaboration with the physicist Ian Ward of Leeds University who first formulated it. The development resulted in the world's first multi role drive unit, manifest as a Clamshell Isobaric system.

### Carbon fibre composites

Since 1989 Wilson Benesch has pioneered the use of carbon fibre based advanced composite structures in a number of audio designs. The company implemented the use on carbon nano tubes in the world's first carbon fibre / Nanotube matrix tonearm the Nanotube One. The advanced composite structures are called A.C.T. After launching turntables and tonearms made from carbon fibre the company launched its first loudspeaker design in 1995 when it launched the world's first curved floor standing loudspeaker made from carbon composite A.C.T. structures at the Frankfurt High End Show. The A.C.T. One has been superseded by The A.C.T. which is constructed from carbon composite and several alloys providing an extremely stiff highly damped shell structure. The company has also introduced numerous other materials technologies and manufacturing processes. The processes that have been developed have also focussed on manufacturing technologies that are not wasteful. High precision extruded sections for example reduce the need for waste and are precisely optimised according their particular function. 90% of the moulding that is created in the moulding process of for example the A.C.T. monocoque is used in the cabinet construction and requires minimal wasteful post machining. These increasingly important issues were considered at the inception of the design and development of the products in the early 1980s.

### Government funding

The first S.M.A.R.T. project (Bishop Project) saw the development of the Tactic multi-role drive unit that also forms part of the Clamshell isobaric design. The second realised the Torus Infrasonic Generator a patented design that produces extremely dynamic low frequency sound. The third, the Mondrian Project began in June 2008 and was completed in June 2010. Funding through grant, is matched by the company.

### Isobaric speakers

The multi-role Tactic drive unit enabled the same driver to be used as a mid range system as well as a Clamshell orientated isobaric Tactic. This solution has been deployed in the Bishop, Discovery and Chimera. Critics in various parts of the world have used all of these designs as Reference systems.

Following substantial further research, partly funded by D.T.I. (Department of Trade and Industry) the company recently patented a technology that goes beyond the Isobaric being able to achieve equally dynamic sound reproduction down to 18 hertz. The Torus system is a natural development of the Tactic isobaric design that sees the elimination of large driver based design solutions but this time in what is commonly known as the subwoofer. The system includes a super stiff diaphragm (capable of supporting 100,000 times its own mass) formed from three dimensionally woven carbon fibre. At its core is a solid structure that provides for push pull control of the diaphragm and serves all the key functions required including the movement and restoring forces required to generate controlled diaphragm movement. The design won "Product of the Year in the U.S. journal The Absolute Sounds" where it was hailed as a "genius design" Source: March 5, 2007 issue of The Absolute Sounds (<http://www.avguide.com/review/wilson-benesch-torus-infrasonic-generator-subwoofer>) Similar awards were won in Germany in 2007 in Stereoplay where it was described as "The most accurate woofer of all times" (<http://www.wilson-benesch.com/2006/08/torus-most-accurate-woofer-of-all.html>) HiFi+ and The Absolute Sounds both awarded the design Product of the Year in 2008 Source March 5, 2007 issue of The Absolute Sounds (<http://www.avguide.com/review/wilson-benesch-torus-infrasonic-generator-subwoofer>) and in WHAT HI FI it won an award for Technology in 2008.

### Wide Bandwidth Loudspeakers

The A.C.T. C.60 is ranked in the top five of the influential journal of STEREO Germany. The Wilson Benesch Chimera has been in the top five for over four years. C.60 structure is the most advanced system to come from the company to date.

Mondrian project[\[edit\]](#)

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On 9 June 2008 Wilson Benesch commenced an 18 month £146,000 pure research and development project in analogue replay. Three patents have been filed out of this development. gb1009476.1, gb1009487.8 and gb1009500.8 Publication numbers have been issued for two of these applications. Work is still on going on this project.

Geometry Series

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The Geometry Series introduced the companies first tweeter the Semisphere. It includes the latest version of the companies drive unit technology the Tactic II but significantly the designs in this series are all based upon a high integrity Shell Structure. This concept is the logical development towards the goal of realising the smallest possible structure (in order to minimise cabinet noise) with the largest internal air volume. The Series is based upon a small monitor called the Vertex a floor standing design called the Vector, two centre channels called Fulcrum 600 and Fulcrum 800 and a new flagship called the Cardinal. The Cardinal will be launched in the autumn of 2012.

Square Series2

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The Square Series incorporates all the technology of the Odyssey designs but in an enclosure with seemingly more traditional appearance. The design sees large internal metal damping structures that provide critical damping. The design also introduces for the first time in any loudspeaker design the use of advanced carbon fibre composite internal bracing systems in the mid range chamber. The Square Series2 also sees the addition of a new floor standing design called the Square 3. This product takes its technologies directly from the A.C.T. design of the Odyssey Series that retails at approximately three times the price of the Square 3.

Discovery Channel Film Manufacture of Full Circle Turntable[\[edit\]](#)

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The Full Circle Turntable film that was produced by the Discovery channel was shown in the USA in January 2012. "How its Made" reveals the briefest snap shot of what goes into making the Full Circle record playing system. (<http://www.youtube.com/watch?v=LXNXJD5F0r4>)