Cambridge Mechatronics and Princeton University team up to offer 3-D Sound for 3-D TVs.

Cambridge, England and Princeton, New Jersey - March 8th, 2011, Cambridge Mechatronics Ltd. (CML), a leading developer of ASICs, Software and other Intellectual Property for precision actuators used in consumer electronics, today announced that it has signed an exclusive agreement with Princeton University to market 3-D Audio Technology, which the two parties co-developed.

The new technology branded as DynaSonix™ is essentially a combination of CML’s technology to form and direct sound beams and Princeton’s innovative optimized cross-talk cancellation filter technology (called BACCH™ Filters).

DynaSonix™ has been further enhanced by the addition of miniature Camera-Based Automatic Set-Up (CBAS™) developed by CML. A Flat Panel TV (FPTV) sound system using DynaSonix™ will be able to locate up to eight listeners in a room and then direct a pair of sound beams to each listener, one beam for the left ear and the other for the right. Thanks to the effectiveness of Princeton’s novel BACCH™ Filter technology, the left ear and right ear hear two related but different sets of audio content. This allows for the delivery of a true 3-D audio experience, designed to complement the fast growing deployment of 3-D Televisions.

DynaSonix™ is similar to CML’s commercially successful Digital Sound Projector™ 5.1 surround sound technology, in that it delivers sound from a single array of tiny transducers integrated into the FPTV or placed in a soundbar unit, which sits under the TV’s screen. This means that DynaSonix™ can deliver a theatrical 3-D audio experience without the need to wire the room for multiple speaker units. However unlike Digital Sound Projector™, DynaSonix™ is not dependent on reflections off the walls and ceiling to create its desired audio effect, which means that it can work in any room, regardless of dimensions. The addition of CBAS™ to the system means that the user merely has to turn the television on for the 3-D sound delivery to be optimised for both room and audience.

DynaSonix™ is quite different from 5.1 surround sound, which provides some degree of sound envelopment for the listener but does not attempt to reconstruct a 3D soundfield. Instead, DynaSonix™ provides an accurate reconstruction of a fully 3D soundstage, where sound can be perceived accurately to be located anywhere in 3D space including at the ears, immediately above, behind, or even inside the head of the listener.

CML is working with a leading audio processor provider to integrate the various elements of firmware into a single code base, which will be licensed to FPTV manufacturers by CML. CML expects to announce the details of this partnership in the Spring of 2011, and to be able to offer a fully mass-production ready solution in time for the consumer electronics industry’s 2012 model releases.

DynaSonix™ has been developed by two bona fide ‘rocket scientists’. The principal inventor of the BACCH™ filter technology is Dr. Edgar Choueiri a Professor of Applied Physics at Princeton University specialising in plasma rockets for spacecraft propulsion. Much of CML’s invention was done by its founder Dr. Tony Hooley, an astrophysicist and a former IBM Fellow at the Royal Institute of Astronomy as well as being an alumnus of Cambridge University’s iconic Cavendish Laboratory.

“CML is very excited about the whole DynaSonix™ project” said Andrew Osmant, CML’s Commercial Director and CFO “We believe it provides exactly what the 3-D TV manufacturers are looking for; a 3-D audio experience to match the video which is easy to use and is available at consumer prices”
“CML was a natural partner for us to work with” said Dr. Edgar Chouieri, “Firstly for its technology and expertise, secondly for its proven ability to sell innovative technology into the global consumer electronics market”

About Cambridge Mechatronics

Cambridge Mechatronics Ltd (CML) is a privately held developer of ASICs, Software and other Intellectual Property for precision actuators used in consumer electronics. The company is responsible for creating the surround-sound soundbar market through its innovative application of arrays of phased actuators. CML is also credited with pioneering the development and introduction of lens-actuators used for the Auto-Focus and Optical Image Stabilisation functions in miniature cameras found in smart phones and other mobile devices. As well as providing ASICs and software to customers, CML also licenses its large portfolio of patents, know-how and mechanical designs to branded manufacturing partners. Cambridge Mechatronics’ technology has been licensed to 12 global corporations to date. CML’s ASICs and other IP can be found in mobile phones, digital cameras, home theatre systems and flat panel televisions currently on sale in mass-market retail outlets in every region of the world

Cambridge Mechatronics Contact

Andy Osmant
Cambridge Mechatronics
Tel: (+44) 01223 422290
Email: mailto:andy.osmant@cambridgemechatronics.com