

DEMONSTRATION:

10:15, 13:00 and 15:30 Trevor Jones Studio

Soundfield Ltd: <http://www.soundfied.com/>

In 1933, British scientist Alan Blumlein was issued a patent that stands today as a landmark in the development of stereophonic recording and reproduction. Among its numerous declarations, it defined the basis for all coincident microphone techniques, including the Mid/Side and crossed bidirectional configurations. (The latter, in fact, is commonly referred to as a "Blumlein Stereo" pair.) In the 1970s, British mathematicians Michael Gerzon, Peter Craven and colleagues expanded upon the stereo concepts pioneered by Blumlein to develop the concept of a microphone system that could reproduce a full three-dimensional soundfield. Both Blumlein and Gerzon realised that only when a soundwave is captured at a single point in space can it be reproduced faithfully and without the phase distortion anomalies inherent in spaced microphone techniques.

Early SoundField prototype models were developed using Gerzon's theory in conjunction with the National Research Development Corporation of Great Britain and Calrec Audio. Chief Designer at Calrec, Ken Farrar, and colleagues played a leading role in turning Gerzon's theory into a real product and Ken Farrar's contribution was later recognised by his appointment as a Fellow of the Institution of Electrical Engineers (F.I.E.E.). In 1993, the company SoundField Ltd. was formed specifically to manufacture and further develop the range of products and their application in both stereo and multi-channel audio environments. SoundField Ltd. is the owner of all patent and intellectual property rights relating to SoundField Technology.

Today, the SoundField range enjoys a reputation as the ultimate microphones for recording both stereophonic and multichannel surround formats. These unique microphones employ a patented tetrahedral array of closely spaced and time compensated subcardioid capsules to capture the complete three-dimensional soundfield at a single point in space. This single point source pick-up principle avoids all of the time - or phase-related anomalies generated by spaced microphone arrays. Thus, surround recordings made with SoundField microphones can be collapsed to stereo - or stereo recordings to mono - without the phase problems that result in "comb-filtering" (phase cancellation) distortions. Furthermore, a single point source system is the only one that allows a truly phase coherent sub-channel to be derived. Spaced microphone arrays are unable to be reduced without introducing significant phase errors unless some of the microphone signals are discarded, which consequently results in loss of essential audio information.

Today, as HD broadcasting becomes a mainstream delivery standard, there is a growing need for a simple means of recording 5.1 audio, and SoundField systems meet that need simply and affordably. Already, broadcasts from the 2006 World Cup and UK Premiership League Soccer games have used single SoundField mics to generate simultaneous stereo and 5.1 audio for SD and HD transmission, and SoundField systems have been permanently installed at many large football stadiums in the UK.

[<http://www.soundfield.com/company/company.php>, Soundfield, 2007]