

USER REPORT

True Stereo Sound from SoundField

By Ron Streicher

MONROVIA, California

■ If you have ever wondered why it is so difficult to get stereo to sound right on the air, you are not alone.

The answer is not easy, especially when you must keep both stereo and mono listeners in mind.

The real problem is that there is simply no all-purpose miking configuration. There is, however, a microphone that provides both excellent stereo and perfect mono simultaneously. This mic also allows the user to vary the pickup perspective over a wide range, even while it is on-air.

SoundField Research Ltd., a member of the Drawmer group of companies, offers two such microphones. The model ST250

is a portable, battery-operated version of the microphone that provides extremely versatile control of the stereo image.

The SoundField Mark V is a full-featured studio system offering even more flexible treatment of the stereo sound field. Each is comprised of a single-point stereo microphone head and a multifunction processor control box.

Because of the nature of these systems, the physical orientation of the microphone is less burdensome during location sound recording. Either can be placed on a stand, suspended from a cable or even "fish-poled" for live-action pickup.

Choice of side-address or end-fire orientation is easy: Just press a button or two on the control box, and the left/right stereo output signals match the position of the microphone. Then turn two knobs to create the ideal sense of reach and stereo spread.

The SoundField Mark V model offers extended features, such as the ability to pan the microphone through a full 360-degree rotation, tilt up or down ± 45 degrees, or zoom in and out. This versatility is especially beneficial in live, on-location situations where the clock never stops.

So how does the SoundField microphone do all this? Within its single housing are four discrete capsules that are electronically manipulated by the processor box to create the polar pattern, included angle and apparent position of a simulated coincident pair of microphones.

Heart of the system

The processor box is the heart of each SoundField system. It features Capsule Solo buttons, which isolate each of the capsules inside the microphone, allowing you to confirm that all four capsules are working properly when they are first set up.

The processor box also features a built-in oscillator that enables you to calibrate your recording or broadcast chain directly to the microphone.

Under the header gain are two controls that provide coarse and fine trim to opti-

mize the gain of the microphone preamps.

The end and invert buttons tell the processor box how the microphone is positioned. Once these are set, the output signals correspond to this orientation.

The pattern control adjusts the polar patterns of the simulated stereo pair of microphones, making possible a full range of patterns, from omnidirectional to cardioid to bidirectional.

Angle control

The angle control adjusts the included angle between the two microphones of the simulated stereo pair, with a range of 0 to 180 degrees. Together, the pattern and angle knobs offer a broad range of stereo pickup perspectives without changing the actual position of the microphone.

Of special benefit to broadcasters is the four-row stereo meter, which simultaneously displays both the left and right, as well as the sum and difference, signals produced by the microphone. (The meters can also be set to show the levels of the B-format outputs if these are being recorded as component signals.)

All microphone controls are basic; another group of features sets the Mark V apart from any conventional stereo or even mid/side microphone system. These features allow the simulated stereo pair to be rotated, tilted and adjusted fore/aft to achieve a better sonic balance, all without any physical motion of the microphone itself.

The azimuth control allows the stereo pickup to be rotated through a full 360 degrees to effectively steer or pan the microphone through a full circle. This feature can be used to compensate for any minor rotation if the microphone twists on its cable while suspended. This feature also can be used to follow the action of a scene, or to change the sonic point of view of the mic.

The elevation control simulates tilting the stereo microphone system up or down by 45 degrees, allowing the mic pickup to be aimed critically without actually having to position it critically.

The dominance control provides an effect similar to moving the microphone forward or backward, giving the effect of zooming in or out. Together with the azimuth and elevation controls, this feature makes recording on location much easier, especially when setup time is limited or the microphone cannot be put in just the right location.

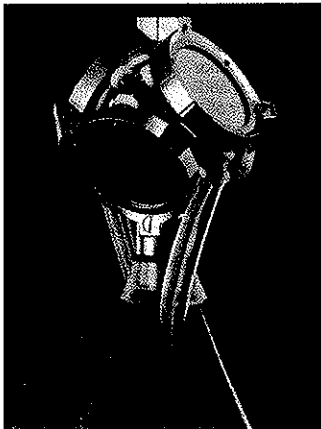
The hi-pass filter inserts a low-frequency cut-off filter of -18 dB per octave below 40 Hz and is very useful for minimizing unwanted wind or traffic noise.

The MS button converts the stereo outputs to sum and difference signals, allowing you to record the component mid and side signals to two-track tape for subsequent matrixing to stereo.

The headphone control adjusts the level of the signal at both the front and rear headphone jacks.

The B-format signals are available at separate outputs and represent the sonic components that define the sound field: three directional vectors (fore/aft, left/right, up/down) and absolute pressure. From these components, the sound field present at the microphone can be reconstructed later if the four signals are recorded to a multitrack.

During post production, all these SoundField controls can be used to recreate and manipulate any sonic perspective desired.



Four discrete capsules allow users to create an ideal sense of reach and stereo spread.

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I have used SoundField microphones in a variety of recording and broadcast situations for more than 10 years, and I consider them the most versatile tools in my microphone arsenal.

Whether recording opera or a symphony orchestra, a marching band on parade, dialogue for a radio play, general background ambience or even chasing a bagpipe player around the hall during a folk music festival, the SoundField has never let me down.

Ron Streicher is proprietor of Pacific Audio-Visual Enterprises in Monrovia, California.

For information from SoundField Research, contact Richard Bacon in England at telephone: +44-1924-201-089; FAX: +44-1924-201-618; or circle Reader Service 112.

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