

# Advanced Acoustic Protective Screen

ID: 2015-077

## Executive Statement:

An innovative protective screen for microphones and speakers that significantly improves acoustic performance across a broad frequency range.

## Technology Overview:

This technology introduces a protective screen designed for audio devices, aimed at overcoming the limitations of standard technical fabrics used in microphones and speakers. It features a high-density series of vertical micro-perforations to enhance sound transmission, maintain clarity at higher frequencies, and provide effective water resistance without compromising acoustic quality.

## Key Advantages:

- Improves sound transmission across a frequency range of 20 to 20,000 Hz
- Features micro-perforations less than 100 microns wide for enhanced audio clarity
- Offers significant water resistance, suitable for depths from 10 cm to 1 meter with minimal loss in sound quality
- Compatible with a wide range of materials, including polymers and metals, and can include hydrophobic coatings
- Can be constructed as a single or dual-layer system for added durability and performance

## Problems Addressed:

- Reduces degradation of audio output at higher frequencies, a common issue with current protective fabrics
- Addresses the challenge of protecting audio devices from water and dust without sacrificing sound quality

## Market Applications:

- Manufacturing of high-fidelity microphones and speakers
- Development of water-resistant audio equipment for consumer electronics
- Enhancement of acoustic performance in professional audio recording and broadcasting devices
- Application in outdoor and rugged use audio devices requiring superior environmental