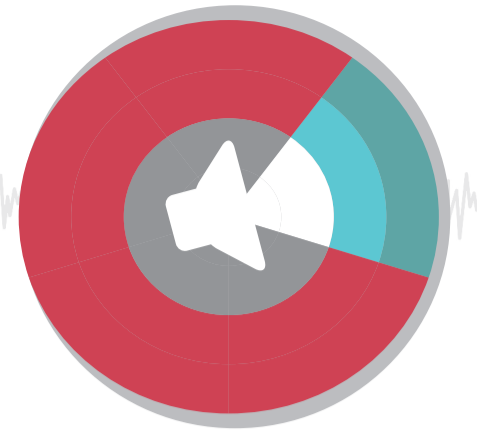


# ENHANCED LOW-FREQUENCY SOUND CALIBRATION STRATEGIES FOR CINEMAS



“Sound is 50% of the film experience” film director George Lucas  
 ...but high-quality sound requires effective calibration strategies and a minimal spatial variance (SV).

🔑 Spatial variance is the measure of average seat-to-seat difference infrequency response.

## THE PROBLEM

Current Calibration Strategies

The standards set by the Society of Motion Picture & Television Engineers (SMPTE) lead to ineffective calibration strategies which provide little to no SV reduction. This causes:

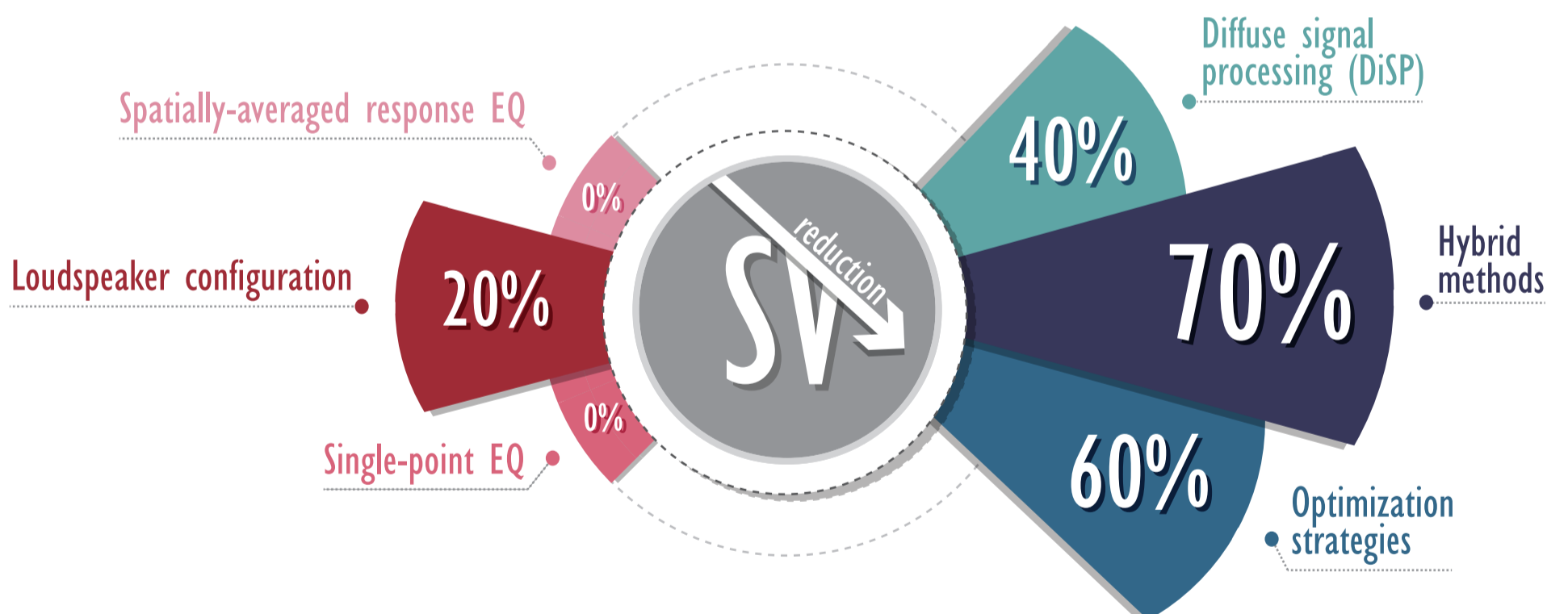
- 👤 position-dependent listening experiences for audiences;
- 🎧 poor translation of sound mixes between dubbing theaters and commercial cinemas;
- ⚙️ system maintenance difficulties for local technicians.

## OUR SOLUTION

Improved Calibration Strategies

This problem calls for improved calibration methods and revised SMPTE standards to allow for SV minimization in cinemas and dubbing theaters. This would provide:

- 👤 consistent customer listening experiences;
- 🎧 high-quality sound reproduction;
- ⚙️ straightforward system maintenance.



## RECOMMENDATIONS

💡 Use SV metric to test a calibration strategy's effectiveness	🔊 Low-frequency sound reproduction should utilize all available loudspeakers	★ Optimization or hybrid strategy = extremely low SV calibration and maintenance needed	☀️ DiSP = moderately low SV no calibration or maintenance needed	⚙️ Ensure local technicians can easily implement and maintain the calibration strategy
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