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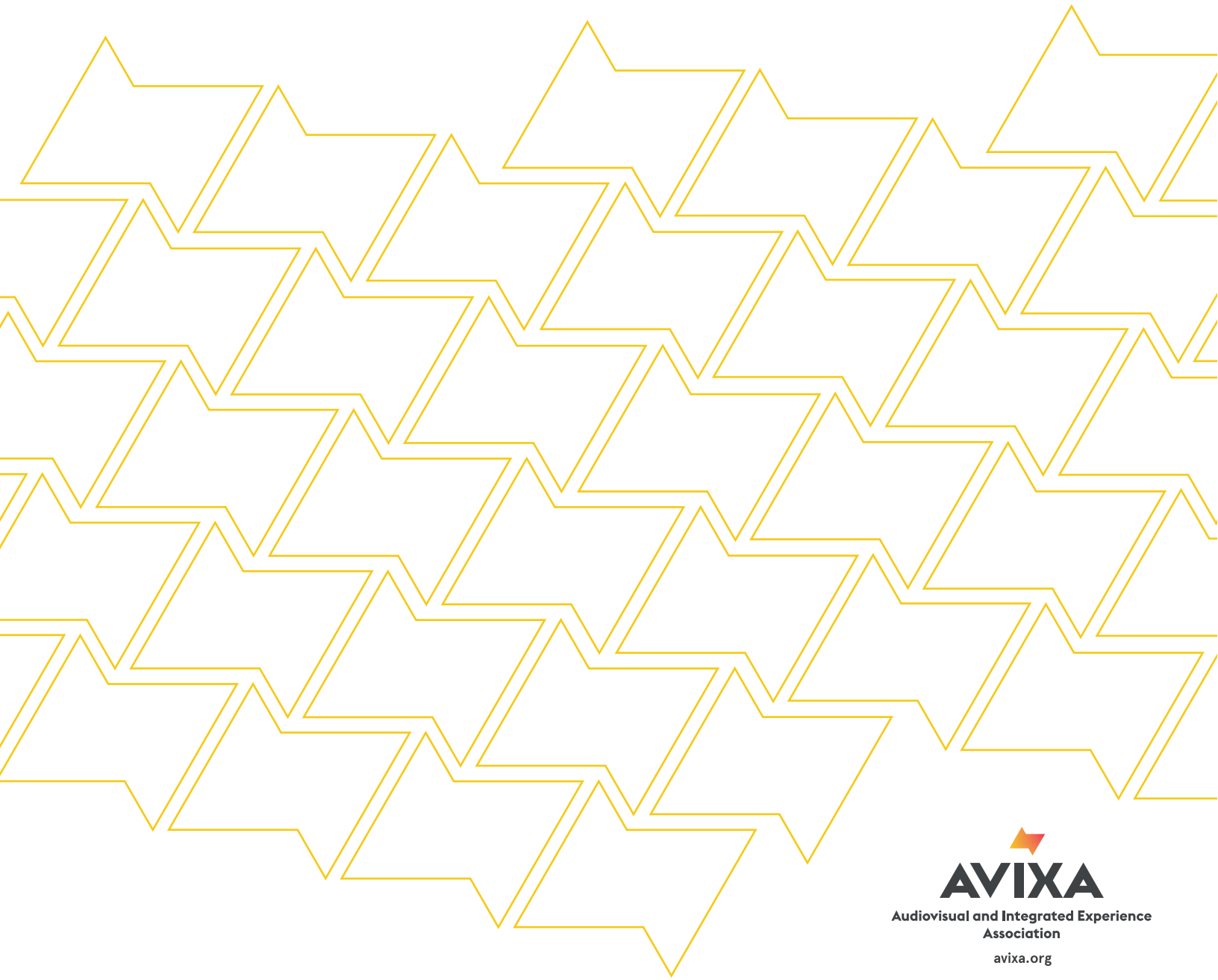
Audio Coverage Uniformity in Listener Areas



AVIXA
Audiovisual and Integrated Experience Association
avixa.org

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This Standard has been re-published to replace the InfoComm International® name with the association's new name, AVIXA™ (Audiovisual and Integrated Experience Association), but all content remains the same.

Abstract

This Standard provides a procedure to measure and classify the uniformity of early arriving sound from a sound system across a listener area.

Keywords

ACU; audio coverage uniformity; audio system; early arriving sound; listener area; sound pressure level; sound system; spatial coverage; uniformity

Disclaimer

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Foreword

The performance of a sound system can be characterized by several factors including uniformity of coverage, tonal balance and consistency, gain before feedback, and maximum sound pressure level. This Standard focuses on the uniformity of coverage of a sound system's early arriving energy to listener area. An ideal sound system design allows all listeners to hear reproduced content at approximately the same sound pressure level independent of the listener's position in a designated listener area. This performance Standard provides a procedure to measure and a means to classify the uniformity of coverage.

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1.1. Scope

1.1.1. This Standard defines parameters for characterizing a sound system's coverage of defined listener areas. It provides performance classifications and measurement procedures to assess the uniformity of coverage of a sound system's early arriving sound, with the goal of achieving consistent sound pressure levels throughout defined listener areas.

1.1.2. The procedure associated with this Standard is one of many verifications of the deployment and performance of a sound system. This Standard specifically excludes testing or measuring for spectral balance, gain before feedback, maximum sound pressure level, and other parameters required to assess the total performance of a sound system.

1.2. Purpose

1.2.1. The purpose of this performance Standard is to establish a method by which an audio system's coverage can be assessed and classified. This is accomplished by measuring the uniformity of coverage of the early arriving sound from the loudspeaker system(s) throughout the designated listener area(s).

1.3. Application

1.3.1. The procedures described in this Standard are to be applied to sound reinforcement and audiovisual (AV) presentation systems. These systems are implemented in a variety of applications, including conference rooms, training rooms, classrooms, auditoria, theatres, houses of worship, and other venues where sound reinforcement is employed. Additionally, the metrics and classifications in this Standard may be used to establish design criteria for new systems.

1.4. Exceptions

1.4.1. This Standard may be used in conjunction with, but does not supersede, regulatory authority requirements.

1.4.2. This Standard is not intended for use in the following applications:

1.4.2.1. Cinema (refer to SMPTE: Society of Motion Picture and Television Engineers)

1.4.2.2. Home theater (refer to CEDIA: Custom Electronic Design & Installation Association)

1.4.2.3. Sound masking/speech privacy