



# Standard Guide for Forensic Audio Laboratory Setup and Maintenance<sup>1</sup>

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## 1. Scope

1.1 This guide sets forth recommendations for the creation of a forensic audio laboratory space as well as the configuration, verification, and maintenance of the equipment contained within the lab.

1.2 In designing and configuring an audio laboratory, it is important to consider the acoustical environment/room of the laboratory, as well as climate control. Other than having a viable location for the laboratory, computer hardware and software applications are the most important components of a laboratory.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

[E1732 Terminology Relating to Forensic Science](#)

2.2 *ISO/IEC Standard:*<sup>3</sup>

[ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories](#)

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee E30 on Forensic Sciences and is the direct responsibility of Subcommittee E30.12 on Digital and Multimedia Evidence.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> Available from International Organization for Standardization (ISO), ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, <http://www.iso.org>.

2.3 *AES Standard:*<sup>4</sup>

[AES Recommended Practice for Audio Preservation and Restoration – Storage and Handling – Storage of Polyester-Base Magnetic Tape, AES Standard 22-1997, Reaffirmed 2008](#)

2.4 *SWGDE Standard:*<sup>5</sup>

[SWGDE Recommendations for Validation Testing](#)

## 3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms that may assist in interpreting this standard, refer to Terminology [E1732](#).

## 4. Significance and Use

4.1 The design and configuration of an audio laboratory, as well as the maintenance of equipment, are factors that must be considered to ensure an optimal environment to produce the best results. This guide is intended to provide general guidance for laboratory setup and maintenance.

4.2 This document is not meant to be an all-inclusive guide on how to set up a laboratory; nor does it contain information pertaining to specific commercial products as it relates to computer hardware, forensic, and non-forensic software applications.

4.3 When dealing with equipment and technology outside your area of expertise, consult with an appropriate specialist.

## 5. Audio Laboratory Considerations

5.1 *Environment*—The physical environment, independent of equipment, in and around a forensic audio laboratory can have a profound effect on the quality of work produced. Audio laboratory design is a complex task and comprehensive references should be consulted, including Refs **(1-4)**.<sup>6</sup>

5.1.1 *Acoustics*—The acoustic environment of a forensic audio laboratory is the collection of ambient sounds and influences (for example, materials, resonances, echo), which

<sup>4</sup> Available from Audio Engineering Society, Inc. (AES), International Headquarters, 551 Fifth Ave., Suite 1225, New York, NY 10176, <http://www.aes.org>.

<sup>5</sup> Available from the Scientific Working Group on Digital Evidence (SWGDE), <https://www.swgde.org>.

<sup>6</sup> The boldface numbers in parentheses refer to a list of references at the end of this standard.