STANDARDS AND AES28-1997 r2008; s2012 INFORMATION DOCUMENTS



AES standard for audio preservation and restoration - Method for estimating life expectancy of compact discs (CD-ROM), based on effects of temperature and relative humidity

Users of this standard are encouraged to determine if they are using the latest printing incorporating all current amendments and editorial corrections. Information on the latest status, edition, and printing of a standard can be found at: http://www.aes.org/standards

AUDIO ENGINEERING SOCIETY, INC.

551 Fifth Avenue, New York, NY 10176, US.



The AES Standards Committee is the organization responsible for the standards program of the Audio Engineering Society. It publishes technical standards, information documents and technical reports. Working groups and task groups with a fully international membership are engaged in writing standards covering fields that include topics of specific relevance to professional audio. Membership of any AES standards working group is open to all individuals who are materially and directly affected by the documents that may be issued under the scope of that working group. Complete information, including working group scopes and project status is available at http://www.aes.org/standards. Enquiries may be addressed to standards@aes.org

A standards document may be considered for "stabilized" status if it has continuing value but there is no requirement or available expertise to revise it. Any person may, at any time, propose a revision of any stabilized standard, subject to the same criteria and procedures as for new project initiations. If accepted, the project shall be assigned to the appropriate subcommittee and working group for development in the same way as for any other project. See AESSC Rules, clause 17.

The AES Standards Committee is supported in part by those listed below who, as Standards Sustainers, make significant financial contribution to its operation.













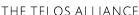












































































This list is current as of 2017/7/25

AES standard for audio preservation and restoration — Method for estimating life expectancy of compact discs (CD-ROM), based on effects of temperature and relative humidity

Published by **Audio Engineering Society, Inc.**Copyright ©1997-2001 by the Audio Engineering Society

Abstract

This standard specifies test methods for estimating the storage life expectancy (LE) of information stored on compact discs (CD-ROM). Only the effects of temperature and relative humidity are considered. Block error rate (BLER) is the measured response and the end-of-life criterion. An Eyring model is developed from accelerated test results. Data are normalized to 25 °C and 50 % relative humidity, and the LE, percent compliance, and confidence intervals at these conditions are calculated.

An AES standard implies a consensus of those directly and materially affected by its scope and provisions and is intended as a guide to aid the manufacturer, the consumer, and the general public. The existence of an AES standard does not in any respect preclude anyone, whether or not he or she has approved the document, from manufacturing, marketing, purchasing, or using products, processes, or procedures not in agreement with the standard. Prior to approval, all parties were provided opportunities to comment or object to any provision. Attention is drawn to the possibility that some of the elements of this AES standard or information document may be the subject of patent rights. AES shall not be held responsible for identifying any or all such patents. Approval does not assume any liability to any patent owner, nor does it assume any obligation whatever to parties adopting the standards document. Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation. This document is subject to periodic review and users are cautioned to obtain the latest printing.



Contents

Foreword	
Amendment 1-2001	4
1 General	
2 Normative references	
3 Definitions	
4 Measurements	
5 Accelerated stress test plan.	8
6 Data evaluation	11
7 Disclaimer	
Annex A (informative)	14
Annex B (informative)	15
Annex C (informative)	21
Annex D (informative)	



Foreword

[This foreword is not a part of AES standard for audio preservation and restoration — Method for estimating life expectancy of compact discs (CD-ROM), based on effects of temperature and relative humidity, AES28-1997.]

This standard was prepared by a joint technical commission of the Audio Engineering Society Standards Committee SC-03 Subcommittee on Audio Preservation and Restoration and the American National Standards Committee Subcommittee IT9-5 on Stability of Electronic Imaging Materials. At the time of completion of this draft, the commission had the following members: Peter Z. Adelstein (IT9-5 Chair), George Boston, Jim Burke, Alan Calmes, Tom Cavanagh, Delos A. Eilers, Jean-Marc Fontaine, Gerald Gibson (SC-03 Chair), John Gignac, Stephen P. Johnson, Takashi Kirakawa, Fredrick Kolb, Jr., Fred Layn, John Mattarazzo, Daniel Matukewicz, Charles W. Mayn, Bill Murray, David Peelle, Fernando Podio, Daniel Queen (AESSC Secretary), A. Tulsi Ram (IT9-5 Secretary), Dietrich Schuller, Ted Sheldon, Michael Stamp, Susan Stinson, William Storm (SC-03 Chair Emeritus), Carl Talkington, Ron Uhlig, John Van Bogart, Don Veri, Bob Waelbroeck, Johanna Wellheiser, James Wheeler, Jim Wong, and Joe Wrobel. The commission was co-chaired by Storm and Adelstein.

Gerald Gibson, Chair, AESSC SC-03 Subcommittee on Audio Preservation and Restoration 1995-09-20 This printing of AES28-1997 incorporates Amendment 1-2001 as shown in the following text. It has been repaginated accordingly but has not been updated to current AES style. All clause, table, and figure numbering has been retained.

Amendment 1-2001

[Amend AES28-1997, AES standard for audio preservation and restoration — Method for estimating life expectancy of compact discs (CD-ROM), based on effects of temperature and relative humidity by removing the minus signs in the exponent in the two equations in 6.1, and removing the equation from B.5.]

AES standard for audio preservation and restoration — Method for estimating life expectancy of compact discs (CD-ROM), based on effects of temperature and relative humidity

1 General

1.1 Scope

This standard specifies test methods for estimating the storage life expectancy of information stored on compact disc (CD-ROM) media, including CD audio, but excluding recordable media. Only the effects of temperature and relative humidity (RH) are considered.

1.2 Purpose

The purpose of this standard is to establish a methodology for estimating the storage life expectancy of information stored on CD-ROMs. This methodology provides a technically and statistically sound procedure for obtaining and evaluating accelerated test data. The methodology deals only with the effects of temperature and humidity on the retrievability of stored information.

1.3 Assumptions

It is assumed that the dominant failure mechanism acting at the usage condition is the same as at the accelerated conditions. Second, it is assumed that the dominant failure mechanism is appropriately modeled by an Eyring acceleration model. Finally, it is assumed that the life expectancy is appropriately modeled by the two-parameter Weibull distribution. The shape parameter of the Weibull distribution is assumed to be independent of the stress level.

2 Normative references

The following standards contain provisions that, through reference in this text, constitute provisions of this document. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this document are encouraged to investigate the possibility of applying the most recent editions of the indicated standards.

ISO/IEC 10149:1989, Information technology — Data interchange on read-only 120 mm optical data discs (CD-ROM). Geneva, Switzerland: International Electrotechnical Commission, 1989.

