EDC6 (1887) DTZS
IEC 62702-1-1:2022

DRAFT TANZANIA STANDARD

(Draft for comments only)

Audio archive system - Part 1-1: DVD disk and data migration for long-term audio data storage

TANZANIA BUREAU OF STANDARDS

First Edition 2022

1 National Foreword

This draft Tanzania Standard is being prepared by the Telecommunications and Information Technology Technical Committee, under the supervision of the Electrotechnical divisional standards committee (EDC)

This draft Tanzania Standard is an adoption of the International Standard **IEC 62702-1-1:2022** Audio archive system - Part 1-1: DVD disk and data migration for long-term audio data storage, Which has been prepared by the International Electrotechnical Commission

2 Terminology and conventions

Some terminologies and certain conventions are not identical with those used in Tanzania standards; attention is drawn especially to the following: -

1) The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, it is current practice to use “full point” on the baseline as the decimal marker.

2) Where the words “International Standard(s)” appear, referring to this standard they should read “Tanzania Standard(s)”.

IEC 62702-1-1

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Edition 2.0 2022-06
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

Audio archive system –
Part 1-1: DVD disk and data migration for long-term audio data storage

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.160.30; 35.220.30

ISBN 978-2-8322-3915-5

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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AUDIO ARCHIVE SYSTEM –

Part 1-1: DVD disk and data migration for long-term audio data storage

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 62702-1-1:2016. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 62702-1-1 has been prepared by technical area 6: Storage media, storage data structures, storage systems and equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment. It is an International Standard.

This second edition cancels and replaces the first edition published in 2016. This edition constitutes a technical revision.

In order to reflect the updates to ISO/IEC 29121:2021, this edition includes the following significant technical changes with respect to the previous edition:

a) ISO/IEC 16963 has been identified as the referee test method for the estimation of lifetime;
b) the ambient conditions for the measurement of maximum data error have been added;
c) the requirements for test drives have been changed considering the use condition of users;
d) the requirements for the estimated lifetime have been defined more clearly;
e) the requirements for the periodic performance test have been defined more clearly.

The text of this International Standard is based on the following documents:

Draft	Report on voting
100/3670/CDV	100/3742/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

A list of all parts in the IEC 62702 series, published under the general title *Audio archive system*, can be found on the IEC website.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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INTRODUCTION

Sound recordings such as music, speech, and storytelling are an important human heritage and should be preserved for as long as possible. However, we were not able to record sounds in order to preserve them in the past. The first recording system, the phonautograph, was invented by Édouard-Léon Scott de Martinville in 1860 and, after that, Thomas Alva Edison invented the recording and playback system known as the phonograph in 1877.

Although various technologies were invented later, most of them have limitations for audio archives because storage lifetime is limited, and the sound quality deteriorates when it is transferred to the next generation of storage device.

The progress of LSI (Large-Scale Integrated Circuit) technology made digital recording of recorded sound possible. Digital recording is very suitable for audio archiving because the migration is performed by copying digital data.

For this purpose, various recording materials exist, such as optical disks, magnetic disks, magnetic tape, and non-volatile memory (such as phase-change memory).

This International Standard specifies physical and logical aspects for standards of audio archives of various storage types which are typically used for audio archives on the market.

The IEC 62702 series currently consists of:

- Part 1 specifies the minimum requirements on physical aspects of optical disks for digital sound recordings. Part 1-1 specifies DVD optical disks, and Part 1-2 specifies BD optical disks.

  NOTE DVD optical disks include DVD-R disk, DVD-RW disk, DVD- RAM disk and +R format disk, +RW format disk. BD optical disks include BD recordable disk and BD rewritable disk.

- Part 2 specifies the minimum requirements for digitization of content, format of digitised content, content information and media inspection.

AUDIO ARCHIVE SYSTEM –

Part 1-1: DVD disk and data migration for long-term audio data storage

1 Scope

This part of IEC 62702 specifies a method of data-quality assurance for writable DVD disks (hereafter referred to as "disks") which are specified for long-term data storage, and a data migration method which can sustain the recorded data on disks for long-term audio data preservation. The writable disks include recordable disks such as DVD-R, and +R format, and rewritable disks such as DVD-RW, +RW format and DVD-RAM.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

~~ISO/IEC 16448:2002, *Information technology – 120 mm DVD – Read-only disk*~~

ISO/IEC 16963:2017, *Information technology – Digitally recorded media for information interchange and storage – Test method for the estimation of lifetime of optical ~~media~~ disks for long-term data storage*

ISO/IEC 29121:~~2013~~2021, *Information technology – Digitally recorded media for information interchange and storage – Data migration method for ~~DVD-R, DVD-RW, DVD-RM, +R, and +RW disks~~ optical disks for long-term data storage*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
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3.1
***B*mig life**

lifetime (3.10) for use of *data migration* (3.6) and identical to $B_{0,000\ 1}$ life, which is 0,000 001 quantile of the lifetime distribution (i.e. 0,000 1 % failure time) or 99,999 9 % survival lifetime

[SOURCE: ISO/IEC 29121:2021, 3.1]

IEC 62702-1-1

Edition 2.0 2022-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Audio archive system –
Part 1-1: DVD disk and data migration for long-term audio data storage

Système d'archivage audio –
Partie 1-1: Disque DVD et migration de données pour le stockage à long terme des données audio

IEC 62702-1-1:2022-06(en-fr)

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[SOURCE: ISO/IEC 29121:2021, 3.1]

3.2
***B*5 life**
5 percentile of the *lifetime* (3.10) distribution (i.e. 5 % failure time) or 95 % survival lifetime