

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

# **DRAFT TANZANIA STANDARD**

(Draft for comments only)



# **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)".



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# CONTENTS

FOREWORI	D	4
INTRODUC	TION	6
1 Scope.		7
2 Normati	ive references	7
3 Terms a	and definitions	7
4 Disk and	l lifetime for long-term audio data storage	10
4.1	Disk for long-term audio data storage	10
4.2	Lifetime estimation	10
4.3	Bmig life for long-term audio data storage	11
4.4	Estimated-lifetime rank and display colour	12
4.4	.1 Estimated-lifetime rank and display colour identification	12
4.4	.2 Bmig life and display colour indication on disks and packages	12
5 Test	condition, test methods and disks for audio data migration	12
5.1	Ambient conditions for testing of maximum data error measurement	12
5.2	Test methods	13
5.2	.1 Playback test drive	13
5.2	.2 Test area of recorded	13
5.2	.3 Recording test drive	13
5.2	.4 Test drive calibration	14
6 lest res	sult evaluation	14
6.1	Initial performance test result evaluation	14
6.2	Periodic performance test result evaluation	14
0.3	Report items	17
6.3	2 Periodic performance test result	17
6.4	Management of report item	17
6.5	Test and migration intervals	17
7 Preventi	ion of deterioration	18
Annex A	(informative) Guidelines for usage and indication	19
A.1	Usage of lifetime rank	19
A.2	Lifetime rank indication and place	19
A.2	. 1 Lifetime rank indication	19
A.2	2 Indication example	19
Annex B	(informative) Recommendations on handling, storage and cleaning conditions	
for DVD-	-R, DVD-RW, DVD-RAM, +R format, and +RW format disks	20
<b>B</b> .1	Handling	20
B.2	Storage	20
B.3		21
Annex C (inf	formative) Guidelines for disk history record	22
Bibliography	/	29
Figure 1	– Data migration flow for DVD-R, DVD-RW, DVD-RAM, +R format, and +RW	
Tormat disks		16
Figure A.1 –	- Indication example	19

Table 1 – Category of initial recording performance	14
Table 2 – Category of recording performance at periodic performance test	15
Table B.1 – Recommended conditions for general storage	20
Table B.2 – Recommended conditions for controlled storage	20
Table C.1 – Sectors of the disk history file	23
Table C.2 – Byte content of sector 0 to 7 of the disk history file	24
Table C.3 – Byte format of sector 8 to 15 and 9 to the following of the disk history file	26

-3-

Draft for stakeholders

# INTERNATIONAL ELECTROTECHNICAL COMMISSION

# 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.
- The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
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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\_expects/erdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

# 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 29121:20132021, Information technology – Digitally recorded media for information interchange and storage – Data migration method for <u>DVD-R, DVD-RW, DVD-RM, +R, and +RW disks</u> 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:

EC Electropedia: available at http://www.electropedia.org/

SO Online browsing platform: available at https://www.iso.org/obp

# 3.1

# **Bmig 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]





Edition 2.0 2022-06

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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



# CONTENTS

FC	FOREWORD			
INTRODUCTION				
1		Scope	7	
2		Normative references	7	
3		Terms and definitions	7	
4	4 Disk and lifetime for long-term audio data storage			
	4.1	Disk for long-term audio data storage		
	4.2	Lifetime estimation		
	4.3	Bmig life for long-term audio data storage		
	4.4	Estimated-lifetime rank and display colour	11	
	4.4.1	Estimated-lifetime rank and display colour identification	11	
	4.4.2	Bmig life and display colour indication on disks and packages	12	
5	Test cond	dition, test methods and disks for audio data	12	
	5.1	Ambient conditions of maximum data error measurement	12	
	5.2	Test methods	12	
	5.2.1	Playback test drive	12	
	5.2.2	Test area and sample disk	12	
	5.2.3	Recording test drive	13	
	5.2.4	Test drive check	13	
6		Test result evaluation	13	
	6.1	Initial performance test result evaluation	13	
	6.2	Periodic performance test result evaluation	14	
	6.3	Report items		
	6.3.1	Initial performance test result		
	6.3.2	Periodic performance test result		
	6.4 0.5	Management of report item		
7	0.0	Prevention of deterioration	15	
1	nov A linf	revention of detenoration	10	
Annex A (informative) Guidelines for usage and indication				
	A.1	Usage of lifetime rank	17	
	A.Z	Lifetime rank indication and place	۲۲۱۲ ۲۳	
	A.Z.		17	
Ar	nex B (inf	formative) Recommendations on handling storage and cleaning conditions	17	
fo	r DVD-R, I	DVD-RW, DVD-RAM, +R format, and +RW format disks	18	
	B.1	Handling		
	B.2	Storage		
	B.3	Cleaning	19	
Ar	nnex C (inf	ormative) Guidelines for disk history record	20	
Bi	bliography	·	26	
Fig	gure 1 – D	ata migration flow for DVD-R, DVD-RW, DVD-RAM, +R format, and +RW		
format disks 1			15	
Figure A.1 – Indication example			17	

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-3-

Table 1 – Category of initial recording performance	
Table 2 – Category of recording performance at periodic performance test	
Table B.1 – Recommended conditions for general storage	
Table B.2 – Recommended conditions for controlled storage	
Table C.1 – Sectors of the disk history file	
Table C.2 – Byte content of sector 0 to 7 of the disk history file	
Table C.3 – Byte format of sector 8 to 15 and 9 to the following of the disk history fil	e 01124
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-4-

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# AUDIO ARCHIVE SYSTEM -

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

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- 5 -

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-6-

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## INTRODUCTION

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-7-

# AUDIO ARCHIVE SYSTEM -

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

## 1 Scope

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ISO/IEC 29121:2021, Information technology – Digitally recorded media for information interchange and storage – Data migration method for optical disks for long-term data storage

# 3 Terms and definitions

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- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

# 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]

# 3.2

#### B5 life

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