



# TECHNICAL SPECIFICATION

---

**Audio archive system –  
Part 2: Audio data preservation**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

---

ICS 33.160.30; 35.220.30

ISBN 978-2-8322-3286-6

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions .....	6
4 Objective media inspection .....	6
4.1 Criteria of the objective media .....	6
4.2 Criteria of the archival media for preservation and dissemination .....	7
5 Digitization of audio content.....	7
5.1 Condition and environment.....	7
5.2 Digitization method .....	7
5.2.1 Content of analogue media.....	7
5.2.2 Content of digital media .....	8
6 Inspection of digitised file and recorded media .....	9
7 Reception of digitised content.....	10
8 Archival information package .....	10
8.1 Content information.....	10
8.2 Package format for AIP .....	10
9 Preservation.....	11
10 Access .....	11
11 Dissemination.....	11
11.1 Format.....	11
11.2 Copyright management .....	12
Annex A (informative) Digital signal capturing.....	13
Annex B (informative) Digitised content inspection in disk media.....	15
Annex C (informative) Treatment of content noise.....	16
Bibliography .....	17
Figure 1 – Digitization of analogue signals .....	7
Figure 2 – Digital signal capturing .....	9
Figure A.1 – Signal capturing from the D/A converter signal.....	13
Figure A.2 – Signal capturing from the digital audio interface .....	14
Table 1 – Digital signal format.....	8
Table 2 – File format.....	8
Table 3 – Digital to digital conversion format .....	9
Table 4 – Audio file format .....	9
Table 5 – Content information .....	10
Table 6 – Dissemination format.....	11

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

---

**AUDIO ARCHIVE SYSTEM –****Part 2: Audio data preservation****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.
- 2) 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.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

The main task of IEC technical committees is to prepare International Standards. In exceptional circumstances, a technical committee may propose the publication of a technical specification when

- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62702-2, which is a technical specification, 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.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
100/2461/DTS	100/2519/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

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 publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

## INTRODUCTION

Sound recordings such as music, speech, and storytelling are an important human heritage and should be preserved whenever possible. However, we were unable to record and preserve sounds until Edison achieved the first recording in 1877. Although various technologies were invented later, most of them have a limited lifespan with respect to audio archiving because storage and sound quality deteriorates when it is transferred to the next generation storage device.

The progress of LSI technology made it possible to digitize recorded sound. The digital recording is very suitable for audio archiving because the migration is performed by copying digital data.

There can be various recording materials for this purpose, they are optical disks, magnetic disks, magnetic tape and non-volatile memories such as phase change memory.

This Technical Specification specifies physical and logical aspects for a standard of audio archives of various storage types which are typically used for audio archives in markets.

The IEC 62702 series currently consists of:

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

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

## **AUDIO ARCHIVE SYSTEM –**

### **Part 2: Audio data preservation**

#### **1 Scope**

This part of IEC 62702, specifies the requirements for digitization of audio data for audio preservation.

#### **2 Normative references**

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62227, *Multimedia home server systems – Digital rights permission code*