# IEC 62368-1

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

colour inside

## Audio/video, information and communication technology equipment – Part 1: Safety requirements

**Équipements des technologies de l'audio/vidéo, de l'information et de la communication –**
**Partie 1: Exigences de sécurité**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT –

## Part 1: Safety requirements

## FOREWORD

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IEC 62368-1 has been prepared by IEC technical committee TC 108: Safety of electronic equipment within the field of audio/video, information technology and communication technology. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2018. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) new table with requirements for external circuits;
b) revision of requirements for openings in fire enclosures;
c) revision of requirements for liquid filled components;
d) revision of battery charging requirements.

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

| Draft | Report on voting |
|---|---|
| 108/800/FDIS | 108/804/RVD |

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.

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/publications.

A list of all parts in the IEC 62368 series, published under the general title *Audio/video, information and communication technology equipment*, can be found on the IEC website.

The "in some countries" notes regarding differing national practices are contained in the following clauses, subclauses and tables:

0.2.1, Clause 1, 3.3.8.1, 3.3.8.3, 4.1.15, 4.7.3, 5.4.2.3.2.4, 5.4.2.5, 5.4.5.1, 5.4.10.2.1, 5.4.10.2.2, 5.4.10.2.3, 5.5.2.1, 5.5.6, 5.6.4.2.1, 5.6.8, 5.7.6, 5.7.7.1, 8.5.4.2.3, 10.5.3, 10.6.1, F.3.3.4, F.3.3.6, Y.4.1, Y.4.5, Table 12, Table 13 and Table 38.

In this document, the following print types or formats are used:

– requirements proper and normative annexes: in roman type;
– compliance statements and test specifications: *in italic type*;
– notes/explanatory matter: in smaller roman type;
– normative conditions within tables: in smaller roman type;
– terms that are defined in 3.3: **bold**.

In figures and tables, if colour is available:

– green colour denotes a class 1 energy source;
– yellow colour denotes a class 2 energy source;
– red colour denotes a class 3 energy source.

A comparison of terms introduced in this document that are different from other existing IEC documents is given in Annex W.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE Explanatory information related to IEC 62368-1 is contained in IEC TR 62368-2. It provides rationale together with explanatory information related to this document.

**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

## 0 Principles of this product safety standard

### 0.1 Objective

This part of IEC 62368 is a product safety standard that classifies energy sources, prescribes **safeguards** against those energy sources, and provides guidance on the application of, and requirements for, those **safeguards**.

The prescribed **safeguards** are intended to reduce the likelihood of pain, injury and, in the case of fire, property damage.

The objective of the introduction is to help designers to understand the underlying principles of safety in order to design safe equipment. These principles are informative and not an alternative to the detailed requirements of this document.

### 0.2 Persons

#### 0.2.1 General

This document describes **safeguards** for the protection of three kinds of persons: the **ordinary person**, the **instructed person**, and the **skilled person**. Unless otherwise specified in this document, the requirements for an **ordinary person** apply. This document assumes that a person will not intentionally create conditions or situations that could cause pain or injury.

NOTE 1 In Australia, the work conducted by an **instructed person** or **skilled person** can require formal licensing from regulatory authorities.

NOTE 2 In Germany, a person can only be regarded as an **instructed person** or a **skilled person** if certain legal requirements are fulfilled.

#### 0.2.2 Ordinary person

**Ordinary person** is the term applied to all persons other than **instructed persons** and **skilled persons**. **Ordinary persons** include not only users of the equipment, but also all persons who can possibly have access to the equipment or who could be in the vicinity of the equipment. Under **normal operating conditions** or **abnormal operating conditions**, **ordinary persons** should not be exposed to parts comprising energy sources capable of causing pain or injury. Under a **single fault condition**, **ordinary persons** should not be exposed to parts comprising energy sources capable of causing injury.

#### 0.2.3 Instructed person

**Instructed person** is a term applied to persons who have been instructed and trained by a **skilled person**, or who are supervised by a **skilled person**, to identify energy sources that can cause pain (see Table 1) and to take precautions to avoid unintentional contact with or exposure to those energy sources. Under **normal operating conditions**, **abnormal operating conditions** or **single fault conditions**, **instructed persons** should not be exposed to parts comprising energy sources capable of causing injury.

#### 0.2.4 Skilled person

**Skilled person** is a term applied to persons who have training or experience in the equipment technology, particularly in knowing the various energies and energy magnitudes used in the equipment. **Skilled persons** are expected to use their training and experience to recognize energy sources capable of causing pain or injury and to take action for protection from injury from those energies. **Skilled persons** should also be protected against unintentional contact or exposure to energy sources capable of causing injury.