

**Ergonomics - Accessible design - Auditory signals for consumer products**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 24500:2010 sisaldab Euroopa standardi EN ISO 24500:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.11.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.10.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 24500:2010 consists of the English text of the European standard EN ISO 24500:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.11.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 01.10.2010.

The standard is available from Estonian standardisation organisation.

ICS 11.180.15, 13.180

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ICS 11.180.15; 13.180

English Version

**Ergonomics - Accessible design - Auditory signals for consumer products (ISO 24500:2010)**

Ergonomie - Conception accessible - Signaux auditifs pour produits de consommation courante (ISO 24500:2010)

Ergonomie - Zugängliche Gestaltung - Akustische Signale für Konsumgüter (ISO 24500:2010)

This European Standard was approved by CEN on 30 September 2010.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

The text of ISO 24500:2010 has been prepared by Technical Committee ISO/TC 159 “Ergonomics” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 24500:2010 by Technical Committee CEN/TC 122 “Ergonomics” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2011, and conflicting national standards shall be withdrawn at the latest by April 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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### Endorsement notice

The text of ISO 24500:2010 has been approved by CEN as a EN ISO 24500:2010 without any modification.

## Introduction

People are surrounded by various consumer products: home electrical appliances, information and communication products, office-automation equipment, gas-heating equipment, toys, sanitary equipment, health-care products, cameras, etc. Auditory signals of such products must be designed so that the user can easily hear the signals in various circumstances where the product is normally used, and understand the objective and meaning of signalling.

This International Standard has been developed for improving the usability and accessibility of auditory signals used in such consumer products, thereby improving the products themselves when they are used by all people, including those with visual impairments and older people with age-related hearing impairments. Older people include those aged 65 and above for whom age-related changes of hearing become obvious.

The auditory-signal patterns specified in this International Standard were selected based on results of experiments in which people of different age ranges and with different levels of visual impairment participated. Regarding the signals, it was confirmed that the purpose of signalling was easy for listeners to understand and that the signals were not easily confused with signals in other signal categories.

This International Standard adopts the principles of accessible design presented in ISO/IEC Guide 71 and amplified in ISO/TR 22411.

# Ergonomics — Accessible design — Auditory signals for consumer products

## 1 Scope

This International Standard specifies the auditory signals used as a means of feedback for operations or conditions of consumer products when used by a person with or without visual or auditory impairment. It is intended to be applied as appropriate to such products depending on the product type and its conditions of use.

It is applicable to auditory signals of a fixed frequency used in general applications (also called “beep sounds”), but not to variable frequency or melodic sounds.

It does not specify fire or gas leak alarm sounds or crime prevention alarm sounds (determined by other laws and regulations), electronic chimes, voice guides or other sounds particular to communication instruments such as telephones; nor is it applicable to auditory danger signals for public or work areas (covered in ISO 7731, ISO 8201, and ISO 11429).

It is not applicable to machines and equipment used for professional work; nor does it specify the sound pressure levels of auditory signals from the consumer products.

NOTE For the determination of these levels, taking into consideration accessible design, see ISO 24501.

## 2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60050-801, *International electrotechnical vocabulary — Chapter 801: Acoustic and electroacoustics*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-801 and the following apply.

### 3.1

#### **auditory signal**

sound emitted from a product for the purpose of conveying information to help the user to use the product correctly

### 3.2

#### **operation**

action which the user performs, using a product for achieving a purpose