

SLOVENSKI STANDARD
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Ergonomija - Dostopno načrtovanje - Govorjena navodila za potrošniške izdelke (ISO/DIS 24551:2019)

Ergonomics - Accessible design - Spoken instructions of consumer products (ISO/DIS 24551:2019)

Ergonomie - Zugängliche Gestaltung - Sprachführung für Konsumgüter (ISO/DIS 24551:2019)

Ergonomie - Conception accessible - Instructions vocales de produits de consommation (ISO/DIS 24551:2019)

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Ergonomics — Accessible design — Spoken instructions of consumer products

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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Application of the guidelines of this standard	2
5 General requirements and recommendations	2
6 Specifications of spoken instructions	3
6.1 Ease of hearing spoken instructions.....	3
6.2 Ease of understanding spoken instructions.....	4
6.3 Making the use of product easier.....	4
7 Information about the product that spoken instructions are to provide	4
8 Evaluation of spoken instructions	5
Annex A (informative) Sound volume setting of spoken instructions	6
Annex B (normative) Evaluation method of spoken instructions	7
Bibliography	8

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ISO/DIS 24551:2019(E)

Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

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Introduction

People conduct their daily lives surrounded by various consumer products. Consumer products, as defined in ISO 20282-1, include home electrical appliances, information and telecommunication products, gas-heating equipment, toys, sanitary equipment, health-care products, and cameras, some of which use spoken instructions.

These spoken instructions can assist product users regardless of age, including those with visual impairments or moderate cognitive disorders such as difficulty in reading, in using the product correctly and safely. The spoken instructions are also helpful for some users who are not accustomed to use the product. Therefore, the instructions should be designed so that they are easy to hear and comprehend by meeting users' needs.

This International Standard specifies ergonomic requirements and recommendations of spoken instructions that provide guidance for the user to use consumer products correctly and safely and, thereby, enhance accessibility of the products for all users with various accessibility needs.

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

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Ergonomics — Accessible design — Spoken instructions of consumer products

1 Scope

This International Standard specifies ergonomic requirements and recommendations of spoken instructions for consumer products that are used as a means of instructions for operations or feedback of the status of products when used by a person with or without visual impairments.

NOTE 1 Spoken instructions are also useful for some users who have difficulty in reading and those with cognitive impairment.

The requirements and recommendations described in this standard do not depend on the language of guides and are applicable to conventional, stand-alone consumer products in general whose function is limited by characteristics that prevent the user from attaching, installing or using assistive technology. They are not applied to machines and equipment used for professional work.

This document is applicable to spoken instructions of both recorded human speech and synthesized speech from text.

This document does not apply to products for which the instructional content and/or the means of presentation are regulated by law or specified in other standards (e.g. medical devices, fire alarms). It also does not provide recommendations or requirements for spoken instructions of Interactive Voice Response (IVR) systems or digital assistants on personal computers or similar devices.

NOTE 2 ISO 9241-154 provides recommendations or requirements for IVR systems.

NOTE 3 ISO/TS 9241-126 provides generic guidance for the auditory presentation of information in interactive systems.

This document does not specify voice sounds of text-to-speech systems or narrative speech used in place of printed instruction manuals and independently from the product.

2 Normative references

The following document, in whole or in part, is normatively referenced in this document and is 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.

ISO 24500, *Ergonomics — Accessible design — Auditory signals for consumer products*

3 Terms and definitions

3.1

consumer product

product that is intended to be acquired and used by an individual for personal rather than professional use

[SOURCE: ISO 20282-1:2006, definition 3.2]

3.2

spoken instruction

instruction emitted by a product for the purpose of conveying information to help the user to use the product correctly or to know the state of the product

ISO/DIS 24551:2019(E)

3.3

caution message

message that informs the user of what he/she should or should not do at a particular point in the operation of a product, or which provides information (which might include instructions) with respect to an operational problem with the product that may require user action

Note 1 to entry: Caution messages have a function similar to that of caution signals specified in ISO 24500.

4 Application of the guidelines of this standard

This document provides requirements and recommendations for the use of consumer products. While all the requirements apply, designers shall consider the nature of their product, the environment in which it will be used, and the characteristics of the intended user population when identifying applicable recommendations in this document.

For example, for complex consumer products that require a significant amount of spoken instructions and/or a high degree of user interaction with the spoken instructions, most or all the recommendations are likely to be appropriate. Alternatively, in the case of very simple consumer products, which have few spoken instructions and require only limited interaction with the instructions, following every recommendation would not be practical, feasible, or cost-effective. Designers are advised to consider the features their users will need to have for the spoken instructions to be accessible and usable, and follow the applicable recommendations accordingly.

5 General requirements and recommendations

- a) Spoken instructions should be turned on or off by the user easily without relying on visual cues. Caution messages related safety use of the product shall not be turned off by the user easily.

NOTE Some users with hearing impairment might want to turn off spoken instructions and auditory signals all at once.

- b) Spoken instructions should be activated by user's operation even when other types of audio output are being turned off.

NOTE Some audio- and audio-visual systems have a separate output channel for spoken instructions other than the main audio output.

- c) If a product has audio output other than that for spoken instructions, the sound volume of spoken instructions should be adjustable independently from the audio output, including auditory signals.

NOTE Some audio- and audio-visual systems have an output channel for spoken instructions whose sound volume is controllable separately from the main audio output.

- d) The output state of spoken instructions (i.e. whether they are switched on or off) should be displayed visually.

NOTE Some users with hearing impairments may not realize that spoken instructions are being presented, depending on the volume of the instructions and the extent of their hearing impairment. Thus, a visual indicator is necessary that cues them when instructions are being presented, so that they can raise the volume to hear those instructions, if needed, or turn the instructions off if they don't want to hear them, so as not to disturb other people in the immediate vicinity.

- e) Spoken instructions should be repeatable at user's request.

EXAMPLE Products that are equipped with a push button control for playing back the spoken instruction again.

- f) An auditory signal should be presented before the spoken instructions when necessary for attracting the user's attention. The signal should be so designed that it can be turned off by the user when it is not necessary.