

First edition
2012-05-01

**Information technology — User
interfaces — Accessibility of personal
computer hardware**

*Technologies de l'information — Interfaces utilisateur — Accessibilité
matérielle des ordinateurs personnels*

Reference number
ISO/IEC 29136:2012(E)





COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Conformance	3
4.1 Applying the requirements	3
4.2 Applying the recommendations.....	3
4.3 Evaluation of products.....	3
5 General requirements	3
5.1 Requirements related to ICT	3
5.2 Requirements related to software	3
5.3 Requirements related to interoperability with assistive technologies	3
5.4 Avoidance of erroneous operations and support of easy operations	3
5.5 Functionality provided as hardware support	4
5.6 Using readable labels.....	5
5.7 Connection	5
5.8 Alternative to biometric-based user authentication	7
5.9 User comfort	7
6 Requirements for input.....	7
6.1 Controls	7
6.2 Keyboard	8
6.3 Touch screen	10
7 Requirements for output.....	10
7.1 Visual information	10
7.2 Auditory information	11
8 Requirements for data storage devices and removable drives.....	12
8.1 Insertion and removal of a media and change of a drive	12
8.2 Notification of media insertion.....	12
9 Requirements for user support.....	13
9.1 Product information	13
9.2 Disclosure of information to distribution channel	14
9.3 Customer support	14
9.4 Maintenance information	14
Annex A (informative) Sample procedure for assessing applicability and conformance	15
Bibliography.....	25

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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

ISO/IEC 29136 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

Introduction

With the progress of the information society, personal computers have become a necessary tool for many people in their daily life. A wide range of people, regardless of their ages, physique, physical ability or disability, use personal computers throughout their life, i.e. at home, in school, in the workplace, and in public places. This International Standard provides guidance to improve information accessibility for older persons and persons with disabilities (including temporary disabilities) when they use personal computers.

The guidelines in this International Standard use the following approach.

- When planning, developing, designing, and distributing personal computers, this International Standard can be referenced to improve accessibility for older persons and persons with disabilities.
- If the required degree of accessibility cannot be provided by a default configuration of a personal computer, such accessibility might be attained by using the product in combination with additional software, optional equipment and/or assistive technology.

This International Standard elaborates on hardware-related guidance provided in ISO/IEC Guide 71:2001, *Guidelines for standards developers to address the needs of older persons and persons with disabilities*, ISO 9241-20:2008, *Ergonomics of human-system interaction — Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services*, and ISO/IEC TR 29138-1, *Information technology — Accessibility considerations for people with disabilities — Part 1: User needs summary*. The hardware guidance in this International Standard can be used in combination with ISO 9241-171:2008, *Ergonomics of human-system interaction — Part 171: Guidance on software accessibility*.

Information technology — User interfaces — Accessibility of personal computer hardware

1 Scope

This International Standard provides requirements and recommendations for the accessibility of personal computer hardware, to be used when planning, developing, designing and distributing these computers.

Some requirements or recommendations in this International Standard require software support.

While this International Standard does not cover the behaviour of, or requirements for, assistive technologies, it does address connectivity of assistive technologies as an integrated component of interactive systems.

Requirements and recommendations that solely focus on software are not included in this International Standard.

NOTE 1 Requirements and recommendations for software accessibility are specified in ISO 9241-171.

NOTE 2 High level requirements and recommendations for information and communication technology (ICT) accessibility are specified in ISO 9241-20.

NOTE 3 Requirements and recommendations for office equipment accessibility, including printers, scanners and copiers, are specified in ISO/IEC 10779[2].

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.

ISO 9241-20:2008, *Ergonomics of human-system interaction — Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services*

ISO 9241-171:2008, *Ergonomics of human-system interaction — Part 171: Guidance on software accessibility*

ISO 9241-410:2008, *Ergonomics of human-system interaction — Part 410: Design criteria for physical input devices*

ISO/IEC 9995-1, *Information technology — Keyboard layouts for text and office systems — Part 1: General principles governing keyboard layouts*

ISO/IEC 13066-1, *Information technology — Interoperability with assistive technology (AT) — Part 1: Requirements and recommendations for interoperability*

ISO/IEC 24786:2009, *Information technology — User interfaces — Accessible user interface for accessibility settings*