
**Information technology — Future
keyboards and other associated input
devices and related entry methods**

*Technologies de l'information — Claviers futurs, autres dispositifs
d'entrée associés et méthodes d'entrée liées*

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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.

In exceptional circumstances, the joint technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when the joint technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

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 of all such patent rights.

ISO/IEC TR 15440, which is a Technical Report of type 2, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

Introduction

This Technical Report, supported by the history of information technology keyboards during the last two decades, lists current and anticipated problem areas as seen by users, and tries to pave the way to foreseen work items in JTC1 for solving keyboard-related issues of the user interface.

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1 Scope

This Technical Report covers

- the different input requirements catering for national and international practices and support of cultural and linguistic diversity;
- the recognition of requirements regarding comfort of use (for any user, including children, elderly and disabled people), and improved user productivity related to inputting data;
- enhancements of keyboards and related input devices and methods required for new emerging phenomena such as Internet, multimedia, and virtual reality;
- virtual input requirements;
- labelling issues (soft [LCD] and hard, permanent and temporary labels), function symbols and icons.

This Technical Report does not cover implications of biometric input (e.g. fingerprint-, iris-pattern-, or face-shape-based) devices for access and security.

This Technical Report is aimed at both the users and manufacturers, and intends to present the user requirements regarding keyboards and associated devices and methods at the time of publication of this Technical Report.

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/IEC 9995 (all parts), *Information technology — Keyboard layouts for text and office systems*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 9995-1 apply.

4 Benefits and disadvantages of current keyboards and data entry devices on the market

The benefits and disadvantages are as follows.

- Most existing desktop keyboards on the market follow ISO/IEC 9995-1 and ISO/IEC 9995-2. This helps for education and training.