INTERNATIONAL STANDARD

ISO/IEC 9995-11

Information technology — Keyboard layouts for office systems —

Part 11:
Functionality of dead keys and repertoires of characters entered by dead keys

Technologies de l'information — Dispositions de claviers bureautiques —

Partie 11: Fonctionnalité des touches mortes et répertoires de caractères entrés par touches mortes

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Contents

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ISO/IEC 9995-11:2015
https://standards.iteh.ai/catalog/standards/iso/f3bae858-a881-4793-8e2d-11a72e9c61f6/iso-iec-9995-11-2015

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.

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 document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

ISO/IEC 9995 consists of the following parts, under the general title *Information technology — Keyboard layouts for office systems*:

— *Part 1: General principles governing keyboard layouts*

— *Part 2: Alphanumeric section*

— *Part 3: Complementary layouts of the alphanumeric zone of the alphanumeric section*

— *Part 4: Numeric section*

— *Part 5: Editing and function section*

— *Part 7: Symbols used to represent functions*

— *Part 8: Allocation of letters to the keys of a numeric keypad*

— *Part 9: Multilingual-usage, multiscript keyboard group layouts*

— *Part 10: Conventional symbols and methods to represent graphic characters not uniquely recognizable by their glyph on keyboards and in documentation*

— *Part 11: Functionality of dead keys and repertoires of characters entered by dead keys*

The following part has been withdrawn and the content has been included in ISO/IEC 9995-5:

— *Part 6: Function section*

Information technology — Keyboard layouts for office systems —

Part 11:
Functionality of dead keys and repertoires of characters entered by dead keys

1 Scope

Within the general scope described in ISO/IEC 9995-1, this part of ISO/IEC 9995 defines the functionality of dead keys and repertoires of characters entered by dead keys (see Clause 5).

This part of ISO/IEC 9995 is primarily intended for word-processing and text-processing applications.

2 Conformance

The layout of a keyboard conforms to this part of ISO/IEC 9995 if it contains any dead keys and if every dead key contained in this layout works as described in Clause 5. The contents of the Table 1 and Table 2 only need to be complied with for such dead keys which are actually contained in the keyboard layout.

3 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are 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/IEC 9995-1, *Information technology — Keyboard layouts for text and office systems — Part 1: General principles governing keyboard layouts*

ISO/IEC 10646, *Information technology — Universal Coded Character Set (UCS)*

4 Terms and definitions

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

In addition, the following terms and definitions apply.

4.1
dead key
key which, when it is actuated, produces (according to the currently active group and level) a specific graphic character but does not change the active position.

Note 1 to entry: When a key does not act as a dead key with all possible group/level combinations of a specific keyboard layout, it is called "acting as a dead key" under the precondition that a group/level combination is active where it acts according to the definition of a "dead key" given here.

Note 2 to entry: The name "dead key" originates in the naming of comparable keys present on mechanical typewriters, which did not cause a horizontal advancement of the carriage as the keys used for typing ordinary letters did.

4.2
peculiar character
graphic character listed in ISO/IEC 10646, which can be entered as a sequence of a combining character (as defined in that standard) and another character, without being the result of a canonical composition of these characters (according to Unicode normalization form C)

5   Functionality of dead keys, and relation to "combining characters" as defined in ISO/IEC 10646

The actuation of a dead key selects a graphic character, which, by the fact that the active position is not changed, shares its position with the graphic character entered subsequently. The outcome usually resembles an overlay of the graphic character entered by the dead key and the one entered by the subsequent keys. By entering sequences of dead keys, the result may be an overlay of more than two graphic characters.

This standard identifies in 5.2 and 5.3 characters which represent such results where a physical overlay is not appropriate, by enumerating single characters or special combinations of characters by identifying these by their code points given in ISO/IEC 10646, for such dead keys which are associated with "combining characters" as defined in that standard.

NOTE   This implies that dead keys usually are associated with diacritical marks, to produce an accented character by entering the basic letter subsequently.

5.1   Handling of dead keys in environments using ISO/IEC 10646

NOTE 1   A characteristic of ISO/IEC 10646, unlike e.g. ISO/IEC 6937, is that combining characters are inserted into the text stream after the basic character to which they apply, thus reverting the input sequence given by dead keys.

In environments using ISO/IEC 10646, the function of dead keys is outlined by the following algorithm:

Step 1. If a combining character is entered by a dead key, it is buffered by the keyboard functional unit (KFU; i.e. the responsible combination of hardware/ firmware/driver software/etc.).

Step 2. If a character is entered while the KFU is buffering characters, proceed as follows:

Step 2.1 If a „backspace" is entered while the KFU is buffering characters and if this „backspace" does not cancel the selection of a group or a level, the buffered character sequence is dropped, and the buffering stops.

Step 2.2 Otherwise, if the combination of the last character previously buffered and the newly entered character is enumerated in Tables 1 and 2 of this standard, or any additional table contained in the definition of the keyboard layout, the last buffered character is replaced by the result character from the list.

Step 2.3 Special case: This step only applies if the definition of a keyboard layout specifies a "combining character application character". If this character is entered, the buffered sequence is output unchanged (without the "combining character application character" itself), and the buffering stops.

NOTE 2   According to ISO/IEC 10646, this means that the buffered combining character, or the sequence of such, is applied to the character entered previously.

NOTE 3   It is recommended to select the full stop as the "combining character application character".

Step 2.4: Otherwise, the newly entered character is appended to the sequence of buffered characters.

Step 3: If the last character in the buffered sequence is no longer a combining character, proceed as follows:

Step 3.1: The last character in the buffered character sequence is moved to the beginning of this sequence.

Step 3.2: The Unicode normalization form C (canonical composition) is applied to the the buffered sequence.

Step 3.3: The resulting character sequence is output, and the buffering stops.