
**Information technology — Keyboard
layouts for text and office systems —**

**Part 4:
Numeric section**

*Technologies de l'information — Disposition des claviers conçus pour la
bureautique —*

Partie 4: Module numérique

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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

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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.

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 9995-4 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

This third edition cancels and replaces the second edition (ISO/IEC 9995-4:2002), which has been technically revised. The main modification is:

— fewer zones.

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

Information technology — Keyboard layouts for text and office systems —

Part 4: Numeric section

1 Scope

Within the general scope described in ISO/IEC 9995-1, this part of ISO/IEC 9995 specifies the numeric section of a keyboard and the division of that section into zones. It specifies the arrangement, the number, and the location of the keys in the numeric zone ZN0 and in the function zones ZN1 to ZN6 of the numeric section, as well as the allocation of functions to the keys.

The numeric zone ZN0 is to be used in keyboards for applications such as text and data processing, general office environment, banking, point of sales (POS), telematic services, telephony apparatus, home electronic systems, numerical control of machinery and equipment, input of personal identification number (PIN), etc.

The function zone ZN1 is to be used in keyboards for applications such as data entry, text and data processing, general office environment, etc.

NOTE Certain of these applications are under the responsibility of the ITU-T.

2 Conformance

Equipment is in conformance with this part of ISO/IEC 9995 if it meets the requirements of Clauses 5, 6, 7, 8, 9, 10 and either 8.1, 8.2.

3 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 9995-1, *Information technology — Keyboard layouts for text and office systems — Part 1: General principles governing keyboard layouts*

ITU-T Recommendation E.161, *Arrangement of digits, letters and symbols on telephones and other devices that can be used for gaining access to a telephone network*

4 Terms and definitions

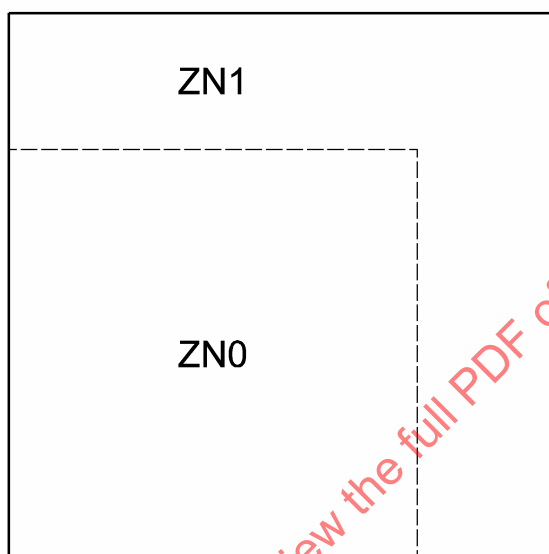
For the purposes of this document, the terms and definitions given in ISO/IEC 9995-1 apply.

5 Arrangement and location

The numeric section is generally a rectangular arrangement of keys located to the right or to the left of the alphanumeric section and the cursor key zone of the editing and function section and below a part of the editing and function section, see ISO/IEC 9995-1.

6 Division into zones

The numeric section is divided into zones as illustrated in Figure 1.



NOTE Not drawn to scale — all lines are only indicative.

Figure 1 — Division of the numeric section into zones

7 Arrangement, location and functions of the keys in the numeric zone

The keys shall be arranged in the numeric zone ZN0 and be located as illustrated in Figure 2.

The functions to be allocated to the keys of the numeric zone are the digits zero to nine, the decimal separator, and two telematic functions.

	49	50	51	52	53	54	55	
E								E
D								D
C								C
B								B
A								A
	49	50	51	52	53	54	55	

NOTE Not drawn to scale — all lines are only indicative.

Figure 2 — Arrangement and location of the keys in the numeric zone

8 Allocation of functions to the keys of the numeric zone

The ten digits zero to nine shall be allocated to ten keys of the numeric zone ZN0 in one of two ways: The "1-2-3" layout (see 8.1) or the "7-8-9" layout (see 8.2). The "1-2-3" layout is preferred.

The decimal separator and the telematic functions shall be allocated as defined in 8.1, 8.2.

8.1 The "1-2-3" layout

This layout is primarily intended for general office applications, text and data processing, and other applications such as telematic services, telephony apparatus, home electronic systems, numerical control of machinery and equipment. It is also recommended for combined voice/data terminal equipment. The allocation of the functions of the 1-2-3 layout shall be as indicated in Table 1; see also Figure 3.

Table 1 — The "1-2-3" layout

Key	Office function	Telematic function	Conventional office symbol	Conventional telematic symbol
A 50				
A 51		Initiator		star
A 52	digit zero	Digit zero	0	0
A 53	decimal separator	Terminator	ISO/IEC 9995-7:2009, symbol 62: ▽	octothorpe (#)
B 51	digit seven	digit seven	7	7
B 52	digit eight	Digit eight	8	8
B 53	digit nine	Digit nine	9	9
C 51	digit four	Digit four	4	4
C 52	digit five	Digit five	5	5
C 53	digit six	Digit six	6	6
D 51	digit one	Digit one	1	1
D 52	digit two	Digit two	2	2
D 53	digit three	Digit three	3	3

	49	50	51	52	53	54	55	
E								E
D			1	2	3			D
C			4	5	6			C
B			7	8	9			B
A			*	0	▽ _{ou} #			A
	49	50	51	52	53	54	55	

NOTE Not drawn to scale — all lines are only indicative.

Figure 3 — The "1-2-3" layout

The telematic functions initiator and terminator allocated to the keys in positions A51 and A53 are determined in the relevant ITU-T recommendations and the actual shape of the symbols is specified in ITU-T Recommendation E.161.

The decimal separator key allocated in position A53 is a function key and this key is intended in no way to be an alphanumeric key. Its function is, during input, to indicate that the integer part of a number being entered has ended and that any further series of digits entered immediately after it shall be for the decimal part of the number, without any dependency on the presentation of the decimal separator. The labelling of this function should use the function symbol 62 as defined in ISO/IEC 9995-7, or, in countries where no ambiguity exists, any other unique national symbol used to indicate this function (such as comma or full stop).

No office function is allocated to the key in position A51. Recommended functions are:

- space character, for possible use as triad separator;
- single zero, increasing the area from which the digit zero can be entered;
- double zero.

No function is allocated to the key in position A50. Recommended functions are:

- single zero, increasing the area from which the digit zero can be entered;
- double zero;
- triple zero, in addition to a single zero or in connection with the double zero on the key in position A51.

If required to cater for trained personnel, or to have uniformity of layouts within an installation, the "7-8-9" layout (see 8.2) may also be provided for the applications listed above.

8.2 The "7-8-9" layout

This layout is primarily intended for applications such as data entry, and other general office applications. The allocation of the functions of the "7-8-9" layout shall be as indicated in Table 2; see also Figure 4.

The telematic functions initiator and terminator allocated to the keys in positions A51 and A53 are determined in the relevant ITU-T Recommendations and the actual shape of the symbols is specified in ITU-T Recommendation E.161.

No office function is allocated to the key in position A51. Recommended functions are:

- space character, for possible use as triad separator;
- single zero, increasing the area from which the digit zero can be entered;
- double zero.

No function is allocated to the key in position A50. Recommended functions are:

- single zero, increasing the area from which the digit zero can be entered;
- double zero;
- triple zero, in addition to a single zero or in connection with the double zero on the key in position A51.

If this layout is not required to cater for trained personnel, or to have uniformity of layouts within an installation, the "1-2-3" layout (see 8.1) is recommended for the applications listed above.

Table 2 — The "7-8-9" layout

Key	Office function	Telematic function	Conventional office symbol	Conventional telematic symbol
A 50				
A 51		Initiator		star
A 52	digit zero	Digit zero	0	0
A 53	decimal separator	Terminator	ISO/IEC 9995-7:2009, symbol 62: ▽	octothorpe (#)
B 51	digit one	Digit one	1	1
B 52	digit two	Digit two	2	2
B 53	digit three	Digit three	3	3
C 51	digit four	Digit four	4	4
C 52	digit five	Digit five	5	5
C 53	digit six	Digit six	6	6
D 51	digit seven	Digit seven	7	7
D 52	digit eight	Digit eight	8	8
D 53	digit nine	Digit nine	9	9

	49	50	51	52	53	54	55	
E								E
D			7	8	9			D
C			4	5	6			C
B			1	2	3			B
A			*	0	▽ _{ou} #			A
	49	50	51	52	53	54	55	

NOTE Not drawn to scale — all lines are only indicative.

Figure 4 — The "7-8-9" layout

The decimal separator key allocated in position A53 is a function key and this key is intended in no way to be an alphanumeric key. Its function is, during input, to indicate that the integer part of a number being entered has ended and that any further series of digits entered immediately after it shall be for the decimal part of the number, without any dependency on the presentation of the decimal separator. The labelling of this function on the keyboard should use the function symbol 62 as defined in ISO/IEC 9995-7, or, in countries where no ambiguity exists, any other unique national symbol used to indicate this function (such as comma or full stop).

9 Arrangement, location and functions of the function zone ZN1

The keys shall be arranged in the function zone ZN1 and be located as specified in Figure 5.

The functions allocated to the keys of the function zone ZN1 of the numeric section are:

- add or enter;
- equals (or the equals sign);
- tabulation or alternative decimal separator;
- the four arithmetic operators (or the equivalent graphic characters).

The application will determine whether the functions:

- addition;
- subtraction;
- multiplication;
- division;
- equals,

or the equivalent graphic characters:

- plus sign;
- minus sign;
- multiply sign;
- divide sign;
- equals sign,

are generated.