
International Standard



646

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Information processing — ISO 7-bit coded character set for information interchange

Traitement de l'information — Jeu ISO de caractères codés à 7 éléments pour l'échange d'information

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 646 was developed by Technical Committee ISO/TC 97, *Information processing systems*, and was circulated to the member bodies in March 1982.

It has been approved by the member bodies of the following countries :

Belgium	Germany, F. R.	Romania
Canada	Hungary	South Africa, Rep. of
China	Ireland	Spain
Czechoslovakia	Italy	Sweden
Denmark	Japan	Switzerland
Egypt, Arab Rep. of	Netherlands	United Kingdom
Finland	Norway	USA
France	Poland	

No member body expressed disapproval of the document.

This second edition cancels and replaces the first edition (i.e. ISO 646-1973).

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Information processing — ISO 7-bit coded character set for information interchange

1 Scope and field of application

1.1 This International Standard specifies a set of 128 characters (control characters and graphic characters such as letters, digits and symbols) with their coded representation. Most of these characters are mandatory and unchangeable, but provision is made for some flexibility to accommodate national and other requirements.

1.2 This International Standard specifies a 7-bit coded character set with a number of options. It also provides guidance on how to exercise the options to define specific national versions and application-orientated versions. Furthermore it specifies the International Reference Version (IRV) in which such options have been exercised.

1.3 This character set is primarily intended for the interchange of information among data processing systems and associated equipment, and within data communication systems. The need for graphic characters and control functions in data processing has also been taken into account in determining this character set.

1.4 This character set is applicable to all alphabets of Latin letters.

1.5 This character set includes control characters for code extension where its 128 characters are insufficient for particular applications. Procedures for the use of these control characters are specified in ISO 2022.^[2]

1.6 The definitions of some control characters in this International Standard assume that data associated with them are to be processed serially in a forward direction. When they are included in strings of data which are processed other than serially in a forward direction or when they are included in data formatted for fixed-record processing they may have undesirable effects or may require additional special treatment to ensure that they result in their desired function.

2 Conformance and implementation

2.1 Conformance

A coded character set is in conformance with this International Standard if it is a version in accordance with clause 6. Equipment claimed to implement this International Standard shall be

able to interchange information by means of a version of the 7-bit coded character set, this version shall be identified in any such claim.

2.2 Implementation

The use of this character set requires definitions of its implementation in various media. For example, these could include punched tapes, punched cards, magnetic media and transmission channels, thus permitting interchange of data to take place either indirectly by means of an intermediate recording in a physical medium, or by local connection of various units (such as input and output devices and computers) or by means of data transmission equipment.

The implementation of this coded character set in physical media and for transmission, taking into account the need for error checking, is the subject of other International Standards (see the bibliography).

3 Definitions

For the purpose of this International Standard the following definitions apply.

3.1 bit combination : An ordered set of bits used for the representation of characters.

3.2 character : A member of a set of elements used for the organization, control or representation of data.

3.3 coded character set; code : A set of unambiguous rules that establishes a character set and the one-to-one relationship between the characters of the set and their bit combinations.

3.4 code extension : The techniques for the encoding of characters that are not included in the character set of a given code.

3.5 code table : A table showing the character allocated to each bit combination in a code.

3.6 control character : A control function the coded representation of which consists of a single bit combination.