International Standard ISO 1177

Information processing — Character structure for start/stop and synchronous character oriented transmission

Traitement de l'information — Structure des caractères pour la transmission arythmique et synchrone orientée caractère

Second edition — 1985-08-15

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 1177 was prepared by Technical Committee ISO/TC 97, *Information processing systems*.

ISO 1177 was first published in 1973. This second edition cancels and replaces the first edition, of which it constitutes a technical revision.

Information processing — Character structure for start/stop and synchronous character oriented transmission

1 Scope and field of application

This International Standard specifies the character structure to be used for serial-by-bit start/stop and synchronous data transmission systems using the 7-bit coded character set which is the subject of ISO 646[1], the 8-bit coded character set which is the subject of ISO 4873 and extensions to these coded character sets which are the subject of ISO 2022.

It also specifies the parity sense to be used with the 7-bit coded character set.

It applies to the information transfer through the interface standardized by CCITT and IEC/ISO between the data terminal equipment, DTE, and data circuit-terminating equipment, DCE, as defined in the relevant CCITT V and X series Recommendations.

2 References

ISO 646, *Information processing — ISO 7-bit coded character set for information interchange.*

ISO 2022, *Information processing — ISO 7-bit and 8-bit coded character sets — Code extension techniques.*[2]

ISO 2047, *Information processing — Graphical representations for the control characters of the 7-bit coded character set.*

ISO 4873, *Information processing — 8-bit code for information interchange — Structure and rules for implementation.*[3]

3 Bit sequencing — Start/stop and synchronous operation

In serial working data transmission systems, the chronological order of transmission of the information bits shall correspond to either

a) the bit identification b_1 to b_7 as defined in the 7-bit code table of ISO 646 with the least significant bit transmitted first; or

b) the bit identification b_1 to b_8 as defined in the 8-bit code table of ISO 4873 with the least significant bit transmitted first.

When the rank in the combination represents the order of the bit in binary numbering, the bits shall be transmitted in serial, working with the low order bit first.

The numerical meaning corresponding to each information bit considered in isolation is that of the digit

0   for a unit corresponding to condition A
(Travail = Space), and

1   for a unit corresponding to condition Z
(Repos = Mark),

in accordance with the definitions of these conditions for two-condition transmission systems.[4]

4 Parity bit — Start/stop and synchronous operation

For 7-bit working, a parity bit shall be added to every character and shall be located in the eighth position, b_8, and is therefore transmitted after the seven significant bits for the character.

5 Parity sense — Start/stop and synchronous operation

For start/stop systems using 7-bit working, the parity bit shall be chosen in such a way that the number of "ONE" bits is even in the sequence of eight bits thus formed.

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1) This character set is also standardized by CCITT : International Alphabet No. 5, Recommendation V 3.

2) At present at the stage of draft. (Revision of ISO 2022-1982.)

3) At present at the stage of draft.

4) Condition A is that which corresponds to the start signal of a standardized start/stop apparatus, and condition Z is that which corresponds to a stop signal. For further details see the CCITT list of definitions of essential telecommunication terms.