INTERNATIONAL STANDARD ISO 1177

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

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (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 set up 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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 97, *Computers and information processing*, has reviewed ISO Recommendation R 1177-1970 and found it technically suitable for transformation. International Standard ISO 1177 therefore replaces ISO Recommendation R 1177-1970, which was approved by the Member Bodies of the following countries :

Australia	Greece	Sweden
Belgium	Israel	Switzerland
Brazil	Italy	Thailand
Canada	Japan	Turkey
Czechoslovakia	New Zealand	United Kingdom
Denmark	Poland	U.S.A.
France	Romania	U.S.S.R.
Germany	Spain	

No Member Body expressed disapproval of the Recommendation.

Information processing — Character structure for start/stop and synchronous 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 transmissison systems using the 7-bit coded character set which is the subject of ISO 646, *7-bit coded character set for information processing interchange*[1].

It applies to the information transfer through the interface standardized by the CCITT and the IEC/ISO between the data terminal equipment and data communications equipment as defined in CCITT Recommendation V 24, and the relevant CCITT modem recommendations.

2 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 the bit identification b_1 to b_7 as defined in the 7-bit code table of ISO 646 with 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.

3 PARITY BIT — START/STOP AND SYNCHRONOUS OPERATION

A parity bit is added to every character and is located in the eight position, b_8, and is therefore transmitted after the seven signifiant bits for the character.

4 PARITY SENSE — START/STOP AND SYNCHRONOUS OPERATION

For asynchronous systems, the parity bit is chosen in such a way that the number of "ONE" bits is even in the sequence of eight bits thus formed.

For synchronous systems, the parity bit is chosen in such a way that the number of "ONE" bits is odd in the sequence of eight bits thus formed.

5 CHARACTER FRAMING

5.1 Start/Stop operation

In start/stop systems using the 7-bit coded character set (see ISO 646), ten or eleven unit elements shall be used per character.

The first information bit of the transmitted coded combinations shall be preceded by a start element corresponding to condition A (Travail = Space). The duration of this start element shall be one unit interval at the data signalling rate at the transmitting interface.

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