

*Transformed*

**ISO**

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

**ISO RECOMMENDATION  
R 1177**

**CHARACTER STRUCTURE  
FOR START/STOP AND SYNCHRONOUS TRANSMISSION**

1st EDITION

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## BRIEF HISTORY

The ISO Recommendation R 1177, *Character structure for start/stop and synchronous transmission*, was drawn up by Technical Committee ISO/TC 97, *Computers and information processing*, the Secretariat of which is held by the American National Standards Institute (ANSI).

Work on this question in collaboration with the CCITT\* led to the adoption of a Draft ISO Recommendation.

In October 1968, this Draft ISO Recommendation (No. 1734) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies .

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 opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in January 1970, to accept it as an ISO RECOMMENDATION.

\* International Telegraph and Telephone Consultative Committee.

## CHARACTER STRUCTURE FOR START/STOP AND SYNCHRONOUS TRANSMISSION

### 1. SCOPE

This ISO Recommendation specifies the character structure to be used for serial-by-bit start/stop and synchronous data transmission systems using the ISO 7-bit coded character set (specified in ISO Recommendation R 646 \*).

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 Recommendation R 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 eighth position,  $b_8$ , and is therefore transmitted after the seven significant 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.

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