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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1155

THE USE OF LONGITUDINAL PARITY TO DETECT ERRORS IN INFORMATION MESSAGES

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1155, *The use of longitudinal parity to detect errors in information messages*, 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 led to the adoption of a Draft ISO Recommendation.

In November 1968, this Draft ISO Recommendation (No. 1732) 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	Spain
Belgium	Israel	Sweden
Brazil	Italy	Switzerland
Canada	Japan	Thailand
Czechoslovakia	New Zealand	U.A.R.
Denmark	Peru	United Kingdom
France	Poland	U.S.A.
Germany	Romania	U.S.S.R.

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in November 1969, to accept it as an ISO RECOMMENDATION.

ISO Recommendation | R 1155 | November 1969

THE USE OF LONGITUDINAL PARITY TO DETECT ERRORS IN INFORMATION MESSAGES

INTRODUCTION

In data communication systems the information formats and the redundancy in the data to be transmitted differ widely from one application to another. It is therefore clear that a number of classes of error protection systems may be required.

This ISO Recommendation defines one method of error detection which satisfies a wide range of applications. It consists of accompanying the data block or text by one checking character (in addition to character parity) and it is often referred to as the "Longitudinal Parity Method".

1. SCOPE

This ISO Recommendation specifies a method of detecting errors in information messages by attaching one Block Check Character to the transmitted information block (or text) and checking this character when it is received. The method of correcting errors when they are detected is specified in ISO Recommendation R . . . *.

The method is applicable to systems which use the ISO 7-bit coded character set, which is the subject of ISO Recommendation R 646, and the basic mode of implementing this 7-bit code in data communication systems, which is the subject of ISO Recommendation R . . . **, *Basic mode control procedures for data communication systems.*

The rules for generating the character parity bits, according to ISO Recommendation R 1177, *Character structure for start/stop and synchronous transmission*, are that the character parity sense shall be odd in synchronous systems and even in asynchronous systems.

2. RULES FOR GENERATING THE LONGITUDINAL PARITY BLOCK CHECK CHARACTER

2.1 Block check character

2.1.1 The block check character shall be composed of 7 bits plus a parity bit.

2.1.2 Each of the first 7 bits of the block check character shall be the modulo 2 binary sum of every element in the same bit 1 to bit 7 column of the successive characters of the transmitted block.

2.1.3 The longitudinal parity of each column of the block, including the block check character, shall be even.

2.1.4 The sense of the parity bit of the block check character shall be the same as for the information characters (odd for synchronous transmission, even for asynchronous transmission).

* At present at the stage of draft proposal.
** At present, Draft ISO Recommendation No. 1745.