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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

**ISO RECOMMENDATION
R 1113**

**REPRESENTATION OF 6 AND 7 BIT CODED CHARACTER SETS
ON PUNCHED TAPE**

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BRIEF HISTORY

The ISO Recommendation R 1113, *Representation of 6 and 7 bit coded character sets on punched tape*, 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 March 1968, this Draft ISO Recommendation (No. 1418) 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	Israel	Switzerland
Belgium	Italy	Turkey
Czechoslovakia	Japan	U.A.R.
Denmark	Netherlands	United Kingdom
France	New Zealand	U.S.A.
Germany	Portugal	U.S.S.R.
India	Spain	
Ireland	Sweden	

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 September 1969, to accept it as an ISO RECOMMENDATION.

REPRESENTATION OF 6 AND 7 BIT CODED CHARACTER SETS ON PUNCHED TAPE

1. SCOPE

This ISO Recommendation specifies a method of representing the standard 6 and 7 bit coded character sets on punched tape 25.4 mm (1 in) wide.

2. REFERENCES

2.1 Character sets

This ISO Recommendation refers to the 6 and 7 bit coded character sets described in ISO Recommendation R 646, *6 and 7 bit coded character sets for information processing interchange*.

The characters of each of these sets contain respectively 6 and 7 bits. To allow protection against errors in the tape punching, an extra bit called a "parity bit" (odd or even) is added to each character, making 7 or 8 bits perforated in the tape.

2.2 Punched* tape

The tape to be used (of paper or other material) should correspond to the specifications in ISO Recommendation R . . . **, as regards physical characteristics of 25.4 mm (1 in) wide punched tape.

The tape contains, parallel to the edges, a track of small holes constituting a feed hole track. On either side of this track are respectively 3 and 5 code tracks capable of receiving holes. The positioning and dimensions of the holes are specified in ISO Recommendation R . . . ***.

3. SPECIFICATIONS

3.1 Lay-out of the tracks

3.1.1 *Feed hole track.* The punched tape shall contain feed holes.

3.1.2 *Reference edge.* The reference edge is that on the side of the feed hole track which has three code holes.

3.1.3 *Numbering of the code tracks.* The code tracks are numbered consecutively from 1 to 8 starting from the reference edge. Thus the feed hole track is between code tracks 3 and 4.

* In some countries the word "perforated" is used interchangeably with "punched".

** At present in preparation.

*** At present at the stage of draft proposal.

3.2 Representation of coded characters

3.2.1 Each position where a code hole can be punched is assigned for the representation of a bit.

The absence of a hole represents binary "ZERO". The presence of a hole represents binary "ONE".

3.2.2 Each transverse line of holes shall contain the representation of only one character with its parity bit.

3.2.3 Bits b_1 to b_7 of a character from the 7-bit code table are assigned respectively to tracks 1 to 7.

3.2.4 Bits b_1 to b_6 of a character from the 6-bit code table are assigned respectively to tracks 1 to 6.

3.3 Parity bit

A bit called the parity bit shall be added to each coded character.

3.3.1 *7-bit characters.* This bit shall be placed after the most significant bit, i.e. in track 8.

This bit shall be chosen so that the number of binary "ONES" in the same line is even (even parity).

3.3.2 *6-bit characters.* This bit shall be placed after the most significant bit, i.e. in track 7. In this case, track 8 always remains unpunched.

This bit shall be chosen so that the number of binary "ONES" in the same line is odd (odd parity).

3.4 Character sequence and direction of movement of tape

The direction of movement of the punched tape is opposite to the character sequence.

4. FIGURES

Figures 1 and 2 are provided for a better understanding of the above specification.

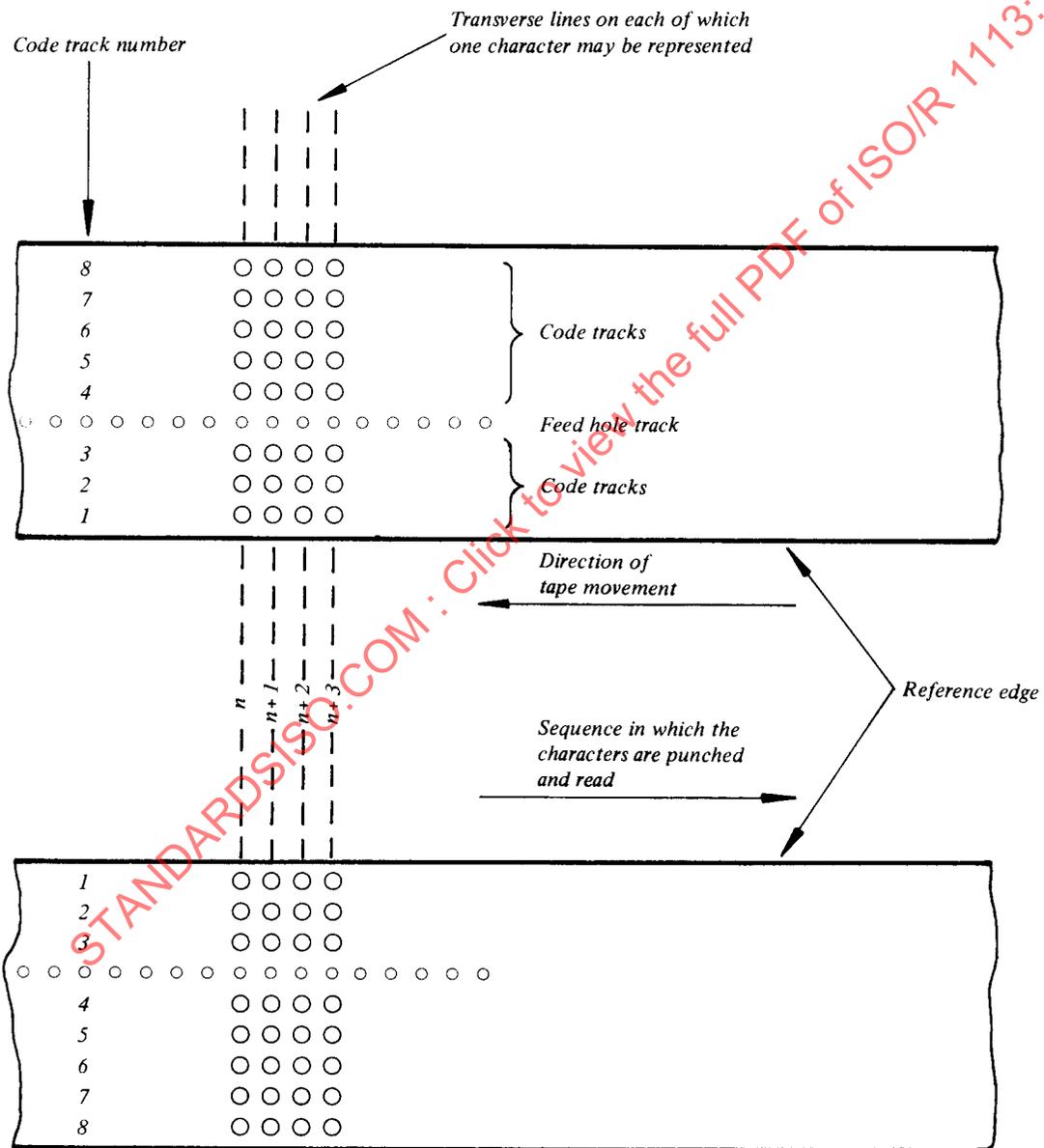


FIG. 1 – Character and track layout