

INTERNATIONAL STANDARD



1113

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Information processing — Representation of 6- and 7-bit coded character sets on punched tape

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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, International Standard ISO 1113 replaces ISO Recommendation R 1113-1969 drawn up by Technical Committee ISO/TC 97, *Computers and information processing*.

The Member Bodies of the following countries approved the Recommendation :

Australia	Ireland	Sweden
Belgium	Israel	Switzerland
Czechoslovakia	Italy	Turkey
Denmark	Japan	United Kingdom
Egypt, Arab Rep. of	Netherlands	U.S.A.
France	New Zealand	U.S.S.R.
Germany	Portugal	
India	Spain	

No Member Body expressed disapproval of the Recommendation.

Information processing — Representation of 6- and 7-bit coded character sets on punched tape

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the representation of 6- and 7-bit coded character sets on punched tape 25,4 mm (1 in) wide.

2 REFERENCES

2.1 Character sets

This International Standard refers to 6- and 7-bit coded character sets, the latter being the subject of ISO 646, *7-bit coded character set 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 Punched¹⁾ tape

The tape to be used (of paper or other material) shall correspond to the specifications in ISO 1729, *Information processing — Unpunched paper tape — Specification*, 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 1154, *Information processing — Punched paper tape — Dimensions and locations of feed holes and code holes*.

3 SPECIFICATIONS

(See also figures 1 and 2)

3.1 Layout 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.

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".

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

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 and 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.

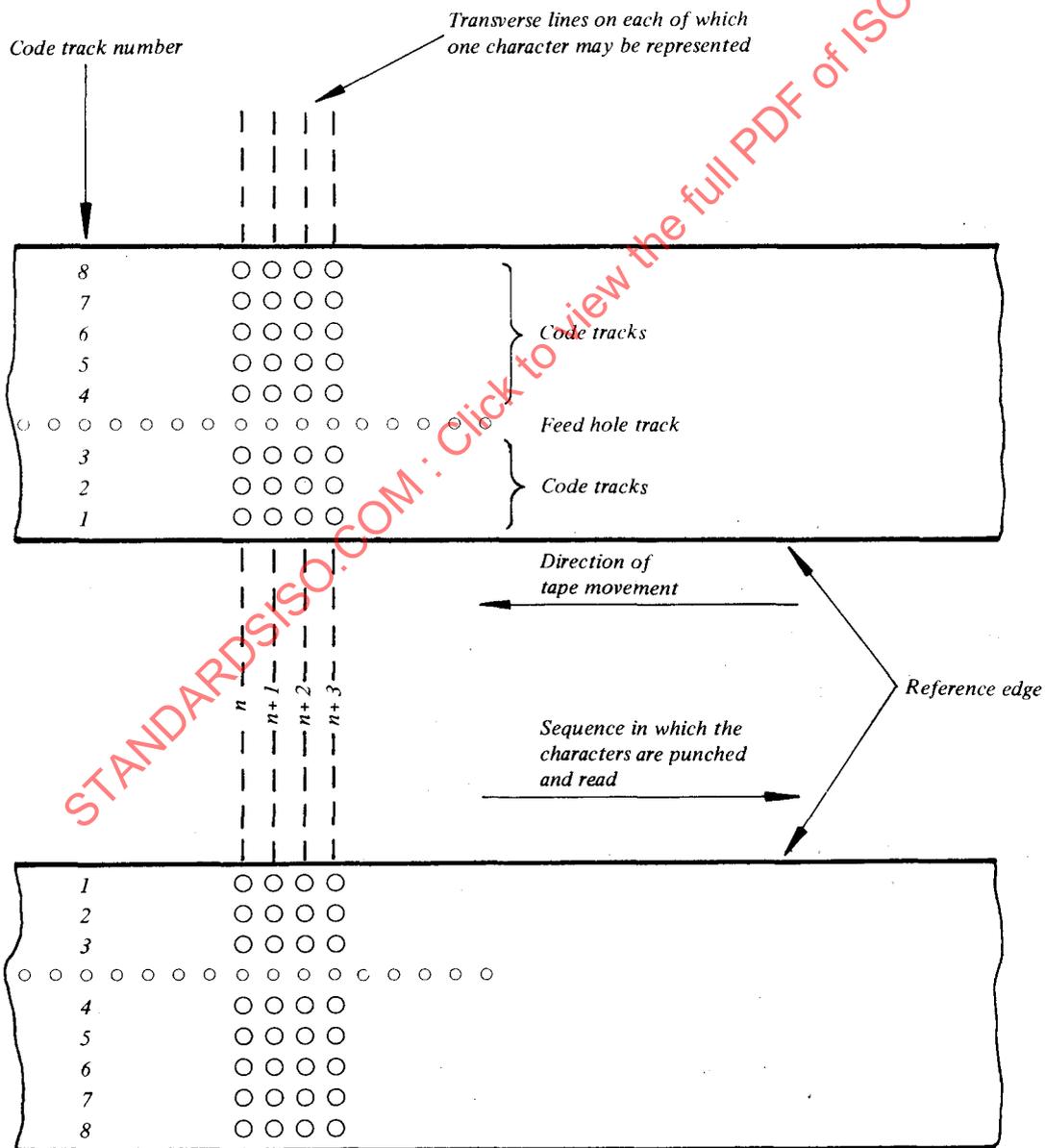
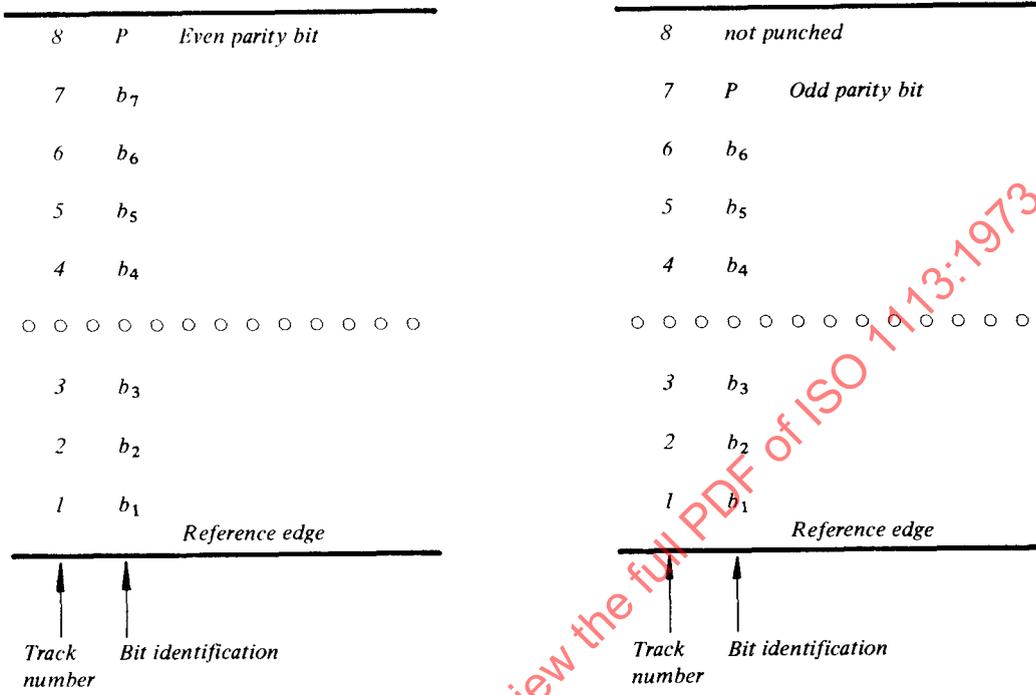


FIGURE 1 – Character and track layout

a) 7-bit characters

b) 6-bit characters



P represents a parity bit

FIGURE 2 – Bit to track assignment

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