Data processing — Implementation of the ISO 7-bit and 8-bit coded character sets on punched cards

Traitement de l'information — Matérialisation des jeux de caractères codés à 7 éléments et à 8 éléments sur cartes perforées

First edition — 1980-11-15

ISO 6586-1980 (E)

Price based on 5 pages

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.

International Standard ISO 6586 was developed by Technical Committee ISO/TC 97, *Computers and information processing*, and was circulated to the member bodies in November 1979.

It has been approved by the member bodies of the following countries :

Australia	Germany, F. R.	South Africa, Rep. of
Belgium	Hungary	Spain
Canada	Italy	Sweden
Cuba	Japan	Switzerland
Czechoslovakia	Netherlands	United Kingdom
Egypt, Arab Rep. of	New Zealand	USA
Finland	Poland	
France	Romania	

No member body expressed disapproval of the document.

Data processing — Implementation of the ISO 7-bit and 8-bit coded character sets on punched cards

1 Scope and field of application

This International Standard defines the implementation of the ISO 7-bit and 8-bit coded character sets on punched cards. It specifies the representation of 7-bit combinations and 8-bit combinations on 12-row punched cards. This representation is derived from, and compatible with, the code known as the "Hollerith Code". It will ensure compatibility with a large proportion of existing punched card files.

This International Standard does not specify any redundancy nor does it define techniques for error control.

This International Standard is intended for the general interchange of information among data processing systems, when using the ISO 7-bit or 8-bit coded character sets on 12-row punched cards as data carrier.

2 References

ISO 646, *7-bit coded character set for information processing interchange.*

ISO 1681, *Information processing — Unpunched paper cards — Specification.*

ISO 1682, *Information processing — 80 Columns punched paper cards — Dimensions and location of rectangular punched holes.*

ISO 2022, *Code extension techniques for use with the ISO 7-bit coded character set.*[1]

ISO 4873, *Information processing — 8-bit coded character set for information interchange.*

3 Punched cards

3.1 A punched card, as referred to in this International Standard, is an interchange document in which characters are represented in successive columns, each column having twelve possible punching positions.

This International Standard does not define the number of columns in a card, nor the shape of the holes punched in a card, nor any of its other physical characteristics. The above features are the subject of other International Standards.

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[1] At present at the stage of draft. (Revision of ISO 2022-1973.)

3.2 Twelve possible punching positions are available in each column of the card (see figure). For the purpose of this International Standard, they are designated as :

12, 11, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

The hole patterns specified in this International Standard are formed by punching the twelve available positions of a given column of a punched card in the following way :

— positions 12, 11, 0, 9, 8, may be punched in any combination, giving $2^5 = 32$ possibilities;

— only one of the positions 1, 2, 3, 4, 5, 6, 7 may be punched, which together with the NO PUNCH condition gives eight possibilities.

These rules provide for 256 hole patterns (32 × 8).

4 Specification

4.1 Implementation of the 8-Bit coded character set

Table 1 specifies for each of the 256 8-bit combinations the corresponding hole-pattern.

The columns and rows are numbered in binary and decimal notation. Each position in table 1 is identified by its column and row number (for example 06/11) and by the corresponding bit combination (for example 0110 1011, where the most significant bit is on the left).

4.2 Implementation of the 7-Bit coded character set

The hole-patterns shown in the first half of table 1 (i.e. columns 00 to 07) apply to the 128 7-bit combinations, which are obtained ignoring the most significant eighth bit (b_8).
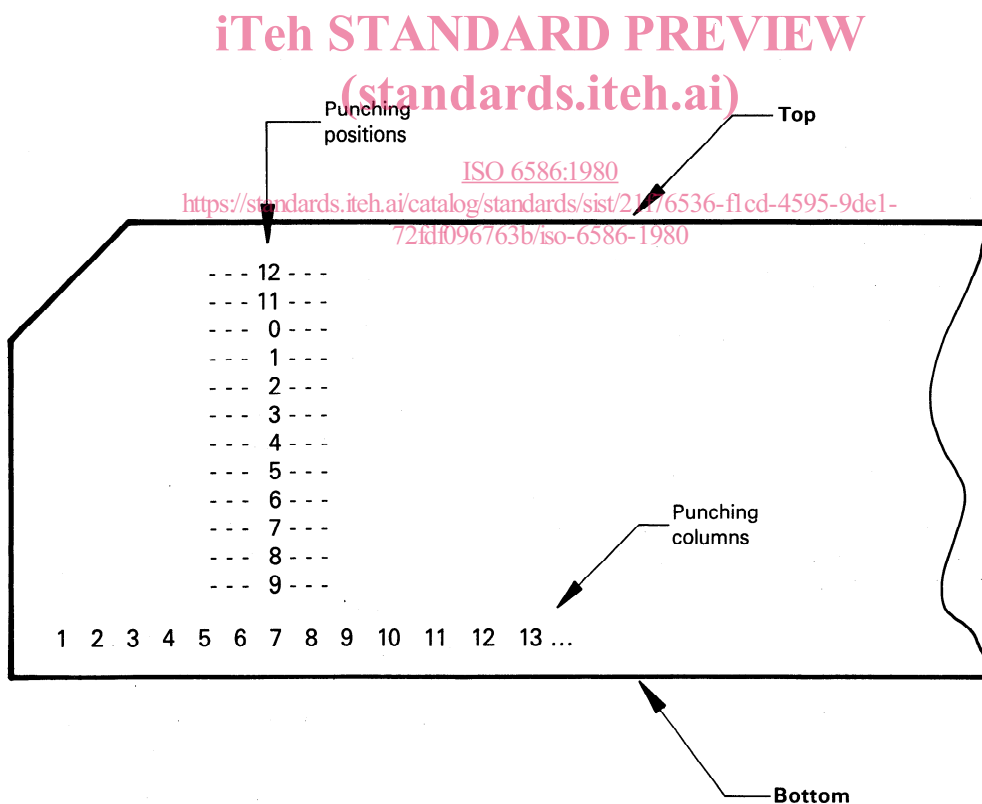

Figure — Layout of punching positions

Table 1 — Card-hole-pattern assigned to bit-combinations

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Annex

(Not part of the International Standard)

For ease of reference, and with a view to helping the reader, the correspondence defined in table 1 between 256 8-bit combinations and 256 hole-patterns, is shown hereafter in another form in table 2.

The layout of table 2 is as follows :

— the columns, the left half of the rows and the right half of the rows are labelled with card hole-patterns.

— the entries in the table represent the column/row position of a bit-combination of the 8-bit code table.

Table 2 — Bit-combinations assigned to card hole patterns

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