

JIS

JAPANESE INDUSTRIAL STANDARD

**Prepaid cards — Shopping use —
Magnetic recording format**

JIS X 6314—1996

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1. Scope This Japanese Industrial Standard specifies the magnetic recording format of prepaid cards specified in JIS X 6311 and JIS X 6313 (hereafter referred to as "card").

Remarks: The standards cited in this Standard are given as follows:

JIS X 0008 Glossary of terms used in information processing
(control, integrity and security)

JIS X 0201 Code for information interchange

JIS X 6310 Prepaid cards — General specifications

JIS X 6311 Prepaid cards — Shopping use — Physical characteristics and dimensions

JIS X 6313 Prepaid cards — Shopping use — Magnetic recording characteristics and information interchange

2. Definitions For the purpose of this Standard, the definitions given in JIS X 0008, JIS X 0201, JIS X 6310, JIS X 6311 and JIS X 6313 shall apply.

3. Character set and code to be used The character and code for recording information shall be the 8-bit code specified in JIS X 0201 (see Attached Table 1).

Remarks: It is desirable to encipher the 8-bit code for security. However, encipherment of start character, number of card issuer, speech information, end character and CRC code are not made.

4. Bit configuration Each code of information on a track shall be recorded from bit 1 (b_1) to bit 8 (b_8) in the given order. However, for the CRC code, the recording shall be made in the order of bit 16 (b_{16}) to bit 1 (b_1).

5. Magnetic recording method

5.1 Use of tracks Two or three tracks shall be used as stated below.

If two tracks are used, the second and third tracks shall be used.

- (1) First track This is the track which can be used freely by the card issuer. This track is a read-only track.
- (2) Second track This is the track for interchange of the information magnetically recorded on the card (hereafter referred to as "card information"). This track is a read-only track.
- (3) Third track This is the track for interchange and recording of the card information. This track is a read/write track.

5.2 Magnetic recording format The magnetic records on the first, second and third tracks shall be as given below.

The principal card information specified in these tracks are shown in Attached Table 2.

- (1) **First track** The first track shall be as follows:
- (a) **Start character** (Column No. 1) This is the character which indicates start of the data, and is expressed as 15/15 (all bits are 1) of Attached Table 1.
 - (b) **Optional data area** (Columns of No. 2 and thereafter, 68 characters at maximum) The area which can be used freely by the card issuer.
 - (c) **End character** The character which indicates end of the data, and is expressed as 15/15 (all bits are 1) of Attached Table 1.
 - (d) **CRC code** The character for cyclic redundancy check added for detection of misreading of data. The extent of CRC shall be from the start character to the end character. The CRC code shall consist of 2 bytes and shall be produced from the following generating function by using a shift register of 16 bits (see Informative reference):

$$\text{Generating function: } X^{16} + X^{12} + X^5 + 1$$

- (2) **Second track** The second track shall be as follows:
- (a) **Start character** (Column No. 1) This is the character which indicates start of the data, and is expressed as 15/15 (all bits are 1) of Attached Table 1.
 - (b) **Card issuer number** (Columns No. 2 to No. 7) The number by which the issuer of the card is identified and it shall have a fixed length of 6 digits. However, the column No. 7 shall express the lowest place of the number.
 - (c) **Optional data area** (Columns of No. 8 and thereafter, 62 characters at maximum) The area in which the card issuer records the basic items to grasp the card information and the area which can be used freely by the card issuer.
 - (d) **End character** The character which indicates the end of the data, and is expressed as 15/15 (all bits are 1) of Attached Table 1.
 - (e) **CRC code** The character for cyclic redundancy check added for detection of misreading of data. The extent of CRC shall be from the start character to the end character. The CRC code shall consist of 2 bytes and shall be produced from the following generating function by using a shift register of 16 bits (see Informative reference).

$$\text{Generating function: } X^{16} + X^{12} + X^5 + 1$$

- (3) **Third track** The third track shall be as follows:
- (a) **Start character** (Column No. 1) This is the character which indicates start of the data and is expressed as 15/15 (all bits are 1) of Attached Table 1.
 - (b) **Speech information** (Column No. 2) The character which identifies ON and OFF of the speech information output and the initial value is ON. The ON means the speech output and the character is indicated by 00/7 BEL in Attached Table 1. The OFF means negation of speech output and the character is expressed as 01/8 CAN of Attached Table 1.