

ICS 35.040

CCS A24



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/Z 19257-2003

Data transmission and interchange in supply chain

供应链数据传输与交换

Issued on: July 25, 2003

Implemented on: July 25, 2003

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

Table of Contents

Foreword	I
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbology identifiers	1
4.1 Structure of the symbology identifier	1
4.2 Code characters	2
4.3 Modifier characters	3
4.3.2.4 Interleaved 2 of 5	4
4.3.2.5 PDF417 and MicroPDF417	4
4.3.2.6 QR Code	4
4.3.2.7 MaxiCode	4
5 Modes of transmission and interchange of supply chain data	5
Annex A (informative) Standards relating to the modes of transmission and interchange of supply chain data	6
Annex B (informative) Brief introduction to the modes of transmission and interchange of supply chain data	9

1 Scope

This guiding technical document specifies technical guidance on the transmission and interchange of data in the supply chain, covering mainly the bar code symbology identifiers and the choice of the mode of data transmission and interchange in the supply chain.

This guiding technical document applies to the collection, transmission and interchange of data in the supply chain.

2 Normative references

The provisions in the following documents become provisions of this guiding technical document through reference in it. For dated references, subsequent amendments (excluding corrections) or revisions do not apply; however, parties reaching agreement on the basis of this guiding technical document are encouraged to study whether the latest editions may be used. For undated references, the latest edition applies.

GB/T 12905, Bar code terminology

ISO/IEC 15424:2000, Information technology - Automatic identification and data capture techniques - Data carrier identifiers (including symbology identifiers)

3 Terms and definitions

The terms defined in GB/T 12905 and the following terms and definitions apply in this standard.

3.1 symbology identifier - the ASCII character string added by the reading device in front of the data content of the bar code symbol; it is used to identify the different symbologies, and its content comprises the flag character, the code character and the modifier characters.

3.2 flag character - the first character of the symbology identifier, used to indicate that it and the characters following it are the symbology identifier.

3.3 code character - the second character of the symbology identifier, used to indicate the symbology of the bar code symbol read.

3.4 modifier characters - the remaining characters of the symbology identifier after the code character.

4 Symbology identifiers

When the reading device reads a bar code symbol, the device is required not only to decode the symbol read correctly but also to add the symbology identifier automatically in front of the decoded data.

4.1 Structure of the symbology identifier. The structure is as follows:]cm..., in which] is the flag character of the symbology identifier, with the ASCII value 93; c is the code character; and m and the characters following it are the modifier characters.

4.3.2.4 Interleaved 2 of 5. The meanings of the modifier characters are given in Table 5: 0, no check character validation; 1, modulo 10 check performed and transmitted; 3, modulo 10 check performed but not transmitted.

4.3.2.5 PDF417 and MicroPDF417. The meanings of the modifier characters are given in Table 6: 0, the reader is set to the protocol defined by the 1994 PDF417 symbology specification; 1, the reader is set to the protocol of the ENV 12925 extended interpretation, with all data characters 92 doubled; 2, the reader is set to the protocol of the ENV 12925 basic interpretation, with data character 92 not doubled; 3, as Code 128, with FNC1 in the first position; 4, as Code 128, with FNC1 after the first letter or digit pair; 5, as Code 128, with no FNC1. Note: modifier character values 3, 4 and 5 apply only to MicroPDF417.

4.3.2.6 QR Code. The meanings of the modifier characters are given in Table 7: 0, a Model 1 symbol; 1, a Model 2 symbol without the ECI protocol; 2, a Model 2 symbol with the ECI protocol; 3, a Model 2 symbol without the ECI protocol, with FNC1 implied in the first

position; 4, a Model 2 symbol with the ECI protocol, with FNC1 implied in the first position; 5, a Model 2 symbol without the ECI protocol, with FNC1 implied in the second position; 6, a Model 2 symbol with the ECI protocol, with FNC1 implied in the second position.

4.3.2.7 MaxiCode. The meanings of the modifier characters are given in Table 8: 0, a Mode 4 or Mode 5 symbol; 1, a Mode 2 or Mode 3 symbol; 2, a Mode 4 or Mode 5 symbol with the ECI protocol; 3, a Mode 2 or Mode 3 symbol with the ECI protocol applied to the secondary message.

5 Modes of transmission and interchange of supply chain data

The basic content of supply chain management is the control of the information flow, the material flow and the flow of funds. Control of the information flow includes the collection, transmission and processing of data, and the rapid and accurate transmission of data information is what guarantees an unobstructed information flow in supply chain management. The main routes for transmitting the data concerned in supply chain management are: transmission by traditional EDI, transmission by electronic mail, transmission by XML, and transmission in the form of a two-dimensional bar code (paper EDI).

For the standards relating to the modes of transmission and interchange of supply chain data see Annex A; for a brief introduction to those modes see Annex B.

Annex A (informative) Standards relating to the modes of transmission and interchange of supply chain data

A.1 Standards relating to traditional EDI. The standards relating to traditional EDI fall mainly into the following groups.

A.1.1 Basic standards: GB/T 14915, Electronic data interchange terminology; GB/T 14805, Application level syntax rules for electronic data interchange for administration, commerce and transport; GB/T 16703, Syntax implementation guidelines for electronic data interchange for administration, commerce and transport; GB/T 15947, Message design rules for electronic data interchange for administration, commerce and transport.

The nine parts of GB/T 14805, Application level syntax rules (syntax version number 4), are: Part 1, Common syntax rules and syntax service directory; Part 2, Syntax rules specific to batch electronic data interchange; Part 3, Syntax rules specific to interactive electronic data interchange; Part 4, Syntax and service report message for batch electronic data interchange; Part 5, Security rules for batch electronic data interchange (authenticity, integrity and non-repudiation of origin); Part 6, Secure authentication and acknowledgement message; Part 7, Security rules for batch electronic data interchange (confidentiality); Part 8, Associated data in electronic data interchange; Part 9, Security key and certificate management message.

Further basic standards are: GB/T 15191, Trade data element directory - Standard data elements; GB/T 15635.1 and 15635.2, Composite data element directory for electronic data interchange for administration, commerce and transport, Parts 1 and 2, for batch and for interactive interchange; GB/T 15634.1 and 15634.2, Segment directory for electronic data interchange for administration, commerce and transport, Parts 1 and 2, for batch and for interactive interchange; and GB/T 16833, Code lists for electronic data interchange for administration, commerce and transport.

A.1.2 Document standards: GB/T 17298-1998, Rules for the preparation of document standards.