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

**JT/T 1276-2019**

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**Technical specification on the use of binary information of  
automatic identification system in China**

自动识别系统（AIS）中国区域二进制信息技术规范 清晰版  
**(English Translation)**

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### Foreword

This standard is in accordance with GB/T Draft the rules given in 1-2009.

This standard is proposed by and under the jurisdiction of the Technical Committee for Transportation Aerial Survey Standardization.

This standard was drafted. Tianjin Maritime Safety Administration of the People's Republic of China, Beijing Shengcheng Ebon Communication Technology Co., Ltd.

### 1 Scope

This standard specifies the structure, classification, and coding rules of binary application information for the Automatic Identification System (AIS) in China.

This standard applies to related equipment and systems in China's coastal waters that use the AIS system to broadcast or receive binary message information.

### 2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

IEC 61162-1:2010 Digital interface for marine navigation and radio communication equipment and systems-Part 1. Single-channel microphones and multiple channels Microphone (Single Talker and Multiplies Listers) ITUZR M. 1371 ~ 5 Technical

characteristics of automatic identification system using time division multiple access in the VHF maritime mobile band (Technical characteristics for an mobile band)

### 3 Acronyms

The following abbreviations apply to this document.

ABK. Addressing Binary Broadcast Acknowledgment (Adreed Bind Acknowledgement)  
 ABM. Addressing Binary Security-Related Messages (Adrysed Message) AIS. Automated Ship Identification System (Automatic Identification System) AI. Application identifier (Applicator Identifier) BBM. Broadcast Binary Message (Broadcast Message) CRC. Cyclic Redundancy Check DAC. Assigned Area Code DGPS. Differential Global Positioning System (Global Positioning System) FI. Function Identifier HDLC. Advanced Data Link Control (Higzvelve Data Link Controll) IMO. International Maritime Organization (Marginium Organza) MSI. Maritime Mobile Communication Service Identification Code (Maritime Mobile Service IDenty) RBN. Radio Beacon VDM. VHF Data Link Message (VHF Datagram) VDO. VHF data link own ship message (VHF Data @ link Onsel Vessel Message) VHF. Very High Frequency (Very High Frequency)

### 4 Binary message structure

#### 4.1

##### General

Binary messages refer to ITUR M. Messages 6 and 8 as defined by 1371-5. Message 6 is a binary addressing message, 8 JT/T 1276-2019 the text is a binary broadcast message, and its message format should conform to ITUR M. Provisions of 1371 ~ 5.

The serial data interface between the binary information systems shall meet the requirements of IEC 6116-1.:2010. For the requirements of serial statements, see Appendix A.

#### 4.2

Binary message format A binary message consists of three parts.

- Standard AIS data frame format;
- Application Identifier (AI);
- Application data (variable length).

The combination of the application identifier and the application data constitutes binary application information.

The format of No. 6 message is shown in Table 1, and the format of No. 8 message is shown in Table 2.

Table 16 Message Format

Message format parameter number of bits (bit) Data frame header of standard AIS Rising Phase 8 Synchronization sequence 24 Frame start bit 8 according to HDLC (7Eh) Message ID 66 Message identifier; fixed to 6 Forward indicator 2 Used by the repeater to indicate how many times the message has been forwarded. 0. default value;

3. no longer forward Source ID 30 MSI number of source station Serial number 2 0-3 Destination ID 30 The MSI number of the destination station Retransmission flag 1 The retransmission flag should be set according to the retransmission situation. 0. default value; 1. retransmitted Spare fill bit 1 is not used. Should be set to zero. Reserved for future use Binary application information Application identifier 16 Application data Data frame tail of standard AIS Check digit 16 CRC check End-of-frame bit 8 according to HDLC (7Eh) Buffer bits 24-bit padding, distance delay, repeater delay, and jitter

Table 2 Message format 8

Message format parameter bit number (bit) rules Data frame header of standard AIS Rising Phase 8 Synchronization sequence 24 Frame start bit 8 according to HDLC (7Eh) Message ID 68 Message identifier; fixed to 8 Forward indicator 2 Used by the repeater to indicate how many times the message has been forwarded. 0. default value;

3. no longer forward JT/T 1276-2019

Table 2 (continued)

Message format parameter bit number (bit) rules Data frame header of standard AIS Source ID 30 MSI number of source station Spare fill bit 2 is not used. Should be set to zero. Reserved for future use Binary application information Application identifier 16 Application data Data frame tail of standard AIS Check digit 16 CRC check End-of-frame bit 8 according to HDLC (7Eh) Buffer bits 24-bit padding, distance delay, repeater delay, and jitter

### 4.3

#### Application identifier

##### 4.3.1

###### AI

AI identifies the type of binary application information, consisting of DAC and FI, with a total length of 16 bits, of which DAC is 10 bits and FI for 6bit.

##### 4.3.2

###### DAC

DAC is a field of 10 bits in length. According to IMO regulations, the DAC allocated to China is 412, 413, and 414.

**4.3.3**

FI

FI is a 6 bit field that indicates the type of binary application information.

**4.4**

Slot occupation requirements the number of time slots of a binary message is determined by the length of the binary message (including the application identifier and application data).

Use fewer timeslots and take full advantage of the length of the data bytes.

The number of timeslots occupied by No. 6 and No. 8 messages should conform to ITURM. 1371 ~ 5 requirements. See the requirements for the number of timeslots in message 6

Table 3 and Table 8 refer to Table 4 for the number of timeslot occupation requirements.

Table 3 Number of time slots occupied by No. 6 message

Number of time slots maximum binary data bytes (B) JT/T 1276-2019

Table 4 Number of time slots occupied by No. 8 message

Number of time slots maximum binary data bytes (B)

**5 Binary application information types**

Table 5 shows the 22 types of binary application information types defined in China.

Table 5 Types of binary application information in China

DAC FI Application Information Type Message No. 6 Message No. 8 412 00 spare spare  
 spare 412 01 Marine weather forecast support 412 02 Marine Environment Forecast  
 Support 412 03 Marine weather warning support 412 04 Hydrological and Meteorological  
 Forecasting Support 412 05 Navigation support working status support 412 06 Obstacle  
 information support 412 07 Support for water and underwater activities 412 08 Marine  
 towing support 412 09 Support for military activities 412 10 Ship distress support 412 11  
 Delineated area (circular, rectangular) Supported 412 12 Demarcation area (irregular)  
 Support Support 412 13 Meteorological information collection support is not supported 412  
 14 Route recommendation (ship request) Supported Not supported 412 15 Route  
 recommended support not supported 412 16 Route weather (ship request) Supported Not  
 supported 412 17 Route weather support is not supported 412 18 Expansion of ship static  
 data and navigation-related information (report request) Supported Not supported 412 19  
 Ship report support not supported 412 20 ~ 24 Spare Spare Spare 412 25 Beacon  
 Telemetry Remote Control Support Not Supported 412 26 ~ 63 Standby Standby JT/T  
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