1. Location information report [0200]

The location information report message body consists of basic location information and a list of additional location information items. The message structure is shown in Figure 1-1 .

Location basic information	List of additional location information items

Figure 1-1 Location report message structure

The location additional information item list is composed of various location additional information items, or may be absent, which is determined by the length field in the message header.
The data format of basic location information is shown in Table 1-2 .

Table 1-2 Location basic information data format

START BYTE	FIELDS	TYPE OF DATA	ILLUSTRATE
0	Alarm sign	DWORD	1-3 for the definition of alarm flags
4	state	DWORD	1-4 for status bit definitions
8	latitude	DWORD	The dimension value in degrees is multiplied by 10 to the sixth power, accurate to one millionth of a degree
12	longitude	DWORD	The dimension value in degrees is multiplied by 10 to the sixth power, accurate to one millionth of a degree
16	Elevation	WORD	Altitude, in meters (m)
18	speed	WORD	1/10 (km/h)
20	direction	WORD	0 — 359, 0 is due north, clockwise
twenty one	time	BCD[6]	YY-MM-DD-hh-mm-ss (GMT+8, all times mentioned in this standard will be based on this time zone)

Table 1-3 Alarm standard bit definition

Bit	definition	Processing instructions
0	1: Emergency alarm, triggered by	Cleared after receiving a response

	pressing the alarm switch	
1	1: Overspeed alarm	The flag remains until the alarm condition is removed.
2	Fatigue driving	The flag remains until the alarm condition is removed.
3	1: Early warning	Cleared after receiving a response
4	1: GNSS module failure	The flag remains until the alarm condition is removed.
5	1: GNSS antenna is not connected or is cut off	The flag remains until the alarm condition is removed.
6	1: GNSS antenna short circuit	The flag remains until the alarm condition is removed.
7	1: Terminal main power supply undervoltage	The flag remains until the alarm condition is removed.
8	1: The terminal main power is off	The flag remains until the alarm condition is removed.

Table 1-4 Status bit definition

Bit	state
0	0: ACC off 1: ACC on
1	0: Not positioned 1: Positioned
2	0: North Latitude 1: South Latitude
3	0: East longitude 1: West longitude
4	0: Operational status 1: Out of service status
5	0: longitude and latitude are not encrypted by the confidentiality plug-in; 1: longitude and latitude are encrypted by the confidentiality plug-in

6-7	reserve
8-9	00: empty; 01: half loaded; 10: reserved; 11: fully loaded (Can be used to indicate the empty and full status of passenger cars and trucks, manually input or obtained by sensors)
10	0: The vehicle oil circuit is normal 1: The vehicle oil circuit is disconnected
11	0: Vehicle circuit normal 1: Vehicle circuit disconnected

The format of the additional location information item is shown in Table 1-5 .

Table 1-5 Location Additional Information Item Format

FIELDS	TYPE OF DATA	DESCRIPTION AND REQUIREMENTS
Additional information ID	BYTE	1～255
Additional information length	BYTE	
Additional Information		1-6 for additional information definitions

Table 1-6 Definition of additional information

Additional information ID	Additional information length	DESCRIPTION AND REQUIREMENTS

0x01	4	Mileage, DWORD, 1/10km, corresponding to the odometer reading on the vehicle
0x02	2	Oil level, WORD, 1/10L, corresponding to the oil gauge reading on the vehicle
0x03	2	Speed obtained by driving record function, WORD, 1/10km/h
0x04	~~3~~	~~Drum status: The first byte is forward or reverse, 1 is forward, 0 is reverse; the next two bytes indicate the speed, unit: 100ms/revolution~~
	2	The ID of the alarm event that needs manual confirmation, WORD, counting starts from 1New Beidou Xieyi
0x05～0x10		reserve
0x11	1 or 5	See Table 21 for additional information on speeding alarm
0x12	6	See Table 22 for additional information on entry and exit area/route alarms
0x13	7	See Table 23 for additional information on insufficient/excessive road section travel time alarms
0x14-0x24		reserve
0x25	4	Extended vehicle signal status bit, see Table 1-7 for definition
0x2A	2	IO status bits
0x2B	4	Analog, bit0-15, AD0; bit16-31, AD1
0x30	1	BYTE , wireless communication network signal strength
0x31	1	BYTE , number of GNSS positioning satellites
0x64		Advanced driver assistance system warning information
0x65		Driver status monitoring system alarm information

Table 1-7 Extended vehicle signal status bits

Bit	definition
0	1: Low beam signal
1	1: High beam signal
2	1: Right turn signal
3	1: Left turn signal

4	1: Brake signal

2. Alarm instructions

The alarm report is reported simultaneously with the location information. As the additional information of the 0x0200 location information report, the additional information definition table in Table 20 of JT/T 808-2011 is extended. The additional information extension definition is shown in Table 2 -1 .

Table 2 -1 Additional information definition table extension

Additional information ID	Additional information length	Description and requirements
0x64		Advanced driver assistance system warning information, see Table 2-2 for definitions
0x65		Driver status monitoring system alarm information, see Table 2-3 for definitions

2.1 Advanced Driver Assistance System Alarm

Table 2 -Advanced driver assistance warning information data format

Start Byte	Fields	Data length	Description and requirements
0	Alarm ID	DWORD	The count starts from 0 and accumulates in a loop according to the order of alarms, regardless of the alarm type.
4	Flag Status	BYTE	0x00: Not available 0x01: Start flag 0x02: End mark This field is only applicable to alarms or events with start and end marks . If the alarm type or event type does not have start and end marks, this bit is unavailable and can be filled with 0x00.
5	Alarm /Event Type	BYTE	0x01: Forward collision warning 0x02: Lane departure warning 0x03: Vehicle distance too close alarm 0x04: Pedestrian collision alarm

			0x05: Frequent lane change alarm 0x06: Road sign overrun alarm 0x 07 : Obstacle alarm 0x08~0x0F: User-defined 0x10: Road sign recognition event 0x 11 : Active capture event 0x12~0x1F: User-defined
6	Alarm level	BYTE	0x01: Level 1 alarm 0x02: Level 2 alarm
7	Front vehicle speed	BYTE	Unit: Km/h . Range: 0~ 250 . Only valid when the alarm type is 0x01 and 0x02.
8	Distance from the vehicle/pedestrian ahead	BYTE	The unit is 100ms, the range is 0~ 100 , and it is valid only when the alarm type is 0x01 , 0x02 and 0x04.
9	Deviation type	BYTE	0x 01 : Left deviation 0x02: Right deviation Only valid when the alarm type is 0x02
10	Road sign recognition type	BYTE	0x01: Speed limit sign 0x 02 : Height limit sign 0x 03 : Weight limit sign Only valid when the alarm type is 0x 06 and 0x10
1 1	Road sign recognition data	BYTE	Data on road sign recognition
1 2	Speed	BYTE	Unit: Km/h . Range: 0~ 250
1 3	Elevation	WORD	Altitude, in meters (m)
1 5	latitude	DWORD	The latitude value in degrees is multiplied by 10 to the sixth power, accurate to one millionth of a degree
1 9	longitude	DWORD	The latitude value in degrees is multiplied by 10 to the sixth power, accurate to one millionth of a degree
twenty three	Date and Time	BCD[6]	YY-MM-DD - hh-mm-ss (GMT+ 8 time)
2 9	Vehicle status	WO R D	See Table 5 -9
31	Alarm identification number	BYTE[16]	2-4 for the definition of alarm identification number.

Table 2-4 Alarm identification number format

Start Byte	Fields	Data length	describe
0	Terminal ID	BYTE[7]	7 bytes , consisting of uppercase letters and

			numbers
7	time	BCD [6]	YY-MM-DD-hh-mm-ss (GMT+8 time)
13	Serial number	BYTE	The sequence number of the alarm at the same time point is accumulated from 0.
14	Number of attachments	BYTE	Indicates the number of attachments corresponding to the alarm
15	Reserve	BYTE	

2.2 Driver status monitoring system alarm

Table 2-3 Driving status monitoring system alarm information data format

Start Byte	Fields	Data length	Description and requirements
0	Alarm ID	DWORD	The count starts from 0 and accumulates in a loop according to the order of alarms, regardless of the alarm type.
4	Flag Status	BYTE	0x00: Not available 0x01: Start flag 0x02: End mark This field is only applicable to alarms or events with start and end marks . If the alarm or event type does not have start and end marks, this bit is unavailable and can be filled with 0x00.
5	Alarm /Event Type	BYTE	0x01: Fatigue driving alarm 0x02: Make a phone call to the police 0x03: Smoking alarm 0x04: Distracted Driving Alarm 0x05: Driver abnormal alarm 0x06~0x0F: User-defined 0x 10: Automatic capture event 0x 11: Driver change event 0x1 2 ~0x1F: User-defined
6	Alarm level	BYTE	0x01: Level 1 alarm 0x02: Level 2 alarm
7	Fatigue level	BYTE	The range is 1 to 10. The larger the value, the more serious the fatigue level. It is only valid when the alarm type is 0x 01.
8	Reserve	BYTE [4]	Reserve
12	Speed	BYTE	Unit: Km/h . Range: 0~ 250
1 3	Elevation	WORD	Altitude, in meters (m)

1 5	latitude	DWORD	The latitude value in degrees is multiplied by 10 to the sixth power, accurate to one millionth of a degree
1 9	longitude	DWORD	The latitude value in degrees is multiplied by 10 to the sixth power, accurate to one millionth of a degree
twenty three	Date and Time	BCD[6]	YY-MM-DD-hh-mm-ss (GMT+8 time)
2 9	Vehicle status	WORD	See Table 5 -9
31	Alarm identification number	BYTE[16]	2-4 for the definition of alarm identification number.

3. Alarm attachment upload instructions

Message ID: 0x9208.

Message type: signaling data message.

the platform receives the alarm /event information with attachments , it sends the attachment upload instruction to the terminal . The instruction message body data format is shown in Table 3-1 .

Table 3-1 File upload instruction data format

Start Byte	Fields	type of data	Description and requirements
0	Attachment server IP address length	BYTE	Length k
1	Attachment server IP address	STRING	Server IP address
1+k	Attachment Server Port (TCP)	WORD	Server port number when using TCP transmission
3+k	Attachment Server Port (UDP)	WORD	Server port number when using UDP transmission
5+k	Alarm identification number	BYTE[16]	2-4 for the definition of alarm identification numbers.
21 +k	Alarm number	BYTE[32]	The unique number assigned by the platform to the

			alarm
5 3 +k	Reserve	BYTE [16]	

After receiving the alarm attachment upload instruction issued by the platform, the terminal sends a general response message to the platform.

4. Alarm attachment information message

Message ID: 0x1210.

Message type: signaling data message.

The terminal connects to the attachment server according to the attachment upload instruction and sends an alarm attachment information message to the server. The message body data format is shown in Table 4-1 .

Table 4 -1 Alarm attachment information message data format

Start Byte	Fields	Data length	Description and requirements
0	Terminal ID	BYTE [7]	7 bytes, consisting of uppercase letters and numbers. This terminal ID is defined by the manufacturer. If the number of digits is insufficient, "0x00" is added at the end.
7	Alarm identification number	BYTE[16]	alarm identification number is shown in Table 4 -1
twenty three	Alarm number	BYTE [32]	The unique number assigned by the platform to the alarm
55	Information Type	BYTE	0x00: Normal alarm file information 0x01: Supplement alarm file information
5 6	Number of attachments	BYTE	The number of attachments associated with the alarm
57	Attachment information list		See Table 4-2

After receiving the alarm attachment information message uploaded by the terminal , the attachment server sends a general response message to the terminal . If the terminal is abnormally disconnected from the attachment server during the process of uploading the alarm attachment , the alarm attachment information message needs to be resent when the connection is restored. The attachment files in the message are the attachment files that were not uploaded and

completed before the disconnection.

Table 4-2 Alarm attachment message data format

Start Byte	Fields	Data length	Description and requirements
0	File name length	BYTE	Length k
1	file name	STRING	File name string
1+k	File size	DWORD	The current file size

The file naming rules are :

<file type>_<channel number>_<alarm type>_<sequence number>_<alarm number>.<suffix name>

The fields are defined as follows:

File type : 00——Picture; 01——Audio; 02——Video; 03——Text; 04——Other.

Channel Number :

64 indicates the ADAS module video channel .

65 indicates the DSM module video channel .

If the attachment is not related to the channel , just fill in 0.

Alarm type : A code consisting of the peripheral ID and the corresponding module alarm type. For example, the forward collision alarm is represented by "6401".

Serial number : used to distinguish file numbers of the same channel and type.

Alarm number : The unique number assigned by the platform to the alarm.

Suffix name : jpg or png for picture files , wav for audio files, h264 for video files , and bin for text files.

receiving the alarm attachment information command reported by the terminal , the attachment server sends a general response message to the terminal

5. Upload file information

Message ID: 0x1211.

Message type: signaling data message.

After the terminal sends the alarm attachment information command to the attachment server and receives a response, it sends the attachment file information message to the attachment server. The message body data format is shown in Table 4-25 .

Table 4 -25 Attachment file information message data format

Start Byte	Fields	Data length	Description and requirements
0	File name length	BYTE	The length of the file name is l
1	file name	STRING	file name
1 + l	file type	BYTE	0x00: Picture 0x01: Audio 0x02: Video 0x03: Text 0x04: Other
2 + l	File size	DWORD	The size of the current uploaded file .

After receiving the attachment file information instruction reported by the terminal , the attachment server sends a general response message to the terminal .

5. File upload completion message

Message ID: 0x1212.

Message type: signaling data message.

When the terminal completes sending a file data to the attachment server, it sends a file sending completion message to the attachment server. The message body data format is shown in Table 5-1 .

Table 5-1 File sending completion message body data structure

Start Byte	Fields	Data length	Description and requirements
0	File name length	BYTE	l
1	file name	STRING	file name
1 + l	file type	BYTE	0x00: Picture

			0x01: Audio 0x02: Video 0x03: Text 0x04: Other
2 + 1	File size	DWORD	The size of the current uploaded file .

6. File upload completion message response

Message ID: 0x9212.

Message type: signaling data message.

When the attachment server receives the file sending completion message reported by the terminal, it sends a file upload completion message response to the terminal. The response message body data structure is shown in Table 6-1 .

Table 6-1 File upload completion message response data structure

Start Byte	Fields	Data length	Description and requirements
0	File name length	BYTE	1
1	file name	STRING	file name
1 + 1	file type	BYTE	0x00: Picture 0x01: Audio 0x02: Video 0x03: Text 0x04: Other
2 + 1	Upload results	BYTE	0x00: Completed 0x01: Need to retransmit
3 + 1	Number of retransmitted data packets	BYTE	need to be retransmitted . If there is no retransmission, the value is 0.
4+1	List of retransmission data packets		See Table 6-2

Table 6-2 Data structure of supplementary data packet information

Start Byte	Fields	Data length	Description and requirements
0	Data offset	DWORD	needs to be re-transmitted in the file
1	Data length	DWORD	The length of the data to be retransmitted

If there is data that needs to be retransmitted, the terminal should retransmit the data by uploading the file data. After the retransmission is completed, the file upload completion message will be reported until the file data is sent.

After all files are sent, the terminal actively disconnects from the attachment server.