National Marine Electronics Association

International Marine Electronics Association

Technical Bulletin

Technical Corrigendum TC# 0183 201310 01

NMEA 0183 Version 4.10
AGA Sentence
BCL Sentence
ABK Sentence

Introduction:

This Technical Corrigendum includes several enhancements to two sentences (AGA and BCL) used to configure AIS Base Stations. The changes are directly related to updates in the ITU-R M.1371 Standard, defining behavior of AIS Class A and Class B "SO" mobile stations when in a defined range of an AIS Base Station with respect to ITU 1371 Message 27 broadcasts.

This Technical Corrigendum includes enhancements to the ABK sentence to support ITU 1371 Message 25 and 26.

Change summary

AGA Sentence
Note 2 has been expanded to specify Base Station Area for certain stations.
Note 7 has been added to address geographic position resolution.

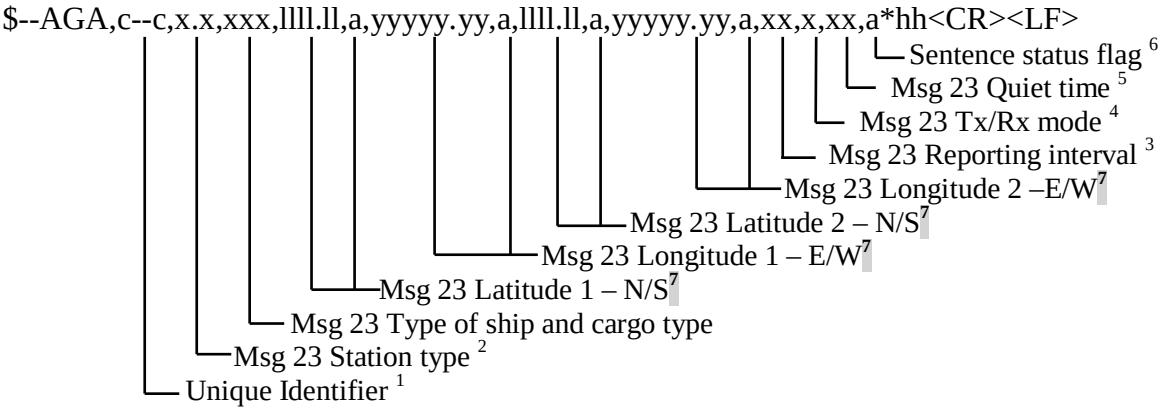
BCL Sentence
The sentence has been extended with the "Message 27 Control" data field.
Note 7 has been added for this new field.

ABK Sentence
The description includes support for Messages 25 and 26.
The Table in Note 4 and Note 5 has been updated for Messages 25 and 26.

The complete sentences and text are provided for context, with the changes highlighted and in a **bold font**.

AGA – AIS Base Station Broadcast of a Group Assignment Command

This sentence is used to provide an AIS Base Station with information it uses to broadcast a "group assignment Message 23". Upon receiving this sentence, the Base Station should prepare the content of a Message 23. Broadcast scheduling for Message 23 is defined using an ECB sentence. This is a command sentence.



Notes:

1) The Unique Identifier is used for system level identification of a station, 15 characters maximum. (See the SID Sentence). On input, this sentence should be accepted only if this data field matches the Base Station's Unique Identifier. On output, this data field is the Base Station's Unique Identifier.

2) The field identifies the group of mobile stations for the group assignment.
   0 = all types of mobiles (default)
   1 = Class A mobile station only
   2 = all types of Class B mobile stations
   3 = SAR airborne mobile station
   4 = Class B "SO" mobile stations only
   5 = Class B"CS" shipborne mobile station only
   6 = Inland waterways
   7-9 = for regional use
   10 = This sentence defines a Base Station coverage area with respect to ITU Message 27 broadcasts for Class A and Class B "SO" mobile stations (See ITU 1371 Message 4 and Message 27).
   11-15 = for future use

3) The field identifies the reporting interval as defined in Table 17 of IEC 62287.
   0 = as given by the autonomous mode
   1 = 10 min
   2 = 6 min
   3 = 3 min
   4 = 1 min
   5 = 30 s
   6 = 15 s
   7 = 10 s
   8 = 5 s
   9 = next shorter reporting interval
   10 = next longer reporting interval
   11 = 2 s (not applicable to class B CS)
   12-15 = reserved for future use

4) This is the parameter sent in a message 23. (See "TX/RX Mode" parameter, ITU-R M.1371 message 23)
   0 = transmit on channels A and B, receive on channels A and B (default)
   1 = transmit on channel A, receive on channels A and B
   2 = transmit on channel B, receive on channels A and B

3 = reserved for future use

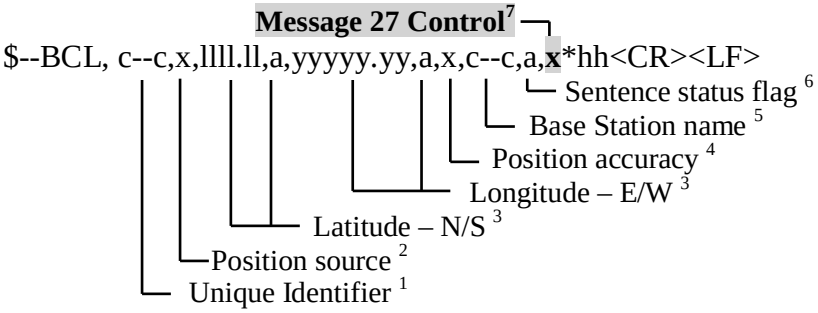
5) 0 = no quiet time (default)
   1-15 = quiet time 1min to 15 min

6) This field is used to indicate a sentence that is a status report of current settings or a configuration command changing settings. This field should not be null.
   R = Sentence is a status report of current settings (use for a reply to a query).
   C = Sentence is a configuration command to change settings. A sentence without "C" is not a command.

7) The resolution of the latitude and longitude fields shall be fixed at 1 decimal place of minutes (1/10 of a minute). If a higher resolution is provided to an AIS unit, the receiving AIS unit shall truncate to 1/10's of minute.

BCL – Base Station Configuration, Location Command

This sentence and the BCG sentence are used to configure the static Base Station parameters when it is initially installed, and later in order to make changes to the way it operates. Dynamic parameters (e.g. UTC and position of a moving Base Station) are input in a different way. This sentence supports system administration of the AIS Base Station operation.



Notes:

1) The Unique Identifier is used for system level identification of a station, 15 characters maximum. (See SID Sentence). On input, this sentence should be accepted only if this data field matches the Base Station's Unique Identifier. On output, this data field is the Base Station's Unique Identifier.

2) Identifies the source of the position:
   0 = surveyed position (should always be used for Fixed AIS Base Station)
   1 = internal EPFD in use
   2 = external EPFD in use
   3 = internal EPFD in use with automatic fall back to surveyed position
   4 = internal EPFD in use with automatic fall back to external EPFD upon failure of internal EPFD
   5 = external EPFD in use with automatic fall back to surveyed position
   6 = external EPFD in use with automatic fall back to internal position source upon failure of external position source
   Position sources 1, 2, 4 or 6 use automatic fall back to invalid position (181 degrees Longitude and 91 degrees Latitude)
   When external EPFD is used (position sources 2, 4, 5 and 6), type of electronic position fixing device is provided by talker ID of the EPFD.

3) Surveyed position of the Base Station.

4) 0 = low >10m
   1 = high <10m; differential mode of DGNSS

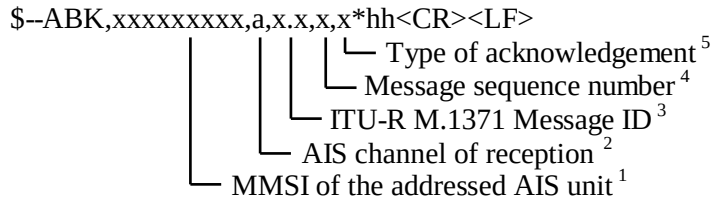
5) This is the VDL message 24, part A, Name: range 0 to 20 alphanumeric characters. The characters that can be used in the name are listed in the ITU-R 1371 6-bit ASCII table. Some of these characters are reserved characters as defined in Section 6.1. If reserved characters are used, they must be represented using the"^" method in Section 5.1.3. A null field indicates that the previously entered name is unchanged. The string of characters "@@@@@@@@@@@@@@@@@@@@" is used to indicate that the Name is not available.

6) This field is used to indicate a sentence that is a status report of current settings or a configuration command changing settings. This field should not be null.
   R = Sentence is a status report of current settings (use for a reply to a query).
   C = Sentence is a configuration command to change settings. A sentence without "C" is not a command.

7) 0 = Class A and Class B "SO" mobile stations stops transmission of Message 27 within an AIS base station coverage area.
1 = Request Class A and Class B "SO" mobile stations to transmit Message 27 within an AIS base station coverage area.

ABK – AIS Addressed and Binary Broadcast Acknowledgement

The ABK-sentence is generated when a transaction, initiated by reception of an ABM, AIR, or BBM sentence, is completed or terminated. This sentence provides information about the success or failure of a requested ABM broadcast of either ITU-R M.1371 messages 6 or 12. The ABK process utilizes the information received in ITU-R M.1371 messages 7 and 13. Upon reception of either a VHF Data-link message 7 or 13, or the failure of messages 6 or 12, the AIS unit delivers the ABK sentence to the external application. This sentence is also used to report to the external application the AIS unit's handling of the AIR (M.1371 message 15) and BBM (M.1371 messages 8, 14**, 25 and 26**) sentences. The external application initiates an interrogation through the use of the AIR-sentence, or a broadcast through the use of the BBM sentence. The AIS unit generates an ABK sentence to report the outcome of the AIR or BBM broadcast process.



Notes:

1. Identifies the distant addressed AIS unit involved with the acknowledgement. If more than one MMSI are being addressed (M.1371 message 15), the MMSI of the first distant AIS unit, identified in the message, is the MMSI reported here. This is a null field when the ITU-R M.1371 message type is 8 or 14.
2. Indication of the VHF Data Link channel upon which a message type 7 or 13 acknowledgement was received. An "A" indicates reception on channel A. A "B" indicates reception on channel B.
3. This indicates to the external application the type of ITU-R M.1371 message that this ABK sentence is addressing. Also see the Message IDs listed in Note 4.

4. The Message sequence number, together with the Message ID and MMSI of the addressed AIS unit, uniquely identifies a previously received ABM, AIR, or BBM sentence. Generation of an ABK-sentence makes a sequential message identifier available for reuse. The Message ID determines the source of the Message sequence number. Table 25 lists the source by Message ID:

Table 25 - ITU-R M. 1371 Message Sequence Number Source

ITU-R M.1371 Message ID	Message Sequence Number Source
6	sequential message identifier from ABM-sentence
7	addressed AIS unit's message 7, sequence number, ITU-R M.1371
8	sequential message identifier from BBM-sentence
12	sequential message identifier from ABM-sentence
13	addressed AIS unit's message 13, sequence number, ITU-R M.1371
14	sequential message identifier from BBM-sentence
15	No source, the Message sequence number shall be a null field
25	Sequential message identifier from ABM or BBM sentence **(structured binary data)**
26	Sequential message identifier from ABM or BBM **sentence (structured binary data)**
70	**Sequential message identifier from ABM or BBM sentence (unstructured binary data)**
71	**Sequential message identifier from ABM or BBM sentence (unstructured binary data)**

5. Acknowledgements provided are:
   0 = message (6 or 12) successfully received by the addressed AIS unit,
   1 = message (6 or 12) was broadcast, but no acknowledgement by the addressed AIS unit,
   2 = message could not be broadcast (i.e. quantity of encapsulated data exceeds five slots),
   3 = requested broadcast of message (8, 14, 15, **25 or 26**) has been successfully completed,
   4 = late reception of a message 7 or 13 acknowledgement that was addressed to this AIS unit (own-ship) and referenced a valid transaction.