



Date: May 4, 2009
 Ref: PGN Proposal: AIS Class B “CS” Static Data Report
 and AIS Class B Group Assignment Command

**National Marine Electronics Association
 Technical Corrigendum
 Number 1-2009**

1. Supplements the existing AIS parameter Group service by adding AIS messages 23, 24A and 24B. The messages are defined in IEC62287-1 and are added due to changes in AIS Class B specification
2. Restores parameter group AIS Channel Management (PGN129806) which was omitted from publications since Version 1.111.

Documents Affected

- Appendix B Version 1.210 and earlier.

Changes to NMEA 2000 Appendix B

Replace the following parameter group definitions with those accompanying this document:

PGN	Parameter Group Name
129039	AIS Class B Position Report
129040	AIS Class B Extended Position Report

Add the following new and restored parameter group definitions accompanying this document:

PGN	Parameter Group Name
129806	AIS Channel Management
129807	AIS Class B Group Assignment
129809	AIS Class B “CS” Static Data Report, Part A
129810	AIS Class B “CS” Static Data Report, Part B

AIS Class B Position Report

PGN: 129039

hex: 1F80F

This parameter group provides data associated with the ITU-R M.1371 Message 18 Standard Class B Equipment Position Report. An AIS device may generate this parameter group either upon receiving a VHF data link message 18, or upon receipt of an ISO or NMEA request PGN (see ITU-R M.1371-1 for additional information). Note that future revisions to the ITU-R M.1371 VHF Data Link Messages may result in their spare or reserved bits being defined with a specific meaning, requiring the spare or reserved parameter in this parameter group to have the corresponding new meaning in future revisions of this standard.

Single Frame: No Priority Default: 4 Default Update Rate: NA milliseconds Frequency: NA cycles per second
 Destination: Global Query Support: No ACK Rqmnts:

Field #	Field Name	Byte Field Size:	Bit Field Size:	Request Parameter	Original Reference ID # 122
1	Message ID DD188 AIS Message Identifier		6	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
18 = Standard Class B Equipment Position Report Message					
2	Repeat Indicator DD185 AIS Repeater Indicator		2	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
3	User ID DD010 Generic numeric ID, large	4		No	
	DF55 Integer, 32 bit unsigned	uint32 Range: 0 to 4,294,967,292	Resolution: 1 bit		Unit-less number
MMSI number of mobile station reporting position.					
4	Longitude DD023 Longitude, WGS-84	4		No	
	DF25 Longitude	int32 Range: +/- 180 deg	Resolution: 1x10E-7 deg		"-" = West, resolution ~1.1 cm
Longitude of mobile station reporting position.					
5	Latitude DD022 Latitude, WGS-84	4		No	
	DF23 Latitude	int32 Range: +/- 90 deg	Resolution: 1x10E-7 deg		"-" = South, resolution ~1.1 cm
Latitude of mobile station reporting position.					
6	Position Accuracy DD184 AIS Position Accuracy		1	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields

AIS Class B Position Report

PGN: 129039

hex: 1F80F

7	RAIM-flag		<i>Byte Field Size:</i>	<i>Bit Field Size:</i> <input type="text" value="1"/>	<i>Request Parameter</i> <input type="text" value="No"/>
	DD189 AIS RAIM-flag		0 = RAIM not in use (default), 1 = RAIM in use		
	DF52 Bit field	bit(n)	<i>Range:</i> Variable	<i>Resolution:</i> 1	Used to construct bit fields
8	Time Stamp		<i>Byte Field Size:</i>	<i>Bit Field Size:</i> <input type="text" value="6"/>	<i>Request Parameter</i> <input type="text" value="No"/>
	DD186 AIS Time Stamp		0-59=UTC second when the report was generated, 60=time stamp not available (default), 61=positioning system is in manual input mode, 62=Electronic position fixing system operates in estimated (dead reckoning) mode, 63=positioning system is inoperative		
	DF52 Bit field	bit(n)	<i>Range:</i> Variable	<i>Resolution:</i> 1	Used to construct bit fields
9	COG		<i>Byte Field Size:</i> <input type="text" value="2"/>	<i>Bit Field Size:</i>	<i>Request Parameter</i> <input type="text" value="No"/>
	DD165 Course-Over-Ground (COG)		The direction of the path over ground actually followed by a vessel.		
	DF02 Angle	uint16	<i>Range:</i> 0 to 2Pi rad	<i>Resolution:</i> 1x10E-4 rad	Resolution ~0.0057deg, 1 deg = .01745 rad
	COG of mobile station reporting position.				
10	SOG		<i>Byte Field Size:</i> <input type="text" value="2"/>	<i>Bit Field Size:</i>	<i>Request Parameter</i> <input type="text" value="No"/>
	DD044 Generic Speed				
	DF35 Speed	uint16	<i>Range:</i> 0 to 655.32 m/s	<i>Resolution:</i> 1x10E-2 m/s	1 Knot = 0.5144 m/s
	SOG of mobile station reporting position.				
11	Communication State		<i>Byte Field Size:</i>	<i>Bit Field Size:</i> <input type="text" value="19"/>	<i>Request Parameter</i> <input type="text" value="No"/>
	DD187 AIS Communication State		The Communication State contains information used by the various TDMA slot allocation algorithms and synchronization information		
	DF52 Bit field	bit(n)	<i>Range:</i> Variable	<i>Resolution:</i> 1	Used to construct bit fields
12	AIS Transceiver Information		<i>Byte Field Size:</i>	<i>Bit Field Size:</i> <input type="text" value="5"/>	<i>Request Parameter</i> <input type="text" value="No"/>
	DD246 AIS Transceiver Information		0 = Channel A VDL reception, 1 = Channel B VDL reception, 2 = Channel A VDL transmission, 3 = Channel B VDL transmission, 4 = Own information not broadcast, 5-31 = Reserved.		
	DF52 Bit field	bit(n)	<i>Range:</i> Variable	<i>Resolution:</i> 1	Used to construct bit fields
13	True Heading		<i>Byte Field Size:</i> <input type="text" value="2"/>	<i>Bit Field Size:</i>	<i>Request Parameter</i> <input type="text" value="No"/>
	DD167 Heading		The horizontal direction in which a ship actually points or heads at any instant, expressed in angular units from a reference direction, usually from 000 at the reference direction clockwise through 359 degrees.		
	DF02 Angle	uint16	<i>Range:</i> 0 to 2Pi rad	<i>Resolution:</i> 1x10E-4 rad	Resolution ~0.0057deg, 1 deg = .01745 rad

True heading of mobile station reporting position. A value of 65535 indicates that data is not available.

14 Reserved for Regional Applications *Byte Field Size:* *Bit Field Size:* **resv 8** *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

This field mirrors the "Reserved for Regional Applications" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's.

15 Reserved for Regional Applications *Byte Field Size:* *Bit Field Size:* **resv 2** *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

This field mirrors the "Reserved for Regional Applications" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's.

16 Class B unit flag *Byte Field Size:* *Bit Field Size:* **1** *Request Parameter* **No**
DD294 AIS ClassB Unit Flag
 0 = Class B SOTDMA unit
 1 = Class B "CS" unit
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

17 Class B Display Flag *Byte Field Size:* *Bit Field Size:* **1** *Request Parameter* **No**
DD295 AIS Class B Display Flag
 0 = No display available; not capable of displaying ITU-R M.1371 Messages 12 and 14
 1 = Equipped with integrated display displaying ITU-R M.1371 Messages 12 and 14
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

18 Class B DSC Flag *Byte Field Size:* *Bit Field Size:* **1** *Request Parameter* **No**
DD296 AIS Class B DSC Flag
 0 = Not equipped with DSC function
 1 = Equipped with DSC function (dedicated or time-shared)
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

19 Class B Band Flag *Byte Field Size:* *Bit Field Size:* **1** *Request Parameter* **No**
DD297 AIS Class B Band Flag
 0 = Capable of operating over the upper 525 kHz band of the marine band
 1 = Capable of operating over the whole marine band (irrelevant if "Class B Message 22 flag" is 0)
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

20 Class B Msg 22 Flag *Byte Field Size:* *Bit Field Size:* **1** *Request Parameter* **No**
DD298 AIS Class B Msg 22 Flag
 0 = No frequency management via Message 22 , operating on AIS1 and AIS2 only
 1 = Frequency management via Message 22
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

AIS Class B Position Report

PGN: 129039

hex: 1F80F

21 **Mode Flag** *Byte Field Size:* *Bit Field Size:* *Request Parameter*
DD299 AIS Mode Flag
0 = Station operating in autonomous mode = default
1 = Station operating in assigned mode

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

22 **Communication State Selector Flag** *Byte Field Size:* *Bit Field Size:* *Request Parameter*
DD245 AIS Communication State Selector Flag
0=SOTDMA communication state,
1=ITDMA communication state follows.

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

AIS Class B Extended Position Report

PGN: 129040

hex: 1F810

This parameter group provides data associated with the ITU-R M.1371 Message 19 Extended Class B Equipment Position Report containing position and static information. An AIS device may generate this parameter group either upon receiving a VHF data link message 19, or upon receipt of an ISO or NMEA request PGN. The Command Group Function PGN 126208 may be used with this PGN to configure static parameters such as ship dimensions, antenna location, and type of electronic position fixing device (see ITU-R M.1371-1 for additional information). Note that future revisions to the ITU-R M.1371 VHF Data Link Messages may result in their spare or reserved bits being defined with a specific meaning, requiring the spare or reserved parameter in this parameter group to have the corresponding new meaning in future revisions of this standard.

Single Frame: No Priority Default: 4 Default Update Rate: NA milliseconds Frequency: NA cycles per second
 Destination: Global Query Support: No ACK Rqmnts:

Field #	Field Name	Byte Field Size:	Bit Field Size:	Request Parameter	Original Reference ID # 123
1	Message ID DD188 AIS Message Identifier		6	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
19 = Extended Class B Equipment Position Report					
2	Repeat Indicator DD185 AIS Repeater Indicator		2	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
19 = Extended Class B Equipment Position Report					
3	User ID DD010 Generic numeric ID, large		4	No	
	DF55 Integer, 32 bit unsigned	uint32 Range: 0 to 4,294,967,292	Resolution: 1 bit		Unit-less number
MMSI number of mobile station reporting position.					
4	Longitude DD023 Longitude, WGS-84		4	No	
	DF25 Longitude	int32 Range: +/- 180 deg	Resolution: 1x10E-7 deg		"-" = West, resolution ~1.1 cm
Longitude of mobile station reporting position.					
5	Latitude DD022 Latitude, WGS-84		4	No	
	DF23 Latitude	int32 Range: +/- 90 deg	Resolution: 1x10E-7 deg		"-" = South, resolution ~1.1 cm
Latitude of mobile station reporting position.					
6	Position Accuracy DD184 AIS Position Accuracy			1	No
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields

AIS Class B Extended Position Report

PGN: 129040

hex: 1F810

7 RAIM-flag *Byte Field Size:* *Bit Field Size:* *Request Parameter* **No**
DD189 AIS RAIM-flag
 0 = RAIM not in use (default),
 1 = RAIM in use

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

8 Time Stamp *Byte Field Size:* *Bit Field Size:* *Request Parameter* **No**
DD186 AIS Time Stamp
 0=59=UTC second when the report was generated,
 60=time stamp not available (default),
 61=positioning system is in manual input mode,
 62=Electronic position fixing system operates in estimated (dead reckoning) mode,
 63=positioning system is inoperative

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

9 COG *Byte Field Size:* *Bit Field Size:* *Request Parameter* **No**
DD165 Course-Over-Ground (COG)
 The direction of the path over ground actually followed by a vessel.

DF02 Angle **uint16** *Range:* 0 to 2Pi rad *Resolution:* 1x10E-4 rad Resolution ~0.0057deg, 1 deg = .01745 rad

COG of mobile station reporting position.

10 SOG *Byte Field Size:* *Bit Field Size:* *Request Parameter* **No**
DD044 Generic Speed

DF35 Speed **uint16** *Range:* 0 to 655.32 m/s *Resolution:* 1x10E-2 m/s 1 Knot = 0.5144 m/s

SOG of mobile station reporting position.

11 Reserved for Regional Applications *Byte Field Size:* *Bit Field Size:* *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

This field mirrors the "Reserved for Regional Applications" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's.

12 Reserved for Regional Applications *Byte Field Size:* *Bit Field Size:* *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

This field mirrors the "Reserved for Regional Applications" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's.

13 NMEA 2000 Reserved *Byte Field Size:* *Bit Field Size:* *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

Used to align subsequent data on byte boundary.

14 Ship/Cargo Type *Byte Field Size:* *Bit Field Size:* **8** *Request Parameter* **No**
DD193 Ship/Cargo Type
 0=Not Available or no ship (default),
 1-99= (See the latest version of ITU-R M.1371 Section 3.3.8.2.3.2 Table 18),
 100-199=Reserved for Regional (See the latest version of ITU-R M.1371),
 200-255=Reserved for future (See the latest version of ITU-R M.1371).

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

15 True Heading *Byte Field Size:* **2** *Bit Field Size:* *Request Parameter* **No**
DD165 Course-Over-Ground (COG)
 The direction of the path over ground actually followed by a vessel.

DF02 Angle **uint16** *Range:* 0 to 2Pi rad *Resolution:* 1x10E-4 rad Resolution ~0.0057deg, 1 deg = .01745 rad

True Heading of mobile station reporting its position.

16 NMEA 2000 Reserved *Byte Field Size:* *Bit Field Size:* **resv 4** *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

Used to align subsequent data on byte boundary.

17 Type of Electronic Positioning Device *Byte Field Size:* *Bit Field Size:* **4** *Request Parameter* **No**
DD191 AIS Electronic Positioning Device Type

- 0 = Undefined (default),
- 1 = GPS,
- 2 = GLONASS,
- 3 = Combined GPS/GLONASS,
- 4 = Loran-C,
- 5 = Chayka,
- 6 = Integrated Navigation System,
- 7 = Surveyed (Base Station),
- 8 = Galileo
- 9-15 = Reserved for future use.

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

18 Ship Length *Byte Field Size:* **2** *Bit Field Size:* *Request Parameter* **No**
DD194 Distance, medium
 Dependent upon PG Field definition.

DF75 Distance, Medium **uint16** *Range:* 0 to 6553.2 m *Resolution:* 1x10E-1 m

Length of mobile station reporting its position. A value of 65535 indicates that data is not available.

19 Ship Beam *Byte Field Size:* **2** *Bit Field Size:* *Request Parameter* **No**
DD194 Distance, medium
 Dependent upon PG Field definition.

DF75 Distance, Medium **uint16** *Range:* 0 to 6553.2 m *Resolution:* 1x10E-1 m

Beam of mobile station reporting its position. A value of 65535 indicates that data is not available.

20 Position Reference Point from Starboard *Byte Field Size:* **2** *Bit Field Size:* *Request Parameter* **No**
DD194 Distance, medium
 Dependent upon PG Field definition.

DF75 Distance, Medium **uint16** *Range:* 0 to 6553.2 m *Resolution:* 1x10E-1 m

Position reference point from starboard side of mobile station reporting its position. A value of 65535 indicates that data is not available.

AIS Class B Extended Position Report

PGN: 129040
hex: 1F810

21 Position Reference Point aft of Ship's Bow *Byte Field Size:* **2** *Bit Field Size:* **16** *Request Parameter* **No**
DD194 Distance, medium
 Dependent upon PG Field definition.
DF75 Distance, Medium **uint16** *Range:* **0 to 6553.2 m** *Resolution:* **1x10E-1 m**

Position reference point from aft of ship's bow of mobile station reporting its position. A value of 65535 indicates that data is not available.

22 Name *Byte Field Size:* **char n** *Bit Field Size:* **8n** *Request Parameter* **No**
DD192 Generic String, ASCII, Fixed length
 Length specified by PGN field definition.
DF63 String, fixed **char8(n)** *Range:* **0 to 1,785 characters** *Resolution:* **1 char** 0 to 1,785 bytes. Character count not included, length is specified by application in Data Dictionary

This is a 20 character string, see ITU-R M.1371-1 for more information.

23 Data Terminal Equipment (DTE) *Byte Field Size:* **1** *Bit Field Size:* **1** *Request Parameter* **No**
DD242 Data Terminal Equipment (DTE)
 0=Available,
 1=not available.
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

24 Mode Flag *Byte Field Size:* **1** *Bit Field Size:* **1** *Request Parameter* **No**
DD299 AIS Mode Flag
 0 = Station operating in autonomous mode = default
 1 = Station operating in assigned mode
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

25 Spare *Byte Field Size:* **resv 4** *Bit Field Size:* **4** *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

This field mirrors the "Spare" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's.

26 AIS Transceiver Information *Byte Field Size:* **5** *Bit Field Size:* **5** *Request Parameter* **No**
DD246 AIS Transceiver Information
 0 = Channel A VDL reception,
 1 = Channel B VDL reception,
 2 = Channel A VDL transmission,
 3 = Channel B VDL transmission,
 4 = Own information not broadcast,
 5-31 = Reserved.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

This parameter group provides data associated with the ITU-R M.1371 Message 22 Channel Management Message supporting management of transceiver modes and channels by a base station. An AIS device may generate this parameter group either upon receiving a VHF data link message 5, or upon receipt of an ISO or NMEA request PGN. The Command Group Function PGN 126208 may be used with this PGN to configure static and voyage related parameters (see ITU-R M.1371-1 for additional information). Note that future revisions to the ITU-R M.1371 VHF Data Link Messages may result in their spare or reserved bits being defined with a specific meaning, requiring the spare or reserved parameter in this parameter group to have the corresponding new meaning in future revisions of this standard.

Single Frame: **No** Priority Default: **7** Default Update Rate: **NA** milliseconds Frequency: **NA** cycles per second
 Destination: **Global** Query Support: **No** ACK Rqmnts:

Field # Field Name Original Reference ID # 202

1 Message ID Byte Field Size: Bit Field Size: **6** Request Parameter **No**
DD188 AIS Message Identifier Message Identifier (range of 0 to 63).

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field bit(n) Range: Variable Resolution: 1 Used to construct bit fields

22 = Channel Management Message.

2 Repeat Indicator Byte Field Size: Bit Field Size: **2** Request Parameter **No**
DD185 AIS Repeater Indicator Used by the repeater to indicate how many times a message has been repeated (range of 0 to 3).

- 0 = Default
- 1 = First retransmission
- 2 = Second retransmission
- 3 = Final retransmission

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field bit(n) Range: Variable Resolution: 1 Used to construct bit fields

3 Station ID Byte Field Size: **4** Bit Field Size: Request Parameter **No**
DD010 Generic numeric ID, large Number of route, waypoint, event, mark, etc.

DF55 Integer, 32 bit unsigned uint32 Range: 0 to 4,294,967,292 Resolution: 1 bit Unit-less number

MMSI number of base station.

4 NMEA 2000 Reserved Byte Field Size: Bit Field Size: **resv 1** Request Parameter **No**
DD001 Reserved field Variable number of reserved bits, all set to logic "1"

DF52 Bit field bit(n) Range: Variable Resolution: 1 Used to construct bit fields

Used to align subsequent data on byte boundary.

5 AIS Transceiver Information Byte Field Size: Bit Field Size: **5** Request Parameter **No**
DD246 AIS Transceiver Information 0 = Channel A VDL reception,
 1 = Channel B VDL reception,
 2 = Channel A VDL transmission,
 3 = Channel B VDL transmission,
 4 = Own information not broadcast,
 5-31 = Reserved.

DF52 Bit field bit(n) Range: Variable Resolution: 1 Used to construct bit fields

6 Spare *Byte Field Size:* *Bit Field Size:* **resv 2** *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

This field mirrors the "Spare" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's.

7 Channel A *Byte Field Size:* **2** *Bit Field Size:* *Request Parameter* **No**
DD007 Generic numeric ID, medium
 Number of route, waypoint, event, mark, etc.
DF54 Integer, 16 bit unsigned **uint16** *Range:* **0 to 65,532** *Resolution:* **1 bit** Unit-less number

Channel number according to recommendation ITU-R M.1084, Annex 4.

8 Channel B *Byte Field Size:* **2** *Bit Field Size:* *Request Parameter* **No**
DD007 Generic numeric ID, medium
 Number of route, waypoint, event, mark, etc.
DF54 Integer, 16 bit unsigned **uint16** *Range:* **0 to 65,532** *Resolution:* **1 bit** Unit-less number

Channel number according to recommendation ITU-R M.1084, Annex 4.

9 NMEA 2000 Reserved *Byte Field Size:* *Bit Field Size:* **resv 3** *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

Used to align subsequent data on byte boundary.

10 Power *Byte Field Size:* *Bit Field Size:* **1** *Request Parameter* **No**
DD252 AIS Power
 0=High (default),
 1=low.
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

11 Tx/Rx Mode *Byte Field Size:* *Bit Field Size:* **4** *Request Parameter* **No**
DD253 AIS Tx/Rx Mode
 0=Tx A/Tx B, Rx A/Rx B (default),
 1=Tx A, Rx A/Rx B,
 2=Tx B, Rx A/Rx B,
 3-15=not used.
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

12 North East Longitude Corner 1 *Byte Field Size:* **4** *Bit Field Size:* *Request Parameter* **No**
DD023 Longitude, WGS-84
 Longitude referenced to WGS-84
DF25 Longitude **int32** *Range:* **+/- 180 deg** *Resolution:* **1x10E-7 deg** "-" = West, resolution ~1.1 cm

North East longitude corner of geographic area designated in this message.

13 North East Latitude Corner 1 *Byte Field Size:* **4** *Bit Field Size:* *Request Parameter* **No**
DD022 Latitude, WGS-84
 Latitude referenced to WGS-84
DF23 Latitude **int32** *Range:* **+/- 90 deg** *Resolution:* **1x10E-7 deg** "-" = South, resolution ~1.1 cm

North East latitude corner of geographic area designated in this message.

14 South West Longitude Corner 2 *Byte Field Size:* **4** *Bit Field Size:* *Request Parameter* **No**
DD023 Longitude, WGS-84 Longitude referenced to WGS-84
DF25 Longitude **int32** *Range:* +/- 180 deg *Resolution:* 1x10E-7 deg "-" = West, resolution ~1.1 cm

South West longitude corner of geographic area designated in this message.

15 South West Latitude Corner 2 *Byte Field Size:* **4** *Bit Field Size:* *Request Parameter* **No**
DD022 Latitude, WGS-84 Latitude referenced to WGS-84
DF23 Latitude **int32** *Range:* +/- 90 deg *Resolution:* 1x10E-7 deg "-" = South, resolution ~1.1 cm

South West latitude corner of geographic area designated in this message.

16 NMEA 2000 Reserved *Byte Field Size:* *Bit Field Size:* **resv 1** *Request Parameter* **No**
DD001 Reserved field Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

Used to align subsequent data on byte boundary.

17 Addressed or Broadcast Message Indicator *Byte Field Size:* *Bit Field Size:* **1** *Request Parameter* **No**
DD254 AIS Addressed or Broadcast Message Indicator 0=Broadcast geographical area message (default),
 1=addressed message (to individual station(s)).
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

18 Channel A Bandwidth *Byte Field Size:* *Bit Field Size:* **1** *Request Parameter* **No**
DD255 AIS Channel Bandwidth 0=default (as specified by channel number),
 1=12.5 kHz bandwidth.
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

19 Channel B Bandwidth *Byte Field Size:* *Bit Field Size:* **1** *Request Parameter* **No**
DD255 AIS Channel Bandwidth 0=default (as specified by channel number),
 1=12.5 kHz bandwidth.
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

20 NMEA 2000 Reserved *Byte Field Size:* *Bit Field Size:* **resv 1** *Request Parameter* **No**
DD001 Reserved field Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

Used to align subsequent data on byte boundary.

21 Transitional Zone Size *Byte Field Size:* *Bit Field Size:* **3** *Request Parameter* **No**
DD256 AIS Transitional Zone Size See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

22	Spare		<i>Byte Field Size:</i>	<i>Bit Field Size:</i> resv 23	<i>Request Parameter</i> No
	DD001	Reserved field	Variable number of reserved bits, all set to logic "1"		
	DF52	Bit field	bit(n)	<i>Range:</i> Variable	<i>Resolution:</i> 1 Used to construct bit fields

This field mirrors the "Spare" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's.

AIS Class B Group Assignment

PGN: 129807

hex: 1FB0F

The Group Assignment Command is transmitted by a base station when operating as a controlling entity for AIS Stations. ITU-R M.1371 Message 23 contains three criteria (position, ship and cargo type, and station type) that are used by each station that receives the message to determine if the message content applies to that station.

Single Frame: No Priority Default: 7 Default Update Rate: NA milliseconds Frequency: NA cycles per second
 Destination: Global Query Support: Opt'l ACK Rqmnts:

Field #	Field Name	Byte Field Size:	Bit Field Size:	Request Parameter	Original Reference ID # 201
1	Message ID DD188 AIS Message Identifier		6 6	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
23 = Group Assignment Command for AIS					
2	Repeat Indicator DD185 AIS Repeater Indicator		2 2	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
0 = Default 1 = First retransmission 2 = Second retransmission 3 = Final retransmission					
See the latest version of ITU-R M.1371 for more information.					
3	Source ID DD010 Generic numeric ID, large		4	No	
	DF55 Integer, 32 bit unsigned	uint32 Range: 0 to 4,294,967,292	Resolution: 1 bit		Unit-less number
MMSI number of base station					
4	Spare DD001 Reserved field		resv 2	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
This field mirrors the "Spare" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's.					
5	Tx/Rx Mode DD253 AIS Tx/Rx Mode		4 4	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
0=Tx A/Tx B, Rx A/Rx B (default), 1=Tx A, Rx A/Rx B, 2=Tx B, Rx A/Rx B, 3-15=not used.					
See the latest version of ITU-R M.1371 for more information.					
6	NMEA 2000 Reserved DD001 Reserved field		resv 2	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
Used to align subsequent data on byte boundary					

7 North East Longitude Corner 1 *Byte Field Size:* **4** *Bit Field Size:* *Request Parameter* **No**
DD023 Longitude, WGS-84 Longitude referenced to WGS-84
DF25 Longitude **int32** *Range:* +/- 180 deg *Resolution:* 1x10E-7 deg "-" = West, resolution ~1.1 cm

North East Longitude corner of geographic area designated in this message.

8 North East Latitude Corner 1 *Byte Field Size:* **4** *Bit Field Size:* *Request Parameter* **No**
DD022 Latitude, WGS-84 Latitude referenced to WGS-84
DF23 Latitude **int32** *Range:* +/- 90 deg *Resolution:* 1x10E-7 deg "-" = South, resolution ~1.1 cm

North East Latitude corner of geographic area designated in this message.

9 South West Longitude Corner 2 *Byte Field Size:* **4** *Bit Field Size:* *Request Parameter* **No**
DD023 Longitude, WGS-84 Longitude referenced to WGS-84
DF25 Longitude **int32** *Range:* +/- 180 deg *Resolution:* 1x10E-7 deg "-" = West, resolution ~1.1 cm

South West Longitude corner of geographic area designated in this message.

10 South West Latitude Corner 2 *Byte Field Size:* **4** *Bit Field Size:* *Request Parameter* **No**
DD022 Latitude, WGS-84 Latitude referenced to WGS-84
DF23 Latitude **int32** *Range:* +/- 90 deg *Resolution:* 1x10E-7 deg "-" = South, resolution ~1.1 cm

South West Latitude corner of geographic area designated in this message.

11 Station Type *Byte Field Size:* *Bit Field Size:* **4** **4** *Request Parameter* **No**
DD301 AIS Station Type
 0 = All types of mobiles (default)
 1 = Reserved for future use
 2 = All types of Class B mobile stations
 3 = SAR airborne mobile station
 4 = AtoN station
 5 = Class B "CS" shipborne mobile station only
 6 = Inland waterways
 7 to 9 = Reserved for regional use
 10 to 15 = Reserved for future use
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

Specifies type of AIS Station this is intended for.

12 NMEA 2000 Reserved *Byte Field Size:* *Bit Field Size:* **resv 4** *Request Parameter* **No**
DD001 Reserved field Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

Used to align subsequent data on byte boundary

13 Ship and Cargo Filter *Byte Field Size:* *Bit Field Size:* **8** *Request Parameter* **No**
DD300 Ship/Cargo Filter
 0 = all types (default)
 1 - 99 - See ITU-R M.1371 Table 50
 100 - 199 = Reserved for regional use
 200 - 255 = Reserved for future use
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

14 Spare *Byte Field Size:* *Bit Field Size:* **resv 22** *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

This field mirrors the "Spare" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's

15 NMEA 2000 Reserved *Byte Field Size:* *Bit Field Size:* **resv 2** *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

Used to align subsequent data on byte boundary

16 Reporting Interval *Byte Field Size:* *Bit Field Size:* **4 4** *Request Parameter* **No**
DD302 AIS Reporting Interval for Class B
 0 = As given by the autonomous mode
 1 = 10 min
 2 = 6 min
 3 = 3 min
 4 = 1 min
 5 = 30 sec
 6 = 15 sec
 7 = 10 sec
 8 = 5 sec
 9 = 2 sec (not applicable to the Class B "CS")
 10 = Next shorter reporting interval
 11 = Next longer reporting interval
 12-15 = Reserved for future use

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

Specifies how often the position report is transmitted. When in dual channel mode (see field 5) the transmission rate is maintained by alternating transmissions between channels, each channel transmitting half the required reports. When in single channel mode the single selected channel transmits all the required reports.

17 Quiet Time *Byte Field Size:* *Bit Field Size:* **4 4** *Request Parameter* **No**
DD303 AIS Quiet Time
 0 = No quiet time commanded
 1-15 = Quiet time of 1 to 15 min
 See the latest version of ITU-R M.1371 for more information.
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

18 Spare *Byte Field Size:* *Bit Field Size:* **resv 6** *Request Parameter* **No**
DD001 Reserved field
 Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

This field mirrors the "Spare" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this field. Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS PGNs the unused or reserved bits are to be encoded as logic 0's

AIS Class B "CS" Static Data Report, Part A

PGN: 129809

hex: 1FB11

This parameter group is used by Class B "CS" shipborne mobile equipment each time Part A of ITU-R M.1372 Message 24 is received. The parameter group is the first of two parts, the second being transmitted in PGN 129810. This is Part A of ITU-R M.1372 Message 24. Message 24 part B is normally transmitted within 1 minute following Message 24 part A, and these parameter groups follow accordingly with PGN 129810 following 1 minute after PGN129809.

Reception of Part A followed immediately by Part B will occur in response to an AIS interrogation for Message 24. In that case the parameter groups will follow accordingly with PGN 129809 followed immediately by PGN 129810.

Single Frame: No Priority Default: 6 Default Update Rate: NA milliseconds Frequency: NA cycles per second
 Destination: Global Query Support: No ACK Rqmnts:

Field # Field Name Original Reference ID # 199

1 Message ID Byte Field Size: Bit Field Size: 6 6 Request Parameter No
 DD188 AIS Message Identifier Message Identifier (range of 0 to 63).

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field bit(n) Range: Variable Resolution: 1 Used to construct bit fields

24 = AIS Class B Static Data Part A

2 Repeat Indicator Byte Field Size: Bit Field Size: 2 2 Request Parameter No
 DD185 AIS Repeater Indicator Used by the repeater to indicate how many times a message has been repeated (range of 0 to 3).

- 0 = Default
- 1 = First retransmission
- 2 = Second retransmission
- 3 = Final retransmission

See the latest version of ITU-R M.1371 for more information.

DF52 Bit field bit(n) Range: Variable Resolution: 1 Used to construct bit fields

3 User ID Byte Field Size: 4 Bit Field Size: Request Parameter No
 DD010 Generic numeric ID, large Number of route, waypoint, event, mark, etc.

DF55 Integer, 32 bit unsigned uint32 Range: 0 to 4,294,967,292 Resolution: 1 bit Unit-less number

MMSI number of mobile station reporting its static information

4 Name Byte Field Size: char n Bit Field Size: Request Parameter No
 DD192 Generic String, ASCII, Fixed length Length specified by PGN field definition.

DF63 String, fixed char8(n) Range: 0 to 1,785 characters Resolution: 1 char 0 to 1,785 bytes. Character count not included, length is specified by application in Data Dictionary

20 character string, default value is "@@@@@@@@@@@@@@@@@@@@@@" = not available

AIS Class B "CS" Static Data Report, Part B

PGN: 129810

hex: 1FB12

This parameter group is used by Class B "CS" shipborne mobile equipment each time Part B of ITU-R M.1372 Message 24 is received. The parameter group is the second of two parts, the first part being transmitted in PGN 129809. This is Part B of ITU-R M.1372 Message 24. Message 24 part B is normally transmitted within 1 minute following Message 24 part A, and these parameter groups follow accordingly with PGN 129810 following 1 minute after PGN129809.

Reception of Part A followed immediately by Part B will occur in response to an AIS interrogation for Message 24. In that case the parameter groups will follow accordingly with PGN 129809 followed immediately by PGN 129810.

Single Frame: No Priority Default: 6 Default Update Rate: NA milliseconds Frequency: NA cycles per second
 Destination: Global Query Support: No ACK Rqmnts:

Field #	Field Name	Byte Field Size:	Bit Field Size:	Request Parameter	Original Reference ID # 200
1	Message ID DD188 AIS Message Identifier		6 6	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
24 = AIS Class B static data Part B					
2	Repeat Indicator DD185 AIS Repeater Indicator		2 2	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
3	User ID DD010 Generic numeric ID, large		4	No	
	DF55 Integer, 32 bit unsigned	uint32 Range: 0 to 4,294,967,292	Resolution: 1 bit		Unit-less number
MMSI number of mobile station reporting its static information					
4	Type of Ship and Cargo DD193 Ship/Cargo Type		8 8	No	
	DF52 Bit field	bit(n) Range: Variable	Resolution: 1		Used to construct bit fields
5	Vendor ID DD192 Generic String, ASCII, Fixed length		char n	No	
	DF63 String, fixed	char8(n) Range: 0 to 1,785 characters	Resolution: 1 char		0 to 1,785 bytes. Character count not included, length is specified by application in Data Dictionary

7 character string - Unique identification of the unit by a number as defined by the manufacturer; ("@@@@@@" = not available = default)

6 Call Sign *Byte Field Size:* char n *Bit Field Size:* Request Parameter **No**
DD192 Generic String, ASCII, Fixed length Length specified by PGN field definition.
DF63 String, fixed **char8(n)** *Range:* 0 to 1,785 characters *Resolution:* 1 char 0 to 1,785 bytes. Character count not included, length is specified by application in Data Dictionary

7 character string - See the latest version of ITU-R M.1371 for more information; ("@@@@@@" = not available = default)

7 Ship Length *Byte Field Size:* 2 *Bit Field Size:* Request Parameter **No**
DD194 Distance, medium Dependent upon PG Field definition.
DF75 Distance, Medium **uint16** *Range:* 0 to 6553.2 m *Resolution:* 1x10E-1 m

Length of mobile station reporting its static data; Valid range = 0-1022, and must be greater than or equal to field 10 "Reference Point Position Aft of Bow", a value of 65535 indicates that data is not available. For more information, see IMO Circular 227 Section 5.3 Ships Dimensions or NMEA 0400 Section 19.3.2 Vessel Reference Point (This field is valid only if field 3 "User ID" contains a value <= 999999999)

8 Ship Beam *Byte Field Size:* 2 *Bit Field Size:* Request Parameter **No**
DD194 Distance, medium Dependent upon PG Field definition.
DF75 Distance, Medium **uint16** *Range:* 0 to 6553.2 m *Resolution:* 1x10E-1 m

Beam of mobile station reporting its static data; A value of 65535 indicates that data is not available (This field is valid only if field 3 "User ID" contains a value <= 999999999)

9 Reference Point Position from Starboard *Byte Field Size:* 2 *Bit Field Size:* Request Parameter **No**
DD194 Distance, medium Dependent upon PG Field definition.
DF75 Distance, Medium **uint16** *Range:* 0 to 6553.2 m *Resolution:* 1x10E-1 m

Distance to reference point measured from the starboard side of mobile station reporting its static data; Valid range = 0-63, a value of 65535 indicates that data is not available. For more information, see IMO Circular 227 Section 5.3 Ships Dimensions or NMEA 0400 Section 19.3.2 Vessel Reference Point (This field is valid only if field 3 "User ID" contains a value <= 999999999)

10 Reference Point Position Aft of Bow *Byte Field Size:* 2 *Bit Field Size:* Request Parameter **No**
DD194 Distance, medium Dependent upon PG Field definition.
DF75 Distance, Medium **uint16** *Range:* 0 to 6553.2 m *Resolution:* 1x10E-1 m

Distance to reference point measured aft from the bow of mobile station reporting its static position; Valid range = 0-511, a value of 65535 indicates that data is not available. For more information, see IMO Circular 227 Section 5.3 Ships Dimensions or NMEA 0400 Section 19.3.2 Vessel Reference Point (This field is valid only if field 3 "User ID" contains a value <= 999999999)

11 Mother Ship MMSI *Byte Field Size:* 4 *Bit Field Size:* Request Parameter **No**
DD010 Generic numeric ID, large Number of route, waypoint, event, mark, etc.
DF55 Integer, 32 bit unsigned **uint32** *Range:* 0 to 4,294,967,292 *Resolution:* 1 bit Unit-less number

For unregistered daughter vessels, this is the MMSI assigned to the mother ship; (This field is valid only if field 3 "User ID" contains a value > 999999999)

12 NMEA 2000 Reserved *Byte Field Size:* *Bit Field Size:* resv 2 *Request Parameter* **No**
DD001 Reserved field Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* Variable *Resolution:* 1 Used to construct bit fields

Used to align subsequent fields on a byte boundary.

13 Spare *Byte Field Size:* *Bit Field Size:* **resv 6** *Request Parameter* **No**
DD001 Reserved field Variable number of reserved bits, all set to logic "1"
DF52 Bit field **bit(n)** *Range:* **Variable** *Resolution:* **1** Used to construct bit fields

This field mirrors the "Spare" bit field found within the corresponding AIS message such that future definition within the AIS message can also be accommodated within this parameter group while maintaining field order; Normally, spare or reserved bits in NMEA 2000 are encoded with logic 1's, however for AIS parameter groups the spare or reserved bits are encoded as logic 0's.
