$C\,C\,S$ Technical Information

To: Relevant shipowners, ship management companies, shipyards and designers, product manufacturer, related departments of the Headquarters of CCS, the Society's surveyors, Plan Approval Centers

Technical notice on SN.1/Circ.243/Rev.2--Guidelines for the Presentation of Navigation- related Symbols, Terms and Abbreviations Issued by IMO

1. Background

The Maritime Safety Committee of International Maritime Organization (IMO), at its 101st session in 14 June 2019, approved the revised guidelines for the presentation of navigation-related symbols, terms and abbreviations by means of SN.1/Circ.243/Rev.2. The aim of this circular is to harmonize the requirements for the presentation of navigation-related information on the bridge which would ensure that all navigational displays adopt a consistent human-machine interface philosophy and implementation.

This circular does not revoke SN.1/Circ.243/Rev.1. This circular is to be applied to radar equipment, electronic chart display and information systems (ECDIS) and integrated navigation systems (INS) installed on or after 1 January 2024 and all other navigational displays on the bridge of a ship installed on or after 1 July 2025. However, SN.1/Circ.243/Rev.1 is to be applied to equipment installed before the dates as mentioned above.

2. Main contents

This circular consists of two annexes:

(1) Annex 1 is the guidelines for the presentation of navigation-related symbols, which apply to all shipborne navigational systems and equipment.

These guidelines specify own ship symbols, Tracked Radar Target Symbols, AIS-Symbols, Associated target symbols and other symbols. The symbols listed in these guidelines should replace symbols which are currently contained in existing performance standards. Where a standard symbol is not available, another symbol may be used, but this symbol should not conflict with the symbols listed in these guidelines.

(2) Annex 2 are the guidelines for the presentation of navigation-related terms and abbreviations, which apply to all shipborne navigational systems and equipment including radar, ECDIS, AIS, INS and IBS.

When navigation-related information is displayed as text, the standard terms or abbreviations listed in these guidelines should be used, instead of using terms and abbreviations which are currently contained in existing performance standards. Where a standard term and abbreviation is not available, another term or abbreviation may be used. This term or abbreviation should not conflict with the standard terms or abbreviations listed in these guidelines and provide a clear meaning. Standard marine terminology should be used for this purpose.

SN.1/Circ.243/Rev.2 is provided in the annex.

This technical notice is made public on CCS website (www.ccs.org.cn), and is to be distributed to relevant ship owners, product manufacturers and shipping management companies etc. by CCS branches within their responsible areas. Please contact Technology & Information Department of CCS (ti@ccs.org.cn) for any inquiry in the implementation.

Annex: SN.1/Circ.243/Rev.2— Guidelines for the presentation of navigation-related symbols, terms and abbreviations

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GUIDELINES FOR THE PRESENTATION OF
NAVIGATION-RELATED SYMBOLS, TERMS AND ABBREVIATIONS

1   The Maritime Safety Committee, at its ninety-third session (14 to 23 May 2014), approved the *Amended Guidelines for the presentation of navigational-related symbols, terms and abbreviations* (SN/Circ.243/Rev.1) prepared by the Sub-Committee on Safety of Navigation (NAV) at its fifty-ninth session (2 to 6 September 2013) and encouraged their use for all shipborne navigational systems and equipment.

2   The Sub-Committee on Navigation, Communications and Search and Rescue (NCSR), at its sixth session (16 to 25 January 2019), with a view to harmonizing the requirements for the presentation of navigation-related information on the bridge which would ensure that all navigational displays adopt a consistent human-machine interface philosophy and implementation, agreed to revised *Guidelines for the presentation of navigation-related symbols, terms and abbreviations*.

3   The Maritime Safety Committee, at its 101st session (5 to 14 June 2019), concurred with the Sub-Committee's views, and approved the revised *Guidelines for the presentation of navigation-related symbols* and the revised *Guidelines for the presentation of navigation-related terms and abbreviations*, as set out in annexes 1 and 2, respectively.

4   This circular does not revoke SN.1/Circ.243/Rev.1, however, for the purpose of applying resolutions:

  .1   MSC.191(79), the Guidelines in SN.1/Circ.243/Rev.1 are to be applied to:

      .1   radar equipment, electronic chart display and information systems (ECDIS) and integrated navigation systems (INS) installed before 1 January 2024; and

      .2   all other navigational displays on the bridge of a ship installed before 1 July 2025; and

  .2   MSC.191(79), as amended by resolution MSC.466(101), the Guidelines in SN.1/Circ.243/Rev.2 are to be applied to equipment installed on or after the dates specified in paragraph 4.1 above.

5   Member States are invited to bring the revised Guidelines to the attention of all parties concerned.

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ANNEX 1

GUIDELINES FOR THE PRESENTATION OF NAVIGATION-RELATED SYMBOLS

1   Purpose

The purpose of these Guidelines is to provide guidance on the appropriate use of navigation-related symbols to achieve a harmonized and consistent presentation.

2   Scope

The use of these Guidelines will ensure that the symbols used for the display of navigation-related information on all shipborne navigational systems and equipment are presented in a consistent and uniform manner.
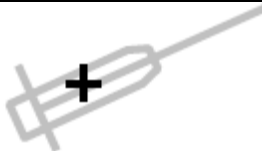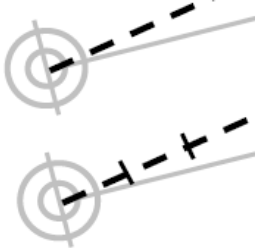
3   Application

These Guidelines apply to all shipborne navigational systems and equipment. The symbols listed in the appendix should be used for the display of navigation-related information to promote consistency in the symbol presentation on navigational equipment. The symbols listed in the appendix should replace symbols which are currently contained in existing performance standards. Where a standard symbol is not available, another symbol may be used, but this symbol should not conflict with the symbols listed in the appendix.

APPENDIX

NAVIGATION-RELATED SYMBOLS

Table 1: Own ship symbols

Topic	Symbol	Description
Own ship		Double circle, located at own ship's reference position. Use of this symbol is optional, if own ship position is shown by the combination of Heading Line and Beam Line.
Own ship true scale outline		True scale outline located relative to own ship's reference position, oriented along own ship's heading. Used on small ranges/large scales.
Own ship radar antenna position		Cross, located on a true scale outline of the ship at the Physical location of the radar antenna that is the current source of displayed radar video.
Own ship heading line		Solid line thinner than the speed vector line style, draw to the bearing ring of fixed length, if the bearing ring is not displayed. Origin is at own ship's reference point.
Own ship beam line		Solid line of fixed length; optionally length variable by operator. Midpoint at own ship's reference point.
Own ship speed vector		Dashed line – short dashes with spaces approximately twice the line width of heading line. Time increments between the origin and endpoint may optionally be marked along the vector using short intersecting lines. To indicate Water/Ground stabilization optionally one arrowhead for water stabilization and two arrowheads for ground stabilization may be added.
Own ship path prediction		A curved vector may be provided as a path predictor.

Topic	Symbol	Description
Own ship past track		Thick line for primary source. Thin line for secondary source. Optional time marks are allowed.

Table 2: Tracked Radar Target Symbols

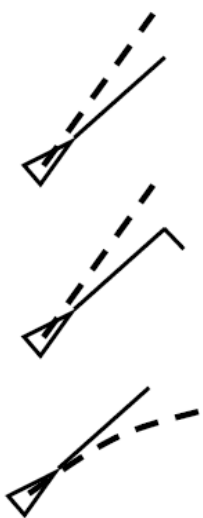| Topic	Symbol	Description
Tracked target including dangerous target		Solid filled or unfilled circle located at target position. The course and speed vector should be displayed as dashed line, with short dashes with spaces approximately twice the line width. Optionally, time increments may be marked along the vector. For a **"Dangerous Target"**, bold, red (on colour display) solid circle with course and speed vector, flashing until acknowledged.
Target in acquisition state		Circle segments in the acquired target state. For automatic acquisition, bold circle segments, flashing and red (on colour display) until acknowledged.
Lost target		Bold lines across the circle, flashing until acknowledged.
Selected target		A square indicated by its corners centred around the target symbol.
Target past positions		Dots, equally spaced by time.
Tracked reference target	R	Large R adjacent to designated tracked target. Multiple reference targets should be marked as R1, R2, R3, etc.
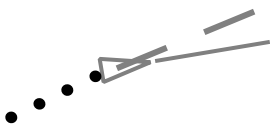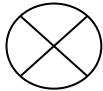
Radar test target	X	When an internally generated test target is enabled, it should be indicated by the presentation of the large letter "X" adjacent to the target with the basic colour used for the target symbol. In addition, a bold "X" should be shown in a conspicuous location in the operational display area.

Table 3: AIS-Symbols

Topic	Symbol	Description
AIS target (sleeping)		An isosceles, acute-angled triangle should be used. The triangle should be oriented by heading, or COG if heading missing. The reported position should be located at centre and half the height of the triangle. The symbol of the sleeping target should be smaller than that of the activated target.
Sleeping (activated) AIS target with neither reported heading nor COG		Sleeping (activated) AIS target with neither reported heading nor COG should be presented as acute isosceles triangle oriented toward the top of the operational display area with one line crossed through the symbol.
Activated AIS target including dangerous target		An isosceles, acute-angled triangle should be used. The triangle should be oriented by heading, or COG if heading missing. The reported position should be located at centre and half the height of the triangle. The COG/SOG vector should be displayed as a dashed line with short dashes with spaces approximately twice the line width. Optionally, time increments may be marked along the vector. The heading should be displayed as a solid line thinner than speed vector line style, length twice of the length of the triangle symbol. Origin of the heading line is the apex of the triangle. The turn should be indicated by a flag of fixed length added to the heading line. A path predictor may be provided as curved vector. For a **"Dangerous AIS Target"**, bold, red (on colour display) solid triangle with course and speed vector, flashing until acknowledged.

Topic	Symbol	Description
AIS target – true scale outline		A true scale outline may be added to the triangle symbol. It should be: Located relative to reported position and according to reported position offsets, beam and length. Oriented along target's heading. Used on low ranges/large scales.
Selected target		A square indicated by its corners should be drawn around the activated target symbol.
Topic	**Symbol**	**Description**
Lost target		Triangle with bold solid cross. The triangle should be oriented per last known value. The cross should have a fixed orientation. The symbol should flash until acknowledged. The target should be displayed without vector, heading and rate of turn indication.
Target past positions		Dots, equally spaced by time.
AIS Search and Rescue Transmitter (AIS-SART)		A circle containing a cross drawn with solid lines.
Selected AIS ATON		Selected target symbols should be presented as broken squares indicated by their corners, centred on the selected target symbol.
Selected AIS-SART		Selected target symbols should be presented as broken squares indicated by their corners, centred on the selected target symbol.
Lost AIS ATON		Lost target symbols should be presented as crossed lines centred on the target symbol. The lines should be drawn using a solid line style and should flash with the required colour red until acknowledged by the user.
Lost AIS-SART		Lost target symbols should be presented as crossed lines centred on the target symbol. The lines should be drawn using a solid line style and should flash with the required colour red until acknowledged by the user.
AIS SAR aircraft		An AIS SAR aircraft should be drawn with a thin solid outline with the same basic colour as used for target symbols. The symbol should be oriented in the direction of the COG.

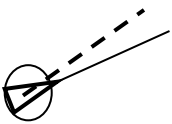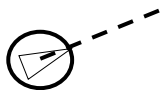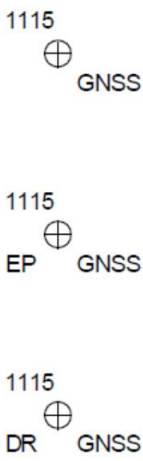| AIS SAR vessel		If provided, a search and rescue vessel should be presented by having a circle with cross drawn with a solid line inside the standard activated AIS vessel symbol.

Table 4: Associated target symbols
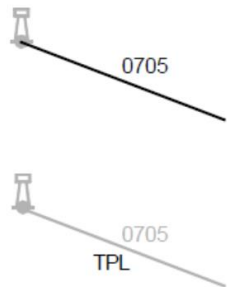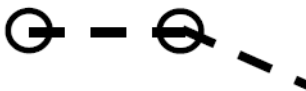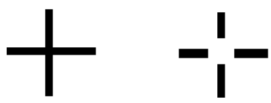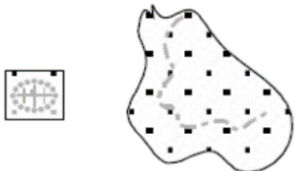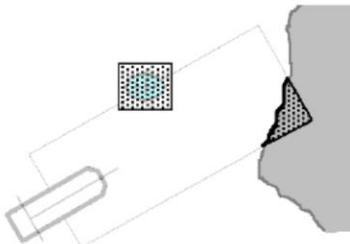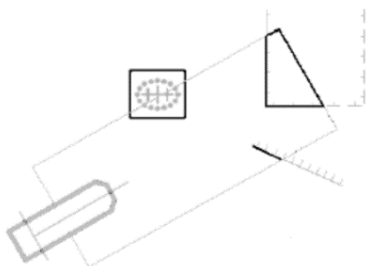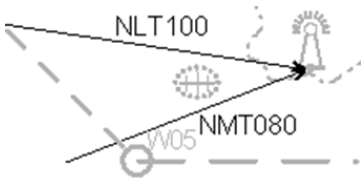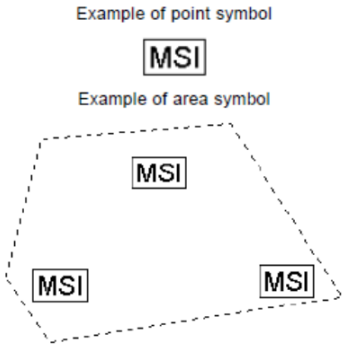
Topic	Symbol	Description
Associated target		The user may select to present associated targets (i.e. activated AIS targets associated with tracked radar targets) as either activated AIS target symbols (see symbol: "Activated AIS Target Including Dangerous Target") or tracked radar target symbols (see symbol: "Tracked Target including Dangerous Target").
Associated target alternative AIS target symbol		Alternatively, activated AIS target symbols representing associated targets may be modified by circumscribing a circle around the symbols' isosceles triangle.
Associated target alternative radar target symbol		Tracked radar target symbols representing associated targets may be presented with larger diameter circles modified by inscribing an isosceles triangle inside the symbols' circle.
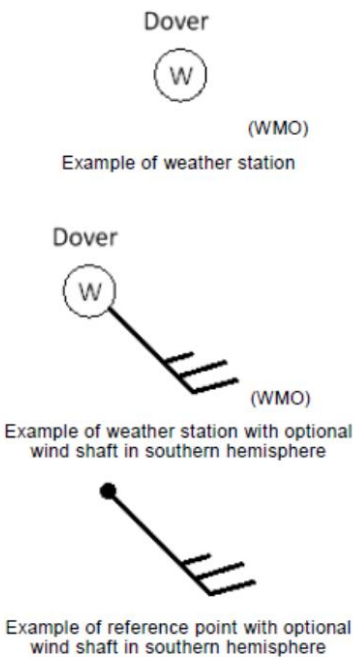
Table 5: Other symbols

Topic	Symbol	Description
Plotted position	1115 ⊕ GNSS 1115 ⊕ EP GNSS 1115 ⊕ DR GNSS	A plotted position (Fix, EP and DR) should be presented as a circle with crossed lines centred at the position. The length of the crossed lines should be the diameter of the circle. The circle and crossed lines should be drawn using a thin solid line style. The position should be labelled with time and an indication of its source for example GNSS, L (Loran), R (Radar range), V (Visual bearing), VR (Visual bearing and Radar range). If the position is an estimated position, it should also be labelled with the letters "EP".

Topic	Symbol	Description
		If the position is a dead reckoned position, it should also be labelled with the letters "DR". Alphanumeric text used to label the position should be the same basic colour as the symbol.
Line of position	0705 0705 TPL Examples show the default symbol for a water tower	A line of position (LOP) should be presented as a single line originating from a charted object and extending towards own ship. The bearing of the LOP should be referenced to the CCRP. The LOP should be drawn using a thin solid line style. The LOP should be labelled with time. If the LOP is transferred, it may also be labelled with the letters "TPL" for transferred position line. Alphanumeric text used to label LOP should be the same basic colour as the line. A LOP range observation will be an arc.
Monitored route		Dashed bold line, waypoints (WPT) as circles
Planned or alternate route		Dotted line, WPT as circles
Trial manoeuvre	T	Large T on screen
Simulation mode	S	Large S on screen
Cursor	+ -¦-	Crosshair (two alternatives, one with open centred
Range rings		Solid circles
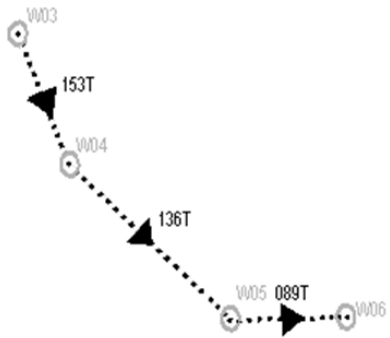
Topic	Symbol	Description
Variable Range Markers (VRM)		Circle. Additional VRM should be distinguishable from the primary VRM
Electronic Bearing Lines (EBL)		Dashed line. Additional EBL should be distinguishable from primary EBL
Acquisition/ Activation area		Solid line boundary for an area
Event mark		Rectangle with diagonal line, clarified by added text (e.g. "MOB" for man overboard cases)
Tidal stream	 Examples show default symbol for a point	A tidal stream should be presented as a single line with three arrowheads. The line should originate from the charted position for which a tidal stream table (or tidal stream data) is available. The line for an actual tidal stream should be drawn using a thin solid line style. The line for a predicted tidal stream should be drawn using a thin long dashed line style. The arrowheads for a tidal stream should be drawn using a thin solid line style. The tidal stream should be labelled adjacent to the line with the effective strength and time, ideally on opposite sides. Alphanumeric text used to label the tidal stream should be the same basic colour as the line.
Mariner entered danger	 Examples show the default symbol for a mariner entered danger highlighting a dangerous wreck at an unknown depth bounded by a rectangular danger highlight and an outcropping of land bounded by a user-entered danger highlight	A danger highlighted by a mariner should be presented as a polygon bounding a geographic area designated as dangerous to navigation, or as a poly-line creating a boundary around such an area. The boundary of the polygon, or poly-line, should be drawn using a thick solid line style. Recommended colour: red. The polygon, or bounded area, should be filled with a transparent fill using the same colour as the polygon or poly-line.

Topic	Symbol	Description
Look-ahead alarm highlight	Example shows a depth area shallower than safety contour and a dangerous wreck within the look-ahead safety check area	The graphical indication in the chart area of an alarm condition (A11.4.4 and 11.4.6, MSC.232 (82)) should be presented as a polygon or poly-line on the boundary of the area or point object causing the condition. The polygon or poly-line should be drawn using a thick solid line style with recommended colour red. The bounded area should have a transparent fill of the same colour.
Look-ahead indication highlight	Example show point (wreck), restricted area and line (fish stakes)	The graphical indication in the chart area of warning or caution conditions (see A11.4.4 and 11.4.6, MSC.232 (82)) should be presented as a polygon or poly-line on the boundary of the area or point object causing the condition. The polygon or poly-line should be drawn using a thick solid line style with recommended colour yellow and adjacent thin lines of black on either side for visibility against a white (Day) background. The bounded area should not be filled.
Danger bearing	NLT100 NMT080 The drawing is not to scale. The example shows the default symbols for a light and a dangerous wreck at an unknown depth.	A danger bearing or clearing line should be presented as a single line with an arrowhead directed at the base of a charted object. The line should be drawn using a thin solid line style with the required colour red. A danger bearing should be labelled with its bearing. The letters "NMT" should be used to indicate "not more than". The letters "NLT" to indicate "not less than". Alphanumeric text used to label the danger bearing should be the same basic colour as the line.
MSI	Example of point symbol MSI Example of area symbol MSI MSI MSI	MSI point symbol should be presented as a box with the "MSI" inscribed inside it. The box should be centred at the position derived from the MSI message. The box should be drawn using a thick solid line style. The MSI area symbol should be presented as a series of lines bounding a geographic area designated as "caution" to

Topic	Symbol	Description
		navigation. Connecting lines should be drawn using thin dashed line style and using the same basic colour as the symbol itself. The area should be filled with a sparse pattern of MSI point symbols. Note that the source of MSI may be NAVTEX, AIS ASM function identifier 22 or 23 (SN.1/Circ.289), etc.
Meteorological information	Dover (W) (WMO) Example of weather station Dover (W) (WMO) Example of weather station with optional wind shaft in southern hemisphere Example of reference point with optional wind shaft in southern hemisphere	Meteorological information symbols consist of two parts: • the weather station symbol; and • reference point and the wind shaft. The weather station symbol should be presented as a circle with "W" inscribed inside it. The circle should be centred at the position derived from the site location report binary message. The circle should not be more than 6 mm in diameter, drawn using a thin solid line style and using the same basic colour as AIS AtoN. The reference point symbol should be presented as a dot. The dot should be more drawn using a thin solid line style and using the same basic colour as AIS AtoN. Alphanumeric text may be used to label the weather station. The optional wind shaft should be used to represent wind force and direction as defined by WMO No.485, Appendix II-4, the surface plotting model. If wind force and direction is not available then there should be no environmental symbol. The wind shaft should be not more than 3 times the diameter of the weather station symbol. The length of barbs and pennants should not exceed the diameter of the weather station symbol. The wind shaft should be drawn using a thick solid line style and using the same basic
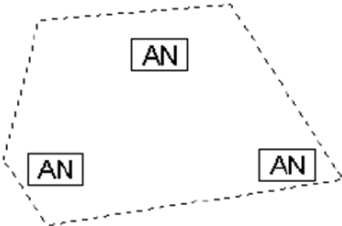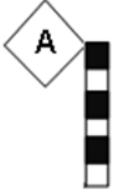
Topic	Symbol	Description
		colour as AIS AtoN. The wind shaft is directed along the axis of the wind towards the centre of the station circle and stops at its circumference. Wind is represented by barbs and solid pennants. The full barbs representing 5 m s−1 or 10 kn, the half barbs representing 2.5 m s−1 or 5 kn and the solid pennant representing 25 m s−1 or 50 kn. All pennants and barbs lie to the left (clockwise) of the wind shaft in the northern hemisphere and to the right (counter clockwise) of the wind shaft in the southern hemisphere. Barbs are at an angle of 110° to 130° from the wind shaft. Pennants are triangles with their bases on the wind shaft. A calm should be indicated by a circle drawn around the weather station circle. Missing wind speed should be indicated by placing an "x" at the end of the wind shaft in lieu of the wind barbs. Note that the source of meteorological information may be AIS ASM function identifier 26 or 31 (SN.1/Circ.289), etc.
Tidal and water level information		Tidal and water level information symbol consist of three parts: • tidal symbol; • tidal flow symbol; • tidal gauge symbol. The tidal symbol should be presented as a diamond with "T" inscribed inside it. The diamond should be centred at the position derived from the site location report binary message. The diamond should be drawn using a thin solid line style and using the same basic colour as AIS AtoN. The optional tidal flow part of the symbol should be used to represent tidal speed and direction. If tidal speed and direction is not available

Topic	Symbol	Description
		then there should be no tidal flow symbol. The tidal flow symbol should be drawn to the direction of the tidal current and using the same basic colour as AIS AtoN.

The optional tidal gauge part of the symbol should be used to represent availability of water level information. If water level is not available then there should be no tidal gauge symbol. The tidal gauge symbol should be drawn using a thick solid line style, transparent fill and using the same basic colour as AIS AtoN.
Note that the source of tidal information may be AIS ASM function identifier 31 (SN.1/Circ.289), etc. |

Topic	Symbol	Description
Signal station	◇ SS	Signal station should be presented as a diamond centred at the reported position of the signal station. The sides of the diamond should be the same basic colour as the AIS AtoN symbol.

The symbol should be labelled with text "SS" centred in the diamond and the colour of the label should be the same colour as the symbol.

Note that a signal station is a station capable of transmitting marine traffic signals. The source of signal station may be AIS ASM function identifier 19 (SN.1/Circ.289), etc. |
| **Route information broadcast** | WO3 153T WO4 136T WO5 089T WO6 | Route information is as a series of waypoints connected by one or more legs. Leg lines on the route information should be drawn using a thin dotted line style. They should have a centred solid triangle with equal length of each side and should be the same basic colour as the AIS AtoN symbol. Solid triangle is centred on visible part of each leg. |

		Leg lines on the route information may be labelled adjacent to their line with their course. The label should not interfere with text used to label the waypoint. Alphanumeric text used to label a leg line should be the same colour as the leg line. The colour of route type "mandatory route" should be different from other route types. Note that the source of route information may be AIS ASM function identifier 27 or 28 (SN.1/Circ.289), etc.

Topic	Symbol	Description
Berthing data	BERTH	Berthing assignment should be presented as a box with the "BERTH" inscribed inside it. The box should be centred at the position derived from the berthing data message. The box should be drawn using a thick solid line style and should be the same basic colour as the AIS AtoN symbol. Note that the source of berthing data may be AIS ASM function identifier 20 (SN.1/Circ.289), etc.
Clearance time to enter port	CTE	Clearance time to enter port should be presented as a box with the "CTE" inscribed inside it. The box should be centred at the position derived from clearance time to enter port data message. The box should be drawn using a thick solid line style and should be the same basic colour as the AIS AtoN symbol. Note that the source of clearance to enter port may be AIS ASM function identifier 18 (SN.1/Circ.289), etc.

Area notice	Example of point symbol AN Example of area symbol AN AN AN	Area notice point symbol should be presented as a box with "AN" inscribed inside it. The box should be centred at the position derived from Area notice message. The box should be drawn using a thick solid line style and should be the same basic colour as the AIS AtoN symbol. Area notice area symbol should be presented as a series of lines bounding a geographic area. Connecting lines should be drawn using the thin dashed line style and using the same basic colour as the symbol itself. The area should be filled with a sparse pattern of Area notice point symbols. Drawing priority of Area notice symbol is below Maritime Safety Information (MSI). Note that the source of the area notice may be AIS ASM function identifier 22 or 23 (SN.1/Circ.289), etc.

Air gap	A	Air gap symbols consist of two parts:
		  • the air gap symbol
		  • the air gap gauge symbol
		
		The air gap symbol should be presented as a diamond with "A" inscribed inside it. The diamond should be centred at the position derived from the site location report binary message. The diamond should be drawn using a thin solid line style and using the same basic colour as AIS AtoN.
		
		The air gap gauge part of the symbol should be used to represent availability of air gap information. If air gap is not available then there should be no air gap gauge symbol. The air gap gauge symbol should be drawn using a thick solid line style, transparent fill and using the same basic colour as AIS AtoN.
		
		Note that the source of the air gap/air draught information may be AIS ASM function identifier 26 (SN.1/Circ.289), etc.
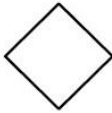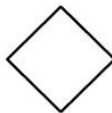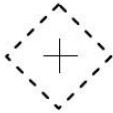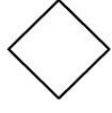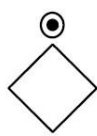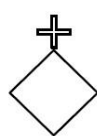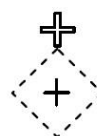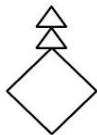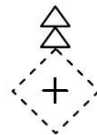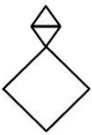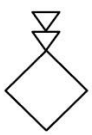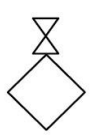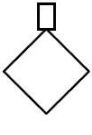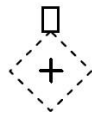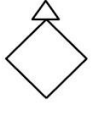
| Environmental report | | The environmental report symbol should be presented as a diamond with "ENV" inscribed inside it. The diamond should be centred at the position derived from the site location report binary message. The diamond should be drawn using a thin solid line style and using the same basic colour as AIS AtoN.

Note that the source of environmental information may be AIS ASM function identifier 26 or 31 (SN.1/Circ.289), etc. |

Table 5.1: Improved symbols for portrayal of AIS Aids to Navigation (AIS AtoN)

Type of AIS AtoN (Type of code in AIS msg. 21)	Symbol (Physical)	Symbol (Virtual)	Description
Portrayal when indication of type is not selected	◇		Solid diamond (Shown with chart symbol. Chart symbol not required for radar.) **Note:** Applicable only for Physical AIS AtoN
Default, type not specified (0) Reference point (1) Light, without sectors (5) Light, with sectors (6) Leading Light Front (7) Leading Light Rear (8)	◇	⬦+	Physical: Solid diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position
Fixed structure offshore/obstruction (3) Light Vessel/LANBY/Rigs (31)	◇		Solid diamond (Shown with chart symbol. Chart symbol not required for radar.) **Note:** Fixed structure offshore/obstruction and Light Vessel/LANBY/Rigs versions are not applicable for Virtual AIS AtoN
Racon (2)	◉◇		Solid diamond with double circle of black inner circle on the top of diamond **Note:** Racon version is not applicable for Virtual AIS AtoN
Emergency Wreck Mark (4)	✝◇	✝⬦+	Physical: Solid diamond with cross on the top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and cross on the top of diamond
Beacon, Cardinal N (9) Floating, Cardinal Mark N (20)	△△◇	△△⬦+	Physical: Solid diamond with 2 triangles, one above the other, point upward, on top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and 2 triangles, one above the other, points upward, on the top of diamond

Type of AIS AtoN (Type of code in AIS msg. 21)	Symbol (Physical)	Symbol (Virtual)	Description
Beacon, Cardinal E (10) Floating, Cardinal Mark E (21)			Physical: Solid diamond with 2 triangles, one above the other, base to base, on the top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and 2 triangles, one above the other, base to base, on the top of diamond
Beacon, Cardinal S (11) Floating, Cardinal Mark S (22)			Physical: Solid diamond with 2 triangles, one above the other, point downward, on the top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and 2 triangles, one above the other, points downward, on the top of diamond
Beacon, Cardinal W (12) Floating, Cardinal Mark W (23)			Physical: Solid diamond with 2 triangles, one above the other, point to point, on the top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and 2 triangles, one above the other, point to point, on the top of diamond
Beacon, Port hand (13) Beacon, Preferred Channel Port hand (15) Port hand Mark (24) Preferred Channel Port hand (26)			Physical: Solid diamond with rectangle, short side up, on the top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and rectangle, short side up, on the top of diamond
Beacon, Starboard hand (14) Beacon, Preferred Channel Starboard hand (16) Starboard hand Mark (25) Preferred Channel Starboard hand (27)			Physical: Solid diamond with triangle, points upward, on the top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and triangle, points upward, on the top of diamond
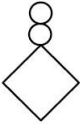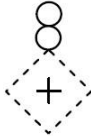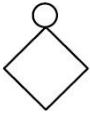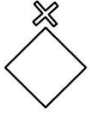
Type of AIS AtoN (Type of code in AIS msg. 21)	Symbol (Physical)	Symbol (Virtual)	Description
Beacon, Isolated danger (17) Isolated danger (28) Beacon, Safe			Physical: Solid diamond with 2 circles, one above the other, on the top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and 2 circles, one above the other, on the top of diamond
Beacon, Safe water (18) Safe Water (29)			Physical: Solid diamond with circle on the top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and circle on the top of diamond
Beacon, Special mark (19) Special Mark (30)			Physical: Solid diamond with bold outlined "X" on the top of diamond (Shown with chart symbol. Chart symbol not required for radar.) Virtual: Dotted diamond with cross hair centred at reported position and bold outlined "X" on the top of diamond

Table 5.2: Portrayal of AIS AtoN indicating off position or failure
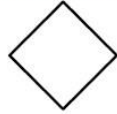
Type of failure condition	Symbol (Physical)	Description
AIS AtoN indicating to be in Off Position		Failure is indicated using yellow caution colour for the basic diamond part of the symbol with cross hair centred at reported position and for text "Off Posn" in top of the Physical AIS AtoN. **Note:** Physical AIS AtoN indicates realtime EPFS position of drifting AtoN (obstacle).
AIS AtoN indicating Lights failure	Unlit	Failure is indicated using yellow caution colour with text "Unlit" in top of the Physical AIS AtoN.
AIS AtoN indicating Racon failure	Racon err	Failure is indicated using yellow caution colour with text "Racon err" in top of the Physical AIS AtoN.

Table 5.3: Portrayal of AIS AtoN indicating the absence of a charted Physical AtoN

Type of failure condition	Symbol (Virtual)	Description
AIS AtoN indicating the absence of a charted Physical AtoN	Missing	The absence of a charted AtoN is indicated using yellow caution colour for both the basic diamond part of the symbol and for text "Missing". The basic diamond part is always empty without symbol of the type of the AtoN. **Note:** This case is communicated as a combined state of "Virtual" and "off position". Type of absent AtoN can be determined be the underlying charted object, or selecting the Virtual AIS AtoN Object.

***

ANNEX 2

**GUIDELINES FOR THE PRESENTATION OF NAVIGATION-RELATED
TERMS AND ABBREVIATIONS**

1   Purpose

The purpose of these Guidelines is to provide guidance on the use of appropriate navigation-related terminology and abbreviations intended for presentation on shipborne navigational displays. These are based on terms and abbreviations used in existing navigation references.

2   Scope

These Guidelines are issued to ensure that the terms and abbreviations used for the display of navigation-related information on all shipborne navigation equipment and systems are consistent and uniform.

3   Application

3.1   These Guidelines apply to all shipborne navigational systems and equipment including radar, ECDIS, AIS, INS and IBS. When navigation-related information is displayed as text, the standard terms or abbreviations listed in the appendix should be used, instead of using terms and abbreviations which are currently contained in existing performance standards.

3.2   Where a standard term and abbreviation is not available, another term or abbreviation may be used. This term or abbreviation should not conflict with the standard terms or abbreviations listed in the appendix and provide a clear meaning. Standard marine terminology should be used for this purpose. When the meaning is not clear from its context, the term should not be abbreviated.

3.3   Unless otherwise specified, standard terms should be shown in lower case while abbreviations should be presented using upper case.

APPENDIX

LIST OF STANDARD TERMS AND ABBREVIATIONS

Term	Abbreviation	Abbreviation	Term
Acknowledge	ACK	ACK	Acknowledge
Acquire, Acquisition	ACQ	ACQ	Acquire, Acquisition
Acquisition Zone	AZ	ADJ	Adjust, Adjustment
Additional Military Layer	AML	AFC	Automatic Frequency Control
Adjust, Adjustment	ADJ	AFT	Aft
Aft	AFT	AGC	Automatic Gain Control
Alarm	ALARM	AIS	Automatic Identification System
Alert Setting	ALERT SET	ALARM	Alarm
Altitude	ALT	ALERT SET	Alert Setting
Amplitude Modulation	AM	ALT	Altitude
Anchor Watch	ANCH	AM	Amplitude Modulation
Antenna	ANT	AML	Additional Military Layer
Anti-Clutter Rain	RAIN	ANCH	Anchor Watch
Anti-Clutter Sea	SEA	ANCH	Vessel at Anchor (applies to AIS)
April	APR	ANT	Antenna
Audible	AUD	APR	April
August	AUG	AUD	Audible
Automatic	AUTO	AUG	August
Automatic Frequency Control	AFC	AUTO	Automatic
Automatic Gain Control	AGC	AUX	Auxiliary System/Function
Automatic Identification System	AIS	AVAIL	Available
Auxiliary System/Function	AUX	AZ	Acquisition Zone
Available	AVAIL	BITE	Built in Test Equipment
Background	BKGND	BKGND	Background
Bearing	BRG	BDS	BeiDou Navigation Satellite System
Bearing Waypoint To Waypoint	BWW	BRG	Bearing
BeiDou Navigation Satellite System	BDS	BRILL	Display Brilliance
Built in Test Equipment	BITE	BWW	Bearing Waypoint To Waypoint
Calibrate	CAL	C	Carried (e.g. carried EBL origin)
Cancel	CNCL	C UP (See note 2)	Course Up
Cancel All	CNCL ALL	CAL	Calibrate
Carried (e.g. carried EBL origin)	C	CCRP	Consistent Common Reference Point
Centre	CENT	CCRS	Consistent Common Reference System
Change	CHG	CENT	Centre
Chart Display Settings	CHT DISP SET	CHT DISP SET	Chart Display Settings
Chart Management	CHT MGMT	CHT MGMT	Chart Management
Chart Safety Settings	CHT SF SET	CHT SF SET	Chart Safety Settings

Term	Abbreviation	Abbreviation	Term
Circular Polarized	CP	CHG	Change
Clear	CLR	CLR	Clear
Closest Point of Approach	CPA	CNCL	Cancel
Conning	CONN	CNCL ALL	Cancel All
Consistent Common Reference Point	CCRP	COG	Course Over the Ground
Consistent Common Reference System	CCRS	CONN	Conning
Contrast	CONT	CONT	Contrast
Correction	CORR	CORR	Correction
Course	CRS	CP	Circular Polarized
Course Over the Ground	COG	CPA	Closest Point of Approach
Course Through the Water	CTW	CRS	Course
Course To Steer	CTS	CTS	Course To Steer
Course Up	C UP (See note 2)	CTW	Course Through the Water
Cross Track Distance	XTD	CURS	Cursor
Cursor	CURS	D	Dropped (e.g. dropped EBL origin)
Dangerous Goods	DG	DATE	Date
Date	DATE	DATE OBJ	Dated Objects
Dated Objects	Dated Objects	DAY/NT	Day/Night
Day/Night	DAY/NT	DBDS	Differential BDS
Dead Reckoning, Dead Reckoned Position	DR	DEC	December
December	DEC	DECR	Decrease
Decrease	DECR	DEL	Delete
Default Settings	DFLT SET	DELAY	Delay
Delay	DELAY	DEP	Departure
Delete	DEL	DEST	Destination
Departure	DEP	DEV	Deviation
Depth	DPTH	DFLT SET	Default Settings
Destination	DEST	DG	Dangerous Goods
Deviation	DEV	DGAL (See note 2)	Differential Galilleo
Differential BDS	DBDS	DGLONASS (See note 2)	Differential GLONASS
Differential Galilleo	DGAL (See note 2)	DGNSS (See note 2)	Differential GNSS
Differential GLONASS	DGLONASS (See note 2)	DGPS (See note 2)	Differential GPS
Differential GNSS	DGNSS (See note 2)	DISP	Display
Differential GPS	DGPS (See note 2)	DIST	Distance
Digital Selective Calling	DSC	DIVE	Vessel Engaged in Diving Operations (applies to AIS)
Display	DISP	DN	Down
Display Brilliance	BRILL	DPTH	Depth
Distance	DIST	DR	Dead Reckoning, Dead Reckoned Position

Term	Abbreviation	Abbreviation	Term
Distance Root Mean Square	DRMS (See note 2)	DRG	Vessel Engaged in Dredging or Underwater Operations (applies to AIS)
Distance To Go	DTG	DRIFT	Drift
Down	DN	DRMS (See note 2)	Distance Root Mean Square
Drift	DRIFT	DSC	Digital Selective Calling
Dropped (e.g. dropped EBL origin)	D	DTG	Distance To Go
East	E	E	East
Electronic Bearing Line	EBL	EBL	Electronic Bearing Line
Electronic Chart Display and Information System	ECDIS	ECDIS	Electronic Chart Display and Information System
Electronic Navigational Chart	ENC	ENC	Electronic Navigational Chart
Electronic Position Fixing System	EPFS	ENC MGMT REP	ENC Management Report
Electronic Range and Bearing Line	ERBL	ENC UPD STATUS	ENC Update Status Report
ENC Management Report	ENC MGMT REP	ENH	Enhance
ENC Update Status Report	ENC UPD STATUS	ENT	Enter
Enhance	ENH	EP	Estimated Position
Enter	ENT	EPFS	Electronic Position Fixing System
Equipment	EQUIP	EQUIP	Equipment
Error	ERR	ERBL	Electronic Range and Bearing Line
Estimated Position	EP	ERR	Error
Estimated Time of Arrival	ETA	ETA	Estimated Time of Arrival
Estimated Time of Departure	ETD	ETD	Estimated Time of Departure
Event	EVENT	EVENT	Event
Exclusion Zone	EZ	EXT	External
Export Route	ROUTE EXP	EZ	Exclusion Zone
External	EXT	FEB	February
February	FEB	FISH	Fishing Vessel
Fishing Vessel	FISH	FIX	Fix
Fix	FIX	FM	Frequency Modulation
Forward	FWD	FREQ	Frequency
Frequency	FREQ	FULL	Full
Frequency Modulation	FM	FWD	Forward
Full	FULL	GAIN	Gain
Gain	GAIN	GAL	Galilleo
Galilleo	GAL	GC	Great Circle
Geometric Dilution Of Precision	GDOP	GDOP	Geometric Dilution Of Precision
Global Maritime Distress and Safety System	GMDSS	GRAPH INDX	Graphical Index
Global Navigation Satellite System	GNSS	GLONASS	GLONASS

Term	Abbreviation	Abbreviation	Term
GLONASS	GLONASS	GMDSS	Global Maritime Distress and Safety System
Global Positioning System	GPS	GND	Ground
Graphical Index	GRAPH INDX	GNSS	Global Navigation Satellite System
Great Circle	GC	GPS	Global Positioning System
Grid	GRID	GRI	Group Repetition Interval
Ground	GND	GRID	Grid
Group Repetition Interval	GRI	GRND	Vessel Aground (applies to AIS)
Guard Zone	GZ	GYRO	Gyro
Gyro	GYRO	GZ	Guard Zone
Harmful Substances (applies to AIS)	HS	H UP (See note 2)	Head Up
Head Up	H UP (See note 2)	HCS	Heading Control System
Heading	HDG	HDG	Heading
Heading Control System	HCS	HDOP	Horizontal Dilution Of Precision
Heading Line	HL	HF	High Frequency
Heading Line Off	HL OFF	HL	Heading Line
High Frequency	HF	HL OFF	Heading Line Off
High Speed Craft (applies to AIS)	HSC	HS	Harmful Substances (applies to AIS)
Horizontal Dilution Of Precision	HDOP	HSC	High Speed Craft (applies to AIS)
Identification	ID	I/O	Input/Output
Import Chart	IMPORT CHT	ID	Identification
Import Route	ROUTE IMP	IMPORT CHT	Import Chart
In	IN	IN	In
Increase	INCR	INCR	Increase
Indication	IND	IND	Indication
Information	INFO	INF RED	Infrared
Information Report	INFO REPORT	INFO	Information
Infrared	INF RED	INFO REPORT	Information Report
Initialization	INIT	INIT	Initialization
Input	INP	INP	Input
Input/Output	I/O	INT	Interval
Integrated Radio Communication System	IRCS	IR	Interference Rejection
Interference Rejection	IR	IRCS	Integrated Radio Communication System
Interswitch	ISW	ISW	Interswitch
Interval	INT	JAN	January
January	JAN	JUL	July
July	JUL	JUN	June
June	JUN	LAT	Latitude
Latitude	LAT	LF	Low Frequency
Limit	LIM	LIM	Limit
Line Of Position	LOP	LOG	Log
Log	LOG	LON	Longitude

Term	Abbreviation	Abbreviation	Term
Long Pulse	LP	LOOK AHEAD	Own ship look-ahead
Long Range	LR	LOP	Line Of Position
Longitude	LON	LORAN	Loran
Loran	LORAN	LOST TGT	Lost Target
Lost Target	LOST TGT	LP	Long Pulse
Low Frequency	LF	LR	Long Range
Magnetic	MAG	MAG	Magnetic
Manoeuvre	MVR	MAN	Manual
Manual	MAN	MAN UPD	Manual Update
Manual Update	MAN UPD	MAP	Map(s)
Map(s)	MAP	MAR	March
March	MAR	MAX	Maximum
Maritime Mobile Services Identity number	MMSI	MAY	May
Maritime Pollutant (applies to AIS)	MP	MENU	Menu
Maritime Safety Information	MSI	MF	Medium Frequency
Marker	MKR	MIN	Minimum
Master	MSTR	MISSING	Missing
Maximum	MAX	MKR	Marker
May	MAY	MMSI	Maritime Mobile Services Identity number
Medium Frequency	MF	MON	Performance Monitor
Medium Pulse	MP	MP	Maritime Pollutant (applies to AIS)
Menu	MENU	MP	Medium Pulse
Minimum	MIN	MSI	Maritime Safety Information
Missing	MISSING	MSTR	Master
Mute	MUTE	MUTE	Mute
Navigation	NAV	MVR	Manoeuvre
Normal	NORM	N	North
North	N	N UP	North Up
North Up	N UP	NAV	Navigation
November	NOV	NORM	Normal
October	OCT	NOV	November
Off	OFF	NUC	Vessel Not Under Command (applies to AIS)
Off centred	OFF CENT	OCT	October
Officer of the Watch	OOW	OFF	Off
Offset	OFFSET	OFF CENT	Off centred
On	ON	OFFSET	Offset
Out/Output	OUT	ON	On
Own Ship	OS	OOW	Officer of the Watch
Own Ship Look-Ahead	LOOK AHEAD	OS	Own Ship
Panel Illumination	PANEL	OUT	Out/Output
Parallel Index Line	PI	PAD	Predicted Area of Danger
Passenger Vessel (applies to AIS)	PASSV	PANEL	Panel Illumination
Performance Monitor	MON	PASSV	Passenger Vessel (applies to AIS)

Term	Abbreviation	Abbreviation	Term
Permanent	PERM	PDOP	Positional Dilution Of Precision
Person Overboard	POB	PERM	Permanent
Personal Identification Number	PIN	PI	Parallel Index Line
Pilot Vessel (applies to AIS)	PILOT	PILOT	Pilot Vessel (applies to AIS)
Port/Portside	PORT	PIN	Personal Identification Number
Position	POSN	PL	Pulse Length
Positional Dilution Of Precision	PDOP	PM	Pulse Modulation
Power	PWR	POB	Person Overboard
Predicted	PRED	PORT	Port/Portside
Predicted Area of Danger	PAD	POSN	Position
Predicted Point of Collision	PPC	PPC	Predicted Point of Collision
Pulse Length	PL	PPR	Pulses Per Revolution
Pulse Modulation	PM	PRED	Predicted
Pulse Repetition Frequency	PRF	PRF	Pulse Repetition Frequency
Pulse Repetition Rate	PRR	PRR	Pulse Repetition Rate
Pulses Per Revolution	PPR	PWR	Power
Racon	RACON	RACON	Racon
Radar	RADAR	RAD	Radius
Radar Overlay	RADAR OVR	RADAR	Radar
Radar Settings	RADAR SET	RADAR OVR	Radar Overlay
Radius	RAD	RADAR SET	Radar Settings
Rain	RAIN	RAIM	Receiver Autonomous Integrity Monitoring
Range	RNG	RAIN	Anti-Clutter Rain
Range Rings	RR	RAIN	Rain
Raster Chart Display System	RCDS	RCDS	Raster Chart Display System
Raster Navigational Chart	RNC	REC EVENT	Record Event
Rate Of Turn	ROT	REF	Reference
Real-time Kinematic	RTK	REL (See note 3)	Relative
Receiver	RX (See note 2)	RIM	Vessel Restricted in Manoeuvrability) (applies to AIS)
Receiver Autonomous Integrity Monitoring	RAIM	RL	Rhumb Line
Record Event	REC EVENT	RM	Relative Motion
Reference	REF	RMS	Root Mean Square
Relative	REL (See note 3)	RNC	Raster Navigational Chart
Relative Motion	RM	RNG	Range
Revolutions per Minute	RPM	RoRo	Roll On/Roll Off Vessel (applies to AIS)
Rhumb Line	RL	ROT	Rate Of Turn
Roll On/Roll Off Vessel (applies to AIS)	RoRo	ROUTE	Route
Root Mean Square	RMS	ROUTE MON	Route Monitoring
Route	ROUTE	ROUTE PLAN	Route Plan
Route Monitoring	ROUTE MON	RPM	Revolutions per Minute
Route Plan	ROUTE PLAN	RR	Range Rings
Safety Contour	SF CNT	ROUTE EXP	Export Route

Term	Abbreviation	Abbreviation	Term
Sailing Vessel (applies to AIS)	SAIL	ROUTE IMP	Import Route
Satellite	SAT	RTK	Real-time Kinematic
Satellite Based Augmentation System	SBAS	RX (See note 2)	Receiver
Save User Settings	SAVE USR	S	South
S-Band (applies to Radar)	S-BAND	SBAS	Satellite-Based Augmentation System
Scan to Scan	SC/SC	SAIL	Sailing Vessel (applies to AIS)
Search And Rescue Transponder	SART	SART	Search And Rescue Transponder
Search And Rescue Vessel (applies to AIS)	SARV	SARV	Search And Rescue Vessel (applies to AIS)
Select	SEL	SAT	Satellite
Select User Settings	USR SET	SAVE USR	Save User Settings
September	SEP	S-BAND	S-Band (applies to Radar)
Sequence	SEQ	SC/SC	Scan to Scan
Set (i.e., set and drift, or setting a value)	SET	SDME	Speed and Distance Measuring Equipment
Ship's Time	TIME	SEA	Anti-Clutter Sea
Short Pulse	SP	SEL	Select
Signal to Noise Ratio	SNR	SEP	September
Silence	SLNC	SEQ	Sequence
Simulation	SIM (See note 4)	SET	Set (i.e., set and drift, or setting a value)
Slave	SLAVE	SF CNT	Safety Contour
South	S	SIM (See note 4)	Simulation
Speed	SPD	SLAVE	Slave
Speed and Distance Measuring Equipment	SDME	SLNC	Silence
Speed Over the Ground	SOG	SNR	Signal to Noise Ratio
Speed Through the Water	STW	SOG	Speed Over the Ground
Stabilized	STAB	SP	Short Pulse
Standard Display	STND DISP	SPD	Speed
Standby	STBY	STAB	Stabilized
Starboard/Starboard Side	STBD	STAT DISP	Status and Data
Station	STN	STBD	Starboard/Starboard Side
Status and Data	STAT DISP	STBY	Standby
Symbol(s)	SYM	STN	Station
Synchronization	SYNC	STND DISP	Standard Display
Target	TGT	STW	Speed Through the Water
Target Settings	TGT SET	SYM	Symbol(s)
Target Tracking	TT	SYNC	Synchronization
Test	TEST	T	True
Time	TIME	TCPA	Time to CPA
Time Difference	TD	TCS	Track Control System
Time Dilution Of Precision	TDOP	TD	Time Difference
Time Of Arrival	TOA	TDOP	Time Dilution Of Precision
Time Of Departure	TOD	TEST	Test
Time to CPA	TCPA	TGT	Target

Term	Abbreviation	Abbreviation	Term
Time To Go	TTG	TGT SET	Target Settings
Time to Wheel Over Line	TWOL	THD	Transmitting Heading Device
Track	TRK	TIME	Ship's Time
Track Control System	TCS	TIME	Time
Track Made Good	TMG (See note 5)	TM	True Motion
Trail(s)	TRAIL	TM RESET	True Motion Reset
Transceiver	TXRX (See note 2)	TMG (See note 5)	Track Made Good
Transferred Line Of Position	TPL	TOA	Time Of Arrival
Transmitter	TX (See note 2)	TOD	Time Of Departure
Transmitting Heading Device	THD	TOW	Vessel Engaged in Towing Operations (applies to AIS)
Trial Manoeuvre	TRIAL (See note 4)	TPL	Transferred Line Of Position
Trial Settings	TRIAL SET	TRAIL	Trail(s)
Trigger Pulse	TRIG	TRIAL (See note 4)	Trial Manoeuvre
True	T	TRIAL SET	Trial Settings
True Motion	TM	TRIG	Trigger Pulse
True Motion Reset	TM RESET	TRK	Track
True/Relative Vector	T / R VECT	T / R VECT	True/Relative Vector
Tune	TUNE	TT	Target Tracking
Ultrahigh Frequency	UHF	TTG	Time To Go
Universal Time, Co-ordinated	UTC	TUNE	Tune
Unstabilized	UNSTAB	TWOL	Time to Wheel Over Line
Update Log	UPD LOG	TX (See note 2)	Transmitter
Update Review	UPD REV	TXRX (See note 2)	Transceiver
User Chart	USR CHT	UHF	Ultrahigh Frequency
Variable Range Marker	VRM	UNSTAB	Unstabilized
Variation	VAR	UPD LOG	Update Log
Vector	VECT	UPD REV	Update Review
Very High Frequency	VHF	USR CHT	User Chart
Very Low Frequency	VLF	USR SET	Select User Settings
Vessel Aground (applies to AIS)	GRND	UTC	Universal Time, Coordinated
Vessel at Anchor (applies to AIS)	ANCH	UWE	Vessel Underway Using Engine (applies to AIS)
Vessel Constrained by Draught (applies to AIS)	VCD	VAR	Variation
Vessel Engaged in Diving Operations (applies to AIS)	DIVE	VCD	Vessel Constrained by Draught (applies to AIS)
Vessel Engaged in Dredging or Underwater Operations (applies to AIS)	DRG	VDR	Voyage Data Recorder
Vessel Engaged in Towing Operations (applies to AIS)	TOW	VECT	Vector
Vessel Not Under Command (applies to AIS)	NUC	VHF	Very High Frequency
Vessel Restricted in	RIM	VID	Video

Term	Abbreviation	Abbreviation	Term
Manoeuvrability (applies to AIS)			
Vessel Traffic Service	VTS	VLF	Very Low Frequency
Vessel Underway Using Engine (applies to AIS)	UWE	VOY	Voyage
Video	VID	VRM	Variable Range Marker
Voyage	VOY	VTS	Vessel Traffic Service
Voyage Data Recorder	VDR	W	West
Warning	WARNING	WARNING	Warning
Water	WAT	WAT	Water
Waypoint	WPT	WOL	Wheel Over Line
West	W	WOT	Wheel Over Time
Wheel Over Line	WOL	WPT	Waypoint
Wheel Over Time	WOT	X-BAND	X-Band (applies to Radar)
X-Band (applies to Radar)	X-BAND	XTD	Cross Track Distance

LIST OF UNITS OF MEASUREMENT AND ABBREVIATIONS

Unit	Abbreviation	Abbreviation	Unit
cable length	cbl	cbl	cable length
cycles per second	cps	cps	cycles per second
degree(s)	deg	deg	degree(s)
fathom(s)	fm	fm	fathom(s)
feet/foot	ft	ft	feet/foot
gigahertz	GHz	GHz	gigahertz
hectopascal	hPa	hPa	hectopascal
hertz	Hz	Hz	hertz
hour(s)	hr(s)	hr(s)	hour(s)
kilohertz	kHz	kHz	kilohertz
kilometre	km	km	kilometre
kilopascal	kPa	kPa	kilopascal
knot(s)	kn	kn	knot(s)
megahertz	MHz	MHz	megahertz
metre	m	m	metre
minute(s)	min	min	minute(s)
Nautical Mile(s)	NM	NM	Nautical Mile(s)

Notes:

1   Terms and abbreviations used in nautical charts are published in relevant IHO publications and are not listed here.

2   In general, terms should be presented using lower case text and abbreviations should be presented using upper case text. Those abbreviations that may be presented using lower case text are identified in the list, e.g. "dGNSS" or "Rx".

3   Abbreviations may be combined, e.g. "CPA LIM" or "T CRS". When the abbreviation for the standard term "Relative" is combined with another abbreviation, the abbreviation "R" should be used instead of "REL", e.g. "R CRS".

4   The use of the abbreviations "SIM" and "TRIAL" are not intended to replace the appropriate symbols listed in annex 1.

5   The term "Course Made Good" has been used in the past to describe "Track Made Good". This is a misnomer in that "courses" are directions steered or intended to be steered with respect to a reference meridian. "Track Made Good" is preferred over the use of "Course Made Good".

6   Where other information is presented using SI units, the respective abbreviations should be used.

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