



THIS CIRCULAR LETTER REQUIRES A RESPONSE

IHB File Nos. S3/3061, S3/4405

CIRCULAR LETTER 67/2010  
20 October 2010

**CHART SPECIFICATIONS OF THE IHO (S-4)  
New and Revised Specifications and Symbols for  
Virtual Aids to Navigation**

References: a) IHO Publication S-4 Part B: Chart Specifications of the IHO  
b) IALA Guideline 1081 on Virtual Aids to Navigation

Dear Hydrographer,

1 Specification S-4 B-489 for charting AIS aids to navigation (AtoN), originally published in 2005, contains a brief reference to charting 'virtual' AIS AtoN. The use of virtual AtoN has developed considerably since 2005. IALA held a workshop in January 2010 on the subject and subsequently issued 'Guideline 1081: On Virtual Aids to Navigation' (March 2010). This guideline states that: 'Virtual AtoN should be reflected in Maritime Safety Information (MSI) or, if appropriate, be shown on the relevant nautical chart in due course' and 'The ECDIS performance standard requires that overlay symbols [based on a blue diamond] should be readily distinguishable from chart symbols.'

2 In accordance with its Terms of Reference, to 'keep under continuous review the IHO publication S-4 *Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO*, in order to advise the IHO on their updating, design and format' the IHO Chart Standardization and Paper Chart Working Group (CSPCWG) has been considering suitable specifications and symbols for including Virtual AtoN on paper charts. While the use of virtual AtoN has yet to be considered by the International Maritime Organization for recognition internationally, these aids are already in use in extensive trials and in various countries. Consequently, there is a need to have consistent and standardised symbols for use in those circumstances where charting action is required. The proposals developed by the CSPCWG are at Annex A. The most significant change from the existing simple instruction in S-4 is to ensure that there are symbols that are intuitive and explain the purpose of the AtoN.

3 According to S-4 Specification B-160, Member States should inform the IHB (info@ihb.mc) if they have any major objections to the adoption of the additional specifications and symbols proposed in this Circular Letter, or any other comments, within three months. Therefore, Member States' comments should reach the IHB no later than 21 January 2011, using the Response Form at Annex B. If no objections are received, the IHB will announce in a follow-up Circular Letter that the revised specifications have come into force. CSPCWG will then include them in S-4 at the next opportunity.

On behalf of the Directing Committee  
Yours sincerely,

Robert WARD  
Director

**Proposed additions and amendments to S-4 B-489***(Deletions in green and struck through, additions in italic red)***B-489 AUTOMATIC IDENTIFICATION SYSTEM (AIS)**

The Automatic Identification System (AIS) is an autonomous and continuous broadcast system, operating in the VHF maritime mobile band. It exchanges information such as vessel identification, position, course, speed, etc and can also be used as an Aid to Navigation. It is in this latter application that it is useful to chart its position.

- B-489.1 An AIS-equipped Aid to Navigation (AtoN)** may provide a positive identification of the aid. It may also transmit an accurate position, and provide additional information such as actual tidal height or local weather; details of these functions, which cannot be charted, should be provided in associated publications as appropriate. AIS transmissions must be charted using the magenta radio circle and **international abbreviation 'AIS'**, see B-480:



**S17.1** (with the letters in upright text) must be used for fixed AtoN and **S17.2** (with the letters in sloping text) must be used for floating AtoN.

**Note:** the signal may:

- actually be transmitted from a physical AtoN
- apparently be transmitted from a physical AtoN (ie a synthetic signal)
- be transmitted to represent a non-existent AtoN (ie a virtual AtoN).

*In most cases For signals transmitted from a physical AtoN and also for synthetic signals associated with a physical AtoN, the magenta-centre position circle should be replaced by the symbol for the actual AtoN, eg a light star or buoy symbol. If it is necessary to chart For charting a 'virtual' AIS AtoN, where no physical AtoN exists, see B-489.2 then the centre position circle (a magenta version of B22) must be used in lieu of the AtoN symbol.*

- B-489.2 Virtual aids to navigation.** *A virtual aid to navigation (V-AtoN) does not physically exist but is a digital information object promulgated by an authorised service provider, such as AIS, that can be presented on navigational systems.*

*(Virtual AtoN have not yet (2010) been recognized internationally by IMO; however there may be instances where they have been implemented locally and may require to be depicted on charts.)*

*V-AtoN can be used to inform the mariner about dangers to navigation, safe waterways, areas in which extra caution may be necessary and areas to be avoided. They may also be used in places where permanent physical AtoN cannot be sited. They may be used to represent a line, area, position or other form that may be displayed graphically.*

*The information, including geographic position, carried by V-AtoN may be fixed or may be changed over time (dynamic), depending on the intended purpose. V-AtoN are used primarily where there is a time critical consideration. V-AtoN can provide early notification to the mariner of urgent, temporary or dynamic information.*

*It will not usually be practical to chart temporary or dynamic V-AtoN. However, permanently activated V-AtoN should be charted if appropriate, for the same purpose as physical AtoN. The symbol must be made up as follows:*

- *All parts of the symbol must be magenta, to distinguish the V-AtoN from physical AtoN. Its position must therefore be identified on the chart by a small magenta position circle with central dot (ie magenta version of B22).*
- *The position must be surrounded by a 3mm radius radio circle, to indicate that the AtoN is a radio-transmission.*
- *The purpose of the AtoN must be indicated by a magenta topmark, the same shape and size that would be used for the equivalent buoy or beacon, normally located immediately on top of the position circle. (This will be lateral, cardinal, isolated danger, safe water, special or emergency wreck marking in the IALA Maritime Buoyage System; see B-463). Exceptionally, for clarity, a*

special mark 'X' topmark should have a short stem separating the 'X' from the position circle.

- A legend must be placed adjacent to the radio circle to further emphasise that it is a virtual aid (V) and to indicate the carrier of the transmission (eg AIS). At present (2010) this will be '**V-AIS**', but other means of transmission may be possible in the future which will be represented by different abbreviations.
- All text should be upright, as this is not a floating AtoN and therefore not subject to drifting, even when located in the water.
- Although AtoN have specified colour in the IALA system, colour abbreviations should not be added for a V-AtoN.

Examples:



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**Response Form**

*(to be returned to the IHB by 21 January 2011)*

*E-mail: [info@ihb.mc](mailto:info@ihb.mc) - Fax: +377 93 10 81 40)*

Note: The boxes will expand as you type your answers.

**Member State :**

**Contact :**

**E-mail :**


Do you agree with the new or revised specifications and symbols? If you answer 'No', please explain in the comment section below the tables.

No	Title	Yes	No
1	Revised specification B-489.1		
2	New specification B-489.2		
3	New symbols for Virtual Aids to Navigation		

**Comments :**

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**Signature :**

**Date :**
