

Important information for AVCS users

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This document provides important information for users of AVCS, including general cautions about the use of ENC's within ECDIS.

This document should be read by all users who are new to AVCS and/or the use of ENC's in ECDIS. Short term information and information of immediate navigational significance is given in the README.TXT file contained on the AVCS media. The README.TXT file should be checked for new information each time your ECDIS is updated.

Significant changes to this document will be announced in the README.TXT file.

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Development and use of ECDIS

Considerable progress has been made in the development of Electronic Chart Display and Information Systems (ECDIS), the navigational systems which make use of ENC data. Mariners should be aware of the significant changes in navigational practice required by the introduction of ECDIS and of the need to manage these changes in a careful and prudent manner. In particular, they should recognise the developing nature of ECDIS and its supporting services, the user-training requirement, and the need for adequate back up arrangements.

It should also be noted that the appearance and content of the data displayed in electronic charts may differ substantially from the same or similar data in the paper chart form. The definition of an ENC permits them to include information contained in nautical publications. However, currently-available ENC's do not contain such information and mariners using ENC's must continue to use related nautical publications.

Although ECDIS has been in use at sea for some years, many mariners remain unpractised in its use. Mariners must therefore be aware of the user training requirement. They should satisfy themselves that their ECDIS provides all the navigational functionality that they will need and that they are familiar with the operation of this functionality. Some national maritime administrations have issued advice relating to the introduction of ECDIS, and mariners should ensure that they are aware of, and conversant with, that advice.



Transition of AVCS and the ADMIRALTY ECDIS Service from S-63 Edition 1.0

The International Hydrographic Organization (IHO) terminated Edition 1.0 of the IHO Data Protection Scheme on 31 December 2013. ENC service providers that deliver data in S-63 format were then required to use Edition 1.1 of the standard. The Standard has since been updated to Edition 1.2.

AVCS is available in S-63 Edition 1.2 format on CD, DVD and via the Internet. The AVCS DVD offers significant benefits for compatible ECDIS including no need for base disc re-issues and improved loading because newer ECDIS are designed to load S-63 1.2 data more efficiently than was possible with S-63 1.0.

A small number of users with older ECDIS could not make the transition to S-63 1.1 format ENCs at the time. Therefore, we reached agreement with the IHO that we could continue to issue S-63 1.0 data for those specific users on the condition that it is only an aide to navigation. Therefore, please note that S-63 1.0 ENCs may not be a carriage compliant means of navigation. Please also note that the UKHO cannot guarantee the ongoing supply of S-63 1.0 data on an indefinite basis. All such users do so at their own risk and are encouraged to migrate to S-63 1.2 as soon as possible.

S-63 Edition 1.2

The International Hydrographic Organization (IHO) updated the documentation for Edition 1.1 of the IHO Data Protection Scheme in January 2015 to Edition 1.2. Although there is a new version of the scheme, there is no change to the format of data or permits.

Display of changes to routing measures in ECDIS

Routing measures such as Traffic Separation Schemes (TSS) are usually implemented or changed at specific dates and times. Advance notice of all known changes is given in ADMIRALTY Preliminary Notices to Mariners (PNM).

Notice of such changes is usually also given in ENCs (using Updates or New Editions) in advance of the implementation date by using the attributes Date Start (DATSTA) on new features that are being introduced and Date End (DATEND) on existing features that are being discontinued. The purpose of these attributes is to allow mariners to preview forthcoming changes and ECDIS to apply the changes automatically at the appropriate time.

The way in which ECDIS equipment will display the features encoded using DATSTA and DATEND varies, although most ECDIS will use one of the following methods:

- › The ECDIS will use the attributes to display only those features that are valid on a user-selected date.
- › The ECDIS will display, according to the selection of the user, either the features that are valid on the current date or all features (regardless of their validity).
- › The ECDIS will display all features (regardless of their validity) with no user-selectable options. In this case, it may still be possible to obtain information on the date and time window for which particular features are valid by using the cursor-pick report to view the date-dependent attributes.

It is important for users to understand the user settings available in their ECDIS to ensure the best possible display of these features. It is also important that users ensure that their ECDIS is up-to-date for the latest IHO standards (see below).



Display anomalies in some ECDIS

A number of ECDIS operating anomalies have been identified, including the discovery that some models of some ECDIS equipment might not, under certain circumstances, display all navigationally significant features or activate appropriate alarms. Due to the complex nature of ECDIS, and in particular because it involves a mix of hardware, software and data, it is possible that further anomalies may exist.

ECDIS operating with Edition 3.4 of the IHO Presentation Library

All mariners are also strongly encouraged to use the IHO check dataset, which is designed to highlight those ECDIS that are unable to display the IMO approved chart features and those that may show the anomalous display and alarm behaviour. A copy of the IHO check dataset is included in the INFO folder of ADMIRALTY Vector Chart Service (AVCS) CDs and DVDs and iho.int. Note that IHO intend to withdraw the check dataset at the planned retirement date of Presentation Library Edition 3.4.

ECDIS operating with Edition 4.0 of the IHO Presentation Library

Performance tests during type approval and installation of the ECDIS demonstrates that the ECDIS does not have any of the identified display anomalies. The IHO check dataset is therefore not applicable. See iho.int for further information.

For a graphical way to establish that the ECDIS is correctly displaying the new symbols introduced in IHO S-52 Presentation Library Edition 4.0 the mariner can check ECDIS Chart 1. ECDIS Chart 1 is a legend of the entire set of symbols that may be used within an ENC, and is installed on all type-approved ECDIS systems.

ENCs derived from charts on non-WGS84 compatible datums

Positions obtained from Global Navigation Satellite Systems, such as GPS, are normally referred to WGS84 Datum. In many parts of the world, however, charts were originally produced on a variety of local datums for which the shift to WGS84 may be unknown or unreliable. ENCs derived from such charts may not be accurately referred to WGS84 Datum. This can result in small but noticeable positional differences where adjoining cells have been shifted by slightly different amounts.

A number of Indonesia (ID) and UK (GB) ENCs are derived from charts that cannot be accurately referred to WGS84 Datum. The differences between satellite-derived positions and positions on these cells cannot be accurately determined; the estimated values of the differences for these cells are detailed in the Information attribute of Caution Areas thus: "Positions in this region lie within \pm nn metres of WGS84 Datum". Mariners are warned that these differences may be significant to navigation and are therefore advised to confirm GPS positions shown in the chart display using alternative navigational techniques, particularly when closing the shore or navigating in the vicinity of dangers. Such cells contain a warning encoded as the name of a Sea Area feature covering the cell thus: "This chart cannot be accurately referenced to WGS84 Datum; see caution message". They are intended for use with this warning continuously displayed and should not be used otherwise.

Updating of ENCs in line with paper charts

The UKHO's weekly updating service for ENCs includes the latest updates issued by all the contributing Hydrographic Offices. These updates may or may not be synchronised with Notices to Mariners and New Editions produced for their national paper chart series. In some cases, therefore, ENCs may be more or less up to date than the corresponding paper chart of the same area.



Practice also varies between Hydrographic Offices with regard to the updating of ENC's for Temporary (T) and Preliminary (P) Notices to Mariners. Most ENC producers include T&P NMs in their cells wherever possible, but where this is not the case mariners are advised to consult relevant T&P NMs published in Notices to Mariners bulletins or on the ENC producer's website (if available). For further details, see below.

Chart display content

Mariners should be aware that the appearance and content of the data displayed in electronic charts may differ substantially from the same or similar data in paper chart form. The ECDIS chart display is generated "on-the-fly" according to display rules defined by the IHO Presentation Library. The amount of detail that is displayed will depend on a number of factors, including:

- › The cells loaded on the ECDIS and available for display
- › The feature content of those cells (including any objects with date, time or scale dependent attributes)
- › The display scale set by the ECDIS user
- › The display mode set by the ECDIS user (i.e. "Base", "Standard" or "All")
- › The Safety Contour, Safety Depth and Safety Height set by the ECDIS user
- › Other user display options provided by the ECDIS (e.g. options to show isolated dangers in shallow waters, full length light sectors, etc.)
- › The ECDIS manufacturer's implementation of the IHO Presentation Library

Screen clutter

Each object in an ENC may be given a Scale Minimum (SCAMIN) value. This determines the display scale below which the object must no longer be displayed by an ECDIS and can be a valuable tool in reducing clutter on the screen. The International Hydrographic Organization (IHO) has recommended best practice for setting SCAMIN, which has been accepted by the majority of Hydrographic Offices, although this may take some time to implement. In the meantime, mariners are advised to exercise caution when operating in reduced display modes. Generally speaking, screen clutter is not a problem when navigating at or near the stated compilation scale of a cell.

S-57 Edition 3.1.1 new objects

ENCs containing new objects depicting Archipelagic Sea Lanes, Environmentally Sensitive Sea Areas and Particularly Sensitive Sea Areas are now available within ADMIRALTY services, as specified in IHO S-57 (Edition 3.1.1). End Users will be able to view these new objects if their ECDIS is installed with the latest IHO Presentation Library. End Users with older versions of the Presentation Library (e.g. PL3.3 or earlier) will display these objects with a "?" (Question Mark). Users will still be able to interrogate these objects to determine what they are. Systems with very old versions of the Presentation Library may not display them at all.



National language attributes

Four national language attributes are defined in S-57 for use in ENC's. These are all string type attributes intended to hold text in a national language. It has come to our attention that some national languages, especially those that use additional character sets, e.g. Turkish, Korean, etc. cannot be viewed in some ECDIS equipment. In these instances, reference should be made to the English language versions of these attributes.

The national language attributes affected are as follows and may be referenced from within the ECDIS with an unreadable text string:

- › NINFOM [Information in national language]
- › NOBJNM [Object name in national language]
- › NPLDST [Pilot district in national language]
- › NTXTDS [Textual description in national language]

In the case of NTXTDS [Textual description in national language], it may be the content of the linked text file that is unreadable.

Withdrawal of ENC's from ADMIRALTY services

"Cancellation" is the term used when an ENC producer issues an update to cancel and delete a base cell. Since an ENC can only be updated by the ENC producer, it follows that an ENC can only be cancelled by the ENC producer.

"Withdrawal" is the term used when the UKHO decides to withdraw an ENC from ADMIRALTY services, since the UKHO is unable to "cancel" an ENC from another ENC producer. The key distinction is that if an ENC is withdrawn, there is nothing to prevent end users continuing to use the cell until their permit expires.

While cells remain withdrawn they will not be updated and their carriage will not satisfy SOLAS requirements. Mariners are therefore recommended to remove these cells from ECDIS or ECS systems onto which they have been loaded.

The withdrawal of ENC's from ADMIRALTY services is communicated in the README.TXT file and Section VIII of the ADMIRALTY Notices to Mariners Bulletin. A full list of withdrawn ENC's is maintained in the AVCS Updates page of the ADMIRALTY web site admiralty.co.uk/avcs.

Temporary & Preliminary Notices to Mariners (T&P NMs) in ENC's

The use of T&P NM information is considered an essential part of keeping navigational charts up to date. However not all ENC producers include T&P NM information in their ENC's. The latest confirmed status of T&P NM information in the ENC's that are available in ADMIRALTY services is shown in the ENC-TandP-NM-Status.pdf file in the INFO folder on the AVCS discs. The file can also be downloaded from the UKHO website at admiralty.co.uk/avcs. Any updates to the ENC-TandP-NM-Status.pdf file will be announced in the README.TXT file.

To ensure that T&P NM information is as widely available to ENC users as possible, worldwide ADMIRALTY T&P NMs are also included in the ADMIRALTY Information Overlay (AIO). AIO can be displayed on top of



AVCS

ADMIRALTY
Vector Chart Service

ENCs in most ECDIS equipment and back-of-bridge planning software, including ADMIRALTY e-Navigator Planning Station.



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