BOOK REVIEW

The Electronic Chart

The two most significant developments in navigation for many decades have been the introduction of global satellite navigation systems, such as GPS, and the electronic chart. In the case of GPS and similar systems, their background, use and advantages have been very apparent and it would be rare to find an average schoolboy now still unaware of the existence of GPS and it uses. The electronic chart has not been as fortunate. Since it’s conception and on through the development and regulatory phases up to the point of implementation, the introduction of the electronic chart has been complicated and in many instances it has suffered from a serious lack of understanding. The advent, therefore, of a technical publication in which a group of professional and informed authors deal with all the relevant issues related to the new world of charting is both necessary and most welcome.

The development of digital charting has run a parallel course within the official National Hydrographic Offices and industry. The result has been that while there are advantages to the user of both types of charts, the implications involved in one or another system are rarely understood. In this book, the reader is introduced to the various types of digital charts: the Electronic Nautical Chart (ENC), the Raster Nautical Chart (RNC) and the Electronic Chart used in an Electronic Chart System (ECS). The statutory requirements related to the various products are clearly spelled out in the book. In addition, the application of various delivery mechanisms, such as the direct distribution of official ENC data in the required S-57 format and System ENC (SENC) distribution, is addressed. The question of when is an ECDIS (Electronic Chart Display and Information Systems) an ECDIS has also been clarified. Acceptable updating of the ENC is necessary for it to be considered as an ENC, and the lesser profile issues of economic aspects and training are also to be found in the publication. Charting has become integrated into many other operational systems designed to provide information for the mariner in the interests of the safety of life and vessels at sea. These include Vessel Traffic Separation Schemes (VTS), Automatic Identification Systems (AIS) and other bridge systems such as RADAR and ARPA. A major consideration within maritime authorities is the integration of all these highly sophisticated systems now available to the navigator at sea. It would serve little purpose if access to all this highly accurate information proved only to confuse the mariner. These and other technical issues are addressed, and the reader seeking a specific explanation should be able to find an answer here.

Electronic charting is a highly complicated issue and it is easy for a book of this nature to become so technical that it appeals only to those seeking complicated answers. This is not the case with 'The Electronic Chart' and there is something here for everyone associated with modern maritime navigation. An example is the opening Chapter, in which the reader is taken on an imaginary voyage with an electronic chart.

The world of the marine cartographer is made difficult not only by the normal considerations of landmap compilers such as ellipsoids, including transformations to WGS-84, horizontal and vertical datum, scales and display requirements, but by the lack of an overview of the terrain. Those who are either unsure or unaware of the implications of these factors will welcome the explanations of these complex issues.

There are a number of international organisations responsible for the various technical and regulatory aspects of marine navigation. These include the development of standards for electronic charting, formal institution of the regulations and production and distribution of the final products. It is most welcome to find the interface of these organisations and their various responsibilities discussed in the book. This makes it possible for the reader to learn who is responsible for which aspects of electronic charting.

A Glossary is always very welcome and this is especially so in the arena of digital charting, full as it is of acronyms. The accompanying CD-ROM should also prove to be a useful tool for readers, offering them a graphic view of the subjects addressed in the book.

While this will surely not be the last book on this subject, it's release at this moment in the development of the electronic chart fills a gap that should make possible greater understanding of a difficult subject by a wider spectrum of persons.

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