ESTA CIRCULAR REQUIERE SU VOTO

Dossier del BHI No. S3/4405

CIRCULAR No. 18/2001 30 de Marzo del 2001

ESPECIFICACIONES CARTOGRAFICAS DE LA OHI CARTAS INTERNACIONALES (INT) A PEQUEÑA ESCALA

Referencias:

- 1) Publicación M-4 "Especificaciones Cartográficas de la OHI y Reglamento de Cartas Internacionales (INT)", Edición de 1988 (permanentemente actualizada por medio de páginas de cambios).
- 2) Decisión 27 de la XV^a Conferencia Hidrográfica Internacional.
- 3) Circular del BHI No. 21/1970
- 4) Circular del BHI No. 43/1981
- 5) Circular del BHI No. 63/1996
- 6) Resolución Técnica B 5.1 de la OHI.

Muy Señor(a) nuestro(a),

Adjunto a la presente le remitimos una copia de una nueva edición de las "Especificaciones Cartográficas de la OHI para Cartas Internacionales (INT) a Pequeña Escala", que ha sido preparada y convenida por el Comité de Normalización de Cartas de la OHI. La revisión de estas especificaciones fue aprobada por la XVª CHI (Decisión No. 27).

La edición existente de las Especificaciones para Cartas Internacionales a Pequeña Escala fue producida en 1981 (referirse a la Circular del BHI No. 43/1981), como documento "autónomo" y como Apéndice 1 del entonces Reglamento de la OHI para Cartas Internacionales (INT). Conforme al nuevo sistema de numeración adoptado para la publicación M-4 (referirse a la Circular del BHI No. 21/2000), las Especificaciones para las Cartas INT a Pequeña Escala formarán la Parte C de la M-4.

La Parte C de la M-4 se distribuye con la Corrección adjunta No. 1-2001, que incluye también páginas de cambios para aquellas páginas de introducción de la M-4 y su Parte B, que contienen referencias a la Parte C. Se ha aprovechado también esta oportunidad para incluir en el paquete algunas páginas de cambios de la Sección 400 de la Parte B, para las correcciones previamente convenidas (referirse a la Circular del BHI No. 63/1996).

Se solicita a los Estados Miembros que revisen el documento adjunto y que envíen sus comentarios, de haberlos, al BHI <u>antes del 30 de Junio del 2001</u>. Después de esa fecha, de no haber recibido objeciones, las Especificaciones de Cartas INT a Pequeña Escala entrarán en vigor (referirse a la Espec. B-160) y se anunciará por Circular. Se espera que, en esas fechas, habrá también una versión Española disponible.

Las Resoluciones Técnicas B 5.1 y B 5.3 de la OHI que se encuentran en la Publicación M-3, que se refiere respectivamente a las Especificaciones de la OHI para Cartas INT a Pequeña Escala (Parte C de la M-4) y el Reglamento de la OHI para Cartas INT (Parte A de la M-4), deben ser modificadas para tomar en cuenta las nuevas ediciones. Se propone suprimir la B 5.1 y la B 5.3 y adoptar una nueva R.T. B 5.6, combinando la B 5.1 y la B 5.3, que tratará también sobre las Especificaciones Cartográficas de la OHI (Parte B de la M-4). En el Anexo A está contenido el texto sugerido para la R.T. B 5.6 y se le ruega rellene la papeleta de voto adjunta y la devuelva al BHI **antes del 30 de Junio del 2001**. Si se acepta la nueva R.T. B 5.6, el Bureau producirá posteriormente las páginas de cambios de la M-3 pertinentes.

La Corrección 1-2001 de la M-4 se está incorporando en el sitio Web de la OHI (en Inglés y Francés) (Ir a "IHO Publications", luego a "Miscellaneous Publications"), a partir del cual pueden imprimirse copias. Sin embargo, el Bureau proporcionará copias impresas a su demanda .

Una versión digital de la M-4 está en preparación y estará disponible en CD-ROM lo antes posible, esperamos que durante el curso de este año.

Se da las gracias y se felicita a los miembros del CSC, a su Presidente (Dr. Peter Cox, RU), y a su Secretaria (Mrs. Liz DUNN, RU) por la excelente labor realizada. El BHI está también agradecido al SHOM por su ayuda al producir el modelo de hoja del Apéndice A de la Parte C.

En nombre de Comité Directivo Atentamente,

Contralmitante Neil GUY

Director

Anexos: Anexo A – Papeleta de Voto.

Corrección 1-2001 a la Publicación M-4 de la OHI (solamente en Inglés - traducción al Español en curso. La versión española se proporcionará en cuanto esté disponible).

Estado Miembro:	
Dougo Hillerinio.	

PUBLICACION M-3 - RESOLUCIONES DE LA OHI

Resoluciones relativas a la Publicación M-4

PAPELETA DE VOTO

(a devolver al BHI antes del 30 de Junio del 2001 E-mail: info@ihb.mc - Fax: +377 93 10 81 40)

¿Está de acuerdo en que las Resoluciones Técnicas B 5.1 y B 5.3 existentes, tal y como se reproducen a continuación:

"B 5.1 JUEGO INTERNACIONAL DE CARTAS A ESCALA PEQUEÑA

1.- Se ha adoptado las especificaciones de la OHI para las Cartas Internacionales (escalas 1/2.250.000 y menores), las que serán publicadas como un Apéndice de los Reglamentos de la OHI para la cartas Internacionales (INT).

Ver también B5.3

B 5.3 REGLAMENTOS DE LA OHI PARA LAS CARTAS INTERNACIONALES (INT)

- 1.- Se ha resuelto que los Estados Miembros, cuando actúen como productores o impresores de Cartas INT, observen los "Reglamentos de la OHI para las Cartas Internacionales (INT)". Se pondrá especial atención en el establecimiento de acuerdos bilaterales entre productores e impresores, que deberán definir tanto los términos técnicos como los financieros que deban aplicarse.
- 2.- Se ha resuelto que el BHI, por medio del Comité de Normalización de Cartas (CSC), siga revisando los Reglamentos con el fin de proponer su actualización a la OHI. Los Estados Miembros que tengan proposiciones para actualizar los Reglamentos, deberán enviarlas al Comité de Normalización de Cartas por intermedio del BHI."

sean suprimidas y sustituidas por una nueva Resolución Técnica B 5.6, con el siguiente texto?

"B 5.6 REGLAMENTOS DE LA OHI PARA LAS CARTAS INTERNACIONALES (INT) Y ESPECIFICACIONES CARTOGRAFICAS DE LA OHI

- 1.- Los Reglamentos de la OHI para Cartas Internacionales (INT), las Especificaciones Cartográficas de la OHI para Cartas Nacionales e Internacionales (INT) a escalas Media y Grande (Escalas mayores de 1:2.000.000), y las Especificaciones Cartográficas de la OHI para Cartas Internacionales (INT) a Pequeña Escala (Escalas 1:2.000.000 y menores) son adoptados y publicados como partes A, B y C, respectivamente, de la Publicación M-4 "Reglamento de la OHI para Cartas Internacionales (INT) y Especificaciones Cartográficas de la OHI".
- 2.- Se ha resuelto que los Estados Miembros adhieran al "Reglamento de la OHI para Cartas Internacionales (INT)", cuando actúen como productores o impresores de Cartas INT. Se pondrá especial atención en el establecimiento de acuerdos bilaterales entre productores e impresores, que deberán definir tanto los términos técnicos como financieros que deberán aplicarse.
- 3.- Se ha resuelto que el BHI, por medio del Comité de Normalización de Cartas (CSC), mantenga la Publicación M-4 bajo revisión, para informar a la OHI sobre su actualización. Los Estados Miembros que

Bureau H.I			-	
Ver también B 3.	18 y K 2.11"			
	SI	NO		
Comentarios:				
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Fecha:

Nombre / Firma

tengan propuestas para actualizar la M-4 deberán enviarlas al Comité de Normalización de Cartas por medio del

M-4 - CHART SPECIFICATIONS OF THE IHO (EDITION 1988)

CORRECTION No. 1-2001

Reference: Circular Letter 18/2001

The following additional pages to the Chart Specifications of the IHO, Publication M-4, Part C "Small-Scale International (INT) Charts" should be inserted, following consideration in the above Circular Letter.

Amendments to the Preface and the List of Effective Pages are also made by change pages.

Correction N° 1/2001 is also available from the IHO website (<u>www.iho.shom.fr</u>), IHO Publications section.

Rear Admiral Neil GUY

PREFACE

The publication M-4 "Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO", brings together in one comprehensive volume the "Regulations of the IHO for International (INT) Charts" (Part A); the "Chart Specifications of the IHO for Medium- and Large-scale National and International Charts" (Part B); and the "Chart Specifications of the IHO for Small-Scale International (INT) Charts" (Part C).

This publication is available in separate English, French and Spanish versions. The numbering system is identical in all three versions.

M-4 is divided into three Parts, which are further subdivided into Sections dealing with specific topics. Regulations and Specifications relating to particular topics may be found either by their subject matter in the Contents page at the beginning of each Section, or by reference to the Indexes at the end of Parts B and C. Cross-referencing draws attention to related Regulations and Specifications.

Copies of charts INT 1, INT 2 and INT 3, which are reference documents complementary to Parts B and C of M-4, are contained in a plastic wallet inside the front cover of the publication. The symbols from INT 1 are also included in the text of Part B for ease of reference.

The procedures for correcting and updating M-4 are described in the Introduction to each Part. The adoption of a loose-leaf format has eliminated the need for new editions and extensive hand-corrections as change pages, incorporating amendments to text and graphics, will be issued whenever amendments come into force. Change pages show, in the bottom right-hand corner, a reference to the most recent amendment. A "List of Effective Pages" commences on page V.

NOTE

From April 2000 (Correction No 1-2000), the section identification and paragraph numbers used throughout this publication reflect the renumbering of M-4 described in IHB Circular Letter 21/2000. All references within the text should reflect the new numbering system. They equate to the former styles of referencing as follows:

M-4 new section number	Initial proposal	Former designation
Part A	Part 3	Appendix A to IHO Circular Letter 34/1984
Part B	Part 1	M-4, Part 1
Part C	Part 2	Appendix 1 to Regulations of the IHO for International (INT) Charts

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M-4 Original

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VII	Corr. 1-2001	, , , , , , , , , , , , , , , , , , ,	
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INTRODUCTION

This is the Second edition of the 'Chart Specifications of the IHO for Medium- and Large-scale National and International charts'. It is in six sections, the contents of which are:

- 100 General
- Format, positions, compass roses
- 300 Topography
- 400 Hydrography and navigational aids
- 500 Geographic Names, lettering, numerals
- 600 Latticed charts

The conventions used in the Specifications, and other general matters, are explained in Section B-100, which should be read before consulting the other Sections.

An index for those Specifications, prepared by the CSC (Chart Standardization Committee) Secretariat, is given at the end of Part B. The list of items is in alphabetical order and the following principles have been used:

Duplication has been avoided as far as possible in not repeating initial headings (indents and hyphens used) and in cross-referencing entries (details entered under the most obvious heading with other headings marked as "see ...");

Main entries have been kept as full as possible e.g., all types of buoy are given under "Buoy" heading, to show the range of possibilities.

Updating of these Specifications is effected by changes announced in the IHB's Circular Letters. The procedures by which changes are initiated, discussed and promulgated are described in B-160. If an IHO Member State finds it necessary to adopt a new specification or use a new symbol for a feature for which there is no existing symbol, the Member should advise the Bureau of the action taken at the earliest opportunity with a view to its consideration for possible incorporation in these Specifications (IHO TR K2.11).

The Record of Corrections, at the beginning of each Section, should be updated when it is announced that changes have been approved. It is intended that this record should also serve as a Bibliography.

Charts affected: These Specifications (apart from a few paragraphs prefixed or suffixed "I", eg. I-351.1 which apply only to international charts) are applicable to all large- and medium-scale charts, national and international. Members producing or printing international charts should also consult Part A "Regulations of the IHO for International Charts" and, if concerned with charts on 1:2 000 000 or smaller scale, Part C, which gives specifications for small-scale international charts.

Acknowledgement. Symbology is partially reproduced from Admiralty Chart 5011 (based on INT 1 originally produced by Germany) by permission of the Controller of Her Majesty's Stationery Office and the UK Hydrographic Office.

M-4 Original

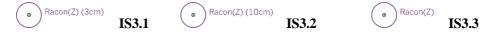
SECTION 400 - HYDROGRAPHY AND NAVIGATIONAL AIDS

RECORD OF CORRECTIONS

Specification	Amendment	Circular Letters				Domanto
Number	Number	Promul- gated by	Approved by	- Remarks		
Section 400 Preliminary Edition	-	6/80	-	Adopted by 1982 Conference, Decision No. 23		
441.2-444.4 446.3-448.3 450.2-455.2 456-458 460.3-461.2 461.3-461.4 462-462.2 463-463.1 464.1-464.3 465.1-466.2 466.4-470.3	1-81	3/82	-	Included in Cumulative Correction No. 1/86		
471.2 437.7-439.2	1-82	12/82	-	Included in Cumulative Correction No. 1-86		
408.3-443.3	2-82	22/82	_	Included in Cumulative Correction No. 1-86		
432.2-435 435.1-435.2 435.3-435.4 435.5-437	1-83	51/83	15/84	Included in Cumulative Correction No. 1-86		
407.3-413.1 414-422.1 431.1-431.2 431.3-433.2 434.2-440.3 444.1-449.1 471.5-481.1	2-85	37/85	4/86	Included in Cumulative Correction No. 1-86		
440-440.1		6/87	-	Amend. to Cumulative Correction No.1-86		
428.3-429.1 445.5-445.7 447-447.4 447.6-449.6 459-459.1 459.2-473.2 475.8-478.5 491-491.1 491.2-495 495.5	2-87	27/87	14/88			
Section 400 1988 Edition				New loose-leaf edition - including symbols from INT 1 and editorial updating		
444	1-89	31/89	52/89	Amendment to the sentence		
444.1	1-89	31/89	52/89	Amendment to the sentence		
424.6	1-90	31/90		New specification		

Specification Number	Amendment	Circula	ar Letters	P 1	
Number	Number	Promul- gated by	Approved by	- Remarks	
435	1-94	47/93	15/94	Amendment to the graphic	
435.7	1-94	44/93	15/94	Amendment to the 2nd sentence of a.	
445.4	1-94	44/93	15/94	Amendment to the 3rd sentence	
450	1-94	44/93	15/94	Amendment to para. a, b and d	
452.8	1-94	44/93	15/94	Updating of symbols used in the example	
460.4	1-94	44/93	15/94	Amendment to 2nd sentence and to 2nd sentence of para. b; deletion of b.i; b.ii and b.iii relettered b.i and b.ii.	
460.5	1-94	44/93	15/94	Amendment to 1st sentence	
462	1-94	44/93	15/94	Amendment to 3rd sentence	
462.1	1-94	44/93	15/94	Amendment to 3rd sentence	
462.8	1-94	44/93	15/94	Amendment to the specification	
462.9	1-94	44/93	15/94	Amendment to the specification	
470	1-94	44/93	15/94	Amendment to the specification	
470.3	1-94	44/93	15/94	Amendment to 1st sentence	
470.5	1-94	44/93	15/94	Amendment to 4th paragraph	
470.7	1-94	44/93	15/94	Amendment to last sentence	
472.1	1-94	44/93	15/94	Amendment to para. d.	
474-474.5	1-94	44/93	15/94	New specifications	
474.6-474.7	1-94	44/93	15/94	Deleted	
432.1	1-95	40/94	40/95	Amendment to para. d and following	
433.1	1-95	40/94	40/95	Amendment to 1st sentence	
433.6	1-95	40/94	40/95	Deleted	
481.2	1-95	40/94	40/95	Amendment to the specification	
486.1	1-95	40/94	40/95	Amendment to 2nd paragraph	
486.2	1-95	40/94	40/95	Amendment after "use)."	
486.3-486.4	1-95	40/94	40/95	Amendment to both specifications	
486.5	1-95	40/94	40/95	New specification	
486.3	1-2001	40/95	63/96	Amendment to the Specification	

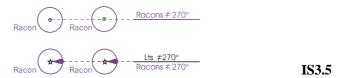
charted as "Racon (3 cm)"; those in the 10 cm band as "Racon (10 cm)"; and Racons operating in both bands simply as "Racon".



Racon with sector of obscured reception. Where a chart shows a Racon without any sector limits, the mariner will assume that the signal can be received at any position within the range of the Racon. If, for some reason, the Racon signal is obscured between certain bearings, this information should be shown on appropriate scale charts in magenta by sector limits and arcs. "Sector limit" is used to denote the line or bearing of a Racon where the signal disappears. There may be a small angle of uncertainty at the limit of the arc of reception of the signal; it is impracticable to show this angle. "Sector arc" is used to denote the curved line against which the legend "Racon Obscd" shall be inserted. If necessary, the sector of reception may be shown. Limits of sectors and arcs shall preferably be charted as fine dashed lines (about 10 dashes to a centimetre) with small arrowheads at the ends of the sector arcs. (For sector lights, see 475).



Leading racons are established such that, when their bearing lines are coincident on the ship's radar display, the bearing serves to indicate the track to be followed. The leading line should be represented, in magenta, by a bold continuous line for the part of the track which may be followed, and a dashed or dotted line, preferably the former, for the remainder of the line up to the rear mark. (See 433.3 for visual leading lines). A legend such as "Racons # 270°" should be shown in magenta near the seaward end of the line. Where the positions of the Racons coincide with visual features or lights also used to mark the leading line, the line should be shown in the usual style in black only with two legends eg. "Lts # 270°" in black above the line, and "Racons # 270°" in magenta below the line.



487 RADAR SURVEILLANCE SYSTEMS

Many large ports have a radar surveillance system covering their approaches to provide guidance for vessels, particularly in poor visibility. There are also the Channel Navigation Information Services, covering the Channel.

Systems vary but generally have in common the following features which may have to be shown on charts:

- a. One or more large radar scanners, frequently mounted on high towers. These are visually conspicuous and are charted in accordance with the specifications for landmarks (see 340).
- b. The maximum range of the system forms an arc or series of overlapping arcs. In some cases the outermost arc showing where vessels first come under radar surveillance may have to be charted. See 487.1.
- c. To assist the passing of positional information to ships, some harbour authorities wish to have radar reference lines plotted on charts. See 487.2.

Radar range arcs may be shown where considered useful, in magenta with the abbreviation Ra, and possibly the name of the station.



Radar reference lines are mid-channel lines corresponding to lines incorporated in harbour radar displays. A line is used as a positional reference so that the harbour authorities may easily give a ship her position, relative to the line, when visibility is poor. In some cases the lines fall exactly on charted recommended tracks; the reference lines are then represented by superimposing the abbreviation Ra, in magenta, on the track symbols, at regular intervals. Where the reference lines do not fall on charted tracks they are shown by a broken line, preferably in magenta, together with an appropriate legend and explanatory note on the chart. The special requirements of the local reporting and guidance system may require a reference line of particular design, eg it may be broken into sections of specified length and have reference names or numbers quoted. These lines are primarily reference lines and do not necessarily represent the exact tracks to be followed by all vessels guided by radar.

IM32.1		Ra		
IM32.2	270°- 090°	Ra		

A radar station established for traffic surveillance shall be charted by a position circle in black and the legend "Radar Surveillance Station", or equivalent. As such stations do not require a knowledge by a ship (wanting a position check) of the radar station's location they shall not be charted as Coast Radar Stations, ie, they shall not have magenta circles or the abbreviation "Ra". (It is considered advisable to reserve the abbreviation "Ra" for those stations which can be used directly by the mariner).

Radar Surveillance Station IM30

The radar tower or scanner may form a landmark; if so, it shall be charted by a position circle with a descriptive legend, in which the term "radar" shall not be abbreviated, printed in black.

⊙ Radar Mast	IE30
⊙ Radar Tr	IE30
⊙ Radar Sc	IE30
© Radome	IE30

487.4 For other features associated with radar see 485, 486 and 488.

M-4 Original

PART C

CHART SPECIFICATIONS OF THE IHO SMALL – SCALE INTERNATIONAL (INT) CHARTS

(Scales 1:2 000 000 and smaller)

Sections 100 - 500

CHART SPECIFICATIONS OF THE IHO FOR SMALL-SCALE INTERNATIONAL (INT) CHARTS

(Scales 1:2 000 000 and smaller)

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INTRODUCTION

Applicability of these specifications. These Specifications are applicable to all small-scale international (INT) Charts, ie those with a scale of 1:2 000 000 and smaller. Members producing or printing these international charts should also consult the "Regulations of the IHO for International (INT) Charts".

This is the second edition of the "Chart Specifications of the IHO for Small-scale International (INT) charts (scales 1:2 000 000 and smaller)". It is in five sections, the contents of which are:

100 General200 Format300 Topography400 Hydrography and Navigational Aids500 Geographic Names

These Specifications have previously been issued as follows:

First Edition published in January 1970 as Annex 3 of the Final Report of the IHO Commission on the International Chart. This resulted from a draft prepared by the US Naval Oceanographic Office, 24 February 1969, which was revised at the second conference of the IHO Commission on the International Chart held in Monaco, 10-12 March 1969 and finalised at the third conference, held in London, 11-12 November 1969.

Re-issued in August 1981 as Appendix 1 to the Regulations of the IHO for International (INT) Charts - Specifications for Small-scale International Charts (scales 1:2250000 and smaller), published by the IHB, Monaco, and including amendments promulgated in IHB Circular Letters 14/71, 34/71, 11/72, 33/72, 1/73, 17/73, 9/75, 11/75 and 1/78.

An index for these Specifications, prepared by the CSC (Chart Standardization Committee) Secretariat, is given at the end of Part C. The list of items is in alphabetical order.

A style sheet for small-scale international charts is included as Appendix A.

Updating of these specifications is effected by changes announced in the IHB's Circular Letters. See C-103.1 for details of procedures.

The Record of Corrections which follows should be updated when it is announced that changes are approved. See C-103.2.

RECORD OF CORRECTIONS

Specification Amendment Number Number		Circular Letters		
	Promulgated by	Approved by	Remarks	
1 st edition		21/1970	,	1 st edition promulgated as Annex 3 of the report made by the Commission on the International Chart.
1 st edition (re-issue)		43/1981		Promulgated as Appendix 1 to the IHO Regulations for INT Charts.
2001 edition		18/2001		New loose-leaf edition - including editorial updating - incorporated as Part C of M-4

SECTION 100 - GENERAL

C-101 SMALL-SCALE INTERNATIONAL (INT) CHARTS

- C-101.1 Two schemes of international (INT) charts on scales of 1:2 000 000 and smaller have been established under the auspices of the International Hydrographic Bureau (IHB). These charts have been designed to provide complete and comprehensive small-scale coverage, usable by all nations, for the world's oceans.
- C-101.2 The two schemes are outlined in C-203 and detailed in M-11, Catalogue of International Charts.
- C-101.3 It is recommended that each Member State include a separate index page in their national chart catalogue showing their small-scale international charts.
- C-101.4 The producer nations for international charts of the same region have an obligation to maintain close co-operation with each other in order to ensure overlap agreement between international charts in all series, and should arrange bilateral exchanges of data and, where necessary, of repromat.

C-102 SCOPE OF THE SPECIFICATIONS

- C-102.1 These specifications provide basic guidance for the production of international charts at scales of 1:2 000 000 and smaller.
- C-102.2 Any particulars not covered by these specifications shall be in accordance with the Specifications of the IHO for Medium- and Large-scale Charts (including INT 1, INT 2 and INT 3) at Part B of this publication, Regulations of the IHO for International (INT) Charts at Part A and IHO Technical Resolutions (TR). Appropriate cross-references are provided.

C-103 CORRECTION SYSTEM FOR THE SPECIFICATIONS

- C-103.1 The Chart Specifications of the IHO will need to be amended from time to time in response to the developing requirements of nautical charting, including changing navigational procedures and developments in cartographic techniques. The IHO Chart Standardization Committee (CSC) is responsible for the updating of the Specifications, and all proposals for changes are referred by the IHB to the CSC for advice (see TR K2.11). If an IHO Member State finds it necessary to adopt a new specification or use a new symbol for a feature for which there is no existing symbol, the Member should advise the Bureau of the action taken at the earliest opportunity with a view to its consideration for possible incorporation in these Specifications (see TR K2.11). The procedures by which the changes are initiated, discussed and promulgated are set out in B-160.
- C-103.2 The Record of Corrections, before this section, should be updated when it is announced that amendments have been approved. It is intended that this Record should also serve as a Bibliography.

SECTION 200 - FORMAT

C-201 ELLIPSOID OF REFERENCE AND HORIZONTAL DATUM

C-201.1 The World Geodetic System 1984 Datum (WGS84) should be used. (The International Ellipsoid was initially used for all charts in the series). See B-201.

C-202 PROJECTION

C-202.1 The Mercator projection shall be used for charts between latitudes 80° North and 80° South. See B-203.

C-203 CHART SCALE

- C-203.1 **1:3 500 000 series**. The chart scale shall be 1:3 500 000 at latitude 22° 30′, the common midlatitude of the series. See B-211.
- C-203.2 **Larger-scale supplemental charts**. The larger scale supplemental charts shall be at scales as follows:

Charts 301 and 302 - 1:2 250 000 at latitude 41° 30′; Charts 401 and 402 - 1:2 750 000 at latitude 22° 30′; Chart 704 - 1:2 250 000 at latitude 21° 00′.

C-203.3 **Smaller-scale charts.** The smaller-scale charts shall be at scales as follows:

Chart 300 - 1:4 200 000 at latitude 41° 30′; Chart 400 - 1:4 250 000 at latitude 22° 30′. Charts 900 - 909 - 1:2 000 000 at latitude 66° 00′.

C-203.4 **1:10 000 000 series**. The chart scale shall be 1:10 000 000 at the Equator, the common mid-latitude of the series. See B-211.

C-204 GRADUATION

C-204.1 For scales cited in C-203.1 to C-203.3, a scaled border shall be shown subdivided into 5-minute increments of latitude and longitude. For the 1:10 000 000 series, the border shall be sub-divided into 10-minute increments. See B-212 and INT 2.

C-205 GRATICULE

- C-205.1 For scales cited in C-203.1 to C-203.3, meridians and parallels shall be shown, preferably every 5° but not more than 20 cm apart. For the 1:10 000 000 series, the meridians and parallels shall be shown every 10°.
- C-205.2 Labelling of the graticule shall follow the arrangement shown in INT 2, ie styles L and M.
- C-205.3 See B-213.

C-206 DIMENSIONS

C-206.1 Ideally, the neatline dimensions should be 980 x 650 mm. (The initial schemes were based on ideal neatline dimensions of 980 x 630 mm). See B-222.

C-207 CHART NUMBERING

- C-207.1 Charts shall carry the international chart number shown in magenta, in Arabic figures, with the prefix 'INT'. The international number shall be placed in the lower right-hand corner of the chart and, inverted, in the upper left-hand corner, so as to facilitate the filing and retrieval of charts.
- C-207.2 Three-digit numbers shall be used to identify charts in the 1:2 000 000 to 1:4 250 000 small-scale chart series. Two-digit numbers shall be used to identify those in the 1:10 000 000 series. See A-204.2 and M-11, Catalogue of International Charts for details.
- C-207.3 National chart numbers may also be added for convenience of handling within a nation's chart distribution system. It is recommended that national numbers be printed in black.

C-208 DATE OF PUBLICATION AND CORRECTIONS

- C-208.1 The dates of the first printing (the publication note / publisher's imprint) and the date of the latest edition are to be shown in accordance with the guidance in B-252.1 and B-252.2. The year and number of Notices to Mariners, if any, which originated corrections, shall also be shown, in accordance with the guidance in B-252.3.
- C-208.2 On adopted international charts, the publication note shall be amplified by the following, or equivalent, note:
 - "Modified reproduction of INT (...INT number...) originally published (...date of the producer's latest edition...) by (...name of the producer nation...)."

Each printer nation shall date the chart according to its national system and include information on the status of Notices to Mariners corrections which have been incorporated in the chart. See B-252.4-I.

C-209 TITLE INFORMATION

- C-209.1 The titles of charts, in English or the national language of the producer, shall preferably be arranged in one block, located in the land area if possible, clear of essential detail. The title block shall include the following items, reading from top to bottom:
 - a. The seal of the producer nation and the IHO seal shall be placed above the title, side by side and of equal height, with the producer nation's seal on the left. In the case of an adopted international chart, the printer nation's seal is to be placed between the seals of the producer nation and the IHO; the latter two seals shall be one fifth smaller in height than the seal of the printer nation. See B-241.2-I.
 - b. The words 'INTERNATIONAL', or equivalent, shall be shown above and 'CHART SERIES', or equivalent, below the seals. See B-241.2-I.
 - c. The name of the ocean area on the chart (see S-23, Limits of Oceans and Seas).
 - d. The geographical area reference, if appropriate eg Asia, South America, Europe, etc.

- e. The scale and the common mid-latitude for the series (see C-203) eg: SCALE (or equivalent) 1:3 500 000 (22° 30′)
- f. The unit of measure for depths (see C-403.1)
- g. The unit of measure for heights (see C-303.1)
- h. The projection used (see C-202).
- i. A note citing the producer nation and the sources used in the compilation.
- j. Any ancillary information deemed necessary.
- C-209.2 On adopted international charts, a title block in the national language of the printer nation may be substituted (see C-501).

C-210 CAUTIONARY AND EXPLANATORY NOTES

- C-210.1 See guidance provided in B-242 to B-242.5.
- C-210.2 Specific notes for use on Small-scale charts are detailed in the appropriate section of Part C.

C-211 INTERNATIONAL ABBREVIATIONS

- C-211.1 The term 'international abbreviations' is used to identify those abbreviations which have been agreed internationally and which are recommended for use on all nautical charts. See B-122.
- C-211.2 Abbreviations shall be kept to a minimum and shall conform to IHO standards. Abbreviations which are not internationally accepted may be translated into the national language of the printer nation.
- C-211.3 A separate alphabetical list of abbreviations used for generic parts of geographic names may (or shall on request) be forwarded with the repromat, giving corresponding numbers from the IHO List of Symbols Abbreviations and Terms used on Charts (INT 1).

C-212 CORNER COORDINATES

C-212.1 The geographical coordinates, expressed to either 0′,1 or the nearest second, of the lower left-and upper right-hand inner neatline corners shall be labelled, as shown in INT 2, to facilitate cataloguing of the charts.

C-213 REFERENCES TO OTHER CHARTS

C-213.1 References to adjoining or larger-scale charts shall be left to the discretion of the printer nation. General guidance is provided in B-254 to B-254.2.

C-214 OTHER MARGINAL INFORMATION

C-214.1 Other marginal information shall be shown in accordance with the national standards of the printer nation. General guidance is provided in B-255 to B-255.2.

C-215 COMPASS ROSES

- C-215.1 Sufficient true compass roses, ie without the inner magnetic ring, shall be shown on the magenta plate to facilitate manual plotting requirements.
- C-215.2 Compass roses normally 127 mm diameter should be used.
- C-215.3 See B-260 to B-262.2 for further guidance.
- C-215.4 On small-scale international charts, the magnetic variation will normally be shown as isogonals (see C-216).

C-216 MAGNETIC VARIATION

C-216.1 Magnetic variation shall be shown as isogonals on the magenta plate, in accordance with the guidance given in B-272.1. (see also B-271 for the source data, B-273 for guidance on the correction of these values, and B-274 to B-274.3 for guidance on the charting of abnormal magnetic variations).

C-217 MODIFICATIONS WITHIN THE CHART BORDER

C-217.1 On adopted international charts, except as provided for elsewhere in these Specifications, modifications in the body of the chart by printer nations should be limited to the minimum necessary to meet practical national maritime and linguistic requirements. Supplementary information, such as notes or lattices which are of specific national interest, may however be added as required. All modifications and additions made by a printer nation shall be clearly marked on a copy of the chart and furnished to the producer nation.

SECTION 300 - TOPOGRAPHY

C-301	GENERAL
C-301.1	Topography shall normally not be portrayed on the 1:10 000 000 series. Heights of prominent peaks and islands may be shown on larger scales.
C-301.2	Major cities and seaports shall be shown on all scales to facilitate the use of the charts as information documents.
C-302	COASTLINE
C-302.1	A surveyed coastline (shoreline) shall be shown as a solid black line of approximately 0,2 mm line weight.
C-302.2	A coastline inadequately surveyed shall be shown as a dashed line of the same weight.
C-302.3	For further guidance, see B-310 to B-310.3 and B-311.
C-303	HEIGHTS
C-303.1	Heights of points or summits shall be indicated by a dot with the height (in metres) adjacent in upright sans-serif style. Heights of small islands and rocks which have to be placed outside the features shall be written immediately adjacent to them and enclosed in brackets.
C-303.2	For guidance on the plane of reference for heights, see B-302 to B-302.3.
C-304	LAND TINT
C-304.1	Land areas should preferably be printed in continuous buff coloured land tint. For further guidance, see B-301 to B-301.1.

SECTION 400 - HYDROGRAPHY AND NAVIGATIONAL AIDS

This section covers the essential marine features of small-scale charts, including all navigational aids, whether on land or sea.

C-401 LEVELS OF DETAIL CHARTED

- C-401.1 **Generalisation** of detail is defined in B-401.2 as "the elimination of the least essential information by 'smoothing' line symbols, omitting the less significant depth figures, simplifying the descriptions of navigational aids, and so on, while still showing as much information as space permits." The primary purpose of generalisation is to avoid overcrowding charts where space is very limited. Generalisation of detail will be required on most small-scale charts. However, parts of a small-scale chart may well be the largest-scale for the area and, in these cases, it is important to ensure that nothing is omitted that is considered essential for safe navigation. The coastline and all long-range navigational aids should, wherever possible, be included on the chart.
- C-401.2 **Nearshore hydrography** shall be generalised, and blue tint added to indicate shoal areas, in accordance with the guidance provided in B-403.1 and B-404.1. Depth contours, suitably generalised, supplemented by a limited number of selected soundings, should portray the bottom configuration.
- C-401.3. A **conversion table** from metres to fathoms may be shown.

C-402 DEPTH CONTOURS AND SHALLOW WATER TINT

- C-402.1 The 30 metre and 200 metre depth contours shall be shown. Beyond 200 metres, the 1,000 metre depth contour and every 1,000 metre depth contour thereafter shall be shown. The 30 metre depth contour may be omitted on the 1:10 000 000 series.
- C-402.2 Supplementary depth contours beyond the 200 metre depth contour may be used in complex areas of seabed topography on the 1:2 000 000 to 1:4 250 000 series. These supplementary depth contours should be selected from those shown in II 30 of INT 1.
- C-402.3 The depth contours shall be shown as continuous black lines of approximately 0,1 mm width and labelled in accordance with B-411.3.

C-402.4 Shallow water tint.

- a. On the 1:2 000 000 to 1:4 250 000 scale charts, a solid blue tint shall be shown from the coastline to the 30 metre depth contour and on isolated shoals of 30 metres or less. The 200 metre depth contour shall be emphasized by screened tints or, if not possible, by a ribbon of blue tint normally about 1 mm wide on the shallower side. When appropriate, the flat blue may be used to the 200 metre contour.
- b. On the 1:10 000 000 series, a solid blue tint over the area where the depth is less than 200 metres shall be used.
- c. See also B-417.5 for the use of ribbon tint behind broken (or approximate) depth contours.

C-403 SOUNDINGS

C-403.1 Soundings shall be expressed in metres, rounded as necessary. For general guidance on the positioning and style of sounding figures, see B-412 and B-412.1.

- C-403.2 Generally, a sparse sounding pattern shall be shown, omitting soundings within the solid blue tint areas adjacent to the coastline. Depths of all isolated shoals shall be shown.
- C-403.3 Soundings should normally be charted in their true positions. Where space does not permit the portrayal of the depth within the depth contour, the figure may be offset, with a short line pointed toward a dot which represents the depth position.
- C-403.4 'No bottom' soundings shall not be shown.
- C-403.5 Producer nations shall be prepared to inform printer nations whether or not they have made the corrections to soundings detailed in TR B1.2.
- C-403.6 **Intertidal Areas**: Extensive areas which uncover at low water shall be shown by overprinting blue on the land tint. For further guidance, see B-413 to B-413.2.
- C-403.7 Doubtful data should be encircled by a danger line. For further details, see C-404.3.
- C-403.8 On charts to which these specifications apply, sounding lines which are miles apart appear close together. It is therefore possible for such charts (which may be the largest scale available for the area) to give a false impression of the density of sounding data which exists; inadequate survey data may be hidden. The insertion of a suitably worded note will cover most cases of charts in ocean areas where there is no systematic survey:

ADEQUACY OF SOUNDING DATA. The density of sounding data may appear greater than actually exists. Much of the area of this chart has not been systematically surveyed and sounding lines may be miles apart. Uncharted shoals [and patches of coral] may exist

C-404 DANGERS TO NAVIGATION

- C-404.1 Nearshore dangers, inside the 30 metre depth contour, such as wrecks, rocks, reefs, etc, shall not be shown. Isolated shoals or rocks and, on the 1:2 000 000 to 1:4 250 000 scale charts, dangerous wrecks outside the coastal 30 metre depth contour, shall be shown. No wrecks shall be shown on the 1:10 000 000 series. For further guidance, see B-420 to B-423.
- C-404.2 A **danger line**, consisting of a line of dots, shall be used to draw the navigator's attention to a danger which would not stand out clearly enough if it were represented solely by the symbol for the feature. The danger line shall also be used to delimit areas containing numerous dangers, through which it is unsafe to navigate at the scale of the chart. For use of danger line around doubtful dangers, see C-404.3.
- C-404.3 **Doubtful Dangers**: Doubtful data should be encircled by a danger line. When depths of under 200 metres are involved, or implied, the appropriate blue tint shall be added (see C-402.4). Such features should not be supported by depth contours, nor by the word 'Reported' or its abbreviation. The abbreviations PA, PD, and ED shall be used (see B-424.1 to B-424.4). It is essential that doubtful dangers can be identified without ambiguity and that they can be distinguished from actual dangers, particularly where the small-scale chart is the largest scale for an ocean area. The year (in parentheses) in which the doubtful data were reported may be inserted, provided that this additional information does not tend to render the chart less legible.

C-405 NATURE OF THE BOTTOM

C-405.1 The nature (quality) of the bottom may be shown within the 200 metre depth contour on the 1:2 000 000 to 1:4 250 000 scale charts.

C-406 ROUTEING MEASURES AND RECOMMENDED TRACKS

C-406.1 The term 'Routeing', as defined in B-432.2, is used to describe the regulation of navigation for non-hydrographic reasons, such as the prevention of collision or avoidance of pollution risks. Routes subject to regulations are generally laid down by a national or international authority. The term 'Recommended tracks', as defined in B-432.1, includes all channels recommended for hydrographic reasons to lead safely between shoal depths. If there is a requirement to include generalised details on small-scale charts, to assist with passage planning, the guidance provided in B-432 to B-436 should be followed.

C-407 INTERNATIONAL BOUNDARIES AND NATIONAL LIMITS

- C-407.1 International boundaries on **land** should always be shown, at least in the vicinity of coasts. See B-440.1.
- C-407.2 International **maritime** boundaries and other **national** limits, such as those defining zones in which the exploitation of natural resources is regulated, may be shown on small-scale charts. When it is necessary to show any of these limits, the guidance provided in B-440 should be followed.
- C-407.3 A note indicating that international boundaries are approximate shall be made part of the title information.

C-408 SUBMARINE CABLES

C-408.1 Submarine cables are vulnerable to damage from anchoring, trawling or other seabed operations. Their inclusion on charts assists in protecting the cables (and the service they provide) from damage, in addition to warning mariners of the potential hazard presented to their vessel by the existence of submarine cables.

All oceanic submarine cables [that is, those which cross oceans] will normally be indicated, regardless of depth, on the magenta plate, using symbol IL 30.1 or 31.1 as appropriate. They are not normally shown on the 1:10 000 000 series. Guidance is provided in B-443. Where the chart is the largest scale, or in areas where it is likely to be used for navigation, submarine cables should be shown if at all possible. However, depiction of the cables may be terminated before they reach the coast, or inshore water, to avoid obscuring other important detail. In these cases, a suitable legend should be inserted on the chart in the vicinity and a note included, in magenta, preferably under the main title block, along the following lines:

NOTE. Submarine cables have been omitted from part of this chart. For details of these, the larger-scale charts should be consulted.

This note may be combined with the note concerning the omission of submarine pipelines (see C-409.2).

C-409 SUBMARINE PIPELINES, OIL- AND GAS-FIELDS

C-409.1 Developments associated with the exploitation of oil and gas generally include structures, both submerged and above water, which constitute a hazard to surface navigation. Where the chart is the largest scale, or in areas where it is likely to be used for navigation, these structures, generalised if necessary, should be charted. If space permits, the limits and names of the oil- and gas-fields should also be shown. Guidance is provided in B-445. In other areas, a suitable legend should be inserted on the chart in the vicinity of the oil- and gas-fields and the following note included, preferably under the main title block:

OFFSHORE OIL AND GAS FIELDS. Numerous structures (usually carrying lights) pipes and submerged obstructions (sometimes marked by buoys) exist in certain areas indicated on this chart. For further details, the larger scale charts should be consulted.

C-409.2 Oil and gas pipelines (and chemical and water supply pipelines) are vulnerable to damage from anchoring, trawling or other seabed operations. Gas pipes, in particular, present a severe hazard to ships damaging them (from fire and explosion, or possible loss of buoyancy due to gas aerated seawater), while oil and chemical pipes are a danger to the environment if fractured. Where the chart is the largest scale, or in areas where it is likely to be used for navigation, these pipelines should be shown if at all possible. Guidance is provided in B-444. Pipelines may be omitted in other areas but in these cases, a suitable legend should be inserted on the chart in the vicinity and a note included along the following lines, preferably under the main title block:

NOTE. Submarine pipelines have been omitted from part of this chart. For details of these, the larger scale charts should be consulted.

This note may be combined with the note concerning the omission of submarine cables (see C-408.1):

NOTE. Submarine cables and pipelines are not shown on this chart. For details of these, the larger scale charts should be consulted.

C-410 OCEAN CURRENTS

C-410.1 The principal ocean currents shall be indicated on the black plate. The velocity, in knots, and the name of the current, where available, shall be shown along the symbol. For further guidance, see B-408.3.

C-411 ICE LIMITS

C-411.1 Sea ice limits may be shown, when appropriate. See B-449.1.

C-412 ANTARCTIC CONVERGENCE

C-412.1 The zone of Antarctic Convergence shall be indicated by the dashed maritime limit symbol IN1.1 in INT 1) and labelled "Antarctic Convergence" on the black plate.

C-413 OCEANIC FEATURES - SEAMOUNTS

C-413.1 The international abbreviation for a seamount is:

SMt IO 33

See B-429.1

C-414 NAVIGATIONAL AIDS

- C-414.1 Significant lights (ie those within range of which navigation on the particular chart is possible) shall be shown, by symbology only see INT 1. Names of lights are important for cross reference to the Lights List. See B-470.1.
- C-414.2 Super-buoys. In general, buoys are not shown on small-scale charts. However, it may be appropriate to show super-buoys on small scale charts. See B-460.4.b.
- C-414.3 Selected long-range radio-beacons (marine and aero) shall be shown. See B-481 and B-482.

SECTION 500 - GEOGRAPHIC NAMES

C-501 GENERAL

- C-501.1 The terminology and definitions of the meanings of the terms relating to toponymy are given in B-501.
- C-501.2 For all names associated with land areas, territorial waters, other sea areas and ocean bottom features, the guidance provided in Part B should be followed:
 - B-510 Language: General Rules, including those pertaining to the adoption of international charts by printer nations (specifically B-510.4 and B-510.5);
 - B-520 Transliteration, Alphabet, Punctuation, including guidance on the script to be used on international charts;
 - B-530 Numbers;
 - B-540 Abbreviations (see C-211);
 - B-550 Toponymy: General Rules;
 - B-551 Toponyms: Authorities, International and National, which includes a list of the most important authorities for names of sea areas and ocean bottom features;
 - B-552 Toponyms: International Considerations.

C-502 TYPE STYLES AND SIZES

- C-502.1 The producer nation shall have the option of selecting type styles and sizes to be used for geographic names, notes, legends, etc, in accordance with the guidance provided in B-561, B-562, B-563 and B-564.
- C-502.2 Sans-serif type (such as Univers) is preferred for both vertical and sloping (italic) lettering (see B-563).

C-503 BATHYMETRIC FEATURES

C-503.1 Selected names of bathymetric features may be shown on the black plate.

PART C

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CHART SPECIFICATIONS OF THE IHO FOR SMALL-SCALE INTERNATIONAL (INT) CHARTS

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PART C

APPENDIX A

STYLE SHEET

(Portion of INT 402)

NOTE: The attached style sheet is a portion of an international chart; it does not necessarily represent all features and details covered by the specifications. Also, the chart information is not displayed at the scale indicated.

