

THIS CIRCULAR LETTER REQUIRES YOU TO VOTE

IHB File No. S3/4405

**CIRCULAR LETTER No. 18/2001
30 March 2001**

CHART SPECIFICATIONS OF THE IHO

SMALL – SCALE INTERNATIONAL (INT) CHARTS

- References:
- 1) Publication M-4 "Chart Specifications of the IHO and Regulations for International (INT) Charts", 1988 Edition (permanently updated by means of change pages).
 - 2) Decision 27 of the XVth International Hydrographic Conference
 - 3) IHB Circular Letter 21/1970
 - 4) IHB Circular Letter 43/1981
 - 5) IHB Circular Letter 63/1996
 - 6) IHO Technical Resolution B 5.1

Dear Sir or Madam,

Enclosed is a copy of a new edition of the "Chart Specifications of the IHO for Small-scale International (INT) Charts", which was prepared and agreed by the IHO Chart Standardization Committee. Revision of these specifications was endorsed by the XVth IHC (Decision 27).

The existing edition of the Specifications for Small-scale International Charts was released in 1981 (IHB CL 43/1981 refers), as a "stand alone" document and as Appendix 1 to the then Regulations of the IHO for International (INT) Charts. In accordance with the new numbering system adopted for publication M-4 (IHB CL 21/2000 refers), the revised Small-scale INT Chart Specifications will form Part C of M-4.

Part C of M-4 is distributed with the attached Correction 1-2001, which also includes change pages for those introductory pages of M-4 (and of its Part B), containing references to Part C. In addition, the opportunity has been taken to include in the package some change-pages to Section 400 of Part B, for amendments previously agreed (IHB CL 63/1996 refers).

Member States are requested to review the enclosed document and to send their comments, if any, to the IHB by 30 June 2001. After that date, if no objections are received, the revised Small-Scale INT Chart Specifications will come into force (Spec. B-160 refers) and this will be announced by IHB Circular Letter. It is hoped that, at that time, a Spanish version will also be available.

IHO Technical Resolutions B 5.1 and B 5.3 in publication M-3, which respectively relate to the IHO Specifications for Small-scale INT Charts (Part C of M-4) and the IHO Regulations for INT Charts (Part A of M-4), need to be amended to take into account the new editions. It is proposed to cancel both B 5.1 and B 5.3 and to adopt a new TR B 5.6 combining B 5.1 and B 5.3, which will also address the Chart Specifications of the IHO (Part B of M-4). Suggested wording for TR B 5.6 is contained in Annex A and you are kindly requested to fill in the voting paper and to return it to the IHB **before 30 June 2001**. If the proposed new TR B 5.6 is accepted, the Bureau will then issue the relevant change-pages to M-3.

Correction 1-2001 to M-4 is being placed on the IHO Website (Go to "IHO Publications", then "Miscellaneous Publications") from which printed copies can be obtained. Paper copies will however be provided by the Bureau on request.

A digital version of M-4 is under preparation and will be made available on CD-ROM as soon as possible, hopefully during the course of this year.

The members of the CSC, its Chairman (Dr. Peter COX, UK), and its Secretariat (Mrs Liz DUNN, UK) are thanked and congratulated for the excellent work done. The IHB is also grateful to SHOM for their assistance in producing the style sheet at Appendix A of Part C.

On behalf of the Directing Committee
Yours sincerely,



Rear Admiral Neil GUY
Director

Encls.: Annex A – Voting Paper
Correction 1-2001 to IHO Publication M-4

Member State:

PUBLICATION M-3 – RESOLUTIONS OF THE IHO

Technical Resolutions related to Publication M-4

VOTING PAPER

(to be returned to the IHB before 30 June 2001

E-mail: info@ihb.mc - Fax: +377 93 10 81 40)

Do you agree that the existing Technical Resolutions B 5.1 and B 5.3, as reproduced below:

“B 5.1 INTERNATIONAL SET OF CHARTS AT SMALL SCALES

1.- The IHO Specifications for small scale International Charts (scales 1:2 250 000 and smaller) are adopted and will be published as an Appendix to the regulations of the IHO International (INT) Charts.

See also B5.3

B 5.3 REGULATIONS OF THE IHO FOR INTERNATIONAL (INT) CHARTS

1.- It is resolved that Member States adhere to the "Regulations of the IHO for International (INT) Charts", when acting either as producers or printers of INT Charts. Particular attention should be given to the establishment of bilateral arrangements between producers and printers, which should define both the technical and the financial terms to be applied.

2.- It is resolved that the IHB, through the Chart Standardization Committee (CSC), keep the regulations under review in order to advise the IHO on their updating. Member States having proposals to update the Regulations should forward them to the Chart Standardization Committee through the I.H. Bureau.”

Be cancelled and replaced with a new Technical Resolution B 5.6, with following wording:

“B 5.6 REGULATIONS OF THE IHO FOR INTERNATIONAL (INT) CHARTS AND CHART SPECIFICATIONS OF THE IHO

1.- Regulations of the IHO for International (INT) Charts, Chart Specifications of the IHO for Medium- and Large-scale National and International (INT) Charts (Scales larger than 1:2 000 000), and Chart Specifications of the IHO for Small-scale International (INT) Charts (Scales 1:2 000 000 and smaller) are adopted and published as Part A, Part B and Part C, respectively, of publication M-4 “Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO”.

2.- It is resolved that Member States adhere to the "Regulations of the IHO for International (INT) Charts", when acting either as producers or printers of INT Charts. Particular attention should be given to the establishment of bilateral arrangements between producers and printers, which should define both the technical and the financial terms to be applied.

3.- It is resolved that the IHB, through the Chart Standardization Committee (CSC), keep publication M-4 under review in order to advise the IHO on their updating. Member States having proposals to update M-4 should forward them to the Chart Standardization Committee through the I.H. Bureau.

See also B3.18 and K 2.11”

YES

NO

Comments:

.....

.....

Name / Signature

Date:

**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 (www.iho.shom.fr), IHO Publications section.

Rear Admiral Neil GUY

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P R E F A C E

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:

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

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LIST OF EFFECTIVE PAGES

Numbering	Pages in Force	Numbering	Pages in force	
I (reverse blank)	Corr. 1-2000	PART B	Original Corr. 1-2001	
III (reverse blank)	Corr. 1-2001			
V	Corr. 1-2001			
VI	Corr. 1-2001			
VII	Corr. 1-2001			
VIII	Corr. 1-2001			
IX (reverse blank)	Corr. 1-2001			
PART A				B-1 (reverse blank)
				B-3 (reverse blank)
Section 100		Section 100		
		B-100.i (reverse blank)	Original	
		B-100.iii	Corr. 1-90	
		B-100.iv	Original	
A-1 (reverse blank)	Corr. 1-2000	B-100.v (reverse blank)	Corr. 1-90	
A-3 (reverse blank)	Corr. 1-2000	B-100.1	Original	
A-5 (reverse blank)	Corr. 1-2000	B-100.2	Original	
A-7 (reverse blank)	Corr. 1-2000	B-100.3	Original	
Section 100		B-100.4	Original	
		B-100.5	Corr. 1-90	
		B-100.6	Original	
A-100.1	Corr. 1-2000	B-100.7	Original	
A-100.2	Corr. 1-2000	B-100.8	Original	
A-100.3	Corr. 1-2000	B-100.9	Original	
A-100.4	Corr. 1-2000	B-100.10	Original	
Section 200		B-100.11	Original	
		B-100.12	Original	
		B-100.13	Original	
A-200.1	Corr. 1.2000	B-100.14	Original	
A-200.2	Corr. 1-2000	B-100.15	Original	
A-200.3	Corr. 1-2000	B-100.16	Original	
A-200.4	Corr. 1-2000	Section 200		
A-200.5 (reverse blank)	Corr. 1-2000			
Section 300		B-200.i (reverse blank)	Original	
		B-200.iii	Corr. 1-90	
A-300.1	Corr. 1.2000	B-200.iv	Original	
A-300.2	Corr. 1-2000	B-200.v (reverse blank)	Original	
Section 400		B-200.1	Original	
		B-200.2	Original	
A-400.1	Corr. 1-2000	B-200.3	Original	
A-400.2	Corr. 1-2000	B-200.4	Original	
A-400.3	Corr. 1-2000	B-200.5	Original	
A-400.4	Corr. 1.2000	B-200.6	Original	
Section 500		B-200.7	Original	
		B-200.8	Original	
		B-200.9	Original	
A-500.1	Corr. 1-2000	B-200.10	Corr. 1-90	
A-500.2	Corr. 1-2000	B-200.11	Original	
Section 600		B-200.12	Original	
		B-200.13	Original	
		B-200.14	Original	
A-600.1 (reverse blank)	Corr. 1-2000	B-200.15	Original	
		B-200.16	Original	
		B-200.17 (reverse blank)	Original	

LIST OF EFFECTIVE PAGES (continued)

Numbering	Pages in Force	Numbering	Pages in Force
Section 300		Section 400	
B-300.i (reverse blank)	Original	B-400.i (reverse blank)	Original
B-300.iii	Corr. 1-90	B-400.iii	Corr. 1-95
B-300.iv	Original	B-400.iv	Corr. 1-2001
B-300.v	Original	B-400.v	Corr. 1-94
B-300.vi	Corr. 1-90	B-400.vi	Corr. 1-94
B-300.1	Original	B-400.vii	Corr. 1-94
B-300.2	Original	B-400.viii	Corr. 1-94
B-300.3	Original	B-400.ix (reverse blank)	Corr. 1-94
B-300.4	Original	B-400.1	Original
B-300.5	Original	B-400.2	Original
B-300.6	Original	B-400.3	Original
B-300.7	Original	B-400.4	Original
B-300.8	Original	B-400.5	Original
B-300.9	Original	B-400.6	Original
B-300.10	Original	B-400.7	Original
B-300.11	Original	B-400.8	Original
B-300.12	Original	B-400.9	Original
B-300.13	Original	B-400.10	Original
B-300.14	Original	B-400.11	Original
B-300.15	Original	B-400.12	Original
B-300.16	Original	B-400.13	Original
B-300.17	Original	B-400.14	Original
B-300.18	Original	B-400.15	Original
B-300.19	Original	B-400.16	Original
B-300.20	Original	B-400.17	Original
B-300.21	Original	B-400.18	Original
B-300.22	Original	B-400.19	Original
B-300.23	Original	B-400.20	Original
B-300.24	Original	B-400.21	Original
B-300.25	Original	B-400.22	Original
B-300.26	Original	B-400.23	Original
B-300.27	Original	B-400.24	Original
B-300.28	Original	B-400.25	Original
B-300.29	Original	B-400.26	Original
B-300.30	Original	B-400.27	Original
B-300.31	Original	B-400.28	Original
B-300.32	Original	B-400.29	Corr. 1-90
B-300.33	Original	B-400.30	Original
B-300.34	Original	B-400.31	Original
B-300.35	Original	B-400.32	Original
B-300.36	Original	B-400.33	Original
B-300.37	Original	B-400.34	Original
B-300.38	Original	B-400.35	Original
B-300.39	Original	B-400.36	Original
B-300.40	Original	B-400.37	Original
B-300.41	Original	B-400.38	Corr. 1-95
B-300.42	Original	B-400.39	Original
B-399.43	Corr. 1-89	B-400.40	Original
B-300.44	Original	B-400.41	Corr. 1-95
B-300.45 (reverse blank)	Corr. 1-90	B-400.42	Corr. 1-95

LIST OF EFFECTIVE PAGES (continued)

Numbering	Pages in Force	Numbering	Pages in Force
Section 600		B-IND.34	Corr. 1-96
B-600.i (reverse blank)	Original	B-IND.35	Corr. 1-96
B-600.iii	Original	B-IND.36	Corr. 1-96
B-600.iv	Original	B-IND.37 (reverse blank)	Corr. 1-96
B-600.v (reverse blank)	Original		
B-600.1	Original	PART C	
B-600.2	Original	C-1 (reverse blank)	Corr. 1-2001
B-600.3	Original	C-3	Corr. 1-2001
B-600.4	Original	C-4	Corr. 1-2001
B-600.5	Original	C-5 (reverse blank)	Corr. 1-2001
B-600.6	Original	C-7 (reverse blank)	Corr. 1-2001
B-600.7	Original		
B-600.8	Original	Section 100	
B-600.9	Original		
B-600.10	Original		
B-600.11 (reverse blank)	Original	C-100.1 (reverse blank)	Corr. 1-2001
		Section 200	
Alphabetical Index			
B-IND.i (reverse blank)	Corr. 1-96	C-200.1	Corr. 1-2001
B-IND.1	Corr. 1-96	C-200.2	Corr. 1-2001
B-IND.2	Corr. 1-96	C-200.3	Corr. 1-2001
B-IND.3	Corr. 1-96	C-200.4	Corr. 1-2001
B-IND.4	Corr. 1-96		
B-IND.5	Corr. 1-96	Section 300	
B-IND.6	Corr. 1-96		
B-IND.7	Corr. 1-96	C-300-1 (reverse blank)	Corr. 1-2001
B-IND.8	Corr. 1-96		
B-IND.9	Corr. 1-96	Section 400	
B-IND.10	Corr. 1-96		
B-IND.11	Corr. 1-96	C-400.1	Corr. 1-2001
B-IND.12	Corr. 1-96	C-400.2	Corr. 1-2001
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B-IND.14	Corr. 1-96	C-400.4	Corr. 1-2001
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B-IND.17	Corr. 1-96	Section 500	
B-IND.18	Corr. 1-96		
B-IND.19	Corr. 1-96	C-500.1 (reverse blank)	Corr. 1-2001
B-IND.20	Corr. 1-96		
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B-IND.22	Corr. 1-96		
B-IND.23	Corr. 1-96	C-IND.i (reverse blank)	Corr. 1-2001
B-IND.24	Corr. 1-96	C-IND.1	Corr. 1-2001
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B-IND.27	Corr. 1-96	C-IND.4	Corr. 1-2001
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B-IND.29	Corr. 1-96	C-IND.6	Corr. 1-2001
B-IND.30	Corr. 1-96	C-IND.7	Corr. 1-2001
B-IND.31	Corr. 1-96	C-IND.8	Corr. 1-2001
B-IND.32	Corr. 1-96	C-IND.9	Corr. 1-2001
B-IND.33	Corr. 1-96	C-IND.10	Corr. 1-2001
		C-IND.11 (reverse blank)	

LIST OF EFFECTIVE PAGES (continued)

Numbering	Pages in Force	Numbering	Pages in Force
<p style="text-align: center;">APPENDIX</p> <p>C-APP.i (reverse blank) C-APP.1 (reverse blank)</p>	<p>Corr. 1-2001 Corr. 1-2001</p>		

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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
200	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 “T”, 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.

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SECTION 400 – HYDROGRAPHY AND NAVIGATIONAL AIDS**RECORD OF CORRECTIONS**

Specification Number	Amendment Number	Circular Letters		Remarks
		Promulgated by	Approved by	
Section 400 Preliminary Edition	-	6/80	-	Adopted by 1982 Conference, Decision No. 23
441.2-444.4 446.3-448.3 450.2-455.2 456-458 460.3-461.2 461.3-461.4 462-462.2 463-463.1 464.1-464.3 465.1-466.2 466.4-470.3 471.2	1-81	3/82	-	Included in Cumulative Correction No. 1/86
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

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



IS3.1

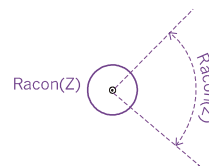
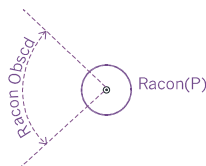


IS3.2



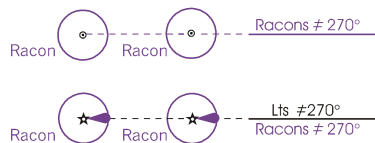
IS3.3

486.4 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).



IS3.4

486.5 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.



IS3.5

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.

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



IM31

487.2 **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



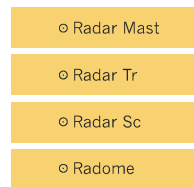
IM32.2

487.3 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).



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.



IE30.1

IE30.2

IE30.3

IE30.4

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

PART C

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

(Scales 1:2 000 000 and smaller)

Sections 100 - 500

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**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 General
- 200 Format
- 300 Topography
- 400 Hydrography and Navigational Aids
- 500 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 1:2 250 000 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.

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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 reprostat.

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.

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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 mid-latitude 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 reprostat, 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.

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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.**
- 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.
 - 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.
 - 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.

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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.

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PART C

ALPHABETICAL INDEX

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

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PART C

APPENDIX A

(Portion of INT 402)

STYLE SHEET

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.

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