

INDIAN
charts and publications

5020 (INT 1)
Edition 02-2011

SYMBOLS AND ABBREVIATIONS USED ON CHARTS



Published by
National Hydrographic Office, Dehradun



SYSTEM OF CORRECTION

Revised edition of Chart 5020 (INT1) are published as necessary to show symbols which have been newly introduced and to record other development in charting practice.

The more important changes introduced between edition are issued in indian Notices to Mariners as consecutively-numbered Amendment Supplements. On receipt, these Supplements should be recorded below, kept inside the cover of 5020 (INT1) and consulted whenever the Chart is used.

RECORD OF CORRECTIONS

SUPPLEMENT NUMBER	NOTICE NUMBER	YEAR

The Chief Hydrographer to the Govt. of India, gratefully acknowledges having used Repromats of INT1 of the International Chart series and hereby expresses thanks to the German Hydrographic Office

Chart 5020 (INT 1)

INTERNATIONAL

Edition 02 - 2011



CHART SERIES

SYMBOLS and ABBREVIATIONS used on Indian Paper Charts

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General	Chart 5020 provides a reference to the many symbols and abbreviations used on Indian and International paper Charts.
Layout	This edition of Charts 5020 (INT 1) is based on the “Chart Specifications of the IHO (International Hydrographic Organization)” adopted in 1982 with later additions and updates. Previous editions of 5020 followed a former IHO Standard List, a system still used by some Hydrographic Offices, the letter assigned to each major group of symbols in this edition has been prefixed “I” to avoid confusion during the transitional period.

Tracks, Routes IM —

Tracks Marked by Lights → P		Leading Beacons → Q		Tracks →
1		<p>Leading line (the firm line is the track to be followed)</p> <p># The bearing may be shown in degrees and tenths of a degree</p>		433.1 433.2 433.3 P1

- 1 Section.
- 2 Section designation : The letter “*I*” means International.
- 3 Sub - section.
- 4 Cross - reference to terms in other section.
- 5 Column 1: Numbering following the International “Chart Specification of the IHO”. A letter in this column, eg a, indicates a national symbol for which there is no international equivalent.
- 6 Column 2: International (INT) symbols used on Indian Paper charts.
- 7 Column 3: The mark # indicates that this symbol will only be found on charts adopted into from that of other nations.
- 8 Column 4: Other symbol or abbreviation used on charts, if different from column 2. The mark † indicates that this representation is obsolescent.
- 9 Column 5: Numbering following the “Chart Specifications of the IHO”
- 10 Numbering following the superseded IHO “Standard List of Symbols and Abbreviations”.

Depths The units used are given outside the border of the chart. The position of a sounding is the centre of the area covered by the figures.

On metric charts, depths from 0.1m to 20.9m are generally expressed in metres and decimetres. Where source information is sufficiently precise, depths from 21m to 31m may be given in half-metres. All other depths are shown in whole metres “except 30.1m to 30.3m where 30m depth contour is depicted”.

Drying heights	Underlined figures on rocks and banks which uncover indicate heights above chart datum. They are given in metres and decimetres.
Heights	Heights including overhead clearances, are given in metres above Mean High Water Springs, Mean Higher High Water or Mean Sea Level, details are given in the Explanatory Notes under the chart title. The position of a height is normally that of the dot alongside it, thus.79. Parentheses are used when the figure expressing height is set apart from the object (eg when showing the height of a small islet).
Bearings	Bearings are given from seaward and refer to the true compass.
Sea Miles and Cables	A sea mile is the length of one minute of latitude locally, and is the principal means of expressing distance on charts. A Cable is one tenth of a sea mile.
Names	<p>Names on charts are spelt in accordance with the principles and systems approved by the Government of India.</p> <p>A second name may be given in parentheses in the following circumstances</p> <ol style="list-style-type: none"> If the retention of a superseded rendering will facilitate cross-reference to related Publications; If, in the case of a name that has changed radically, the retention of the former one will aid radically, If it is decided to retain an English conventional name in addition to the present official Rendering.
Chart Catalogues	Details of charts are given in the “Catalogue of Charts and Publications” (INP - 10)
The Mariner’s Handbook And other Publications	<p>The Admiralty Mariner’s Handbook (NP 100) includes notes on the following:</p> <p>The use of charts and the degree of reliance that may be placed on them; chart supply and correction; names; charted navigational aids; navigational hazards; traffic separation schemes; offshore oil and gas operations; tides and currents; general marine meteorology. A glossary of terms used on Charts is also given.</p> <p>Information about features represented on charts can also be found in the following publications :</p> <p>Sailing Directions (West Coast of India pilot and Bay of Bengal pilot); List of Lights and Fog Signals; Tide Tables;List of Radio Signals and Tidal Stream Atlases.</p>
Copyright	Reproductions of any kind, including partial ones, are allowed only with the express permission of the National Hydrographic Office. If foreign source material has been included in charts, reproductions of any kind, including extracts, are not allowed without the express permission of the hydrographic service involved. The source material is listed in the Explanatory Notes or in the Source Data Diagram.

IA Chart Number, Title And Marginal Notes

Schematic Layout of an Indian INT Chart (reduced in size)

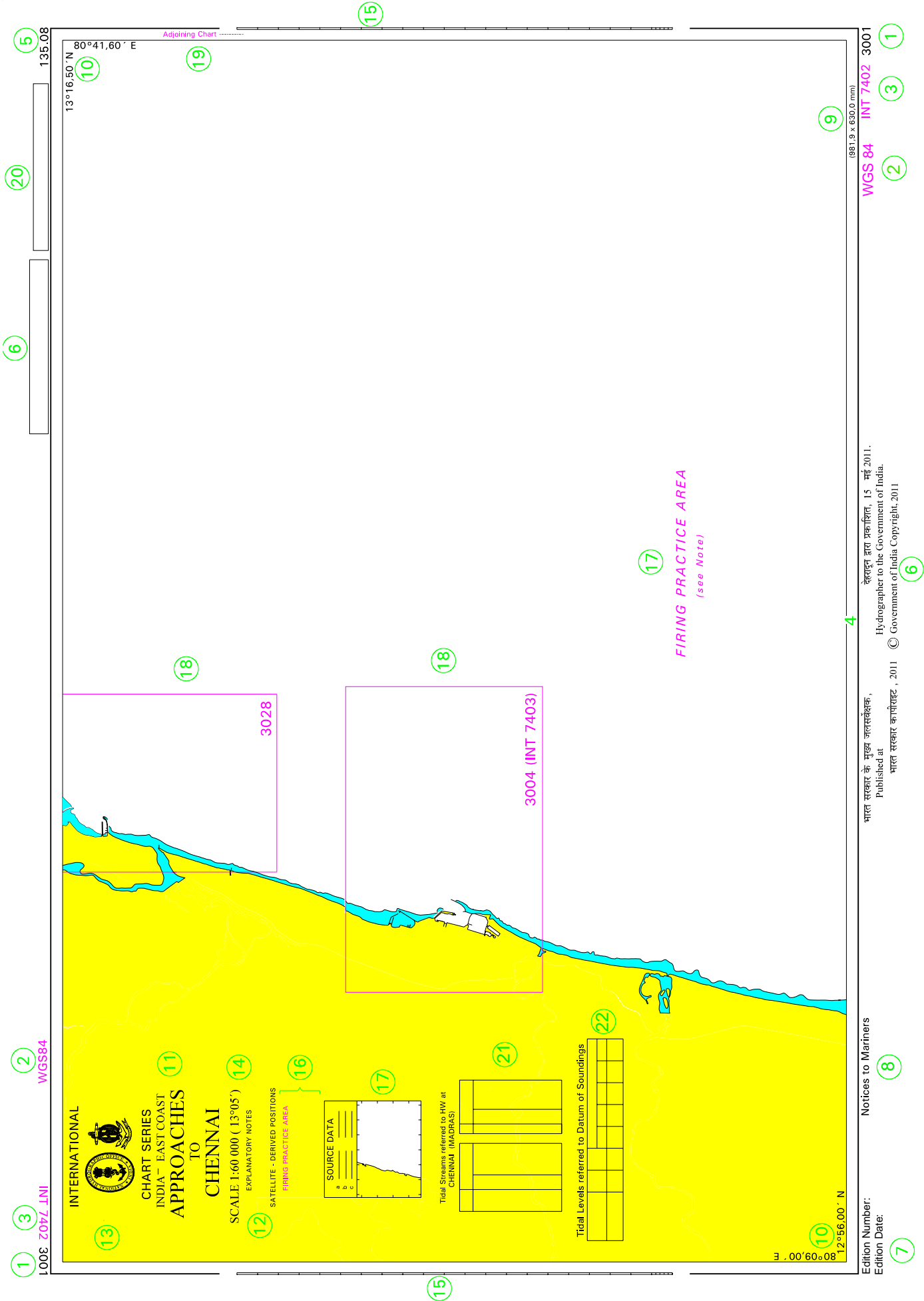


Chart Number, Title and Marginal Notes **IA**













Magnetic Features	→ IB	Tidal Data	→ IH	Decca, Loran-C, omega	→ IS
①	Chart number in the series.				251
②	Use of WGS84 geodetic reference system.				201 255.3
③	Chart number in the International (INT) Chart series.				251.1
④	Publication note (imprint) showing the date of publication as a New Chart.				522.1
⑤	Printing date imprint.				252.4
⑥	Copyright note. All charts are subject to Govt. of India Copyright restriction.				253
⑦	Dates of New Editions.				252.2
⑧	Notices to Mariners: (a) the year dates and numbers of Notices to Mariners				252.3
⑨	Dimensions of the inner neat-lines of the chart border. In the case of charts on Transverse Mercator Projections, dimensions may be quoted for all borders of the chart which differ				222.3 222.4
⑩	Corner co-ordinates				232
⑪	Chart title. This should be quoted, in addition to the chart number, when ordering a chart				241.3
⑫	Explanatory notes on chart content; to be read before using the chart.				242
⑬	Seals. Where a chart is in the International Chart series, the seal of the International Hydrographic Organization (IHO) is shown in addition to the national seal. Modified facsimile reproductions of the charts of other nations show the seals of the original producer (left), the publisher (centre), and the IHO (right).				241.1 241.2
⑭	Scale of chart; on Mercator projection, at a stated latitude.				211 241.4
⑮	Linear border scales (metres). On smaller-scale charts, the latitude border should be used to measure Sea miles and Cables.				221.1
⑯	Cautionary notes (if any) on charted detail; to be read before using the chart				242
⑰	Source Diagram (if any). If a Source Diagram is not show, details of the sources used in the compilation of the chart are given in the explanatory notes (see 12). The Source Diagram or notes should be studied carefully before using the chart in order to assess the reliability of the data used.				170-178 241.9
⑱	Reference to a larger-scale chart or plan.				254
⑲	Reference to an adjoining chart of similar scale.				954
⑳	Instruction to refer to related Indian Publications.				243
㉑	Reference to the Tidal Streams information.				241.5
㉒	Reference to Tidal Levels from Chart Datum.				255.2

IB Positions, Distances, Directions and Compass

Geographical Positions				
1	Lat	Latitude	†	Br.
2	Long	Longitude	†	Lg.
3		International Meridian (Greenwich)	†	Gr.
4	°	Degree(s)		130
5	'	Minute(s) of arc		130
6	''	Second(s) of arc		130
7	PA	Position approximate (not accurately determined or does not remain fixed)		417 424.1
8	PD	Position doubtful (reported in various positions)		417 424.2
9	N	North		131.1
10	E	East	†	O
11	S	South		131.1
12	W	West		131.1
13	NE	North-east	†	NO
14	SE	South-east	†	SO
15	NW	North-west		
16	SW	South-west		

Control Points				
20	△	Triangulation point	†	T.P.
21	⊕	Observation spot	†	△
22	⊙ ⊙	Fixed point		305.1 340.5
23	⌄	Benchmark		304.3
24		Boundary mark		306
25.1	◦ km 32	Distance along waterway, no visible marker		307
25.2	◦ km 46	Distance along waterway with visible marker		307

Positions, Distances, Directions and Compass **IB**

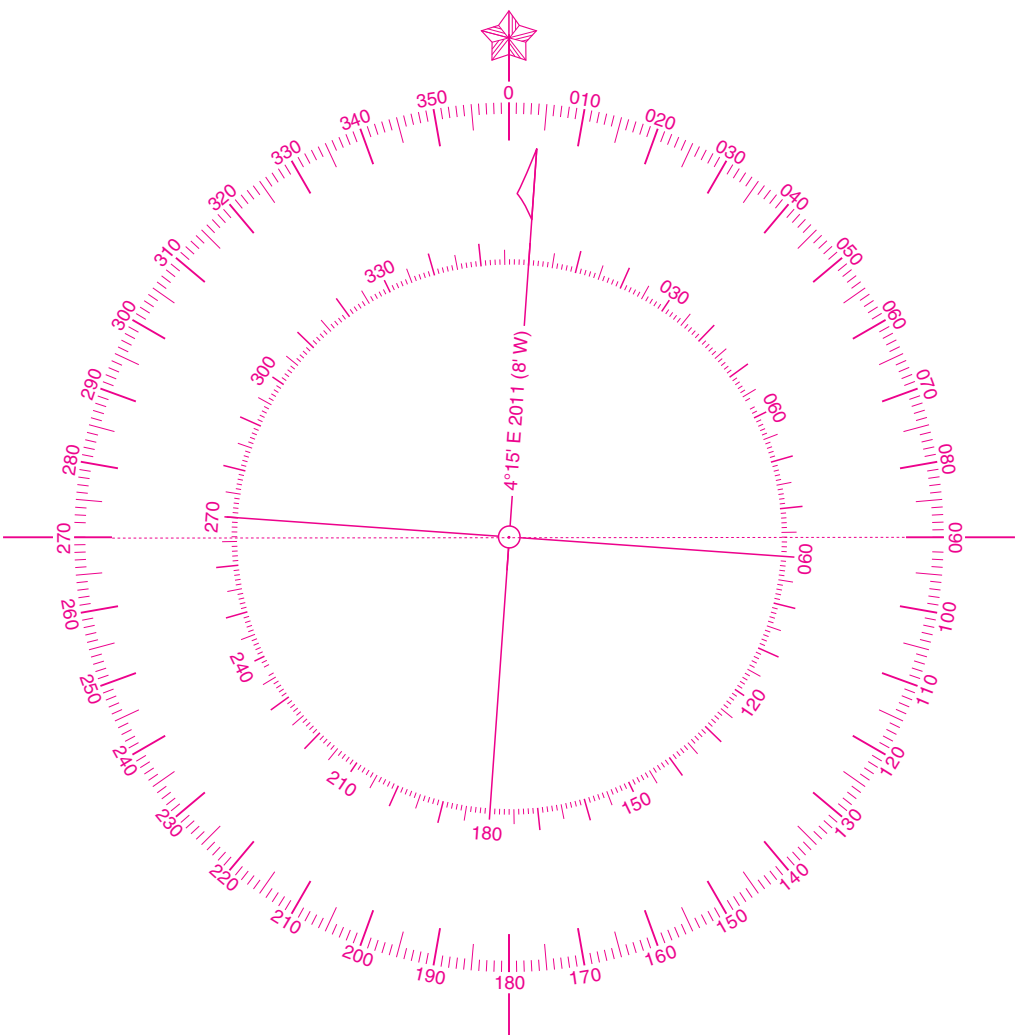
Symbolised Positions (Examples)						
30				Symbols in plan: position is centre of primary symbol		305.1
31				Symbols in profile: position is at bottom of symbol		305.1
32				Point symbols (accurate positions)		 Mast PA 305.1 340.5
33	 Mast PA			Approximate position		305.1

Units				
40	km	Kilometre(s)		
41	m	Metre(s)		130
42	dm	Decimetre(s)		130
43	cm	Centimetre(s)		
44	mm	Millimetre(s)		130
45	M	International Nautical Mile(s) (1852 m) sea mile(s)	†	sm
46		Cable (0,1 M)		130
47	ft	Foot/feet		
48		Fathom(s)		
49	h	Hour		130
50	m min	Minute(s) of time		130
51	s sec	Second(s) of time		130
52	kn	Knot(s)		130
53	t	Tonne(s), Ton(s), Tonnage (weight)		328.3
54	cd	Candela		

Magnetic Compass				
60		Variation		
61		Magnetic		
62		Bearing		263
63		True		
64		Decreasing		

IB Positions, Distances, Directions and Compass



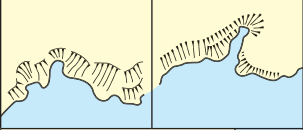
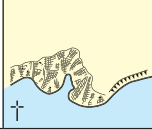
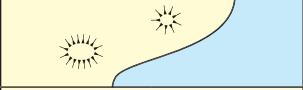
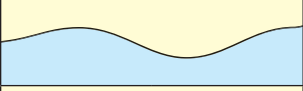
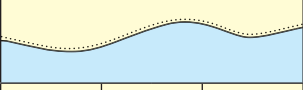
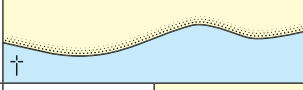
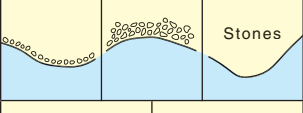
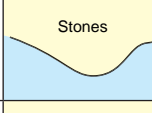


65		Increasing		
66		Annual change		
67		Deviation		
68.1	Magnetic Variation 4°30' W 2011 (8° E)	Note of magnetic variation, in position		272.2
68.2	Magnetic Variation at 55°N 8°W 4°30' W 2011 (8° E)	Note of magnetic variation, out of position	Magnetic Variation 4°30' W 2011 (8° E)	

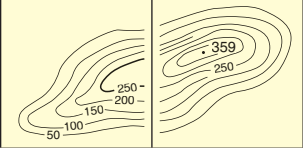
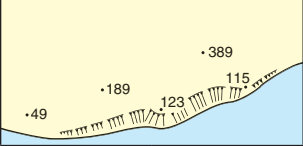
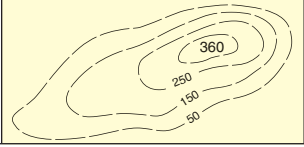
70	<p>Compass rose, normal pattern (smaller patterns of compass rose may be used)</p> <p>Magnetic variation (example): 4°15' E 2011 8° W on magnetic north arrow means magnetic variation 4°15' E 2011, annual change 8° W. For 2012 the magnetic variation is 4°07' E.</p> 	<p>260– 262.2 272.3</p>
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Positions, Distances, Directions and Compass **IB**

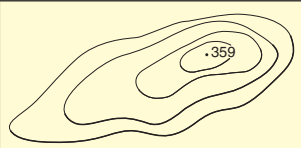
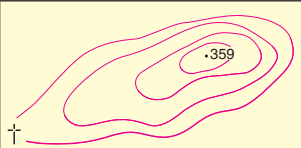
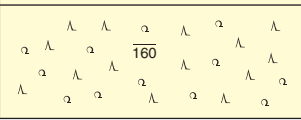
71	<p>Magnetic variation lines isogonals (lines of equal magnetic variation)</p>	<p>MAGNETIC VARIATION LINES ARE FOR 2011</p> <p>The magnetic variation is shown in degrees, followed by the letter W or E, as appropriate, at certain positions on the lines. The annual change is expressed in minutes with the letter W or E and is given in brackets, immediately following the variation.</p>	272.1
82.1		<p>Local magnetic anomaly</p> <p>Within the enclosed area the magnetic variation may deviate from the normal by the value shown</p>	274
82.2	<p>Local Magnetic Anomaly (see Note)</p>	<p>Where the area affected cannot be easily defined, a legend only is shown at the position</p>	


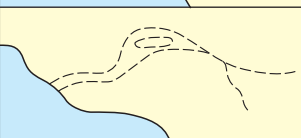
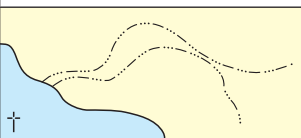
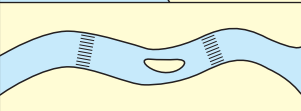
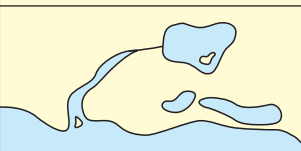
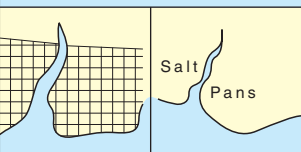

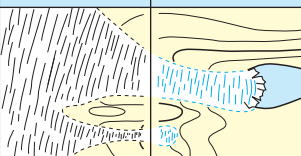
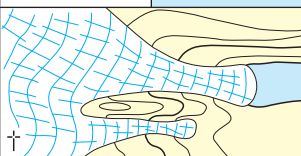

IC Natural Features

Coastline				
Foreshore → II, IJ				
1		Coastline, surveyed		310.1 310.2
2		Coastline, unsurveyed		311
3		Cliffs, Steep coast		312.1
4		Hillocks		312.1
5		Flat coast		312.2
6		Sandy shore		312.2
7		Stony shore, Shingly shore		312.2
8		Sand dunes		312.3


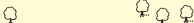

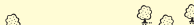
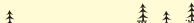

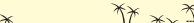

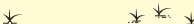

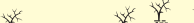

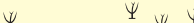

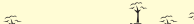
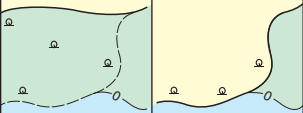
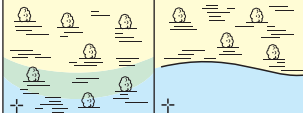

Relief				
Plane of reference for heights → IH				
10		Contour lines with values and spot height		351.3–6 352.2
11		Spot heights		352.1 352.2
12		Approximate contour lines with values and approximate height		351.3–6 352.3

Natural Features **IC**

13		Form lines with spot height		351.2 351.3 351.7 352.2
14		Approximate height of top of trees (above height datum)		352.4

Water Features, Lava				
20		River, Stream		353.1 353.2 353.4
21		Intermittent river		353.3
22		Rapids, Waterfalls		353.5
23		Lakes		353.6
24		Salt pans		353.7
25		Glacier		353.8
26		Lava flow		355

IC Natural Features

Vegetation						
30		Wooded	Woods in general			354.1
31			Prominent trees (isolated or in groups)			354.2
31.1			Deciduous tree, unknown or unspecified tree			
31.2			Evergreen (except conifer)			
31.3			Conifer			
31.4			Palm			
31.5			Nipa palm			
31.6			Casuarina			
31.7			Filao			
31.8			Eucalypt			
32			Mangrove			312.4
33		Marsh	Marsh, Swamp, Reed beds			312.2

Cultural Features ID

<i>Settlements, Buildings</i>						
<i>Height of objects</i> → IE		<i>Landmarks</i> → IE				
1			Urban area			370.3 370.4
2			Settlement with scattered buildings			370.5
3	○ Name	□ Name	Settlement (on medium and small-scale charts)	■ Name		370.7
4	⛶ Name	■ Name HOTEL	Inland village			370.6
5	■ ■ ■ ■		Building or Buildings	Bldg		370.5
6			Important building in built-up area			370.3
7			Street name, Road name			371
8			Ruin, Ruined landmark			378 378.2

<i>Roads, Railways, Airfields</i>						
10			Motorway			365.1
11			Road (hard surfaced)			365.2
12			Track, Path (loose or unsurfaced)			365.3
13			Railway, with station			328.4 362.1 362.2
14			Cutting			363.2
15			Embankment			364.1
16			Tunnel			363.1

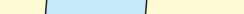
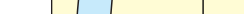
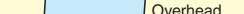
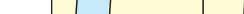
ID Cultural Features

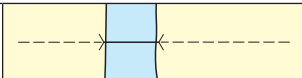
17				Airport, Airfield Large and Small-scale charts		366.1 366.2
----	--	--	--	--	--	----------------

Plane of Reference for Height → IH				Other Cultural Features	
20		Vertical clearance above High Water			380.1 380.2
21		Horizontal clearance			380.3
22		Fixed bridge with vertical clearance			381.1
23.1		Opening bridge (in general) with vertical clearance			381.3
23.2		Swing bridge with vertical clearance			
23.3		Lifting bridge with vertical clearance (closed and open)			
23.4		Bascule bridge with vertical clearance			
23.5		Pontoon bridge			
23.6		Draw bridge with vertical clearance			
24		Transporter bridge with vertical clearance below fixed structure			381.2
25		Overhead transporter, Aerial cableway with vertical clearance			382.3
26		Overhead power cable with pylons and safe vertical clearance* (see Note below D29)			382.1
27		Overhead cable, Telephone line, Telegraph line with vertical clearance			382 382.2





















Note: * The safe vertical clearance, as defined by the responsible authority, is given in magenta where known; otherwise the physical vertical clearance is shown in black as in D 20.























Cultural Features ID

28		Overhead Pipe	<i>Overhead pipe with vertical clearance</i>		383
29			<i>Pipeline on land</i>		377



























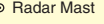
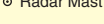

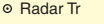

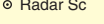

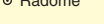




Supplementary National Symbols				
a		Foot-bridge		

IE Landmarks

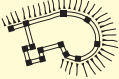







Plane of reference for heights → IH Lighthouses → IP Beacons → IQ					
General					
1	 Factory  Hotel	Examples of landmarks	 Factory		340.1 340.2 340.5
2	 FACTORY  WATER TR  HOTEL  WATER TOWER	Examples of conspicuous landmarks (capitals indicate that it is conspicuous)	 FACTORY  WATER TR  WATER TR	 Factory 	340.1–3 340.5
3.1	 	Pictorial sketches (in true position)			340.7 373.1 390 456.5 457.3
3.2	 	Pictorial sketches (out of position)			
4	 (30)	Height of top of a structure above height datum			302.3
5	 (30)	Height of top of a structure above ground level	  (30)		303

Landmarks			Supplementary national symbols.		
10.1	 	Ch	Church		373.1 373.2
10.2	 Tr	 Tr	Church tower	 	
10.3	 Sp	 Sp	Church spire		
10.4	 Cup	 Cup	Church cupola	 	
11			Chapel	 	
12			Cross, Calvary		
13			Temple		373.3
14			Pagoda	 	373.3
15			Shinto shrine, Joss house		373.3
16	 		Buddhist temple or shrine		373.3

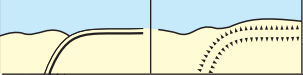

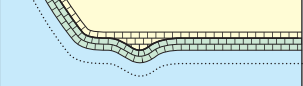
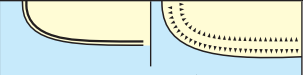
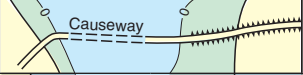
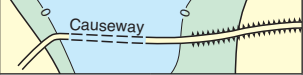
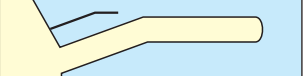
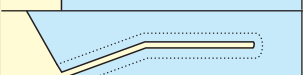





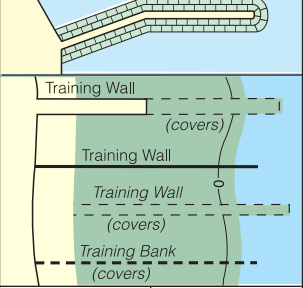



Landmarks IE






17			Mosque, Minaret	  	373.4
18		Marabout	Marabout		373.5
19			Cemetery (all religious denominations)	 	373.6
20		Tr	Tower		374.3
21			Water tower, Water tank on a tower		374.2 376
22	 Chy		Chimney		374.1
23			Flare stack (on land)		374.1
24		Mon	Monument (including column, pillar, obelisk, statue)		374.4
25.1			Windmill	 	374.5 378.2
25.2	 Ru		Windmill (without sails)	 	
26.1			Wind turbine, Windmotor		374.6
26.2			Wind farm		
27		FS	Flagstaff, Flagpole		374.7
28			Radio mast, Television mast		375.1
29			Radio tower, Television tower		375.2
30.1	 Radar		Radar mast		487.3
30.2	 Radar		Radar tower		
30.3			Radar scanner		
30.4			Radome		
31			Dish aerial		375.4
32		T a n k s	Tanks		376.1 376.2
33	 Silo 		Silo		376.3

IE Landmarks

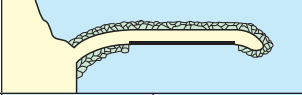


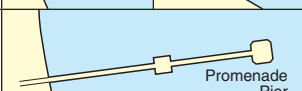
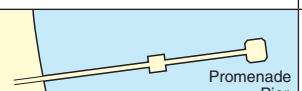
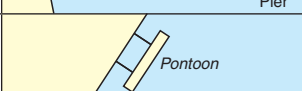
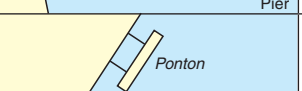

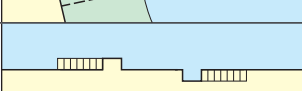
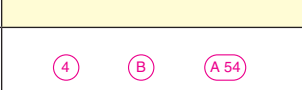


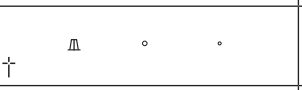





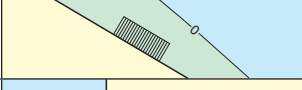
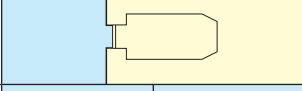
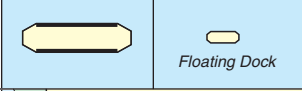
34.1	 Fort	Fortified structure (on large-scale charts)		379.1 379.2
34.2		Castle, Fort (on smaller scale charts)		
34.3		Battery, Small fort (on smaller scale charts)		
35.1		Quarry (on large-scale charts)		367.1 367.2
35.2		Quarry (on smaller scale charts)		
36		Mine		367.2
37.1		Caravan site		368
37.2		Camping site (including caravans)		

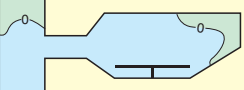

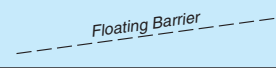

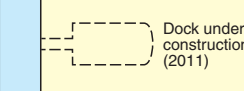
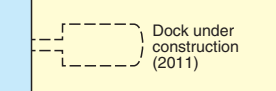
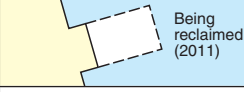




Supplementary National Symbols				
a		Mast		

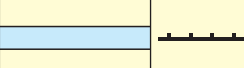

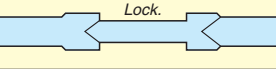
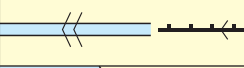
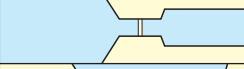
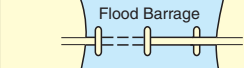
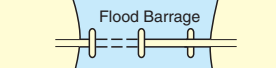
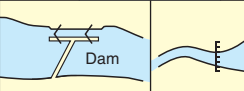

<i>Protection Structures</i>				
1		Dyke, Levee, Berm		313.1
2.1		Seawall (on large-scale charts)		313.2
2.2		Seawall (on smaller scale charts)		
3		Causeway		313.3
4.1		Breakwater (in general)		322.1
				
				
4.2		Breakwater (loose boulders, tetrapods, etc.)		313.4 324
4.3		Breakwater (slope of concrete or masonry)		
5		Training wall (partly submerged at high water)		322.2
6.1		Groyne (always dry)		313.4 324
6.2		Groyne (intertidal)		
6.3		Groyne (always under water)		

<i>Harbour Installations</i>				
Depths → II	Anchorage, limits → IN	Beacons and other fixed marks → IQ	Marina → IU	
10		Fishing harbour		320.1
11.1		Boat harbour, Marina		320.2
11.2		Yacht berths without facilities		
11.3		Yacht club, Sailing club		

IF Ports

12		Mole (with berthing facility)		321.3
13		Quay, Wharf		321.1
14		Pier, Jetty		321.2 321.4
15		Promenade pier		321.2
16		Pontoon		326.9
17		Landing for boats		324.2
18		Steps, Landing stairs		
19.1		Designation of berth		323.1
19.2		Visitors' berth		
20		Dolphin		327.1
21		Deviation dolphin		327.2
22		Minor post or pile		327.3
23		Slipway, Patent slip, Ramp		324.1
24		Gridiron, Scrubbing grid		326.8
25		Dry dock, Graving dock		326.1
26		Floating dock		326.2
27		Non-tidal basin, Wet dock		326.3

28		Tidal basin, Tidal harbour		
29.1		Floating barrier, e. g. oil barrier, security barrier		449.2
29.2		Oil retention barrier (high pressure pipe)		
30		Works on land, with year date		329.1
31		Works at sea, Area under reclamation, with year date		329.2
32	Under construction (2011) Works in progress (2011)	Works under construction, with year date		329 329.4
33.1		Ruin		378.1
33.2		Ruined pier, partly submerged at high water		
34		Hulk		

Canals and Barrages				
Clearances → ID	Signal stations	→ IT	Distance marks → IB	
40		Canal		361.3 361.6
41.1		Lock (on large-scale charts)		326.6 361.6
41.2		Lock (on smaller scale charts)		
42		Caisson, Gate		326.5
43		Flood barrage		326.7
44		Dam, Weir (direction of flow)		364.2

IF Ports

<i>Transshipment Facilities</i>				
<i>Roads</i>	→ ID	<i>Railways</i>	→ ID	<i>Tanks</i> → IE
50			<i>Roll-on, Roll-off (RoRo) Ferry Terminal</i>	321.5
51			<i>Transit shed, Warehouse (with designation)</i>	328.1
52			<i>Timber yard</i>	328.2
53.1			<i>Crane (with lifting capacity), Travelling crane (on railway)</i>	328.3
53.2			<i>Container crane (with lifting capacity)</i>	
53.3			<i>Sheerlegs (conspicuous)</i>	

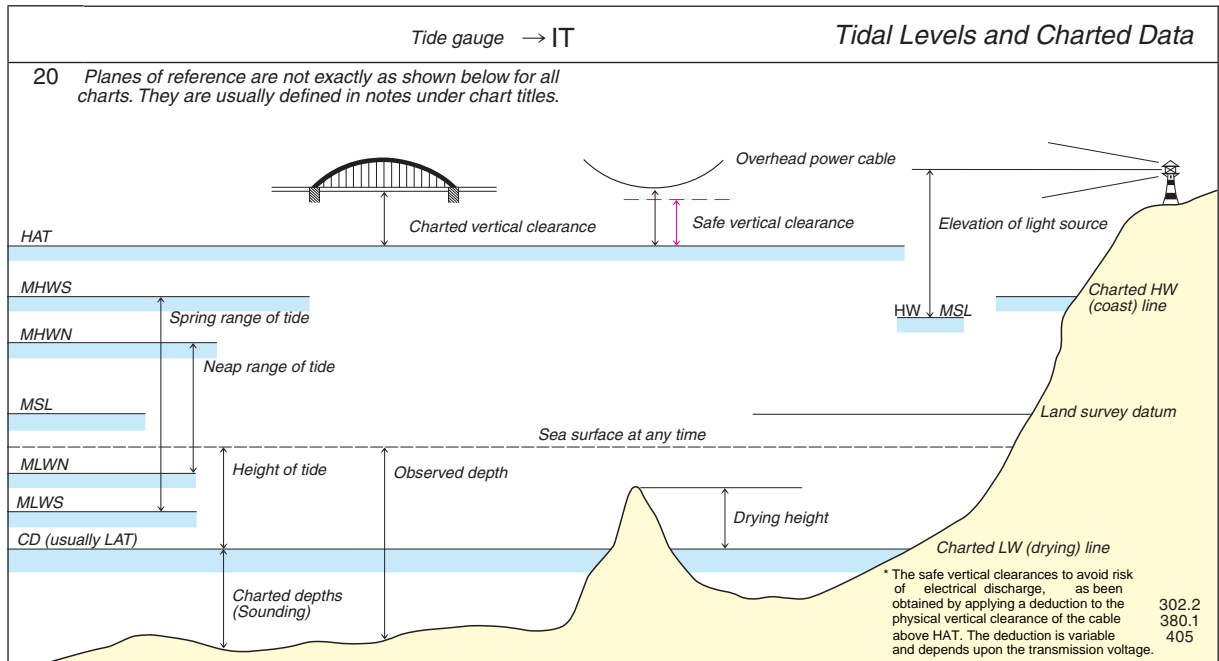
<i>Public Buildings</i>				
60			<i>Harbour Master's office</i>	325.1
61			<i>Custom office</i>	325.2
62.1			<i>Health office, Quarantine building</i>	325.3
62.2			<i>Hospital</i>	
63			<i>Post office</i>	372.1

<i>Supplementary National Symbols</i>				
a		<i>Culvert</i>		
b		<i>Ditch with sluice</i>		
c		<i>Slope (on large-scale charts)</i>		

Tides and Currents **IH**

<i>Terms Relating to Tidal Levels</i>			<i>Supplementary National Symbols.</i>	
1	CD	<i>Chart Datum, Datum for sounding reduction</i>	SKN	405
2	LAT	<i>Lowest Astronomical Tide</i>		405,3
3	HAT	<i>Highest Astronomical Tide</i>		
4	MLW	<i>Mean Low Water</i>	MNW	
5	MHW	<i>Mean High Water</i>	MHW	
6	MSL	<i>Mean Sea Level</i>		
7		<i>Height datum, Land survey datum</i>		
8	MLWS	<i>Mean Low Water Springs</i>	MSpNW	
9	MHWS	<i>Mean High Water Springs</i>	MSpHW	
10	MLWN	<i>Mean Low Water Neaps</i>	MNpNW	
11	MHWN	<i>Mean High Water Neaps</i>	MNpHW	
12	MLLW	<i>Mean Lower Low Water</i>	MNNW	
13	MHHW	<i>Mean Higher High Water</i>	MHHW	
14	MHLW	<i>Mean Higher Low Water</i>	MHNW	
15	MLHW	<i>Mean Lower High Water</i>	MNHW	
16	Sp	<i>Spring tide</i>	Sp	
17	Np	<i>Neap tide</i>	Np	

IH Tides and Currents



Tide Tables

30

Tidal Levels referred to datum of soundings

Place	Lat N	Long E	Heights in metres above datum				
			MHWS	MHWN	MLWN	MLWS	
			MHHW	MLHW	MHLW	MLLW	

Tabular statement of semi-diurnal or diurnal tides

406.2–4

Note:
The order of columns in the tabular statement of tides does not correspond to that in the national tide tables.

31

Tidal stream table











Tidal streams referred to . . .

Hours	Geographical Position
Before High Water 6 5 4 3 2 1 High Water 1 2 3 4 5 6 After High Water	Directions of streams (degrees) Rates at spring tides (knots) Rates at neap tides (knots)

	A	B	C	D	E	
-6						-6
-5						-5
-4						-4
-3						-3
-2						-2
-1						-1
0						0
+1						+1
+2						+2
+3						+3
+4						+4
+5						+5
+6						+6


407.2
407.3

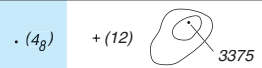
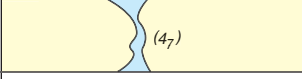

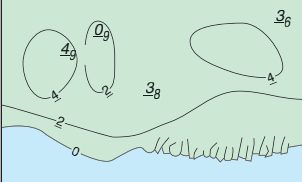
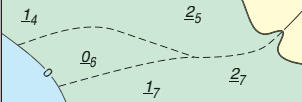
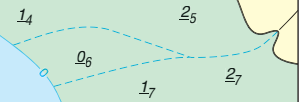
Tides and Currents **IH**

Tidal Streams and Currents				
Breakers → IK Tide Gauge → IT				
40		Flood tide stream with rate		407.4 408.2
41		Ebb tide stream with rate		407.4 408.2
42		Current in restricted waters		408.2
43		Ocean current with rates and seasons		408.3
44		Overfalls, tide rips, races	† 	423.1
45		Eddies		423.3
46		Position of tabulated tidal stream data with designation		407.2
47		Offshore position for which tidal levels are tabulated		406.5

Supplementary National Symbols				
a		High water (HW)	HW	
b		Low water (LW)	NW	
c		Mean tide level	† MW	

Depths

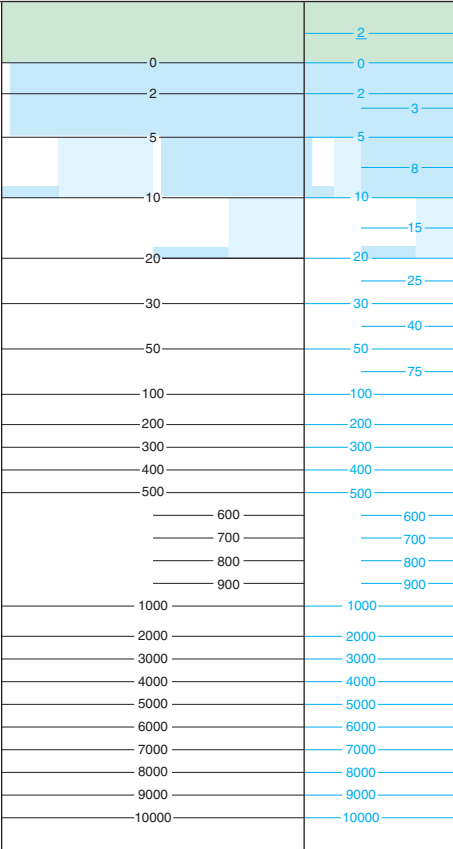
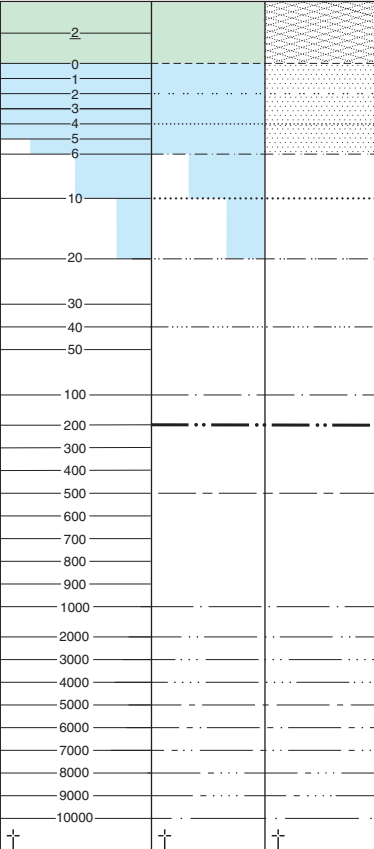

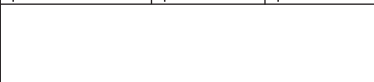
General				
1	ED	Existence doubtful		417 424.3
2	SD	Sounding of doubtful depth		417 424.4
3.1	Rep	Reported, but not confirmed	gem.	417 424.5
3.2	Rep (2010)	Reported (with year of report), but not confirmed	gem. (2010)	
4		Reported, but not confirmed sounding or danger (on small-scale charts only)		S 4 Part C 404.3

Soundings				
Plane of reference for depths → IH		Plane of reference for heights → IH		
10	12 9 ₇	Sounding in true position		403.1 410 412 412.1
11		Sounding out of position		412 412.1 412.2
12		Least depth in narrow channel		412 412.1 412.2
13		No bottom found at depth shown		412.3
14	12 9 ₇	Soundings which are unreliable or taken from a smaller scale source		412.4 417.3
15		Drying heights and contours above Chart Datum		413 413.1 413.2
16		Natural watercourse (in intertidal area)		413.3

Depths II





Supplementary national symbols: a, b					Depths in Fairways and Areas
Plane of reference for depths → IH					
20		Limit of dredged channel or area (major and minor)			414.3
21		Dredged channel or area with depth of dredging in metres and decimetres			414
22		Dredged channel or area with depth and year of the latest control survey			414.1
23		Dredged channel or area with maintained depth			414.2
24		Area swept by wire drag. The depth is shown at Chart Datum (The latest date of sweeping is shown in parentheses)			415 415.1
25		Unsurveyed or inadequately surveyed area; area with inadequate depth information			410 417 417.6 417.7 418

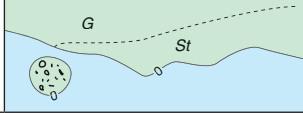


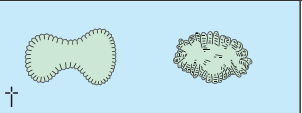

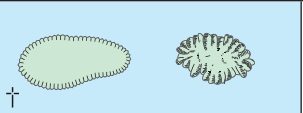
Depths

Depth Contours					
30		<p>Drying contour</p> <p>Low water line (CD)</p>		<p>404.2</p> <p>410</p> <p>411</p> <p>411.6</p>	
	<p>Blue tint, in one or more shades, or tint ribbons are shown to different limits according to the scale and purpose of the chart and the nature of the bathymetry. On some charts, contours and values are printed in blue.</p>				
31		<p>Approximate depth contours</p>		<p>411.2</p> <p>417.5</p>	

Supplementary National Symbols					
a		Dredged channel or area with guaranteed minimum depth indicated			
b		Dredged channel or area with least depth and year of the latest control survey indicated			
c		Harbour depth/depth at a jetty			

Nature of the Seabed **IJ**

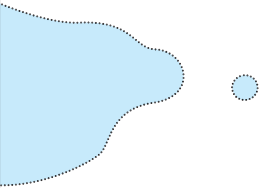


Types of Seabed				
Rocks → IK				
1	S	Sand	† S	425 427
2	M	Mud	† m	425 427
3	Cy	Clay	† Cl	425 427
4	Si	Silt		425 427
5	St	Stones	† St	425 427
6	G	Gravel	† g	425 427
7	P	Pebbles	† peb	425 427
8	Cb	Cobbles		425 427
9.1	R	Rock, Rocky	† r	425 427
9.2	Bo	Boulder(s)		
10	Co	Coral, Coralline algae	† cor	425 427
11	Sh	Shells (skeletal remains)	† Sh	425 427
12.1	S/M	Two layers, e.g. sand over mud		425.8 425.9
12.2	fS. M. Sh fSMSh	The main constituent is given first for mixtures, e.g. fine sand with mud and shells		
13.1	Wd	Weed (including Kelp)	† wd	425.5 428.2
13.2		Kelp, Weed		
14		Sandwaves		428.1
15		Spring in seabed		428.3

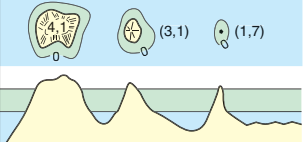
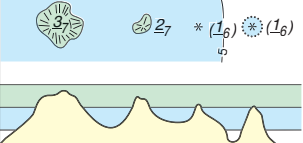
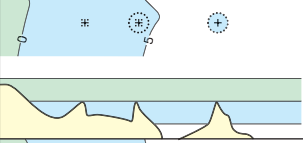
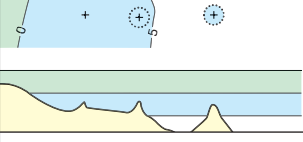
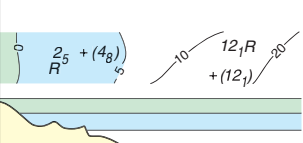
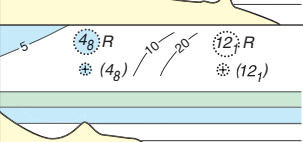




Types of Seabed, Intertidal Areas				
20		Areas with stones and gravel		426.1
21		Rocky area, which covers and uncovers		426.2
22		Coral reef, which covers and uncovers		426.3

IJ *Nature of the Seabed*


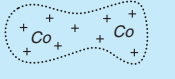

Qualifying Terms.					
30	<i>f</i>	<i>Fine</i>	} <i>only used in relation to sand</i>		425 427
31	<i>m</i>	<i>Medium</i>			425 427
32	<i>c</i>	<i>Coarse</i>			425 427
33	<i>bk</i>	<i>Broken</i>	†	<i>brk.</i>	425 427
34	<i>sy</i>	<i>Sticky</i>	†	<i>stk.</i>	425 427
35	<i>so</i>	<i>Soft</i>	†	<i>sft.</i>	425 427
36	<i>sf</i>	<i>Stiff</i>	†	<i>stf.</i>	425 427
37	<i>v</i>	<i>Volcanic</i>	†	<i>vol.</i>	425 427
38	<i>ca</i>	<i>Calcareous</i>	†	<i>cal.</i>	425 427
39	<i>h</i>	<i>Hard</i>			425.5 425.7



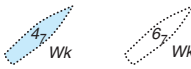






Rocks, Wrecks and Obstructions IK

General			
1		<i>Danger line: A danger line draws attention to a danger which would not stand out clearly enough if represented solely by its symbol (e.g. isolated rock) or delimits an area containing numerous dangers, through which it is unsafe to navigate</i>	411.4 420.1
2		<i>Swept by wire drag or diver</i>	415 422.3 422.9
3		<i>Depth unknown, but estimated to have a safe clearance to the depth shown the symbol of may be used with other symbols e.g. wrecks, wells, turbines.</i>	422.5 422.9

Rocks			
Plane of reference for heights → IH		Plane of reference for depths → IH	
10		<i>Rock (islet) which does not cover, height above height datum</i>	421.1
11		<i>Rock which covers and uncovers, height above chart datum</i>	421.2
12		<i>Rock awash at the level of chart datum</i>	421.3
13		<i>Underwater rock of unknown depth, dangerous to surface navigation</i>	421.4
14		<i>Underwater rock of known depth</i>	421.4
14.1		<i>inside the corresponding depth area</i>	
14.2		<i>outside the corresponding depth area, dangerous to surface navigation</i>	  

IK Rocks, Wrecks and Obstructions

15		Underwater rock of known depth, not dangerous to surface navigation		421.4
16		Coral reef which is always covered		421.5
17		Breakers		423.2
d		Discoloured water	Discol † Discold	424.6

Wrecks and Fouls				
Plane of reference for depths → IH				
20		Wreck, hull never covers, on large-scale charts		422.1
21		Wreck, hull covers and uncovers, on large-scale charts		422.1
22		Submerged wreck, depth known, on large-scale charts		422.1
23		Submerged wreck, depth unknown, on large-scale charts		422.1
24		Wreck showing any portion of hull or superstructure at level of Chart Datum		422.2
25		Wreck of which the mast(s) only are visible at Chart Datum		422.2
26		Wreck, least depth known by sounding only		422.4
27		Wreck, least depth known, swept by wire drag or diver		422.3

Rocks, Wrecks and Obstructions **IK**

28		Wreck, least depth unknown, considered to be potentially dangerous to some surface navigation.		422.6
29		Wreck, least depth unknown Caution: On many charts, this symbol is used for wrecks of unknown least depth, but considered to be covered by more than 20m of water. The wrecks thus represented are then potentially dangerous to vessels with a draught greater than 20m. Note: This symbol is also used for all wrecks in water over 200 m deep.		422.6
30		Wreck, least depth unknown, but considered to have a safe clearance to the depth shown		422.5
31			Foul ground, not dangerous to surface navigation but to be avoided by vessels anchoring, trawling etc (e.g. remains of wreck, cleared platform)	422.8
g		Area of foul ground.		
















Obstructions and Aquaculture				
Plane of reference for depths → IH Kelp, seaweed → IJ Underwater Installations → IL				
40			Obstruction, depth unknown	422.9
41			Obstruction, least depth known by sounding only	422.9
42			Obstruction, least depth known, swept by wire drag or diver	422.9
43.1			Stumps of posts or piles, wholly submerged	327.5
43.2			Submerged pile, stake, snag or stump (with exact position)	










IK Rocks, Wrecks and Obstructions

44.1		Fishing stakes		
44.2		Fish trap, Fish weir, Tunny nets		447.1 447.2
45			Fish trap area, Tunny nets area	447.3
46.1			Fish haven	447.5
46.2			Fish haven with minimum depth	
47		Shellfish beds		447.4
48.1		Marine farm (on large-scale charts)		447.6
48.2		Marine farm (on smaller scale charts)		




Supplementary National Symbols				
a		Non-dangerous rock, depth unknown	†	+
b		Foul ground		
c		Foul area, least depth known	†	≡ (15 ₇)
d		Foul area, least depth known, swept by wire drag or diver	†	≡ (15 ₇)


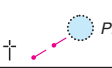






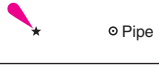
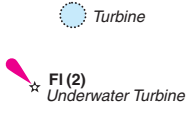

Offshore Installations






General				
Areas and limits → IN				
1	<i>Oilfield</i>	<i>Name of oilfield or gasfield</i>		445.3
2	 Z-44	<i>Platform with designation/name</i>	  <i>On multicoloured charts</i>	445.3
3		<i>Limit of safety zone around offshore installation</i>		439.2 445.2
4		<i>Limit of development area</i>		445.7
5.1	  	<i>Wind turbine, floating wind turbine, vertical clearance under blade</i>		445.8
5.2	 	<i>Wind farm</i>		445.9
	 	<i>Wind farm (floating)</i>		
6	 	<i>Wave farm</i>		445.12

Platforms and Moorings				
Mooring buoys → IQ				
10		<i>Production platform, Platform, Oil derrick</i>		445.2
11	 Fla	<i>Flare stack (at sea)</i>	 Fla	445.6 445.2
12	 SPM	<i>Single Point Mooring (SPM), including Single Anchor Leg Mooring (SALM), Articulated Loading Column (ALC)</i>		445.2 445.4
13		<i>Observation/research platform (with name)</i>	 Name	
14	 Ru  Z-44 (ru)	<i>Disused platform with superstructure removed</i>	 Disused	445.2
15		<i>Artificial island</i>	 Name	

IL Offshore Installations

16		Single Buoy Mooring (SBM), Oil or gas installation buoy including Catenary Anchor Leg Mooring (CALM)		445.4
17		Moored storage tanker		445.5
18		Mooring ground tackle		431.6

Underwater Installations				
Plane of reference for depths → IH		Obstructions → IK		
20		Submerged production well		445.1
21.1		Suspended well, depth over wellhead unknown		445.1
21.2		Suspended well, with depth over wellhead		
21.3		Wellhead with height above the sea floor		
22		Site of cleared platform		422.8
23		Above-water wellhead (lit or unlit)		445.1
24		Underwater turbine		445.10 445.11
25		Subsurface Ocean(ographic) Data Acquisition System (ODAS)		448.4

Submarine Cables				
30.1		Submarine cable		439.3 443.1 443.2 443.3 443.8
30.2		Submarine cable area		
31.1		Submarine power cable		443.2 443.3
31.2		Submarine power cable area		
32		Disused submarine cable		443.7








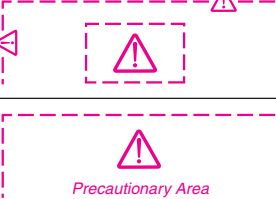

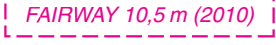
Offshore Installations IL

Submarine Pipelines				
40.1		Supply pipeline: unspecified, oil, gas, chemicals, water		439.3 444 444.1 444.2
		Supply pipeline area: unspecified, oil, gas, chemicals, water		
41.1		Outfall and intake: unspecified, water, sewer, outfall, intake		439.3 444 444.2 444.4
42.1		Buried pipeline/pipe (with nominal depth to which buried)		444.5
42.2		Pipeline Tunnel		
43		Diffuser, Crib		
44		Disused pipeline/pipe		444.7

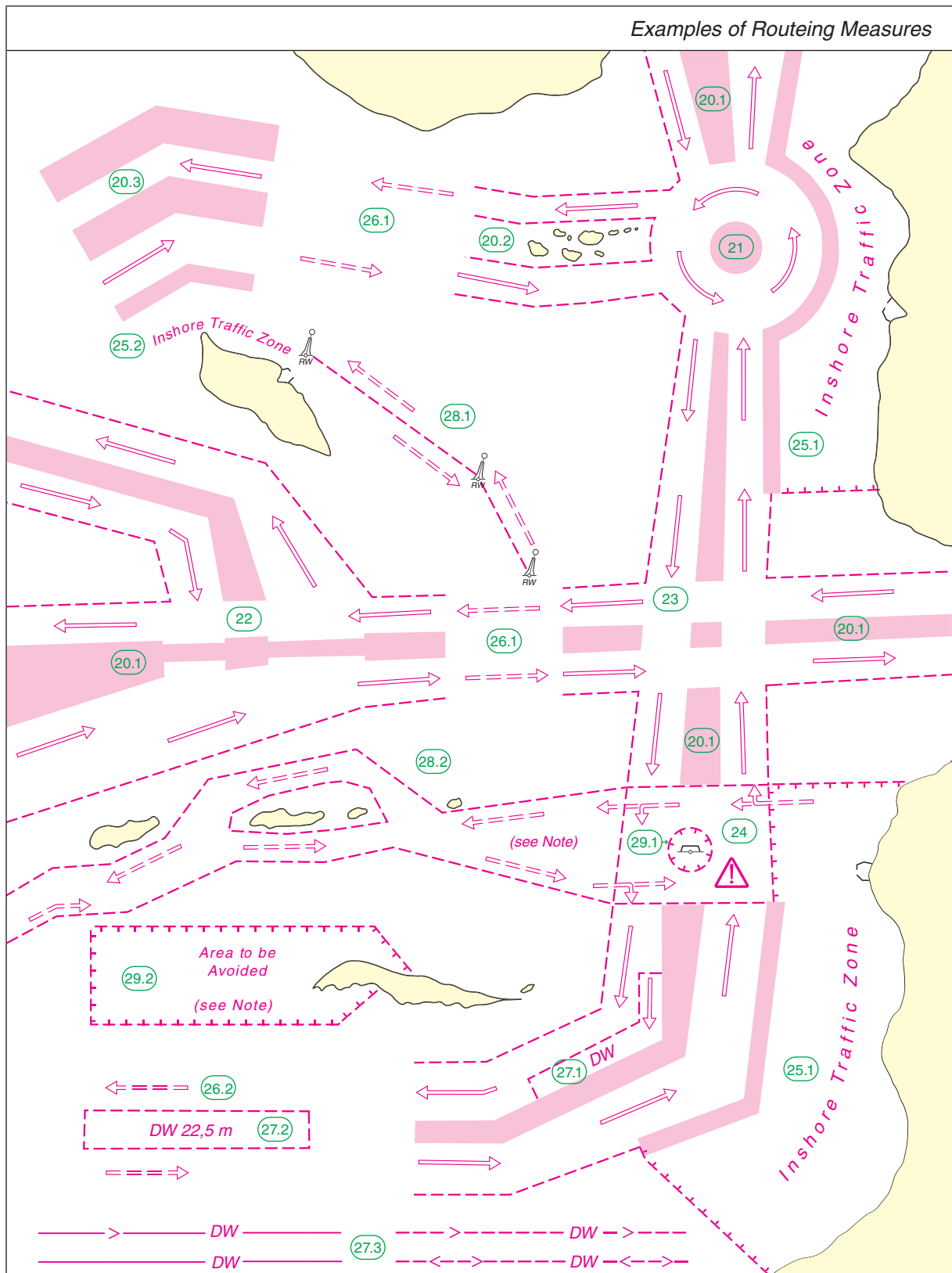
IM Tracks and Routes

Tracks				
Tracks marked by lights → IP		Leading beacons → IQ		
1		<p>Leading line (firm line is the track to be followed, ≠ means "in line")</p>		433.1–3
2		<p>Transit (other than leading line), clearing line</p>		433.4 433.5
3		<p>Recommended track based on a system of fixed marks</p>		434.1 434.2
4		<p>Recommended track not based on a system of fixed marks</p>		434.1 434.2
5.1		<p>One-way track and DW track based on a system of fixed marks</p>		434.1
5.2		<p>One-way track and DW track not based on a system of fixed marks</p>		
6		<p>Recommended track with maximum authorised draught stated</p>		432.4 434.3 434.4

Tracks and Routes IM

Routeing Measures				
Basic Symbols				
10		Established (mandatory) direction of traffic flow		435.1
11		Recommended direction of traffic flow		435.5
12		Separation line (large-scale, smaller scale)	in cases of space limitations: 	435.1 436.3
13		Separation zone		435.1 436.3
14		Limit of restricted routeing measure (e.g. Inshore Traffic Zone (ITZ), Area to be Avoided (ATBA))		435.1 436.3 439.2
15		Limit of routeing measure		435.1 436.3
16		Precautionary area		435.2
17		Archipelagic Sea Lane (ASL); axis line and limit beyond which vessels shall not navigate		435.10
18		Fairway designated by regulatory authority with minimum depth.		434.5

IM Tracks and Routes









Tracks and Routes IM



Supplementary national symbols:

(20.1)	Traffic Separation Scheme (TSS), traffic separated by separation zone	435.1
(20.2)	Traffic Separation Scheme, traffic separated by natural obstructions	435.1
(20.3)	Traffic Separation Scheme, with outer separation zone separating traffic using scheme from traffic not using it	435.1
(21)	Traffic Separation Scheme, roundabout with separation zone	435.1
(22)	Traffic Separation Scheme with "crossing gates"	435.1
(23)	Traffic Separation Scheme crossing, without designated precautionary area	435.1
(24)	Precautionary area	435.2
(25.1)	Inshore Traffic Zone (ITZ) with defined end limits	435.1
(25.2)	Inshore Traffic Zone without defined end limits	435.1
(26.1)	Recommended direction of traffic flow, between traffic separation schemes	435.5
(26.2)	Recommended direction of traffic flow for ships not needing a deep water route	435.5
(27.1)	Deep Water route (DW), as part of one-way traffic lane	435.3
(27.2)	Two-way Deep Water route with minimum depth stated	435.3
(27.3)	Deep Water route, centre line as recommended one-way or two-way track	435.3
(28.1)	Recommended route, one-way and two-way (often marked by centreline buoys)	435.4
(28.2)	Two-way route with one-way sections	435.6
(29.1)	Area to be Avoided (ATBA), around navigational aid	435.7
(29.2)	Area to be Avoided, e. g. because of danger of stranding	435.7
	Boundaries of routeing measures	436

IM Tracks and Routes

Supplementary national symbols:		Radar Surveillance Systems		
30	 Radar Surveillance Station	Radar surveillance station		487 487.3
31	 Ra Cuxhaven	Radar range		487.1
32.1	 Ra	Radar reference line		487.2
32.2	 Ra 090°-270°	Radar reference line coinciding with a leading line		

Supplementary national symbols:		Radio Reporting		
40.1	 B 6 VHF 80	Radio reporting (calling-in or way) points showing direction(s) of vessel movement with designation (if any) and VHF-channel		488.1
40.2	 Diamond	Radio reporting line(with designation,if any) showing direction (s) of vessel movement.		488.2

Ferries				
50	 Rectangle	Ferry Route		438.1
51	 Cable Ferry	Cable ferry Route		438.2

Areas and Limits IN

General				
Dredged and swept areas → II		Submarine cables, submarine pipelines → IL	Tracks, routes → IM	
1.1		Maritime limit in general usually implying permanent physical obstructions (tint band for emphasis)		439.1 439.6
1.2	 Tint band may vary in width between 1–5 mm	usually implying no permanent physical obstructions (tint band for emphasis)		
2.1		Limit of restricted area		439.2 439.3 441.6
2.2		Limit of area into which entry is prohibited		

Anchorages and Anchorage Areas				
10		Reported anchorage (no defined limits)		431.1
11.1		Anchor berths		431.2
11.2		Anchor berths with swinging circle		
12.1		Anchorage area in general		431.3
12.2		Numbered anchorage area		
12.3		Named anchorage area		
12.4		Deep water anchorage area, Anchorage area for deep-draught vessels		
12.5		Tanker anchorage area		

IN Areas and Limits

12.6		<i>Anchorage area for periods up to 24 hours</i>		431.3
12.7		<i>Explosives anchorage area</i>		
12.8		<i>Quarantine anchorage area</i>		
12.9		<i>Reserved anchorage area</i>		
<i>Note: Anchors as part of the limit symbol are not shown for small areas. Other types of anchorage areas may be shown.</i>				
13		<i>Seaplane operating area</i>		449.6
14		<i>Anchorage for seaplanes</i>		449.6



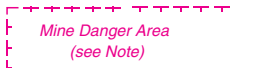
Supplementary national symbols: d, e, g			Restricted Areas	
20		Anchoring prohibited		431.4 435.11 439.3 439.4
21		Fishing prohibited		439.3 439.4
22		Environmentally Sensitive Sea Areas (ESSA):		437.3 437.7
		Bird sanctuary		
		Seal sanctuary		
Note: Other animal silhouettes (e.g. seahorse, penguin, petrel) may be used appropriately.				

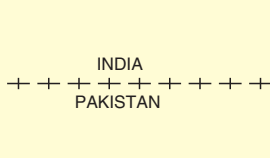
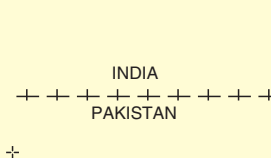
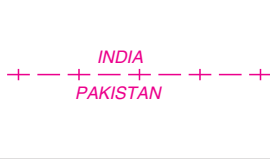
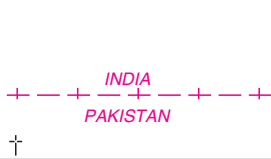
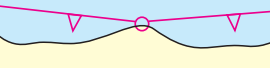


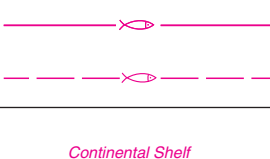





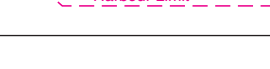

Areas and Limits IN

		Non-specific nature reserve, National parks, Marine Reserves (MR)		437.3 437.7
		Particularly Sensitive Sea Area (PSSA)		437.6
	Tint band may vary in width between 1–5 nm			
23.1		Explosives dumping ground, individual mine or explosive		442.1–4
23.2		Explosives dumping ground (disused), Foul (explosives)		
24		Dumping ground for chemical waste		442.1–3
25		Degaussing range (DG range)		448.1 448.2
27		Maximum speed		430.2

Military Practice Areas				
30		Firing practice area		441.1–3
31		Military restricted area, entry prohibited		441.6
32		Mine-laying (and counter-measures) practice area		441.4

IN Areas and Limits

33		Submarine transit lane and exercise area		441.5
34		Minefield		441.8






















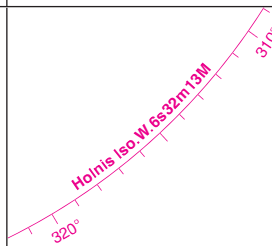
Supplementary national symbols: f					International Boundaries and National Limits	
40		International boundary on land		440.1		
41		International maritime boundary		440.3		
42		Straight territorial sea baseline with base point		440.4		
43		Seaward limit of territorial sea		440.5		
44		Seaward limit of contiguous zone		440.6		
45		Limits of fishery zones		440.7		
46		Limit of continental shelf		440.8		
47		Limit of Exclusive Economic Zone (EEZ)		440.9		
48		Customs limit		440.2		
49		Harbour limit		430.1		

Areas and Limits IN














Supplementary national symbols: a—c			Various Limits	
60.1		Limit of fast ice, Ice front (with date)		449.1
60.2		Limit of sea ice (pack ice) seasonal (with date)		
61		Floating barrier, including log ponds, security barriers, ice booms, shark nets		449.2
62.1		Spoil ground		446.1 446.2
62.2		Spoil ground (disused)		
63		Extraction (dredging) area		446.4
64		Cargo transhipment area		449.4
65		Incineration area		449.3

Supplementary National Symbols				
a		Fishing area		
b		Danger area	Danger Area	
c		Limit of icebergs		
d		Anchoring and fishing dangerous		
e		Regatta area		
f		Seaward delimitation of the navigable waterways	Seaward . . . (see Note)	
g		Diving prohibited		













IP Lights

Supplementary national symbols: a, b				Light Structures and Major Floating Lights	
Minor light floats → IQ 30, 31					
1		Lt LtHo	Major light, minor light* , light, lighthouse		470.5
2			Lighted offshore platform*		445.2
3		 BnTr	Lighted beacon tower*	 BY  BnTr	456.4 457.1 457.2
4		 BRB  Bn	Lighted beacon*	 R  BRB  Bn	457.1 457.2
5		 Bn	Lighted buoyant beacon, resilient beacon*	 R  Bn	459.1 459.2
6			Major floating light (light vessel, major light float, Large Automatic Navigational Buoy (LANBY))	 	462.9 474
* Minor lights, fixed and floating, usually conform to IALA Maritime Buoyage System characteristics.					
7			Navigational lights on landmarks or other structures		470.5
8			Light off chart limits		470.8


Lights IP

Supplementary national symbols: e, f					Light Characters	
Light characters on light buoys → IQ					471.2	
	Abbreviation		Class of light	Illustration	Period shown	
	International	National				
10.1	F		Fixed			
10.2	Occulting (total duration of light longer than total duration of darkness)					
	Oc	Occ † Example	Single-occulting			
	Oc(2) Example	Gp Occ(2) † Example	Group-occulting			
	Oc(2+3) Example	Gp Occ(2+3) † Example	Composite group-occulting			
10.3	Isophase (duration of light and darkness equal)					
	Iso		Isophase			
10.4	Flashing (total duration of light shorter than total duration of darkness)					
	Fl		Single-flashing			
	Fl(3) Example	GpFl(3) † Example	Group-flashing			
	Fl(2+1) Example	GpFl(2+1) † Example	Composite group-flashing			
10.5	LFl		Long-flashing (flash 2 s or longer)			
10.6	Quick (repetition rate of 50 to 79 – usually either 50 or 60 – flashes per minute)					
	Q	QkFl †	Continuous quick			
	Q(3) Example	QkFl(3) † Example	Group quick			
	IQ	IntQkFl † Example	Interrupted quick			

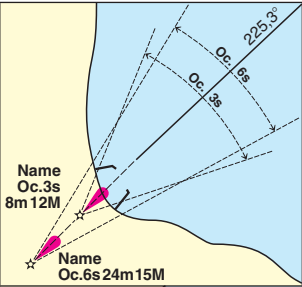
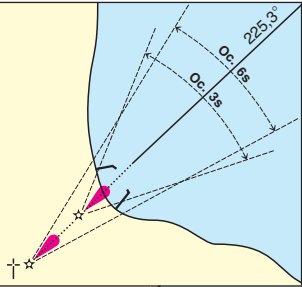
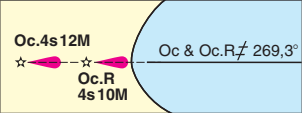
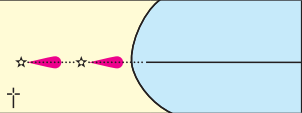


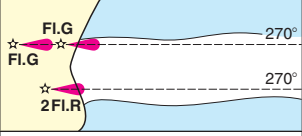
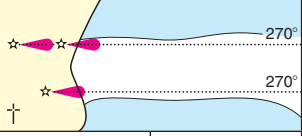
IP Lights

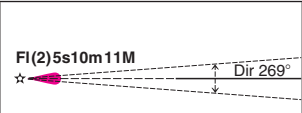
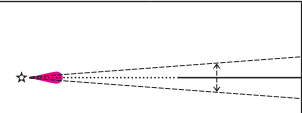
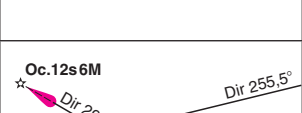

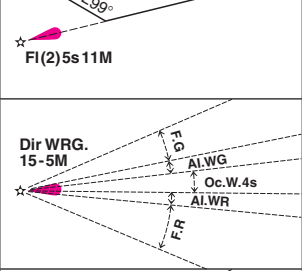
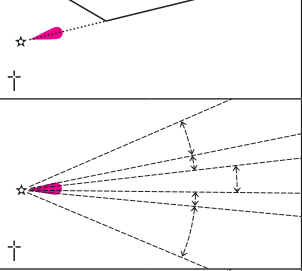
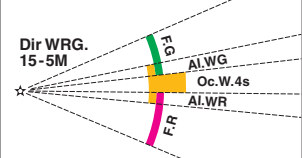
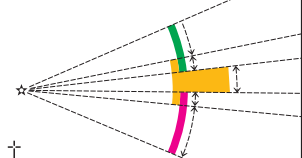
	Abbreviation		Class of light	Illustration	Period shown 
	International	National			
10.7	Very quick (repetition rate of 80 to 159 – usually either 100 or 120 – flashes per minute)				
	VQ	VQkFl. †	Continuous very quick		
	VQ(3) Example	VQkFl.(3) † Example	Group very quick		
	IVQ	Int VQkFl. † Example	Interrupted very quick		
10.8	Ultra quick (repetition rate of 160 or more – usually 240 to 300 – flashes per minute)				
	UQ		Continuous ultra quick		
	IUQ		Interrupted ultra quick		
10.9	Mo(K) Example		Morse Code		
10.10	FFI		Fixed and flashing		
10.11	Al.WR Example	Alt.WR † Example	Alternating		
Colours of Lights and Marks					
11.1	W		White (for lights, only on sector and alternating lights)	<div>Colours of lights shown</div> <div>on standard charts</div>  <div>in multicoloured charts</div>  <div>in multicoloured charts at sector lights</div> 	450.2 450.3 470.4 470.6 471.4 475.1
11.2	R		Red		
11.3	G		Green		
11.4	Bu		Blue		
11.5	Vi		Violet		
11.6	Y		Yellow		
11.7	Y	# Or	Orange		
11.8	Y	# Am	Amber		

Lights IP

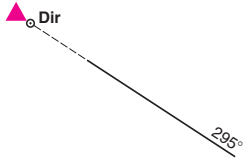
Period				
12	2,5s 90s Example	Period in seconds and tenths of a second	90 sec	471.5
Elevation				
Plane of reference for heights → IH Tidal levels → IH				
13	12m Example	Elevation of light given in metres		471.6
Range				
14	15M Example	Light with single range	†	471.7 471.9 475.5
	15/10M Example	Light with two different ranges	†	
	15-7M Example	Light with three or more ranges	†	
Disposition				
15	(hor)	Horizontally disposed	†	471.8
	(vert)	Vertically disposed	†	
	(△) (▽)	Triangular disposed		
Example of a Full Light Description				
16	<div>Example  Name ☆ FI(3)WRG.15s 21m 15-11M</div> <div>FI(3) Class of light: group flashing repeating a group of three flashes</div> <div>WRG. Colours: white, red, green, exhibiting the different colours in defined sectors</div> <div>15s Period: the time taken to exhibit one full sequence of 3 flashes and eclipses: 15 seconds</div> <div>21m Elevation of light: 21 metres</div> <div>15-11M Nominal range: white 15M, green 11M, red between 15 and 11M</div>			471.9

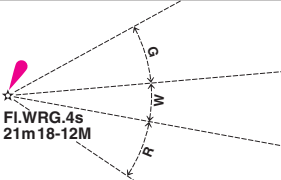
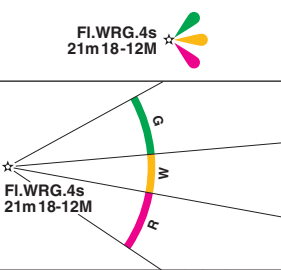
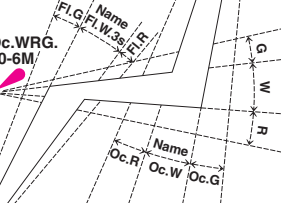
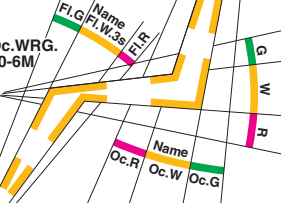
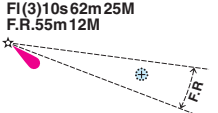
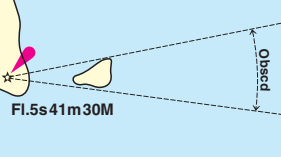
IP Lights

Lights Marking Fairways		Supplementary national symbols:	
20.1	 <p>Name Oc.3s 8m 12M</p> <p>Name Oc.6s 24m 15M</p>	Leading lights with leading line (firm line is the track to be followed) and arcs of visibility Bearing given in degrees and tenths of a degree	 <p>433 433.1-3 475.1 475.6</p>
20.2	 <p>Oc.4s 12M</p> <p>Oc.R 4s 10M</p> <p>Oc & Oc.R \neq 269,3°</p>	Leading lights (\neq means „in line“) Bearing given in degrees and minutes	 <p>+</p>
20.3	 <p>Ldg. Oc.W & R</p>	Leading lights on small-scale charts	 <p>+</p>
21	 <p>Fl.G</p> <p>Fl.G</p> <p>2 Fl.R</p> <p>270°</p> <p>270°</p>	Lights in line, marking the sides of a channel	 <p>+</p> <p>433.4 475.6</p>
22	Rear Lt or Upper Lt	Rear or upper light	470.7
23	Front Lt or Lower Lt	Front or lower light	470.7

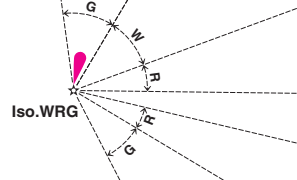
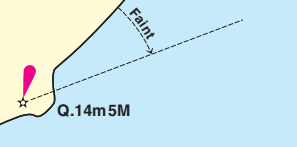
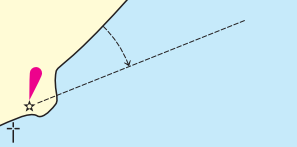
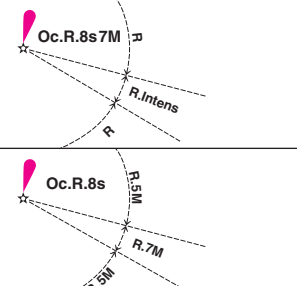
Direction Lights			
30.1	 <p>Fl(2)5s10m11M</p> <p>Dir 269°</p>	Direction light with narrow sector and course to be followed, flanked by darkness or unintensified light	 <p>+</p> <p>471.3 471.9 475 475.1 475.5 475.7</p>
30.2	 <p>Oc.12s6M</p> <p>Dir 299°</p> <p>Dir 255,5°</p> <p>Fl(2)5s11M</p>	Direction light with course to be followed, uncharted sector is flanked by darkness or unintensified light	 <p>+</p>
30.3	 <p>Dir WRG. 15-5M</p> <p>Al.WG</p> <p>Oc.W.4s</p> <p>Al.WR</p> <p>F.R</p>	Direction light with narrow fairway sector flanked by light sectors of different character on standard charts	 <p>+</p>
30.4	 <p>Dir WRG. 15-5M</p> <p>Al.WG</p> <p>Oc.W.4s</p> <p>Al.WR</p> <p>F.R</p>	Direction light with narrow fairway sector flanked by light sectors of different character on multicoloured charts	 <p>+</p>








Lights IP

31		Moiré effect light (day and night), arrows show when course alteration needed	475.8
Note: Quoted bearings are always from seaward.			






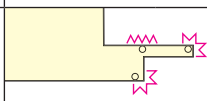
Sector Lights			
40.1		Sector light on standard charts	470.4 475 475.1 475.2 475.5
40.2		Sector light on multicoloured charts	
41.1		Sector lights on standard charts, the white sector limits marking the sides of the fairway	470.4 475 475.1 475.5
41.2		Sector lights on multicoloured charts, the white sector limits marking the sides of the fairway	
42		Main light visible all-round with red subsidiary light seen over danger	471.8 475.4
43		All-round light with obscured sector	475.3

IP Lights

44		Light with arc of visibility deliberately restricted		475.3
45		Light with faint sector		475.3
46		Light with intensified sector		475.5

Lights with Limited Times of Exhibition				
50	 ☆ F.R (occas)	Lights exhibited only when specially needed (for fishing vessels, ferries) and some private lights	 ☆ F.R (occas)	473.2
51	 ☆ Fl.10s 40m 27M (F.37m 11M Day)	Daytime light (charted only where the character shown by day differs from that shown at night)	 ☆ Fl.10s 40m 27M (F.37m 11M Day)	473.4
52	 ☆ Name ☆ Q.WRG.5m 10-3M (Fl.5s Fog)	Fog light (exhibited only in fog, or character changes in fog)	 ☆ Name ☆ Q.WRG.5m 10-3M (Fl.5s in Fog)	473.5
53	 ☆ Fl.5s (U)	Unwatched (unmanned) light with no standby or emergency arrangements		473.1
54	(temp)	Temporary		473.6
55	(exting)	Extinguished		473.7























Lights IP





Special Lights				
Flare stack (at sea) → IL Flare stack (on land) → IE Signal stations → IT				
60	 Aero A.I.FI.WG.7,5s 11M	<i>Aero light (may be unreliable)</i>		476.1
61.1	 Aero F.R.313m 11M RADIO MAST (353)	<i>Air obstruction light (e. g. on radio mast)</i>		476.2
61.2	(89)  (R Lts)	<i>Air obstruction (e. g. on radio mast)</i>	† (89)  (R Lts)	
62	Fog Det Lt	<i>Fog detector light</i>	† Fog Det Lt	477
63	 (Illuminated)	<i>Floodlit, floodlighting of a structure</i>		478.2
	Symbol in yellow on multicoloured charts			
64		<i>Strip light</i>		478.5
65	(priv)	<i>Private light other than one exhibited occasionally</i>		473.2
66	(sync)	<i>Synchronized light</i>		478.3







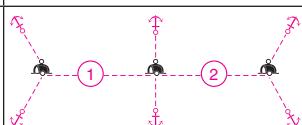


IQ Buoys, Beacons

Buoys and Beacons				
IALA Maritime Buoyage System, which includes beacons → Q 130				
1		Position of buoy or beacon		455.3 460.1 462.1
Colours of Buoys and Beacon				
Abbreviations for colours → IP 11				
2		Green and black (symbols filled black)		450 450.1-3 464 464.1-3
3		Single colour other than green and black		450 450.1-3 464 464.1-3
4		Multiple colours in horizontal bands, the colour sequence is from top to bottom		450 450.1-3 464 464.1-3
5		Multiple colours in vertical or diagonal stripes, the darker colour is given first		450 450.1-3 464 464.1-3
6		Retroreflecting material		464
Note: Retroreflecting material may be fitted to some unlit marks. Charts do not usually show it. Under IALA Recommendations, black bands will appear blue under a spotlight.				
Lighted Marks				
Marks with fog signals → R				
7		Lighted marks on standard charts		457.1 466 466.1
8		Lighted marks on multicoloured charts		457.1 466 466.1
Supplementary national symbols: Topmarks and Radar Reflectors				
For application of topmarks within the IALA-System → Q 130				
9		IALA-System buoy topmarks (beacon topmarks shown upright)		463 463.1
10		Beacon with topmark, colour, radar reflector and designation		450 455.2 455.7
11		Buoy with topmark, colour, radar reflector and designation		460.3 460.6 465.1 465.2
Note: Radar reflectors on floating marks usually are not charted.				














Buoys and Beacons IQ



Buoys					
Features common to buoys and beacons			→ IQ 1–11		
Supplementary national symbols: a			Shapes of Buoys		
20	 	Conical buoy, nun buoy, ogival buoy	†		462.2
21	 	Can buoy, cylindrical buoy	†		462.3
22	 	Spherical buoy	†		462.4
23	  	Pillar buoy	†		462.5
24		Spar buoy, spindle buoy	†	  	462.6
25	 	Barrel buoy, tun buoy	†		462.7
26		Superbuoy	†		445.4 460.4 462.9 474

Minor Light Floats				
30	 <i>Fl.G.3s</i> Name	Light float	 <i>Fl.G.3s</i> Name	462.8
31	 <i>Fl.10s</i>	Light float not part of IALA System	 <i>Fl.10s</i>	462.8

Mooring Buoys				
Oil or gas installation buoy → IL				
40	   	Mooring buoys		431.5
41	 <i>Fl.Y.2,5s</i>	Lighted mooring buoy (example)	 <i>Fl.Y.2,5s</i>	431.5 466.1–4
42		Trot, mooring buoys with ground tackle and berth numbers		323.1 431.6
43		Mooring buoy with telegraphic or telephonic communication		431.5
44	<div><i>Small Craft Moorings</i></div>	Numerous moorings (example)	<div><i>Small Craft Moorings</i></div>	431.7
45		Visitors' mooring		431.5

IQ Buoys and Beacons

Special Purpose Buoys				
Note: Shapes of buoys are variable. Lateral or cardinal buoys may be used in some situations. The use of the cross topmark is optional.				
50		Firing danger area (Danger Zone) buoy		441.2
51		Target		
52		Marker Ship		
53		Barge		
54		Degaussing Range buoy		448.2
55		Cable buoy		443.6
56		Spoil ground buoy		446.3
57		Buoy marking outfall		444.4
58	 	ODAS buoy, Data collecting buoy [Ocean(ographic) Data Acquisition System]		448.3 460.4 462.9
59		Buoy marking wave recorder or current meter		
60		Seaplane anchorage buoy		
61		Buoy marking traffic separation scheme		
62		Buoy marking recreation zone		

Seasonal Buoys				
70		Buoy privately maintained (example)		
71		Seasonal buoy (example)		460.5




Buoys and Beacons IQ

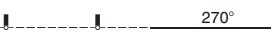

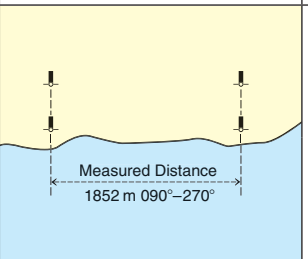
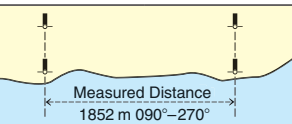






Supplementary national symbols: b–d				Beacons	
General					
Lighted beacons → IP		Features common to beacons and buoys → IQ 1–11			
80			Beacon in general, characteristics unknown or chart scale too small to show		455.5
81		Beacon with colour, no distinctive topmark		455.4 456 456.3	
82			Beacons with colours and topmarks (examples)		455.4 456 463 463.1
83		Beacon on submerged rock with colours (topmark as appropriate)		455.6	

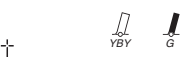



Minor Impermanent Marks Usually in Drying Areas (Lateral Marks of Minor Channels)						
Minor pile → IF						
90			Pole			456.1
91			Perch, Withy			456.1
92			Withy			

Minor Marks, Usually on Land						
Landmarks → IE						
100			Cairn			456.2
101			Coloured or white mark			456.2
102.1			Coloured topmark (colour known or unknown) with function of a beacon			
102.2			Painted boards with function of leading beacons			







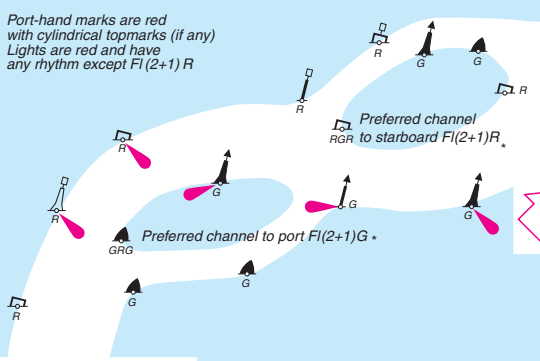
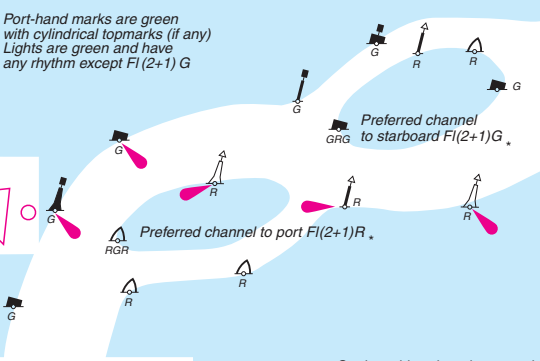
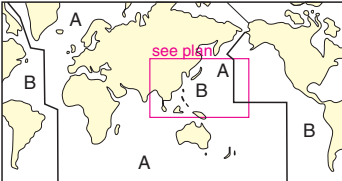
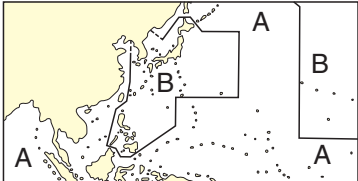


IQ Buoys and Beacons

Beacon Towers				
110		Beacon towers (BnTr) without and with topmarks and colours (examples)		456.4
111		Lattice beacon		456.4

Supplementary national symbols: d					Special Purpose Beacons
Leading lines, clearing lines → IM					
Note: Topmarks and colours shown where scale permits.					
120		Leading beacons			458
121		Beacons marking a clearing line or transit			458
122		Beacons marking measured distance with quoted bearings			458
123		Cable landing beacon (example)			443.5 458
124		Refuge beacon			456.4
125		Firing danger area beacons			
126		Notice board	NB		456.2

Supplementary National Symbols				
a		Ice buoy (examples)		
b		Fixed beacon		
c		Other types of beacon topmarks (not IALA)		456 463
d		Beacon or lighted beacon with fixed distance to fairway (in metres)		







Buoys and Beacons IQ


130	<p style="text-align: right;"><i>IALA Maritime Buoyage System</i></p>
	<p>IALA International Association of Marine Aids to Navigation and Lighthouse Authorities</p> <p>Where in force, the IALA System applies to all fixed and floating marks except landfall lights, leading lights and marks, sectored lights and major floating lights. The standard buoy shapes are cylindrical (can) , conical , spherical , pillar , and spar , but variations may occur, for example: minor light floats . In the illustrations below, only the standard buoy shapes are used. In the case of fixed beacons (lit or unlit) only the shape of the topmark is of navigational significance.</p>
130.1	<p>Lateral Marks are generally for well-defined channels. There are two international buoyage regions – A and B – where lateral marks differ.</p> <div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>Port-hand marks are red with cylindrical topmarks (if any) Lights are red and have any rhythm except Fl (2+1) R</p>  <p style="text-align: center;">REGION A</p> <p style="text-align: center;">with conical topmarks (if any) Lights are green and have any rhythm except Fl (2+1) G</p> </div> <div style="width: 45%;"> <p>Port-hand marks are green with cylindrical topmarks (if any) Lights are green and have any rhythm except Fl (2+1) G</p>  <p style="text-align: center;">REGION B</p> <p style="text-align: center;">Starboard-hand marks are red with conical topmarks (if any) Lights are red and have any rhythm except Fl (2+1) R</p> </div> </div> <p>A preferred channel buoy may also be a pillar or a spar. All preferred channel marks have horizontal bands of colour.</p> <p>IALA Buoyage Regions A and B</p> <div style="display: flex; justify-content: space-around;">   </div>
130.2	<p>Direction of Buoyage The direction of buoyage is that taken when approaching a harbour from seaward. Along coasts, the direction is determined by a buoyage authority, normally clockwise around land masses.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Symbol showing direction of buoyage where not obvious.</p> </div> <div style="text-align: center;">  <p>Symbol showing direction of buoyage on multicoloured charts. (Red and green circles coloured as appropriate).</p> </div> </div>







IQ Buoys and Beacons

In the illustrations below all marks are the same in Regions A and B.					
130.3	<p>Cardinal Marks indicating navigable water to the named side of the marks.</p>				
	<table> <tr> <th>Unlit Marks</th><th>Lighted Marks</th></tr> <tr> <td> <p>Topmark: 2 black cones</p> </td><td> <p>White light</p> <p>Time (seconds)</p> <p>0 5 10 15</p> <p>Wiederkehr Period shown</p> <p>N VQ or Q</p> <p>E VQ (3) 5s or Q (3) 10s</p> <p>S VQ (6) + LFl. 10s or Q (6) + LFl. 15s</p> <p>W VQ (9) 10s or Q (9) 15s</p> <p>The same abbreviations are used for lights on spar buoys and beacons. The periods 5s, 10s and 15s, may not always be charted.</p> </td></tr> </table>	Unlit Marks	Lighted Marks	<p>Topmark: 2 black cones</p>	<p>White light</p> <p>Time (seconds)</p> <p>0 5 10 15</p> <p>Wiederkehr Period shown</p> <p>N VQ or Q</p> <p>E VQ (3) 5s or Q (3) 10s</p> <p>S VQ (6) + LFl. 10s or Q (6) + LFl. 15s</p> <p>W VQ (9) 10s or Q (9) 15s</p> <p>The same abbreviations are used for lights on spar buoys and beacons. The periods 5s, 10s and 15s, may not always be charted.</p>
Unlit Marks	Lighted Marks				
<p>Topmark: 2 black cones</p>	<p>White light</p> <p>Time (seconds)</p> <p>0 5 10 15</p> <p>Wiederkehr Period shown</p> <p>N VQ or Q</p> <p>E VQ (3) 5s or Q (3) 10s</p> <p>S VQ (6) + LFl. 10s or Q (6) + LFl. 15s</p> <p>W VQ (9) 10s or Q (9) 15s</p> <p>The same abbreviations are used for lights on spar buoys and beacons. The periods 5s, 10s and 15s, may not always be charted.</p>				
130.4	<p>Isolated Danger Marks stationed over dangers with navigable water around them. Body: black with red horizontal band(s); Topmark: 2 black spheres</p>				
	FI (2) White light				
130.5	<p>Safe Water Marks such as mid-channel and landfall marks. Body: red and white vertical stripes; Topmark (if any): red sphere</p>				
	Iso or Oc or LFl. 10s or Mo (A)				
130.6	<p>Special Marks not primarily to assist navigation but to indicate special features. Body (shape optional): yellow ; Topmark (if any): yellow x</p>				
	Fl. Y or Al. Oc. Bu Y				
	<p>* In special cases yellow may be in conjunction with another colour.</p> <p>Yellow light</p>				










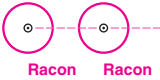
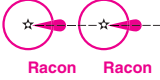





Fog Signals **IR**

General				
Fog detector light → IP Fog light → IP				
1	  	Position of fog signal, Type of fog signal not stated	  	451 451.2 452.8



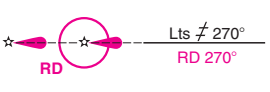







Types of Fog Signals, with Abbreviations				
10	Explos	Explosive		452.1
11	Dia	Diaphone		452.2
12	Siren	Siren		452.3
13	Horn	Horn (nautophone, reed, tyfon)		452.4
14	Bell	Bell		452.5
15	Whis	Whistle		452.6
16	Gong	Gong		452.7


Examples of Fog Signal Descriptions				
20	 Fl.3s 70m 29M Siren Mo(N)60s	Siren at a lighthouse, giving a long blast followed by a short one (N), repeated every 60 seconds	 Fl.3s 70m 29M Siren Mo(N)60s	
21	 Bell	Wave-actuated bell buoy	 Bell	452.5 454.1
22	 Q (6)+LFl.15s Horn(1)15s Whis	Light buoy, with horn giving a single blast every 15 seconds, in conjunction with a wave-actuated whistle	 Q (6)+LFl.15s Horn(1)15s Whis	452.4 453.1 454.3
* The fog signal symbol is usually omitted when a description of the signal is given.				

IS Radar, Radio and Satellite Navigation Systems

Radar				
Radar structures forming landmarks		→ IE	Radar surveillance systems → IM	
1	 Ra	Coast radar station, providing range and bearing service on request		485.1
2	 Ramark	Ramark, radar beacon transmitting continuously		486.1
3.1	 Racon (Z)(3 cm) †	Radar transponder beacon, with morse identification, responding within the 3 cm (X) band	 Racon (Z) †	486.2–5
3.2	 Racon (Z)(10 cm) †	Radar transponder beacon, with morse identification, responding within the 10 cm (S) band		
3.3	 Racon (Z)	Radar transponder beacon, with morse identification	 Racon (Z)(3 & 10 cm) †	
3.4	 Racon (Z)	Radar transponder beacon, with sector of obscured reception		
	 Racon (Z)	Radar transponder beacon, with sector of reception		
3.5	 Racons ≠ 270°	Leading radar transponder beacons (≠ mean "in line")		
	 Racons ≠ 270° Lts ≠ 270°	Leading radar transponder beacons coincident with leading lights		
3.6	 Racon  Racon	Radar transponder beacons on floating marks (Example)	 Racon †	
4		Radar reflector		460.3 465
5		Radar conspicuous feature (not usually charted on IALA System buoys and buoyant beacons)		485.2

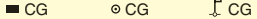

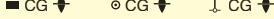
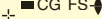



Radar, Radio and Satellite Navigation Systems **IS**

Radio				
Radio structures forming landmarks → IE		Radio reporting (calling-in or way) points → IM		
10	 Name RC	Circular (non-directional) marine or aeromarine radiobeacon		480.1 481.1
11		Directional radiobeacon with bearing line		481.2
		Directional radiobeacon coincident with leading lights		
12	 RW	Rotating pattern radiobeacon		481.1
13	 Consol	Consol beacon		481.3
14	 RG	Radio direction-finding station		483
15	 R	Coast radio station providing QTG service		484
16	 Aero RC	Aeronautical radiobeacon		482
17.1	 AIS	Automatic Identification System transmitter		489.1
17.2		Automatic Identification System transmitter on floating marks (examples)		489.1

Satellite Navigation Systems				
50	WGS WGS 72 WGS 84	World Geodetic System, 1972 or 1984		201
Note: A note may be shown to indicate the shifts of latitude and longitude, to one, two or three decimal places of a minute, depending on the chart scale, which should be made to satellite-derived positions (which are referred to WGS84) to relate them to the chart.				202
51	 DGPS	Station providing DGPS corrections		481.4


IT Services

Pilotage					
1.1		Boarding place, position of a pilot cruising vessel	Pilots		491.1 491.2
		Boarding place, position of a pilot cruising vessel, with name (e.g. District, Port)			
		Boarding place, position of a pilot cruising vessel, with note (e.g. Tanker, Disembarkation)			
		Pilots transferred by helicopter			
2		Pilot office with pilot lookout, pilot lookout			491.3
3		Pilot office			
4	Port name (Pilots)	Port with pilotage service (boarding place not shown)			491.4



Coast Guard, Rescue					
10	 CG		Coastguard station	 CG FS	492 492.1 492.2
11	 CG		Coastguard station with rescue station	 CG FS	493.3
12			Rescue station, lifeboat station, rocket station		493 493.1
13			Lifeboat lying at a mooring		493.2
14	Ref		Refuge for shipwrecked mariners		456.4

Signal Stations					
20	◉ SS	Signal station in general	† Sgn-S.		490.3
21	◉ SS (INT)	Signal station, showing international port traffic signals			495.5
22	◉ SS (Traffic)	Traffic signal station, Port entry and departure signals	† ◉ SS (Traffic)	† V-S.	495.1
23	◉ SS (Port Control)	Port control signal station	† ◉ SS (Port Control)		495.1










Services IT

24	⊙ SS (Lock)	Lock signal station	† ⊙ SS (Lock)	†	495.2
25.1	⊙ SS (Bridge)	Bridge passage signal station			495.3
25.2	†  F. Traffic-Sig	Bridge lights including traffic signals			
26	⊙ SS	Distress signal station			497
27	⊙ SS	Telegraph station			497.1
28	⊙ SS (Storm)	Storm signal station	† ⊙ SS (Storm)		494.1
29	⊙ SS (Weather)	Weather signal station, Wind signal station	† ⊙ SS (Weather)		494.1
30	⊙ SS (Ice)	Ice signal station	† ⊙ SS (Ice)		494.1
31	⊙ SS (Time)	Time signal station	† ⊙ SS (Time)		494.2
32.1	‡	Tide scale or guage			496.1
32.2	⊙ Tide Gauge	Automatically recording tide gauge			
33	⊙ SS (Tide)	Tide signal station			496.2
34	⊙ SS (Stream)	Tidal stream signal station			496.3
35	⊙ SS (Danger)	Danger signal station			490.1
36	⊙ SS (Firing)	Firing practice signal station			490.1


IU Small Craft (Leisure) Facilities

Small Craft (Leisure) Facilities				Supplementary national symbols:
Traffic features, bridges → ID		Public buildings, cranes → IF	Pilots, coastguard, rescue, signal stations → IT	
1.1		Boat harbour, Marina		320.2
1.2		Yacht berths without facilities		
2		Visitors' berth		
3		Visitors' mooring		
4		Yacht club, Sailing club		
5		Slipway		
6		Boat hoist		
7		Public landing, Steps, Ladder		
8		Sailmaker		
9		Boatyard		
10		Public house, Inn		
11		Restaurant		
12		Chandler		
13		Provisions		
14		Bank, Exchange office		
15		Physician, Doctor		
16		Pharmacy, Chemist		
17		Water tap		
18		Fuel station (Petrol, Diesel)		
19		Electricity		
20		Bottled gas		

Small Craft (Leisure) Facilities IU

21		Showers																																																		
22		Laundrette																																																		
23		Public toilets																																																		
24		Post box																																																		
25		Public telephone																																																		
26		Refuse bin																																																		
27		Car park																																																		
28		Parking for boats and trailers																																																		
29		Caravan site																																																		
30		Camping site																																																		
31		Water Police																																																		
32	<div><div>Marina facilities</div><div><div>MARINA FACILITIES</div><table><tr><th></th><th>Diesel</th><th>Petrol</th><th>Boiled gas</th><th>Electricity</th><th>Showers</th><th>Laundrette</th><th>Launching slip</th><th>Boat hoist</th><th>Provisions</th><th>VHF Radio</th><th></th></tr><tr><td>Hamburger Jachthafen</td><td>●</td><td>●</td><td></td><td></td><td>●</td><td>●</td><td></td><td>●</td><td>●</td><td>●</td><td></td></tr><tr><td>Haseldorf</td><td></td><td></td><td></td><td></td><td></td><td>●</td><td></td><td></td><td>●</td><td>●</td><td></td></tr><tr><td>Stade (Schwinge)</td><td>●</td><td>●</td><td></td><td></td><td></td><td>●</td><td></td><td></td><td></td><td>●</td><td></td></tr></table></div></div> <div>Marina facilities may be shown in tabular form instead of symbols.</div> <div>● indicates that the facility is available at the marina itself. Laundrettes, etc, located outside the marina are not included. The facilities may not be available outside normal working hours. All marinas have water, toilets and rubbish disposal.</div>					Diesel	Petrol	Boiled gas	Electricity	Showers	Laundrette	Launching slip	Boat hoist	Provisions	VHF Radio		Hamburger Jachthafen	●	●			●	●		●	●	●		Haseldorf						●			●	●		Stade (Schwinge)	●	●				●				●	
	Diesel	Petrol	Boiled gas	Electricity	Showers	Laundrette	Launching slip	Boat hoist	Provisions	VHF Radio																																										
Hamburger Jachthafen	●	●			●	●		●	●	●																																										
Haseldorf						●			●	●																																										
Stade (Schwinge)	●	●				●				●																																										

Supplementary National Symbols

a		Waypoint		
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IV Index of Abbreviations

A			BSH	<i>Federal Maritime and Hydrographic Agency Blue</i>	G a
A.	Office	G 72	Bu		P 11.4
Aero	Aeronautical	P 60–61.1	C		
Aero RC	Aeronautical radio-beacon	S 16	c	<i>Coarse</i>	J 32
AIS	Automatic Identification System	S 17	ca	<i>Calcareous</i>	J 38
AISM	Association Internationale de Signalisation Maritime	Q 130	CALM	<i>Catenary Anchor Leg Mooring</i>	L 16
Al	Alternating	P 10.11	Cb	<i>Cobbles</i>	J 8
ALC	Articulated Loading Column	L 12	CD	<i>Chart Datum</i>	H 1
Am	Amber	P 11.8	cd	<i>Candela</i>	B 54
† Ankpl.	Anchorage area	N 12.1,	CG	<i>Coast Guard</i>	T 10–11
Anl.	Quay, Wharf	F 13–14	Ch	<i>Church</i>	E 10.1
	Pier, Jetty		Chem(s)	<i>Chemical(s)</i>	L 40
Anst.	Entrance	O 16	Chy	<i>Chimney</i>	E 22
Apr	April	Q 71	cm	<i>Centimetre(s)</i>	B 43
Arch.	Archipelago	G 5	Co	<i>Coral, Coralline algae</i>	J 10, K 16
ASL	Archipelagic Sea Lane	M 17	† Consol	<i>Consol beacon</i>	S 13
ATBA	Area to be Avoided	M 14, M 29	Cup	<i>(Church)cupola</i>	E 10.4
† auff.	Conspicuous	E 2	Cy	<i>Clay</i>	J 3
† Aust.	Oysters		D		
Aug	August	Q 71	Day	<i>Daytime light</i>	P 51
AWZ	Exclusive Economic Zone	N 47	† Dev.	<i>Deviation</i>	B 67
B			† Dev-Bk.	<i>Compass adjustment beacon</i>	
B	Black.	Q 2, Q 81	† Dev-Dlb.	<i>Deviation dolphin</i>	F 21
B.	Bay	O 4	† Dev-Tn.	<i>Degaussing range buoy</i>	Q 54
† Batt.	Battery, Small fort	E 34.3	Dec	<i>December</i>	Q 71
Bb.	Port-hand		DGPS	<i>Differential Global Positioning System</i>	S 51
beabs.	Projected	O 80	DGzRS	<i>German Sea Rescue</i>	G e
Bek.	Information		Dia	<i>Diaphone</i>	R 11
† bel.	Illuminated	P 63	Dir	<i>Direction light</i>	P 30–31
Ber.	Correction		† dkl.	<i>Dark</i>	
Bg.	Mountain, Mount	G 23	Dkm.	<i>Monument</i>	E 24
Bhf.	Railway station	D 13	† Dlb.	<i>Dolphin(s)</i>	F 20
† Bk.	Beacon	P 4–5, Q 80	dm	<i>Decimetre(s)</i>	B 42
bk	Broken	J 33	Dn,	<i>Dolphin(s)</i>	F 20
† bl.	Blue	P 11.4	Drchf.	<i>Passage</i>	O 13
† Blk.	Long-flashing	P 10.5	DW	<i>Deep Water route, Deep Water track</i>	M 5.1–5.2, M 27.1, N 12.4
† Blz.	Flashing	P 10.4	DZ	<i>Danger Zone</i>	Q 50
Bn	Beacon	P 4–5, Q 80	E		
Bn.	Well	G 94	E	<i>East</i>	B 10
† bnt.	Varicoloured		ED	<i>Existence doubtful</i>	I 1
BnTr	Beacon Tower	P 3, Q 110	EEZ	<i>Exclusive Economic Zone</i>	N 47
Bo	Boulder(s)	J 9.2	ehem.	<i>Ancient</i>	O 84
Br	Breakers	K 17	† Eis-S.	<i>Ice signal station</i>	T 30
† Br.	Latitude	B 1	Einf.	<i>Inlet</i>	O 10
† br.	Brown		E-lich	<i>Eastern</i>	
† Brdg.	Breakers	K 17	ESSA	<i>Environmentally Sensitive Sea Area</i>	N 22
Brk.	Bridge	D 23.1	E-Werk	<i>Electric works</i>	G 89
BRZ	Gross tonnage		expl.	<i>Explosive</i>	

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† Expl-Ankpl.	<i>Explosives anchorage area</i>	N 12.7	† gel.	<i>Extinguished</i>	P 55
Explos	<i>Explosive</i>	R 10	gem.	<i>Reported, but not surveyed</i>	I 3.1
exting	<i>Extinguished</i>	P 55	ger.	<i>Lesser</i>	O 86
F			† Ges-A.	<i>Health office</i>	F 62.1
f	<i>Fine</i>	J 30	† Gez-F.	<i>Tidal light</i>	P 50
F	<i>Fixed</i>	P 10.1	† Gl.	<i>Globigerina</i>	
Fbr.	<i>Factory</i>	G 80	Glet.	<i>Glacier</i>	C 25
Fd.	<i>Fjord</i>	O 5	† Glt.	<i>Isophase</i>	P 10.3
Febr	<i>February</i>	Q 71	† Gl-Tn.	<i>Bell</i>	R 14
FFI	<i>Fixed and flashing</i>	P 10.10	† gn.	<i>Green</i>	P 11.3
† Fh.	<i>Ferry</i>	M 50–51	GPS	<i>Global Positioning System</i>	
Fhrwss.	<i>Channel</i>	O 14	† Gr.	<i>International Meridian (Greenwich)</i>	B 3
† Fi.	<i>Fishing light</i>	P 50	† gr.	<i>Grey</i>	
† Fi-Hfn.	<i>Fishing harbour</i>	F 10	† Grp.	<i>Group</i>	P f
Fj.	<i>Fjord</i>	O 5	† Grs.	<i>Sea weed</i>	J 13.1
† Fkl.	<i>Quick</i>	P 10.6	† gß.	<i>Large</i>	
† Fkl. unt.	<i>Interrupted quick</i>	P 10.6	Gß. St.	<i>Boulder</i>	G 28
Fl	<i>Flashing</i>	P 10.4	† gß. St.	<i>Cobbles</i>	J 8
Fl.	<i>River, Stream</i>	C 20	GT	<i>Gross tonnage</i>	
Fla	<i>Flare stack</i>	L 11	H		
Flgmst.	<i>Flagpole</i>	E 27	H	<i>Helicopter</i>	T 1.4
Flgst.	<i>Flagstaff</i>	E 27	h	<i>Hard</i>	J 39
Flgtm.	<i>Flagpole</i>	E 27	h	<i>Hour</i>	B 49
† Fls.	<i>Rock</i>	J 9	† h.	<i>Light</i>	
† fls.	<i>Rocky</i>		HAT	<i>Highest Astronomical Tide</i>	H 3
Fnmkst.	<i>Radiomast, Television mast</i>	E 28	Hfn.	<i>Port</i>	G 137
Fnkmt.	<i>Radiotower, Television tower</i>	E 29	Hfn.	<i>Harbour</i>	G 138
Fog Det Lt	<i>Fog detector light</i>	P 62	Hfn.	<i>Haven</i>	G 139
† Fr.	<i>Foraminifera</i>		† Hfn-A.	<i>Harbour master's office</i>	F 60
Front Lt	<i>Front light</i>	P 23	Hg.	<i>Hill</i>	G 27
FS	<i>Flagstaff, Flagpole</i>	E 27	H-I.	<i>Peninsula</i>	G 4
† F-Sch.	<i>Light vessel</i>	P 6	Hk.	<i>Point</i>	G 9
Fstm-Tn.	<i>Mooring buoy</i>	Q 40–44	† HI-Tn.	<i>Whistle</i>	R 15
† Ft.	<i>Castle, Fort, Blockhouse</i>	E 34.2	hor	<i>Horizontally disposed</i>	P 15
ft	<i>Foot/feet</i>	B 47	Hs.	<i>House</i>	G 61
G			Ht.	<i>Hut</i>	G 62
G	<i>Gravel</i>	J 6	† ht.	<i>Hard</i>	J 39
G	<i>Green</i>	P 11.3, Q 2	HW	<i>High Water</i>	H 20, H a
G.	<i>Gulf</i>	O 3	I		
† g.	<i>Yellow</i>	P 11.6	I.	<i>Island</i>	G 1
† g.	<i>Orange</i>	P 11.7	I.	<i>Institute</i>	G 74
† g.	<i>Amber</i>	P 11.8	IALA	<i>International Association of Marine Aids to Navigation and Lighthouse Authorities</i>	Q 130
† Gas-T.	<i>Gas tank</i>	E 32	IHO	<i>International Hydrographic Organization</i>	
† gb.	<i>Coarse</i>	J 32	IMO	<i>International Maritime Organization</i>	
Gbd.	<i>House</i>	G 61	INT	<i>International</i>	A 2, T 21
Gbg.	<i>Range</i>	G 21	Intens	<i>Intensified</i>	P 46
† gb. K.	<i>Shingle</i>		IQ	<i>Interrupted quick</i>	P 10.6
Gbt.	<i>Area</i>				
† Gd.	<i>Ground</i>				
Gef.	<i>Danger</i>	T 35			
† Gef-S.	<i>Danger signal station</i>	T 35			

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Iso	<i>Isophase</i>	P 10.3	† Ldg-Pl.	<i>Landing for boats</i>	F 17
ITZ	<i>Inshore Traffic Zone</i>	M 25	LFI	<i>Long-flashing</i>	P 10.5
IUQ	<i>Interrupted ultra quick</i>	P 10.8	† Lft-F.	<i>Aero light</i>	P 60
IVQ	<i>Interrupted very quick</i>	P 10.7	Lfv	<i>List of lights</i>	
J			† Lg.	<i>Longitude</i>	B 2
Jan	<i>January</i>	Q 71	Lndg	<i>Landing for boats</i>	F 17
† Jährl. Änd.	<i>Annual change</i>	B 66	LNG	<i>Liquefied Natural Gas</i>	G 185
Jun	<i>June</i>	Q 71	Long	<i>Longitude</i>	B 2
Jul	<i>July</i>	Q 71	Lower	<i>Lower light</i>	P 23
K			LPG	<i>Liquefied Petroleum Gas</i>	G 186
K.	<i>Cape</i>	G 7	† L-S.	<i>Pilot office</i>	T 3
† K.	<i>Gravel</i>	J 6	LSG	<i>Nature Reserve</i>	N 22
† ka.	<i>Calcareous</i>	J 38	Lt(s)	<i>Light(s)</i>	P 1
† Kan.	<i>Canal</i>		† Lt-F.	<i>Direction light</i>	P 30.1
Kas.	<i>Barracks</i>		LtHo	<i>Lighthouse</i>	P 1
† Kb-Bk.	<i>Cable landing beacon</i>	Q 123	† Lt-Mk.	<i>Moiré effect light</i>	P 31
Kbbtg.	<i>Overfalls, Tide rips</i>	H 44	† Lv.	<i>Lava</i>	
kbl	<i>Cable</i>	B 46	LW	<i>Low Water</i>	H 20, H b
† Kb-Tn.	<i>Cable buoy</i>	Q 55	M		
† kl.	<i>Small</i>		M	<i>International nautical mile(s) or sea mile(s)</i>	B 45
Klp.	<i>Rock</i>	G 11	M	<i>Mud</i>	J 2
Klp.	<i>Sunken rock</i>	O 27	† M.	<i>Mussels</i>	
† kl. St.	<i>Pebbles</i>	J 7	M.	<i>Windmill</i>	E 25.1
km	<i>Kilometre(s)</i>	B 40	m	<i>Metre(s)</i>	B 41
KN	<i>Chart datum, datum for sounding reduction</i>	H 1	m	<i>Medium</i>	J 31
kn	<i>Knot(s)</i>	B 52, N 27	m	<i>Minute(s) of time</i>	B 50
† Kor.	<i>Coral</i>	J 10	Magn.	<i>Degaussing range</i>	N 25
Kpl.	<i>Chapel</i>	E 11	Messst.		
Kr.	<i>Church</i>	E 10.1	Mar	<i>March</i>	Q 71
† Kr.	<i>Chalk</i>		Mdg.	<i>Mouth</i>	O 19
† Krhs.	<i>Hospital</i>	F 62.2	† Mess-G.	<i>Automatically recording tide gauge</i>	T 32.2
Krt.	<i>Chart</i>		Mess-G.	<i>Wave recorder, current meter</i>	Q 59
Krz.	<i>Cross, Calvary</i>	E 12	† Mgl.	<i>Marl</i>	
† Kst-W.	<i>Coastguard</i>	T 10	MHHW	<i>Mean Higher High Water</i>	H 13
Ku.	<i>Cupola</i>	E 10.4, E 30.4	MHLW	<i>Mean Higher Low Water</i>	H 14
L			MHWN	<i>Mean Higher Low Water</i>	H 14
† Ladepl.	<i>Quay, Wharf</i>	F 13	MHW	<i>Mean High Water</i>	H 5
Lag.	<i>Lagoon</i>	O 8	MHWN	<i>Mean High Water Neaps</i>	H 11
LANBY	<i>Large Automatic Navigational Buoy</i>	P 6	MHWS	<i>Mean High Water Springs</i>	H 9
LASH	<i>Lighter Aboard Ship</i>	G 184	† Mi.	<i>Fixed and flashing</i>	P 10.10
Lat	<i>Latitude</i>	B 1	min	<i>Minute(s) of time</i>	B 50
LAT	<i>Lowest Astronomical Tide</i>	H 2	† Mißw.	<i>Magnetic variation</i>	B 60
Laz.	<i>Lazaret</i>		Mk	<i>Mark</i>	Q 101
Lcht-Tm.	<i>Lighthouse</i>	P 1	† MI-Bk.	<i>Beacons marking measured distance</i>	Q 122
Lcht-Tn.	<i>Lightbuoy</i>		MLHW	<i>Mean Lower High Water</i>	H 15
Ld.	<i>Land</i>				
Ldg	<i>Leading</i>	P 20.3			
† Ldg-Brk.	<i>Pier, Jetty</i>	F 14			

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MLLW	Mean Lower Low Water	H 12	Obscd	Obscured	P 43
MLW	Mean Low Water	H 4	Obstn	Obstruction	K 40–43, L 43
MLWN	Mean Low Water Neaps	H 10	Oc	Occulting	P 10.2
MLWS	Mean Low Water Springs	H 8	occas	Occasional	P 50
mm	Millimetre(s)	B 44	Oct	October	Q 71
MNHW	Mean Lower High Water	H 15	ODAS	Ocean Data Acquisition System	Q 58
MNNW	Mean Lower Low Water	H 12	† Öl-T.	Oil tank	E 32
MNpHW	Mean High Water Neaps	H 11	† O-lich	Eastern	
MNpNW	Mean Low Water Neaps	H 10	Or	Orange	P 11.7, Q 3
MNW	Mean Low Water	H 4	† or.	Orange	P 11.7
Mo	Morse code	R 20	† or.	Amber	P 11.8
Mo	Morse code	P 10.9	P		
Mon	Monument	E 24	P	Pebbles	J 7
MR	Marine Reserve	N 22.3	PA	Position approximate	B 7
MSL	Mean Sea Level	H 6	† Pag.	Pagoda	E 14
MSpHW	Mean High Water Springs	H 9	PD	Position doubtful	B 8
MSpNW	Mean Low Water Springs	H 8	Pf.	Stake, pole, minor post or pile	F 22 Q 90
† Mst.	Pylon	D 26	Pgl.	Tide scale or gauge	T 32.1
† Mst.	Mast	E b, G 67	priv	Private	P 65, Q 70
† Mt-F.	Middle light	P c	PSSA	Particularly Sensitive Sea Area	N 22
Mun-Vers-Gbt.	Explosives dumping ground	N 23.1	Prod Well	Submerged production well	L 20
† MW	Mean tide level	H c	† Pt.	Pteropods	
N			Pyl	Pylon	D 26
N	North	B 9	Pyr.	Pyramid	G 65
NE	North-east	B 13	Q		
NF	List of Radio Signals		Q	Quick	P 10.6
† N-F.	Fog light	P 52	† Qm-F.	Cross light	P d
NfS	Notices to Mariners		† Qrt-Ankpl.	Quarantine anchorage area	N 12.8
† N-L.	Fog light	P 52	† Qrt-S.	Health office	F 62.1
N-lich	Northern		† Qu.	Quartz	
† NO	Northeast	B 13	R		
No	Number	N 12.2	R	Coast radio stations QTG service	S 15
† Not-S.	Distress signal station	T 26	R	Rock, rocky	J 9, K 15
Nov	November	Q 71	R	Red	P 11.2, Q 3
Np	Neap Tide	H 17	R.	Reef	O 26
† Nr.	Number	N 12.2	† r.	Red	P 11.2
NRZ	Net tonnage		Ra	Radar	M 31–32, S 1
† N-S.	Fog signal	R 1	† Ra	Radar scanner	E 30.3
NSG	Nature reserve	N 22	Ra	Radar reference line	M 32.2
† N-Such-F.	Fog detector light	P 62	Racon	Radar transponder beacon	S 3.1–3.6
NT	Net tonnage		Radar-Ku.	Radar dome	E 30.4
NW	North-west	B 15	Radar Sc	Radar scanner	E 30.3
NW	Low Water	H 20, H b	Radar-Tm.	Radar tower	E 30.2
O			Radar Tr	Radar tower	E 30.2
† O	East	B 10	† Ra-Ku.	Radar dome	E 30.4
† Ob-F.	Rear or upper light	P 22	† Ramk.	Ramark	S 2
Obs.	Observatory	G 73	† Ra-Mst.	Radar mast	E 30.1

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† Ra-Tm.	Radar tower	E 30.2	† Sem.	Semaphore	
RC	Circular marine radiobeacon	S 10	Sept	September	Q 71
† RC. (Aero)	Aeronautical radiobeacon	S 16	sf	Stiff	J 36
† Rcht-Bk.	Leading beacons	Q 120	† SfK		
† Rcht-F.	Leading light	P 20.3	† SFkl.	Very quick	P 10.7
Rear Lt	Rear light	P 22	† SFkl. unt.	Interrupted very quick	P 10.7
RD	Directional radiobeacon	S 11	† Sgn-S.	Signal station	T 20
† Rd.	Radiolaria		Sh	Shells	J 11
Rd.	Roads, Roadstead	O 20	Shb	Sailing Directions	
Ref	Refuge	Q 124, T 14	Si	Silt	J 4
Rep	Reported, but not confirmed	I 3.1	Sig	Signal	T 25.2
† Res. Ankpl.	Reserved anchorage	N 12.9	† Sk.	Mud	J 2
RG	Radio direction-finding station	S 14	† sk.	Muddy	
† Rgd.	Sandbank		SKN	Chart Datum	H 1
RoRo	Roll-on, Roll-off (RoRo-Terminal)	F 50	† skr.	Vertically disposed	P 15
† R-S.	Rescue station, Life boat station, Rocket station	T 12	S-lich	Southern	
RSG	Seal sanctuary	N 22	† Slp.	Slipway, Patent slip, Ramp	F 23
Ru	Ruin	D 8, E 25.2, F 33	† sm	Nautical mile(s) or sea mile(s)	B 45
RW	Rotating-pattern radiobeacon	S 12	† SMG	Fog detector light	P 62
† RW.	Consol beacon	S 13	SMt	Seamount	O 33
S			† SO	South-east	B 14
S	Sand	J 1	so	Soft	J 35
S	South	B 11	Sp	Church) spire	E 10.3
S.	Station, Signalstation	T 30	Sp.	Summit	G 24
s	Second(s) of time	B 51, P 12	Sp.	Peak	G 25
† s.	Black		Sp	Spring Tide	H 16
SALM	Single Anchor Leg Mooring	L 12	SPM	Single Point Mooring	L 12
SBM	Single Buoy Mooring	L16	SS	Signal station	T 20–36
† Sc.	Scoriae		St	Stones	J 5
† Sch.	Shells	J 11	St.	Saint	G 54
† Sch-H.	Obstruction	K 40	† st.	Flinty	
† Schl.	Ooze		Stb.	Starboard	
Schl.	Castle	G 64	† Stg.	Kelp	J 13.1
† Schl.	Silt	J 4	Str.	Strait	O 11
Schls.	Lock	F 41.1	† Strm-S.	Storm signal station	T 28
Schp.	Shed	F 51	† Strom-S.	Tidal stream signal	T 34
Schst.	Chimney	E 22	SW	South-west	B 16
Schütt-S.	Spoil ground	N 62.1	sy	Sticky	J 34
† Schw.	Sponge		T		
† schw.	Faint	P 45	† T.	Tank	E 32
Schw-Dock	Floating dock	F 26	† T.	Clay	J 3
SD	Sounding doubtful	I 2	t	Tonne(s), Ton(s), Tonnage (weight)	B 53, F 53
† Sd.	Sand	J 1	temp	Temporary	P 54
Sd.	Sound	O 12	Tfl.	Notice board	Q 126
† Sdkor.	Sabellaria		† Tg-F.	Daytime light	P 51
SE	South-east	B 14	tlws.	Partly	O 88
sec	Second(s) of time	B 51	Tm.	Tower	E 20
			† Tm-Bk.	Beacon tower	P 3, Q 110
			† T.P.	Triangulation point	B 20
			† Tp.	Temple	E 13
			Tr	Tower	E 10.2, E 20

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Tr-Dock	<i>Dry dock, Graving dock</i>	F 25	VTs	<i>Vessel Traffic Service</i>	
† trfall.	<i>Dries, exposed at low water</i>	K 11, I 15 J 21–22			
† T-S.	<i>Telegraph office</i>	G 95	W		
TSS	<i>Traffic Separation Scheme</i>	M 20–23	W	<i>West</i>	B 12
† Tst.	<i>Tufa</i>		W	<i>White</i>	P 11.1, Q 130.5
U			W.	<i>Lookout station</i>	G 77
U	<i>Unwatched, unmanned</i>	P 53	† w.	<i>White</i>	P 11.1
† U-Boot-Weg	<i>Submarine transit lane and exercise area</i>	N 33	Warn.	<i>Warning</i>	T 36
† Ubr.	<i>Occulting</i>	P 10.2	† Warn-F.	<i>Air obstruction lights of low intensity</i>	P 61.2
† U-F.	<i>Front or lower light</i>	P 23	† wch.	<i>Soft</i>	J 35
† UFkl.	<i>Ultra quick</i>	P 10.8	† Wchs.	<i>Alternating</i>	P 10.11
† UFkl. unt.	<i>Interrupted ultra quick</i>	P 10.8	Wd	<i>Weed</i>	J 13.1
ULCC	<i>Ultra Large Crude Carrier</i>	G 188	Weg T	<i>Recommended route</i>	M e
† Umschlpl.	<i>Cargo transhipment area</i>	N 64	Well	<i>Wellhead</i>	L 21
ungf.	<i>Approximate</i>	O 89	† wgr.	<i>Horizontally disposed</i>	P 15
† Unr.	<i>Foul</i>	K 31	WGS	<i>World Geodetic System</i>	S 50
Unr. Gd.	<i>Foul ground</i>	K b	Whis	<i>Whistle</i>	R 15
Unr. (Mun.)	<i>Foul (explosives)</i>	N 23.2	Wk(s)	<i>Wreck(s)</i>	K 20–30
† Uns. Mißw.	<i>Local magnetic anomaly</i>	B 82.1	W-lich	<i>Western</i>	
Untf.	<i>Shoal</i>	O 25	† W-S.	<i>Weather signal station, Wind signal station</i>	T 29
Untsg- Ankpl.	<i>Examination anchorage</i>		WSA		G c
Upper	<i>Upper light</i>	P 22	WSD		G b
UQ	<i>Ultra quick</i>	P 10.8	WSG	<i>Game preserve</i>	N 22
UTC	<i>Universal Time Coordinated</i>		Wss-S.	<i>Tidal signal station</i>	T 33
UTM	<i>Universal Transverse Mercator</i>		† Wss-T.	<i>Water tank</i>	E 32
U-Wss-Gl.	<i>Submarine fog bell</i>		Wss-Tm.	<i>Water tower</i>	E 21
V			W-Tm.	<i>Watch tower</i>	G 77
v	<i>Volcanic</i>	J 37	WP	<i>Waypoint</i>	U a
† Va.	<i>Cinders</i>		Y		
† vdklt.	<i>Obscured</i>	P 44	Y	<i>Amber</i>	P 11.8
verb.	<i>Prohibited</i>		Y	<i>Yellow</i>	P 11.6, Q 3
† Verb. Gbt.	<i>Prohibited Area</i>	N 2.2	Y	<i>Orange</i>	P 11.7
Verm.	<i>Survey</i>		Z		
vert	<i>Vertically disposed</i>	P 15	† z.	<i>Sticky</i>	J 34
VHF	<i>VHF Channel</i>	M 40	† z.	<i>Stiff</i>	J 36
Vi	<i>Violet</i>	P 11.5	Zahr.	<i>Numerous</i>	Q 44
† viol.	<i>Violet</i>	P 11.5	† zbr.	<i>Broken</i>	J 33
VLCC	<i>Very Large Crude Carrier</i>	G 187	Zgl.	<i>Brick kiln</i>	G 81
VQ	<i>Very quick</i>	P 10.7	† Ziel-Tn.	<i>Target</i>	Q 51
† vrd.	<i>Obscured</i>	P 43	† Zoll-A.	<i>Customs office</i>	F 61
vrstdt.	<i>Shoaled</i>	O 91	† Zoll-S.	<i>Customs office</i>	F 61
† vrst.	<i>Intensified</i>	P 46	† Zoll-W.	<i>Customs office</i>	F 61
V-S.	<i>Traffic signal station</i>	T 22	† zrzt.	<i>Destroyed</i>	O 93
VSG	<i>Bird sanctuary</i>	N 22	Z-S.	<i>Refuge for ship- wrecked mariners</i>	T 14
vsw.	<i>Experimental</i>	O 92	† Zt-S.	<i>Time signal station</i>	T 31
† VTG	<i>Traffic Separation Scheme</i>		ztl.	<i>Temporary</i>	P 54
			ztlws.	<i>Occasional</i>	P 50 Q 71

IW International Abbreviations

A			FFI	Fixed and flashing	P 10.10
Aero	Aeronautical	P 60–61.1	FI	Flashing	P 10.4
Aero RC	Aeronautical radiobeacon	S 16	Fla	Flare stack	L 11
AIS	Automatic Identification System	S 17	Fog Det Lt	Fog detector light	P 62
AI	Alternating	P 10.11	FS	Flagstaff, Flagpole	E 27
ALC	Articulated Loading Column	L 12	ft	Foot/feet	B 47
Am	Amber	P 11.8	G		
ASL	Archipelagic Sea Lane	M 17	G	Gravel	J 6
B			G	Green	P 11.3, Q 2
B	Black	Q 2, Q 81	GPS	Global Positioning System	
bk	Broken	J 33	GRT	Gross Register Tonnage	
Bn	Beacon	P 4–5, Q 80	GT	Gross tonnage	
BnTr	Beacon Tower	P 3, Q 110	H		
Bo	Boulder(s)	J 9.2	h	Hard	J 39
Br	Breakers	K 17	h	Hour	B 49
Bu	Blue	P 11.4	H	Helicopter	T 1.4
C			hor	Horizontally disposed	P 15
c	Coarse	J 32	I		
ca	Calcareous	J 38	INT	International	A 2, T 21
CALM	Catenary Anchor Leg Mooring	L 16	Intens	Intensified	P 46
Cb	Cobbles	J 8	IQ	Interrupted quick	P 10.6
cd	Candela	B 54	Iso	Isophase	P 10.3
CG	Coastguard	T 10–11	IUQ	Interrupted ultra quick	P 10.8
Ch	Church	E 10.1	IVQ	Interrupted very quick	P 10.7
Chy	Chimney	E 22	K		
cm	Centimetre(s)	B 43	km	Kilometre(s)	B 40
Co	Coral, Coralline algae	J 10, K 16	kn	Knot(s)	B 52, N 27
† Consol	Consol beacon	S 13	L		
Cy	Clay	J 3	LANBY	Large Automatic Navigational Buoy	P 6
D			LASH	Lighter Aboard Ship	G 184
DGPS	Differential Global Positioning System	S 51	Lat	Latitude	B 1
Dia	Diaphone	R 11	Ldg	Leading	P 20.3
Dir	Direction light	P 30–31	LFI	Long-flashing	P 10.5
dm	Decimetre(s)	B 42	Lndg	Landing for boats	F 17
Dn, Dns	Dolphin(s)	F 20	LNG	Liquefied Natural Gas	G 185
DW	Deep Water track, Deep Water route	M 5.1–5.2, M 27.1, N 12.4	Long	Longitude	B 2
DWT	Deadweight tonnage		LPG	Liquefied Petroleum Gas	G 186
DZ	Danger Zone	Q 50	Lt(s)	Light(s)	P 1
E			M		
E	East	B 10	m	Medium	J 31
ED	Existence doubtful	I 1	m	Metre(s)	B 41
Explos	Explosive	R 10	m	Minute(s) of time	B 50
exting	Extinguished	P 55	M	Mud	J 2
F			M	International nautical mile(s) or sea mile(s)	B 45
f	Fine	J 30	min	Minute(s) of time	B 50
F	Fixed	P 10.1	Mk	Mark	Q 101
			mm	Millimetre(s)	B 44

International Abbreviations **IW**

Mo	Morse code	P 10.9, R 20	SE	South-east	B 14
Mon	Monument	E 24	sec	Second(s) of time	B 51
MR	Marine Reserve	N 22.3	sf	Stiff	J 36
			Sh	Shells	J 11
N			Si	Silt	J 4
N	North	B 9	Sig	Signal	T 25.2
NE	North-east	B 13	SMt	Seamount	O 33
No	Number	N 12.2	so	Soft	J 35
NT	Net tonnage		Sp	(Church) spire	E 10.3
NW	North-west	B 15	SPM	Single Point Mooring	L 12
			SS	Signal station	T 20–36
O			St	Stones	J 5
Obscd	Obscured	P 43	SW	South-west	B 16
Obstn	Obstruction	K 40–43, L 43	sy	Sticky	J 34
Oc	Occulting	P 10.2	T		
occas	Occasional	P 50	t	Tonne(s), Ton(s), Tonnage (weight)	B 53, F 53
ODAS	Ocean Data Acquisition System	Q 58	temp	Temporary	P 54
Or	Orange	P 11.7, Q 3	Tr	Tower	E 10.2, E 20
P			U		
P	Pebbles	J 7	ULCC	Ultra Large Crude Carrier	G 188
PA	Position approximate	B 7	UQ	Ultra quick	P 10.8
PD	Position doubtful	B 8	UTC	Universal Time Coordinated	
priv	Private	P 65, Q 70	UTM	Universal Transverse Mercator	
Prod Well	Submerged production well	L 20	V		
PSSA	Particularly Sensitive Sea Area	N 22	v	Volcanic	J 37
Pyl	Pylon	D 26	vert	Vertically disposed	P 15
Q			Vi	Violet	P 11.5
Q	Quick	P 10.6	VLCC	Very Large Crude Carrier	G 187
			VQ	Very quick	P 10.7
R			VTs	Vessel Traffic Service	
R	Coast radio stations QTG service	S 15	W		
R	Red	P 11.2, Q 3	W	West	B 12
R	Rock, rocky	J 9, K 15	W	White	P 11.1, Q 130.5
Ra	Radar	M 31–32, S 1	Wd	Weed	J 13.1
Racon	Radar transponder beacon	S 3.1–3.6	Well	Wellhead	L 21
RC	Circular marine radiobeacon	S 10	WGS	World Geodetic System	S 50
RD	Directional radiobeacon	S 11	Whis	Whistle	R 15
Ref	Refuge	Q 124, T 14	Wk(s)	Wreck(s)	K 20–30
Rep	Reported, but not confirmed	I 3.1	Y		
RG	Radio direction-finding station	S 14	Y	Amber	P 11.8
RoRo	Roll-on, Roll-off (RoRo Terminal)	F 50	Y	Orange	P 11.7
Ru	Ruin	D 8, E 25.2, F 33	Y	Yellow	P 11.6, Q 3
RW	Rotating-pattern radiobeacon	S 12			
S					
S	Sand	J 1			
s	Second(s) of time	B 51, P 12			
S	South	B 11			
SALM	Single Anchor Leg Mooring	L 12			
SBM	Single Buoy Mooring	L 16			
SD	Sounding doubtful	I 2			

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