



Appendix A. Chart No. 1

Chart No. 1

United States of America

Nautical Chart Symbols and Abbreviations

Eighth Edition
NOVEMBER 1984

Prepared jointly by

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service

DEPARTMENT OF DEFENSE
Defense Mapping Agency
Hydrographic/Topographic Center

Published at Washington, D.C.
DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Washington, D.C. 20230

INTRODUCTION

General Remarks—This publication (Chart No. 1) contains symbols and abbreviations that have been approved for use on nautical charts published by the United States of America. A Glossary of Terms used on the charts of various nations is also included. The user should refer to DMAHTC Pub. No. 9, **American Practical Navigator** (Bowditch), Volume I, for the use of the chart in the practice of navigation and more detailed information pertaining to the chart sounding datum, tides and currents, visual and audible aids to navigation, etc.

Numbering—Terms, symbols, and abbreviations are numbered in accordance with a standard format approved by a 1952 resolution of the International Hydrographic Organization (IHO). Although the use of IHO-approved symbols and abbreviations is not mandatory, the United States has adopted many IHO-approved symbols for standard use. Style differences of the alphanumeric identifiers in the first column of the following pages show the status of symbols and abbreviations.

VERTICAL FIGURES indicate those items for which the symbols and abbreviations are in accordance with resolutions of IHO.

SLANTING FIGURES indicate those symbols for which no IHO resolution has been adopted.

SLANTING FIGURES ASTERISKED indicate IHO and U.S. symbols do not agree.

SLANTING LETTERS IN PARENTHESIS indicate that the items are in addition to those appearing in the IHO STANDARD LIST OF SYMBOLS AND ABBREVIATIONS.

Metric Charts and Feet/Fathom Charts—In January 1972 the United States began producing certain new nautical charts in meters. Since then many charts have been issued with soundings and contours in meters; however, for some time to come there will still be many charts on issue depicting sounding units in feet or fathoms. Modified reproductions of foreign charts are being produced retaining the native sounding unit value. The sounding unit is stated in bold type outside the border of every chart and in the chart title.

Chart Modernization—Chart symbols and labeling are brought into reasonable agreement with uniform international charting standards and procedures as quickly as opportunity affords. An example of this is the trend toward using vertical type for labeling items referred to the shoreline plane of reference, and slant type for all items referred to the sounding datum. This is not completely illustrated in this publication but is reflected in new charts produced by this country in accordance with international practices.

Soundings—The sounding datum reference is stated in the chart title. In all cases the unit of depth used is shown in the chart title and in the border of the chart in bold type.

Drying Heights—On rocks and banks that cover and uncover the elevations are above the sounding datum as stated in the chart title.

Shoreline—Shoreline shown on charts represents the line of contact between the land and a selected water elevation. In areas affected by tidal fluctuation, this line of contact

is usually the mean high-water line. In confined coastal waters of diminished tidal influence, a mean water level line may be used. The shoreline of interior waters (rivers, lakes) is usually a line representing a specified elevation above a selected datum. Shoreline is symbolized by a heavy line (A9).

Apparent Shoreline is used on charts to show the outer edge of marine vegetation where that limit would reasonably appear as the shoreline to the mariner or where it prevents the shoreline from being clearly defined. Apparent shoreline is symbolized by a light line (A7, C17).

Landmarks—A conspicuous feature on a building may be shown by a landmark symbol with a descriptive label. (See I 8b, 36, 44, 72.) Prominent buildings that are of assistance to the mariner may be shown by actual shape as viewed from above (See I 3a, 19, 47, 66). Legends associated with landmarks when shown in capital letters, indicate conspicuous or the landmarks may be labeled “CONSPIC” or “CONSPICUOUS.”

Buoys—The buoyage systems used by other countries often vary from that used by the United States. U.S. Charts show the colors, lights and other characteristics in use for the area of the individual chart. Certain U.S. distributed modified reproduction charts of foreign waters may show shapes and other distinctive features that vary from those illustrated in this chart.

In the U.S. system, on entering a channel from seaward, buoys on the starboard side are red with even numbers, on the port side, black or green with odd numbers. Lights on buoys on the starboard side of the channel are red or white, on the port side, white or green. Mid-channel buoys have red and white or black and white vertical stripes and may be passed on either side. Junction or obstruction buoys have red and green or red and black horizontal bands, the top band color indicating the preferred side of passage. This system does not apply to foreign waters.

IALA Buoyage System—The International Association of Lighthouse Authorities (IALA) Maritime Buoyage System (combined Cardinal-Lateral System) is being implemented by nearly every maritime buoyage jurisdiction worldwide as either REGION A buoyage (red to port) or REGION B buoyage (red to starboard). The terms “REGION A” and “REGION B” will be used to determine which type of buoyage is in effect or undergoing conversion in a particular area. The major difference in the two buoyage regions will be in the lateral marks. In REGION A they will be red to port; in REGION B they will be red to starboard. Shapes of lateral marks will be the same in both REGIONS, can to port; cone (nun) to starboard. Cardinal and other marks will continue to follow current guidelines and may be found in both REGIONS. A modified lateral mark, indicating the preferred channel where a channel divides, will be introduced for use in both REGIONS. Section L and the color plates at the back of this publication illustrate the IALA buoyage system for both REGIONS A and B.

Aids to Navigation Positioning—The aids to navigation depicted on charts comprise a system consisting of fixed and floating aids with varying degrees of reliability. Therefore, prudent mariners will not rely solely on any single aid to navigation, particularly a floating aid.

The buoy symbol is used to indicate the approximate position of the buoy body and the sinker which secures the buoy to the seabed. The approximate position is used because of practical limitations in positioning and maintaining buoys and their sinkers in precise geographical locations. These limitations include, but are not limited to, inherent imprecisions in position fixing methods, prevailing atmospheric and sea conditions, the

slope of and the material making up the seabed, the fact that buoys are moored to sinkers by varying lengths of chain, and the fact that buoy body and/or sinker positions are not under continuous surveillance but are normally checked only during periodic maintenance visits which often occur more than a year apart. The position of the buoy body can be expected to shift inside and outside the charting symbol due to the forces of nature. The mariner is also cautioned that buoys are liable to be carried away, shifted, capsized, sunk, etc. Lighted buoys may be extinguished or sound signals may not function as the result of ice, running ice, other natural causes, collisions, or other accidents.

For the foregoing reasons a prudent mariner must not rely completely upon the position or operation of floating aids to navigation, but will also utilize bearings from fixed objects and aids to navigation on shore. Further, a vessel attempting to pass close aboard always risks collision with a yawing buoy or with the obstruction the buoy marks.

Colors—Colors are optional for characterizing various features and areas on the charts. For instance the land tint in this publication is gold as used on charts of the National Ocean Service; however, charts of the DMA show land tint as gray.

Heights—Heights of lights, landmarks, structures, etc. are referred to the shoreline plane of reference. Heights of small islets or offshore rocks, which due to space limitations must be placed in the water area, are bracketed. The unit of height used is shown in the chart title.

Conversion Scales—Depth conversion scales are provided on all charts to enable the user to work in meters, fathoms, or feet.

Improved Channels—Improved channels are shown by dashed limit lines with the depth and date of the latest examination placed adjacent to the channel or in a channel tabulation.

Longitudes—Longitudes are referred to the meridian of Greenwich.

Traffic Separation Schemes—Traffic separation schemes show established routes to increase safety of navigation, particularly in areas of high density shipping. These schemes were established by the International Maritime Organization (IMO) and are described in the IMO publication “Ships Routing”.

Traffic separation schemes are generally shown on nautical charts at scales of 1:600,000, and larger. When possible, traffic separation schemes are plotted to scale and shown as depicted in Section P.

Names—Names on nautical charts compiled and published by the United States of America are in accordance with the principles of the Board of Geographic Names.

Correction Dates—The dates of New Editions are shown below the lower left border of the chart. These include the date of the latest Notice to Mariners applied to the charts.

U.S. Coast Pilots, Sailing Directions, Light Lists, Lists of Lights—These related publications furnish information required by the navigator that cannot be shown conveniently on the nautical charts.

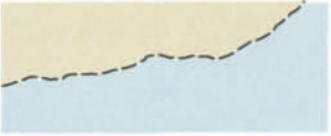
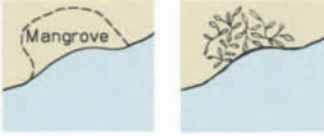








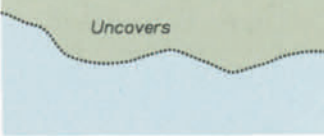



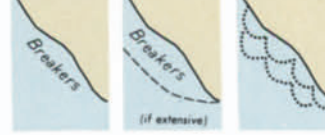

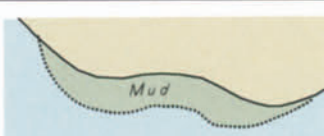
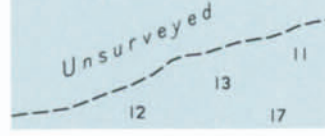




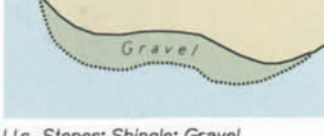
U.S. Nautical Chart Catalogs and Indexes—These list nautical charts, auxiliary maps, and related publications and include general information relative to the use and ordering of charts.

Special and Foreign Symbols—Some differences may be observed between the symbols shown in Chart No. 1 and symbols shown on certain special charts and reproductions of foreign charts. A glossary of foreign terms and abbreviations is generally shown on charts on which they are used, as well as in the Sailing Directions. In addition, an extensive glossary is found at the back of this publication.

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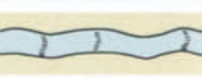



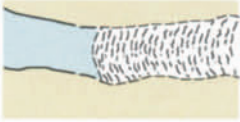

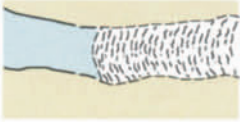

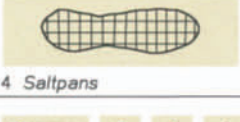








A The Coastline

 <p>1 Coast, inadequately surveyed (Approximate shoreline)</p>	 <p>*7 Mangroves; Apparent shoreline and mangrove vegetation limit</p>	 <p>11d Rock (unCOVERS at sounding datum)</p>
 <p>*2 Steep coast</p>	 <p>8 Surveyed coastline</p>	 <p>*11e Sand and Mud</p>
 <p>2a Flat coast</p>	 <p>9 Shoreline</p>	 <p>*11f Sand and gravel</p>
 <p>3 Cliffl coast</p>	 <p>10 Chart sounding datum line</p>	 <p>11g Coral (unCOVERS at sounding datum)</p>
 <p>3a Rocky coast</p>	 <p>(Aa) Approximate sounding datum line</p>	 <p>12 Breakers along a shore</p>
 <p>4 Sandhills; Dunes</p>	 <p>11 Foreshore; Strand (in general)</p>	 <p>14 Limit of unsurveyed areas</p>
 <p>5 Stony or shingly shore</p>	 <p>*11b Mud</p>	 <p>(Ab) Rubble</p>
 <p>6 Sandy shore</p>	 <p>*11c Stones; Shingle; Gravel</p>	

B Coast Features

1	G	Gulf	
2	B	Bay	
(Ba)	B	Bayou	
3	Fd	Fjord	
4	L	Loch; Lough; Lake	
5	Cr	Creek	
5a	C	Cove	
6	In	Inlet	
7	Str	Strait	
8	Sd	Sound	
9	{	Pass	Passage; Pass
		Thoro	Thoroughfare
10	Chan	Channel	
10a		Narrows	
11	Entr	Entrance	
12	Est	Estuary	
12a		Delta	
13	Mth	Mouth	
14	Rd	Road; Roadstead	
15	Anch	Anchorage	
16	Hbr	Harbor	
16a	Hn	Haven	
17	P	Port	
(Bb)	P	Pond	
18	I	Island	
19	It	Islet	
20	Arch	Archipelago	
21	Pen	Peninsula	
22	C	Cape	
23	Prom	Promontory	
24	Hd	Head; Headland	
25	Pt	Point	
26	Mt	Mountain; Mount	
27	Rge	Range	
27a		Valley	
28		Summit	
29	Pk	Peak	
30	Vol	Volcano	
31		Hill	
32	Bld	Boulder	
33	{	Ldg	Landing
		Lndg	Landing
34		Tableland	
		Plateau	
35	R, Rk, Rks	Rock, Rocks	
36		Isolated rock	
(Bc)	Str	Stream	
(Bd)	R	River	
(Be)	Slu	Slough	
(Bf)	Lag	Lagoon	
(Bg)	Apprs	Approaches	
(Bh)	Rky	Rocky	
(Bi)	Is	Islands	
(Bj)	Ma	Marsh	
(Bk)	Mg	Mangrove	
(Bl)	Sw	Swamp	

C The Land

	 5d Nipa palm	 14 Intermittent stream
	 5e Filao	 15 Lake; Pond
	 5f Casuarina	 16 Lagoon (Lag)
	 5g Evergreen tree (other than coniferous)	  (used in small areas)
	 6 Cultivated fields	 17 Marsh; Swamp
	 6a Grass fields	
	 7 Paddy (rice) fields	
	 7a Park; Garden	 18 Slough (Slu.)
	 8 Bushes	 19 Rapids
	 8a Tree plantation in general	 20 Waterfalls
	 9 Deciduous woodland	
	 10 Coniferous woodland	
	 10a Woods in general	
 5 Isolated trees	 11 Tree top elevation (above shoreline datum)	
 5a Deciduous; of unknown or unspecified type	 12 Lava flow	
 5b Coniferous	 13 River; Stream	
 5c Palm tree		

D Control Points						
1		Triangulation point (station)	4		Obs Spot	Observation spot
1a		Astronomic station	5		BM	Bench mark
2		Fixed point (landmark, position accurate)	6		View X	View point
(Da)		Fixed point (landmark, position approximate)	7			Datum point for grid of a plan
3		Summit of height (Peak) (when not a landmark)	8			Graphical triangulation point
(Db)		Peak, accentuated by contours	9	Astro		Astronomical
(Dc)		Peak, accentuated by hachures	10	Tri		Triangulation
(Dd)		Peak, elevation not determined	(Df)	C of E		Corps of Engineers
(De)		Peak, when a landmark	12			Great trigonometrical survey station
			13			Traverse station
			14	Bdy Mon		Boundary monument
			(Dg)			International boundary monument

E Units								
1	hr, h	Hour	11	M, Mi	Nautical mile(s)	21	'	Minute (of arc)
2	m, min	Minute (of time)		NMi, NM		22	"	Second (of arc)
3	sec, s	Second (of time)	12	kn	Knot(s)	23	No	Number
4	m	Meter	12a	t	Tonne (metric ton equals 2,204.6 lbs)	(Ea)	St M, St Mi	Statute mile
4a	dm	Decimeter	12b	cd	Candela (new candle)	(Eb)	μsec, μs	Microsecond
4b	cm	Centimeter	13	lat	Latitude	(Ec)	Hz	Hertz (cps)
4c	mm	Millimeter	14	long	Longitude	(Ed)	kHz	Kilohertz (kc)
4d	m ²	Square meter	14a		Greenwich	(Ee)	MHz	Megahertz (Mc)
4e	m ³	Cubic meter	15	pub	Publication	(Ef)	cps, c/s	Cycles/second (Hz)
5	km	Kilometer(s)	16	Ed	Edition	(Eg)	kc	Kilocycle (kHz)
6	in, ins	Inch(es)	17	corr	Correction	(Eh)	Mc	Megacycle (MHz)
7	ft	Foot, feet	18	alt	Altitude	(Ei)	T	Ton (U.S. short ton equals 2,000 lbs)
8	yd, yds	Yard(s)	* 19	ht; elev	Height; Elevation			
9	fm, fms	Fathom(s)	20	°	Degree			
10	cbl	Cable length						

F Adjectives, Adverbs, Nouns, and Other Words								
1	gt	Great	25	discontd	Discontinued	(Fe)	cor	Corner
2	lit	Little	26	prohib	Prohibited	(Ff)	concr	Concrete
3	Lrg	Large	27	explos	Explosive	(Fg)	fl	Flood
4	sml	Small	28	estab	Established	(Fh)	mod	Moderate
5		Outer	29	elec	Electric	(Fi)	bet	Between
6		Inner	30	priv	Private, Privately	(Fj)	1st	First
7	mid	Middle	31	prom	Prominent	(Fk)	2nd, 2d	Second
8		Old	32	std	Standard	(Fl)	3rd, 3d	Third
9	anc	Ancient	33	subm	Submerged	(Fm)	4th	Fourth
10		New	34	approx	Approximate	(Fn)	DW	Deep Water
11	St	Saint	35		Maritime	(Fo)	min	Minimum
12	CONSPIC	Conspicuous	36	maintd	Maintained	(Fp)	max	Maximum
13		Remarkable	37	aband	Abandoned	(Fq)	N'yly	Northerly
14	D, Destr	Destroyed	38	temp	Temporary	(Fr)	S'yly	Southerly
15		Projected	39	occas	Occasional	(Fs)	E'yly	Easterly
16	dist	Distant	40	extr	Extreme	(Ft)	W'yly	Westerly
17	abt	About	41		Navigable	(Fu)	Sk	Stroke
18		See chart	42	N M	Notice to Mariners	(Fv)	Restr	Restricted
18a		See plan	(Fa)	L N M	Local Notice to Mariners	(Fw)	Bl	Blast
19		Lighted, Luminous				(Fx)	CFR	Code of Federal Regulations
20	sub	Submarine	43		Sailing Directions	(Fy)	COLREGS	Int'l Regulations for Preventing Collisions at Sea, 1972
21		Eventual	44		List of Lights			
22	AERO	Aeronautical	(Fb)	unverd	Unverified			
23		Higher	(Fc)	AUTH	Authorized	(Fz)	IWW	Intracoastal Waterway
23a		Lower	(Fd)	CL	Clearance			
24	exper	Experimental						

G Ports and Harbors

1		Anch	Anchorage (large vessels)		
2		Anch	Anchorage (small vessels)		
3		Hbr	Harbor		
4		Hn	Haven		
5		P	Port		
6		Bkw	Breakwater		
6a			Dike		
7			Mole		
8			Jetty (partly below MHW)		
8a			Submerged jetty		
(Ga)			Jetty (small scale)		
9		Pier	Pier		
10			Spit		
11			Groin (partly below MHW)		
•12		ANCH PROHIB	Anchorage prohibited (Screen optional)		
12a			Anchorage reserved		
12b		QUAR ANCH	Quarantine anchorage		
•12c			Quarantine Anchorage		
•12d			Quarantine Anchorage		
•12e		FISH PROHIB	Fishing prohibited		
13			Spoil Area		
(Gb)			Dumping ground (depths may be less than indicated) (Dump Site)		
(Gc)			Disposal area (Dump Site)		
(Gd)			Pump-out facilities		
14		Fsh stks	Fisheries; Fishing stakes		
14a			Fish trap; Fish weirs (actual shape charted)		
14b			Duck blind		
15			Tunny nets		
15a		Oys	Oyster bed		
16		Ldg, Lndg	Landing place		
17			Watering place		
18		Whf	Wharf		
19			Quay		
20			Berth		
•20a			Anchoring berth		
20b			Berth number		
21		Dol	Dolphin		
22			Bollard		
22a		S P M	Fixed single point mooring structure (lighted)		
23			Mooring ring		
24			Crane		
25			Landing stage		
25a			Landing stairs		
26		Quar	Quarantine		
27			Lazaret		
28		Hbr Mr	Harbormaster's office		
29		Cus Ho	Customhouse		
30			Fishing harbor		
31			Winter harbor		
32			Refuge harbor		
33		B Hbr	Boat harbor		
34			Stranding harbor (uncovers at LW)		
35			Dock		
36			Drydock (actual shape on large scale charts)		
37			Floating dock (actual shape on large scale charts)		
38			Gridiron; Careening grid		

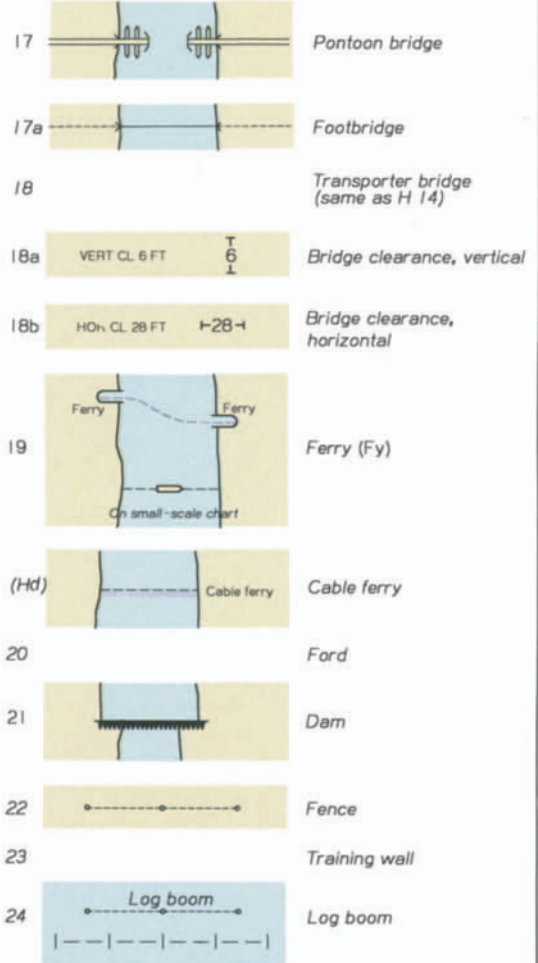
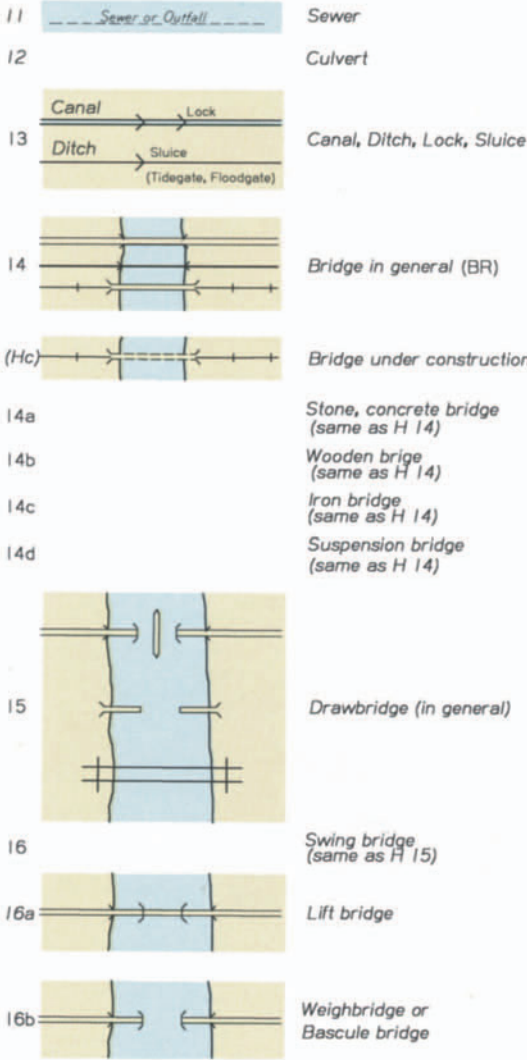
G Ports and Harbors

39		Patent slip; Slipway; Marine railway	
39a		Ramp	Ramp
40		Lock (point upstream)	
41		Wetdock	
42		Shipyards	
43		Lumber yard	
44		Health Office	Health officer's office
45		Hulk (actual shape on large scale charts)	
45a		Prohibited area (screen optional)	
• 46			
46a		Calling-in point for vessel traffic control	
47		Anchorage for seaplanes	
48		Seaplane landing area	
• 49		Work in progress	
• 50		Under construction	
51		Work projected	
(Ge)		Submerged ruins	
(Gf)		Dump site	

H Topography

1		Road (Rd) or Highway (Hy)	
(Ha)		Highway markers	
2		Track, Footpath or Trail	
3		Railway (Ry) (single or double track) Railroad (RR)	
(Hb)		Abandoned railroad	
3a		Tramway	
3b		Railway station	
3c		Tunnel (railroad or road)	
3d		Embankment, Levee	
3e		Cutting	
3f		Causeway	
4		Overhead power cable (OVHD PWR CAB)	
5		Power transmission line	
5a		Power transmission mast	
6		Prominent telegraph or telephone line	
7		Aqueduct; Water pipe	
8		Viaduct	
8a		Pipeline	
9		Pile; Piling; Post	
9a		Pile, Piling, Post	
10		Highway (See H 1)	

H Topography



I Buildings and Structures

1 City or Town (large scale)
 (1a) City or Town (small scale)

1a (30) Height of a structure
 2 Suburb
 3 Vil Village

3a Buildings in general

4 Cas Castle

5 House

6 Villa
 7 Farm

8 Ch Church

8a Cath Cathedral

8b Spire; Steeple

9 Roman Catholic Church

10 Temple

11 Chapel

12 Mosque

12a Minaret

(1b) Moslem Shrine

13 Marabout

14 Pagoda

15 Buddhist Temple; Joss-House

15a Shinto Shrine

16 Monastery; Convent

17 Calvary; Cross

17a Cemetery, Non-Christian
 18 Cemetery, Christian

18a Tomb

19 Fort (actual shape charted)

20 Battery

21 Barracks

22 Powder magazine

* 23 Airplane landing field
 * 24 Airport, large scale

(1c) Airport, military (small scale)

(1d) Airport, civil (small scale)

25 Mooring mast

26 St Street

26a Ave Avenue

26b Blvd Boulevard

27 Tel Telegraph

28 Tel Off Telegraph office

29 PO Post office

30 Govt Ho Government house

31 Town hall

32 Hosp Hospital

33 Slaughter house

34 Magz Magazine

34a Warehouse; Storehouse

35 MON Mon Monument

36 CUP Cup Cupola

37 ELEV Elev Elevator

(1e) Elev Elevation; Elevated' Shed

38 Zinc roof

39 Ruins Ru

40 Ruins Ru

41 TR Tr Tower

(1f) ABAND LT HO Abandoned lighthouse

42 WINDMILL Windmill

43 Watermill

43a WINDMOTOR Windmotor

44 CHY Chy Chimney; Stack

* 45 S'PIPE S'pipe Water tower; Standpipe

46 Oil tank; Gas tank; Gasholder; Gasometer

47 Factory

48 Saw mill

49 Brick kiln

50 Mine; Quarry

51 Well

52 Cistern

53 TANK Tk Tank

54 Noria

55 Fountain

61 Inst Institute

62 Establishment

63 Bathing establishment

64 Ct Ho Courthouse

I Buildings and Structures

65		Sch	School
(lg)		HS	High school
(lh)		Univ	University
66		Bldg	Building
67		Pav	Pavilion
68		Hut	Hut
69		Stadium	Stadium
70		T	Telephone
71			Gas tank; Gasometer
72		Gab	Gable
73			Wall

74			Pyramid
75			Pillar
76			Oil derrick
(li)		Ltd	Limited
(lj)		Apt	Apartment
(lk)		Cap	Capitol
(ll)		Co	Company
(lm)		Corp	Corporation
(ln)			Landmark (position accurate)
(lo)			Landmark (position approximate)
(lp)			Flare; Stack (on land)

J Miscellaneous Stations

1		Sta	Any kind of station
2		Sta	Station
3			Coast Guard station (similar to Lifesaving station, J 6)
(Ja)			Coast Guard station (when landmark)
4			Lookout station; Watch tower
5			Lifesaving station
6			Lifesaving station
7		Rkt Sta	Rocket station
8			Pilot station/Pilots
9		Sig Sta	Signal station
10		Sem	Semaphore
11		S Sig Sta	Storm signal station
12			Weather signal station
(Jb)			National Weather Service signal station
13			Tide signal station
14			Stream signal station



15			Ice signal station
16			Time signal station
16a			Manned oceanographic station
16b			Unmanned oceanographic station
17			Time ball
18			Signal mast
18a			Mast
19			Flagstaff; Flagpole
19a			Flag tower
20			Signal
21		Obsy	Observatory
22		Off	Office
(Jc)			Bell (on land)
(Jd)			Harbor entrance control post
(Je)			Marine police station
(Jf)			Fireboat station
(Jg)			Notice board

K Lights



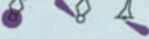

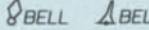

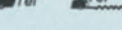
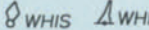


















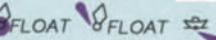
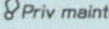
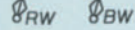
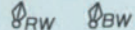



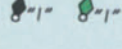

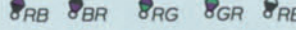

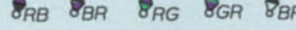
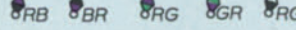
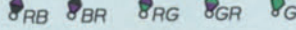
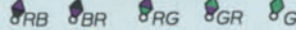
1		Position of light
•2	Lt	Light
(Ka)		Riprap surrounding light
3	Lt Ho	Lighthouse
4	•AERO ★ AERO	Aeronautical light
4a		Marine and air navigation light
•5	•Bn	Light beacon
6		Light vessel; Lightship
8		Lantern
9		Street lamp
10	REF	Reflector
11		Leading light
11a		Lighted range
12		Sector light
13		Directional light
14		Harbor light
15		Fishing light
16		Tidal light
17	 Priv maintd	Private light (maintained by private interests; to be used with caution)
21	F	Fixed (steady light)
22	Oc; Occ	Occulting (total duration of light more than dark)
23	FI	Single-Flashing (total duration of light less than dark)
(Kb)	L FI	Long-Flashing (2 sec or longer)
	FI (2+1)	Composite group-flashing
23a	Iso; E Int	Isophase (light and dark equal)
24	Q; Qk FI	Continuous Quick Flashing (50 to 79 per minute; 60 in US)
	Q(3)	Group Quick
25	IQ; Int Qk FI; Qk FI	Interrupted Quick Flashing

25a	S FI	Short Flashing
(Kc)	VQ; V Qk FI	Continuous Very Quick Flashing (80 to 159 - usually either 100 or 120 per minute)
	VQ (3)	Group Very Quick
	IVQ	Interrupted Very Quick
	UQ	Continuous Ultra Quick (160 or more - usually 240 to 300 flashes per minute)
	IUQ	Interrupted Ultra Quick
26	Al; Alt	Alternating
27	Oc (2); Gp Occ	Group-Occulting
	Oc(2+3)	Composite group occulting
28	FI (2); Gp FI	Group Flashing
28a	S-L FI	Short-Long Flashing
28b		Group-Short Flashing
29	F FI	Fixed and Flashing
30	F Gp FI	Fixed and Group Flashing
30a	Mo (A)	Morse Code light (with flashes grouped as in letter A)
31	Rot	Revolving or Rotating light
41		Period
42		Every
43		With
44		Visible (range)
(Kd)	M; Mi; N Mi	Nautical mile
(Ke)	m; min	Minutes
(Kf)	s; sec	Seconds
45	FI	Flash
46	Oc; Occ	Occultation
46a		Eclipse
47	Gp	Group
48	Oc; Occ	Intermittent light
49	SEC	Sector
50		Color of sector
51	Aux	Auxiliary light
52		Varied
61	Vi	Violet
62		Purple
63	Bu; Bl	Blue
64	G	Green

K Lights

65	Or; Y	Orange	72	Prov	Provisional light	80	Vert	Vertical lights
66	R	Red	73	Temp	Temporary light	81	Hor	Horizontal lights
67	W	White	(Kg)	D; Destr	Destroyed	(Kh)	VB	Vertical beam
67a	Y; Am	Amber	74	Exting	Extinguished light	(Ki)	RGE	Range
(Ko)	Y	Yellow	75		Faint light	(KJ)	Exper	Experimental light
68	OBSC	Obscured light	76		Upper light	(Kp)		Lighted offshore platform
68a	Fog Det Lt	Fog detector light	77		Lower light	(Kq)		Flare (Flame)
70	Occas	Occasional light	78		Rear light			
71	Irreg	Irregular light	79		Front light			

L Buoys and Beacons

* 1		Approximate position of buoy	* 21		Telegraph-cable buoy
* 2		Light buoy	* 22		Mooring buoy (colors of mooring buoys never carried)
* 3		Bell buoy	22a		Mooring
* 3a		Gong buoy	* 22b		Mooring buoy with telegraphic communications
* 4		Whistle buoy	* 22c		Mooring buoy with telephonic communications
* 5		Can or Cylindrical buoy	* 23		Warping buoy
* 6		Nun or Conical buoy	* 24		Quarantine buoy
* 7		Spherical buoy	24a		Practice area buoy
* 8		Spar buoy	* 25		Explosive anchorage buoy
* 8a		Pillar or Spindle buoy	* 25a		Aeronautical anchorage buoy
* 9		Buoy with topmark (ball)	* 26		Compass adjustment buoy
* 10		Barrel or Ton buoy	* 27		Fish trap (area) buoy (BWHB)
(La)		Color unknown	* 27a		Spoil ground buoy
(Lb)		Float	* 28		Anchorage buoy (marks limits)
* 12		Lightfloat	* 29		Private aid to navigation (buoy) (maintained by private interests, use with caution)
13		Outer or Landfall buoy	30		Temporary buoy
* 14		Fairway buoy (RWVS; BWVS)	30a		Winter buoy
* 14a		Midchannel buoy (RWVS; BWVS)	* 31		Horizontal bands
* 15		Starboard-hand buoy (entering from seaward - US waters)	* 32		Vertical stripes
* 16		Port-hand buoy (entering from seaward - US waters)	* 33		Checked
* 17		Bifurcation buoy	* 33a		Diagonal bands
* 18		Junction buoy	41	W	White
* 19		Isolated danger buoy	42	B	Black
* 20		Wreck buoy	43	R	Red
* 20a		Obstruction buoy	44	Y	Yellow
			45	G	Green
			46	Br	Brown
			47	Gy	Gray










L Buoys and Beacons

48	Bu	Blue	
48a	Am	Amber	
48b	Or	Orange	
• 51		Floating beacon (and variations)	
• 52	Fixed beacons (unlighted or daybeacons)		
		Triangular beacon	
		Black beacon	
		Square and other shaped beacons	
		Color unknown	
		Variations	
53		Beacon, in general	
54		Tower beacon	
55		Cardinal marking system	
56		Compass adjustment beacon	
57		Topmarks	
58		Telegraph-cable (landing) beacon	
• 59		Piles Stumps	Stakes, perches
(Lc)		Private aid to navigation	
61		Cairn	
62		Painted patches	
63		Landmark (position accurate)	
(Ld)		Landmark (position approximate)	
64		Reflector	
65		Range targets, markers	
(Le)		Special-purpose buoys	
66		Oil installation buoy	
67		Drilling platform	
70	NOTE: Refer to IALA Buoyage System description on page 48 for aids used in certain foreign waters.		
71		LANBY (Large Auto. Nav. Buoy); Superbuoy	
72		TANKER terminal buoy (mooring)	
73		ODAS (Oceanographic Data Aquisition System)	
(Lg)		Articulated light (floating light)	






M Radio and Radar Stations

1		Radio telegraph station	
2		Radio telephone station	
3		Radiobeacon	
• 4		Circular radiobeacon	
5		Directional radiobeacon; Radio range	
6		Rotating loop radiobeacon	
• 7		Radio direction finding station	
(Ma)		Telemetry antenna	
(Mb)		Radio relay mast	
(Mc)		Microwave tower	
9		Radio mast	
		Radio tower	
9a		Television mast; Television tower	
10		Radio broadcasting station (commercial)	
• 10a		QTG radio station	
11		Radar station	
12		Radar responder beacon	
13		Radar reflector	
14		Radar conspicuous object	
14a		Ramark	
15		Distance finding station (synchronized signals)	
16		Aeronautical radiobeacon	
17		Decca station	
18		Loran station (name)	






















M Radio and Radar Stations

19		CONSOL Bn 190 kHz MMF	Consol (Consolan) station	(Mf)		LORAN TR SPRING ISLAND	Loran tower (name)
(Md)		AERO R Rge 342	Aeronautical radio range	(Mg)		R TR F R Lt	Obstruction light
(Me)		Ra Ref Calibration Bn	Radar calibration beacon	(Mh)		RA DOME	Radar dome
						DOME (RADAR)	
						oRa Dome	
						oDome (Radar)	
				(Mi)		uhf	Ultrahigh frequency
				(Mj)		vhf	Very high frequency

N Fog Signals

1	Fog Sig 	Fog-signal station	13	HORN	Air (foghorn)
2		Radio fog-signal station	13a	HORN	Electric (foghorn)
3	GUN	Explosive fog signal	14	BELL	Fog bell
4		Submarine fog signal	15	WHIS	Fog whistle
5	SUB-BELL 	Submarine fog bell (action of waves)	16	HORN	Reed horn
6	SUB-BELL 	Submarine fog bell (mechanical)	17	GONG	Fog gong
7	SUB-OSC	Submarine oscillator	18		Submarine sound signal not connected to the shore
8	NAUTO	Nautophone	18a		Submarine sound signal connected to the shore
9	DIA	Diaphone	(Na)	HORN	Typhon
10	GUN	Fog gun	(Nb)	Fog Det Lt	Fog detector light
11	SIREN	Fog siren	(Nc)	Mo	Morse Code fog signal
12	HORN	Fog trumpet			

O Dangers

1		(21) (4 m)	Rock which does not cover (height above MHW)	6a		2L.Rk 2L.Obstr	Sunken danger with depth cleared (swept) by wire drag
2	*Uncov 2 ft		Rock which covers and uncovers with height above chart sounding datum (see introduction)	7		Reef	Reef of unknown extent
		(2) Uncov 2 ft		8		Sub vol	Submarine volcano
		(4) Dries 4 ft		9		Discol water	Discolored water
3	#		Rock awash at (near) level of chart sounding datum	10		Coral	Coral reef, detached (uncovers at sounding datum)
			Dotted line emphasizes danger to navigation			Co	
(Oa)	*		Rock awash (height unknown)			+ Co	Coral or Rocky reef, covered at sounding datum
			Dotted line emphasizes danger to navigation			3 ₁ +	
4	+		Submerged rock (depth unknown)			+ +	
			Dotted line emphasizes danger to navigation	11			Wreck showing any portion of hull or superstructure (above sounding datum)
5		5 Rk	Shoal sounding on isolated rock or rocks	12		Masts	Wreck with only masts (and other protruding objects) visible above sounding datum
		(8) Rks				Mast (10 ft) Funnel	
6	+	35 R.	Submerged rock not dangerous to surface navigation				
		(35) 35 R					

O Dangers

13 Old symbols for wrecks

13a Wreck always partially submerged

14 Sunken wreck dangerous to surface navigation (less than 11 fathoms over wreck)

14a Sunken wreck covered 20 to 30 meters

15 Wreck over which depth is known

15a Wreck with depth cleared by wire drag

15b Unsurveyed wreck over which the exact depth is unknown, but is considered to have a safe clearance to the depth shown

16 Sunken wreck, not dangerous to surface navigation

17 Foul ground, Foul bottom

17a Mobil bottom (sand waves)

18 Tide rips Overfalls or Tide rips

Symbol used only in small areas

19 Eddies Eddies

Symbol used only in small areas

20 Kelp, Seaweed

21 Bank

22 Shoal

23 Reef

23a Ridge

24 Ledge

25 Breakers

26 Submerged rock

27 Obstruction

(Ob) Submerged well

Submerged well (buoyed)

(Oc) Fish haven (artificial fishing reef)

(actual shape)

28 Wreck

29 Wreckage

29a Wreck remains (dangerous only for anchoring)

• 30 Submerged piling

Subm piling Stakes, Perches

• 30a Snags; Submerged stumps

31 Lesser depth possible

32 Dries

33 Covers

34 Uncovers

35 Reported (with date)

Reported (with name and date)

36 Discolored

37 Isolated danger

38 Limiting danger line

39 Limit of rocky area

41 Position approximate

42 Position doubtful

43 Existence doubtful

44 Position

45 Doubtful

46 Unexamined

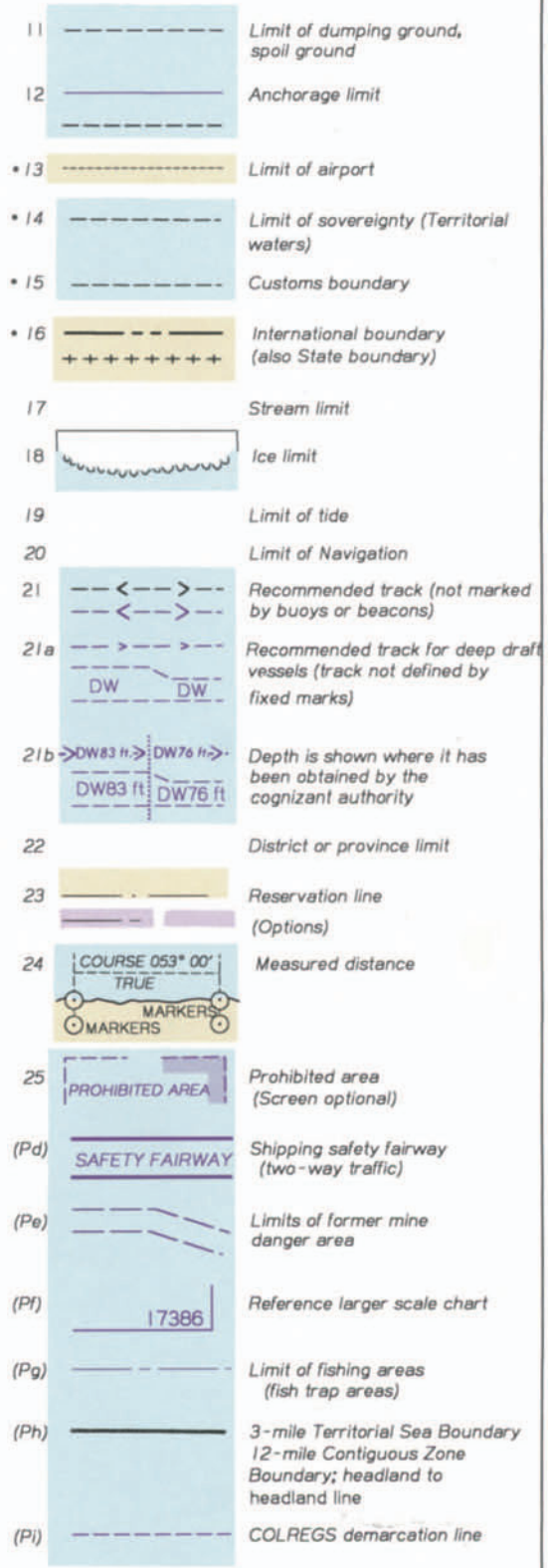
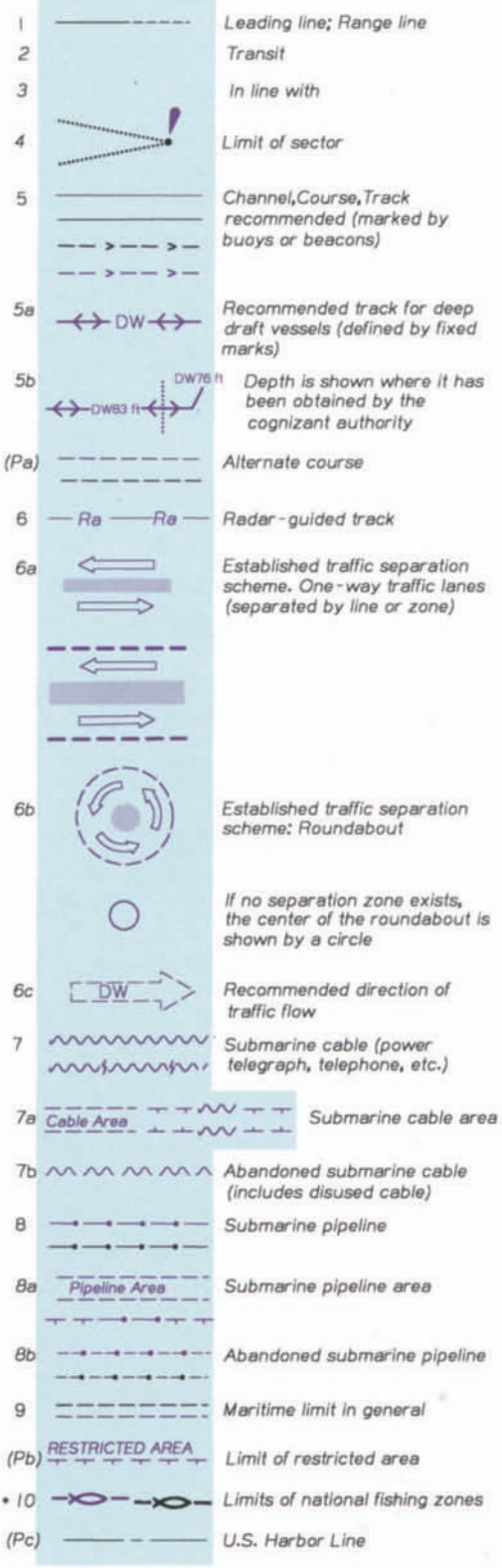
(Od) Least Depth

(Oe) Crib

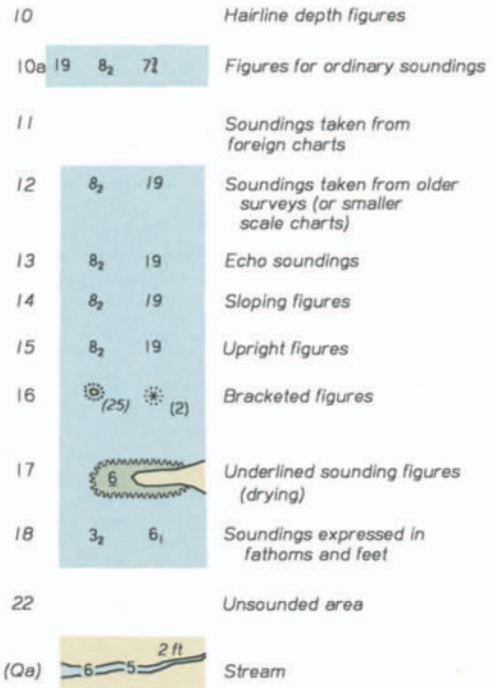
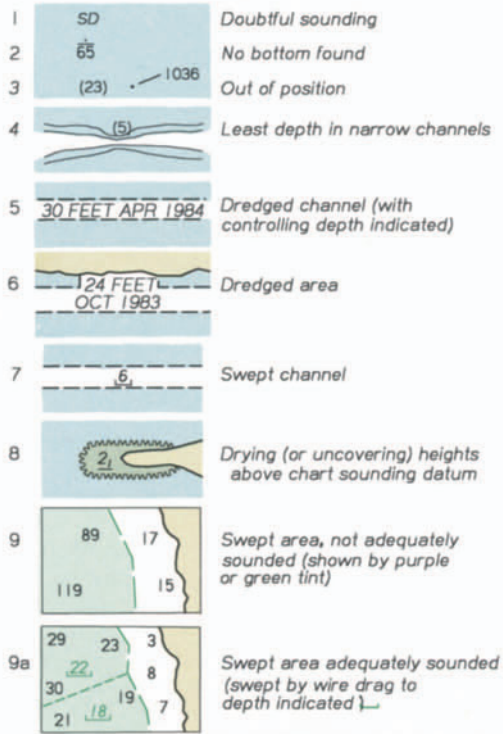
(Of) Offshore platform (unnamed)

(Og) Offshore platform (named)

P Various Limits, etc.



Q Soundings





R Depth Contours and Tints

Feet	Fm/Meters		Feet	Fm/Meters	
0	0		300	50	
6	1		600	100	
12	2		1,200	200	
18	3		1,800	300	
24	4		2,400	400	
30	5		3,000	500	
36	6		6,000	1,000	
60	10		Approximate depth contour		
120	20		Continuous lines, with values		
180	30				
240	40				

S Quality of the Bottom

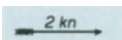
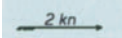
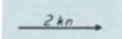
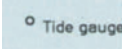
1	Grd	Ground	11	Rk; rky	Rock; Rocky	(Sb)	Vol Ash	Volcanic ash
2	S	Sand	11a	BlDs	Boulders	17	La	Lava
3	M	Mud; Muddy	12	Ck	Chalk	18	Pm	Pumice
4	Oz	Ooze	12a	Ca	Calcareous	19	T	Tufa
5	Ml	Marl	13	Qz	Quartz	20	Sc	Scoriae
6	Cy; Cl	Clay	13a	Sch	Schist	21	Cn	Cinders
7	G	Gravel	14	Co	Coral	21a		Ash
8	Sn	Shingle	(Sa)	Co Hd	Coral head	22	Mn	Manganese
9	P	Pebbles	15	Mds	Madrepores	23	Sh	Shells
10	St	Stones	16	Vol	Volcanic	24	Oys	Oysters

S Quality of the Bottom



25	<i>Ms</i>	Mussels	42	<i>h; hrd</i>	Hard	60	<i>gn</i>	Green
26	<i>Spg</i>	Sponge	43	<i>stf</i>	Stiff	61	<i>yl</i>	Yellow
27	<i>K</i>	Kelp	44	<i>sml</i>	Small	62	<i>or</i>	Orange
28	<i>Wd</i>	Seaweed	45	<i>lrg</i>	Large	63	<i>rd</i>	Red
	<i>Gr-s</i>	Grass	46	<i>sy; stk</i>	Sticky	64	<i>br</i>	Brown
29	<i>Stg</i>	Sea-tangle	47	<i>bk; brk</i>	Broken	65	<i>ch</i>	Chocolate
31	<i>Sp-i</i>	Spicules	47a	<i>grd</i>	Ground (Shells)	66	<i>gy</i>	Gray
32	<i>Fr</i>	Foraminifera	48	<i>rt</i>	Rotten	67	<i>lt</i>	Light
33	<i>Gl</i>	Globigerina	49	<i>str</i>	Streaky	68	<i>dk</i>	Dark
34	<i>Di</i>	Diatoms	50	<i>spk</i>	Speckled	70	<i>vard</i>	Varied
35	<i>Rd</i>	Radiolaria	51	<i>gty</i>	Gritty	71	<i>unev</i>	Uneven
36	<i>Pt</i>	Pteropods	52	<i>dec</i>	Decayed	(Sc)	<i>S/M</i>	Surface layer and Under layer
37	<i>Po</i>	Polyzoa	53	<i>fly</i>	Flinty	76		Freshwater springs in seabed
38	<i>Cir</i>	Cirripedia	54	<i>glac</i>	Glacial	(Sd)		Mobile bottom (sand waves)
38a	<i>Fu</i>	Fucus	55	<i>ten</i>	Tenacious	(Se)	<i>Si</i>	Silt
38b	<i>Ma</i>	Mattes	56	<i>wh</i>	White	(Sf)	<i>Cb</i>	Cobbles
39	<i>f; fne</i>	Fine	57	<i>bl; bk</i>	Black	(Sg)	<i>m</i>	Medium (used only before S (sand))
40	<i>c; crs</i>	Coarse	58	<i>vi</i>	Violet			
41	<i>so; sft</i>	Soft	59	<i>bu</i>	Blue			



Foreign Bottoms See glossary

T Tides and Currents

1	<i>HW</i>	High water	10	<i>ISLW</i>	Indian spring low water
1a	<i>HHW</i>	Higher high water	11	<i>HWF&C</i>	High-water full and change (vulgar establishment of the port)
2	<i>LW</i>	Low water	12	<i>LWF&C</i>	Low-water full and change
(Ta)	<i>LWD</i>	Low-water datum	13		Mean establishment of the port
2a	<i>LLW</i>	Lower low water	13a		Establishment of the port
3	<i>MTL</i>	Mean tide level	14		Unit of height
4	<i>MSL</i>	Mean sea level	15		Equinoctial
4a		Elevation of mean sea level above chart (sounding) datum	16		Quarter; Quadrature
5		Chart datum (datum for sounding reduction)	17	<i>Str</i>	Stream
6	<i>Sp</i>	Spring tide	18		Current, general, with rate
7	<i>Np</i>	Neap tide	19		Flood stream (current) with rate
7a	<i>MHW</i>	Mean high water	20		Ebb stream (current) with rate
8	<i>MHWS</i>	Mean high-water springs	21		Tide gauge; Tidepole; Automatic tide gauge
8a	<i>MHWN</i>	Mean high-water neaps	23	<i>vel</i>	Velocity; Rate
8b	<i>MHHW</i>	Mean higher high water	24	<i>kn</i>	Knots
8c	<i>MLW</i>	Mean low water	25	<i>ht</i>	Height
9	<i>MLWS</i>	Mean low-water springs	26		Tide
9a	<i>MLWN</i>	Mean low-water neaps			
9b	<i>MLLW</i>	Mean lower low water			


T Tides and Currents

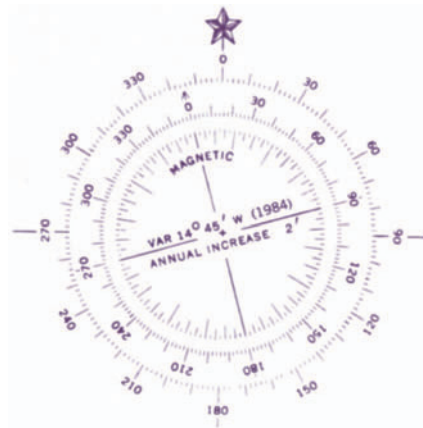
27		New moon
28		Full moon
29		Ordinary
30		Syzygy
31	fl	Flood
32		Ebb
33		Tidal stream diagram

34		Place for which tabulated tidal stream data are given
35		Range (of tide)
36		Phase lag
(Tb)		Current diagram, with explanatory note
(Tc)	CRD	Columbia River Datum
(Td)	GCLWD	Gulf Coast Low Water Datum

U Compass

1	N	North
2	E	East
3	S	South
4	W	West
5	NE	Northeast
6	SE	Southeast
7	SW	Southwest
8	NW	Northwest
9	N	Northern
10	E	Eastern
11	S	Southern
12	W	Western
21	brg; My	Bearing
22	T	True
23	mag	Magnetic
24	var	Variation
25		Annual change
25a		Annual change nil

26		Abnormal variation; Magnetic attraction
27	deg	Degrees
28	dev	Deviation
29		Compass roses



The outer circle is in degrees with zero at true north. The inner circles are in points and degrees with the arrow indicating magnetic north.

V Abbreviations of principal foreign terms, (Glossary)

ALBANIAN CHARTING TERMS

K, koder, kodra hill

ARABIC CHARTING TERMS

Dj, djebel mountain, hill
 G, geb, gebel mountain, hill
 J, jab, jabal, jabel mountain, hill
 Jazirat, jazt island, peninsula
 Jeb, jebel mountain, hill
 Jez, jezirat island, peninsula
 Jl mountain, hill
 K, khawr inlet, channel
 Si, sidi tomb
 W, wad, wadi, wed valley, river, river bed

CHINESE CHARTING TERMS

Chg, Chiang river, shoal, harbor, inlet, channel, sound

DANISH CHARTING TERMS

B bay, bight
 Banke, bk bank
 Bugt bay, bight
 Fj, fjord inlet
 Grd, grund shoal
 Havn, havnen harbor
 Hd headland
 Hm islet
 Hn harbor
 Hne islets
 Holm, holmene islet, islets
 Hoved headland
 K, kap cape
 N, nord, nordre north, northern
 One, oyane, oyene islands
 Pt, pynt point
 Skaer, skjaer, skr rock above water
 Sd, sund, sundet sound

DUTCH (NETHERLANDS) CHARTING TERMS

As ash
 B, baai bay
 Bas woods in general
 BaZ notice to mariners
 Berg, bg mountain
 Bk bank, broken
 Br brown, latitude
 Bu blue
 CG coast guard station
 Cy clay
 D dark
 Dia diaphone
 Dm decimeter
 Eb ebb
 F fine
 Fla chimney with flare
 G gravel, shingle, green, gulf
 Gb checkered, ground
 GEB range
 Gr great, large
 Gs gray
 H cape, hook, head, headland, hour
 Hk reformed church
 Horizontale lichten horizontal lights
 HW high water

K creek, cape
 Kenb, kenbaar conspicuous, remarkable
 Kl, klein little, small
 Kn knot
 Krt see chart
 Kt chalk

L light, longitude
 LAT lowest astronomical tide
 LW low water
 LWS low water springs

M meter, mud, muddy, nautical mile
 Min minute
 Ml marl
 Mond, monding mouth
 Mosselen, Ms mussels

N north
 No number
 Nw, nwe new

O oysters
 OMS submarine fog signal

Pas passage, pass
 Pt point

R red, river, stream
 Rf, rif reef
 Ru ruins

S sand, south
 Sh shells
 Sk ooze
 Sp speckled
 SS signal station
 St saint
 Stn station

Tr tower

V volcanic
 Vm fathom
 Vs flagstaff, flagpole
 Vss established traffic separation scheme
 Vt foot, feet

W white

Y yellow, amber

ZW, zwart black

FINNISH CHARTING TERMS

K rock, reef
 Kallio rock
 Kari rock, reef
 Kivi rock
 Luodet, luoto, lu rock(s)
 Ma, matala shoal
 Sa, saaret, saari island(s)
 Tornit, tr tower

FRENCH CHARTING TERMS

A, Ae inlet, aeronautical
 Ant front light
 App, appr approach
 Arch, archipel archipelago
 Arg clay
 +Astro astronomic station
 Aux auxiliary light

V Abbreviations of principal foreign terms, (Glossary)

B	boulders, bay, shoal, white, blue	Fel	isophase light
Baie	bay	Feu	light
Bal tel	telegraph-cable (landing beacon)	Ff	fixed (steady light)
Bc	bank	Fin	fine
B de sauv	lifeboat station	Fjd	fjord
Bk, bks	bank, banks	Fl	large river, single-flashing (total duration of light less than dark)
Bl	blue	Fla	oil derrick
Blanc	white	Fo	occluding light
Blds	boulders	Fque	factory
Ble	battery	Fr	suburb
Blk	black	FS	flag tower
B M	low water	Ft	fort
BM	bench mark	FV	revolving, rotating light
Bn	basin		
Bo, boue	ooze, boulder	G	coarse, gulf, large, great
Br	broken, stream	Ga, gal	shingle, gravel
Brk	broken	Gaz	gas tank
		Gd	ground
C	cape, cove, inlet	Gde	large, great
Ca	calcareous	Gg	fog gong
Cal	calcareous, channel, narrows	Gl	glacier
Cap	cape	Glu	sticky
Carre, carriere	mine	Gp	group
Cath	cathedral	Gr	gravel, gray
C de G	coast guard station	Grd	ground
Ch, Chal, chan	channel, narrows, chimney, stack		
Chap	chapel	H	hard
Chat, chau	castle	Hal hop	hospital
Chau d'eau	water tower, standpipe	Hd	head, headland
Chee	chimney stack	H de V	town hall
Chen	channel	Hn	haven
Chk, chl	channel, narrows	Hr	height, harbor
Chlle	chapel	Hrd	hard
Chno	range	Ht fd	shoal
Cl	bell buoy, fog bell	Huit	oysters
Cler	steeple		
Co, cor	coral	I, is, lle, ilot, it, its	island, islands, islet
Coll, colline	hill	Ineg	uneven
Coq	shells	Inf	lower, lower light
Cq	shells	Int	inlet, intensified, inner
Cr	creek	Intd, interdit	prohibited
CrI	coral		
		J	yellow
D	dark, hard	Jct	junction
Dec	uncovers		
Det, detr	strait, destroyed	L, lac	lake, loch, lough
Detroit	strait	Lag	lagoon
Detruit	destroyed	Lav	lava
Dist	district	Ldg	landing
Dk	dark	Le, ies	ledge, ledges
Dn	dolphin	Lndg	landing
Dne	customhouse	Lum	luminous
Duc d'Albe	dolphin		
Dur	hard	M	marl, mud, soft
		Mad	madrepores
E, eclat	flash	Mat	varied
Egl	church	ME	neap tide
El	electric	Mge	anchorage
Emb, embre	mouth	Mgne	mountain
Ent	entrance, inlet	Mid	middle
Entp	magazine	Mig	anchorage
Entree	entrance, inlet	Mn	minute, mill
Env	about	Mnt	monument
Ep	wreck	Mou	soft
Est	east, estuary	Mouil, mouillage	anchorage
Ev	every, eventual	Moul	mussels
Ext	outer	Moy	middle
		Mt, mts	mount, mountain
F	ooze, light, unwatched light, fine	Mus	mussels
F Aero	aeronautical light	MWL	low water datum
F b œ	fixed and group flashing light		
F b e	fixed and flashing light	N	knots, black, north
F det br	fog detector light	NL	new moon
Fd	fjord, ground		
Fe	single flashing light		

V Abbreviations of principal foreign terms, (Glossary)

Nrs	narrows
Nv	new
O	annual change nil, occultation
Obs	obstruction
Obsc, obscd	obscured light
Occas	unwatched light, occasional light
Org	orange
P	port
Pas	passage
Pav	pavilion
Peb	pebbles
Pen	peninsula
Pi	stones
Pic	peak
Pierres	stones
Pit, pite	small, little
Pk	peak
Pl	full moon
Pla	tableland, sunken flat
Pm	high water
Pn	peak
Post	rear light
Pr I	peninsula
Prom	promontory
Pt, pte	landing, point
PTT	post office
Pyr	pyramid
Q	quay
R	river, rock, submerged rock, radio tele- graph station, road, roadstead, red
Ra	radar responder beacon
RaRa	radar station
Rau	stream
Rav	ravine
RC	circular radiobeacon
RC Aero	aeronautical radiobeacon
Rd	road, roadstead, directional radiobea- con, radio range
Re	rock, submerged rock
Regl	standard
Relt	bearing
Rem	remarkable
Rer	rock, usually above water
Resr	oil tank
Rf, rfs	reef, reefs
RG	radio direction finding station
Rge	range of mountains
Rgl	standard
Riv	river
Rk, rks	rock, rocks
R Lta	riprap surrounding light
Ro Bn	radiobeacon
Ro Tel	radio telephone station
Ro Tr	radio tower
Rsv	oil tank
RT	radio telephone station
RW	rotating loop radiobeacon
S	sand, sector, south
Sol br	fog-signal station
Sante, ste	health officer's office
Sbrv	color of sector, white, red, green
Sect	sector
Sf	stiff
SG	sand and gravel
Sft	soft
Sh	shoal
Shin	shingle
Shl	shoal
Sif	fog whistle
Sif Gg	whistle buoy

Sir	siren
Sm	submarine, statute mile
Sm, sml	small
So, sft	soft
Som	summit
Sous-marin	submarine
Sp, spr	spring tide
St, ste	Saint
Stf	stiff
Stn	station
Str	strait
Stk	sticky
Sup	higher
Sy	sticky
Syz	syzygy
T	tufa
Tel	telegraph
Temp, tempre	temporary
The, tour, tr	tower
Tr	tufa
U	minutes
Us	factory
V	green, vertical lights
Var	varied
VC	see chart
VE	spring tide
Vig	lookout station, watchtower
Vio	violet
Vis	visible (range), conspicuous
Vol sm	submarine volcano
VPI	see plan
Vue	view point
Vx	old
W, wh	white
WT	watertower, standpipe
Y	nautical mile

Gaelic Charting Terms

Bo, bogha	sunken rock
E, eilean, eileanen, en	island(s), islet(s)
Ru, rubha	point
Sg, sgeir, sgr	rock

German Charting Terms

A, amt, ansalt	office, establishment
Ankpl	anchorage
Anl	jetty
Anst	approach
Auff	conspicuous
Aust	oysters
B	bay
Batt	battery
Beabs	projected
Ber	correction
Bk	beacon in general, fixed beacon
Bl, blau	blue
Blink, blitz	long flash, short flash
Blk, blz	long flash, short flash
Blk (1 & 2)	composite group long flashing light
Blk (2)	group long flashing light
Biz	short flashing light
Biz-Blk	short-long flashing light
Blz (1 & 2)	composite group short flashing light
Blz (3)	group short flashing light
Bn	well
Bnt	varicolored
Br	brown, chocolate, latitude
Bucht	bay

V Abbreviations of principal foreign terms, (Glossary)

Dev-Dlb	deviation dolphin	Kst-W	coast guard station
Dev-Tn	compass adjustment buoy	Ku	cupola
Di	diatoms	Laz	lazaret
Dkl	dark	Lcht-TM	light
Drchf	passage, pass	Ldg-Pl	landing, landing place
Ehem	ancient	Lg	longitude
Einf	inlet	Lv	lava
Eis-s	ice signal station	M	oysterbed
Enge	narrows	Mdg	mouth
E-werk	electric works	Meeresarm	loch, lough
Expl, explosiv	explosive	Mgl	marl
F	fine, fixed light	Mk	marker
Fbr	factory	MI-Bk	mile beacon
Fd	fjord	MNpHW	mean high water neaps
Fhrwss	channel	MNpNW	mean low water neaps
Fi, fi-hfn	fishing light, fishing harbor	Mo(K)	morse code light, according to character
Fj	fjord	MSpHW	mean high water springs
Fkl	quick flashing light	MSpNW	mean low water springs
Fkl unt	interrupted quick flashing light	Mt	middle
Fl	river	Mt-F	middle light
Flgtn	flag tower	Mun-Vers Gbt	explosives dumping ground
Fis, fls,	rock, rocky	MW	mean tide level
FluB	river	N	north
Fr	foraminifera	NF	radio list
G	yellow, gulf	NIS	notices to mariners
Gas-T	gas tank, gasometer	N-L	fog light
Gb	coarse	N-lich, norlich	northern
GB	large, great	NO	northeast
Gbg	range	Not-S	distress signal station
Gbk	shingle	Nr	number
Gd	ground	N-S	fog signal station
Gef-S	danger signal station	N-Such-F	fog detector light
Gel	extinguished	NW	low water
Gelb	yellow	O	east
Gem	reported	Ober feuer, ob-f	rear light, upper light
Ger	lesser	Obs	observatory
Gez-F, gezeitenfeuer	tidal light	Od, oder	or
Ggf	eventual	Ol-T, oltank	oltank
Gl	globingerina	Or	orange
Glt	isophase light	P-A	post office
Gl-Tn	bell buoy	Pf, pfahle	pile
Gn	green	Priv	private
Gr	gray	Pt	pteropods
Grs	see-weed, grass, mattes	Pyr	pyramid
H	light	Qm-F	cross light
Hfn	haven, harbor, port	Qrt-Tn	quarantine buoy
Hg	hill	QTG kustenfunkstelle r	QTG-radio station
H-I	peninsula	Qu	quartz
Hk	point	R	QTG-radio station, reef, red
HI-Tn	whistle buoy	Ra	radar, radar scanner, radar station
Hs	house	Ra-Ku	radar cupola, radar dome
Ht	hard, hut	Ra-Mst	radar mast
HW	high water	Ra-Tm	radar tower
I	institute	RC	circular radiobeacon
K	gravel	RC (Aero)	aeronautical radiobeacon
Ka	calcareous	Rcht-Bk	leading beacon
Kal	quoy	Rcht-F	leading light
Kas	barracks	RD	directional radiobeacon, radio range
Kb-Bk	telegraph cable beacon	Rf	reef
Kb-Tn	telegraph cable buoy	RG	radio direction finding station
Kblg	cable length	Rgd	sand reef
Kl	little	R-S	lifeboat station, lifesaving station
Klippe, klp	rock, sunken rock	Ru	ruins
Kl St	pebbles	RW	consol station, rotating loop radiobeacon
Kn	knot	S	black, station, south
Kor, koralle	coral	Sc	scoriae
Kr	chalk		
Krths	hospital		

V Abbreviations of principal foreign terms, (Glossary)

Sch	shells
Sch-H	obstruction, depth unknown
Sch-H	sunken danger with depth, cleared by wire drag (in German waters by diver)
Schl	ooze, castle
Schp	shed
Schutt-S	spoil ground
Schw	sponge, faint
Sd	sand, sound
Sdkor	sabellaria
SFKl	very quick flashing light
Sgn	signal
Sgn-S	international signal station
Shb	soiling directions
Siel	sewer
Sk	mud, muddy
Skr	vertical
S-lich	southern
Sm	nautical mile
SMt	seamount
SO	southeast
Sp	summit, peak
St	flinty, stones
Stg	fucus, kelp
Str	strait
Strm-S	storm signal station
T	clay, and
Tafel	board
Tg-F	daytime light
Tlws	partly
Tm-Bk	tower beacon
Tst	tufa
Ton	clay
T-S	telegraph office
U	and
Ua	etc, other
Ubr	occulting light
Ubr(2)	group occulting light
Ubr(2&3)	composite group occulting light
U-F	front light, lower light
Und	and
Ungf	approximate
Unr gd	foul ground
Unr (mun)	foul (explosives)
Unr unrein	foul, wreck, remains dangerous only for anchoring
Unrein (munition)	foul (explosives)
Unterfeuer	front light, lower light
Untf	shoal
Usw	and so on
U-Wss-Gl	submarine fog bell (action of waves)
U-Wss-Gl	submarine fog bell (mechanical)
V	volcanic
Va	cinders
Vdkit	obscured
Verb	prohibited
Viol	violet
Vrd	concealed
Vrsdt	shoaled
Vrst	intensified
Vsw	experimented
W	lookout station, watch tower, white
Wache, wachtturm	lookout station, watch tower
Warn-F, warnfeuer	obstruction light
Wch	soft
Wchs Blk wr	long flashing light alternating, white-red
Wchs Blz wr	short flashing light alternating, white-red
Wchs Ubrwr	occulting light alternating white-red
Wchs(2)wgn	group alternating light, white-green

Wchs wr	alternating light, white-red
Weib-rot	group alternating light, white-red
Wgr	horizontal
Wk	wreck
W-S	weather signal station
WSS-S	tide signal station
WSS-T	water tank
W-Tm	lookout station
Z, zah	tenacious, sticky
Zbr	broken
Zgl	brick kiln
Zolla-A, zoll-w	custom-house
Zrst	destroyed
Z-S	refuge for shipwrecked mariners
Zt-S	time signal station
Ztwl	temporary, temporary buoy
Ztws	occasional

GREEK CHARTING TERMS

Ak, akra, akrotirion	cape
Ali, angali	bight, open bay
Ang, angirovolion	anchorage
If, ifaloi, ifalos	reef(s)
Kolpos, ks	gulf
Limin, ln	harbor
N	island
Nes	islet
Nis, nisidhes, nisis	islet(s)
Nisoi, nisos	island(s)
Noi	island
O, ormos	bay
Pot, potamos	river
Sk, skopeloi, skopelos	reef(s)
Ves	rocky islets
Vis	rocky islet
Voi, vos	rock(s)
Vrakhoi	rock(s)
Vrakhonisides	rocky islets
Vrakhonisis	rocky islet
Vrakhos	rock(s)

ICELANDIC CHARTING TERMS

Fjordhur, fjr	fjord
Gr, grunn	shoal

INDONESIAN CHARTING TERMS

Abu	cinders
Abu-abu	gray
Adjaib	remarkable
Arus	stream
Atap seng	zinc roof
Aum kabut	fog whistle
Badai	storm
Bagus	fire
Bahan peledak	explosive
Bajangan	shading
Bakobako	mangroves
Balai kota	town hall
Bandar	harbor, port
Bangunan	building
Barak	barracks
Baru	new
Barat	west
Barat daja	southwest
Barat laut	northwest
Baringan	bearing
Batre	battery
Batu	stones
Batu besar	boulder
Batu bulat-bulat	boulders
Batu karang	rock, rocky
Belukar	bushes
Berbatu-api	flinty

V Abbreviations of principal foreign terms, (Glossary)

Berduri	spicules	Kudus	saint
Berpasir	gritty	Kuning	yellow
Besar	great	Kwarsa	quartz
Besar (luas)	large	Laguna	lagoon
Biara	monastery, convent	Lahar	lava, lava flow
Biasa	ordinary	Lembah	valley
Biru	blue	Liat	tenacious, sticky
Budjur	longitude	Limban	footbridge
Bukit	hill	Lintang	latitude
Bukit pasir	sandhills, dunes	Listrik	electric
Busuk	rotten	Luar	outer
Dalam	inner	Luas	large
Dalam air	submarine	Lumpur	mud, muddy
Danau	lake	Lumut	mussels
Daratan	land	Madrepora	madrepores
Dengan	with	Mata air	spring
Depa	fathom	Membusuk	decayed
Deradjat	degrees	Menit	minute
Derwerga	wharf, quay	Merah	red
Desimeter	decimeter	Mesjid	mosque
Detik	second	Milimeter	millimeter
Deviasi	deviation	Mil laut	nautical mile
Diatoms	diatoma	Milautdjam	knots
Dibawah air	submerged	Muara	mouth
Dihentikan	discontinued	Muda	light
Dikenal	conspicuous	Nomor	number
Dirusak	destroyed	P	white
Diterangi	see plan	Pagar	fence
Djalan masuk	entrance	Palem	tide gauge, tide pole
Djam	hour	Pasang	flood
Djarak	distant	Pasir	sand
Djingga	orange	Patah	broken
Dok	dock	Paviliun	pavilion
Galangan	shipyard	Peg, pegunungan	range, mountain range
Gamping	chalk	Pelabuhan	road, roadstead
Gelangkepil	mooring ring	Pembetulan	correction
Gelap	eclipse	Penataran	establishment
Geredja	church, chapel	Pendaratan	landing place, leading stage, stairs
Gerundjal	uneven	Penerbitan	publication
Glester	glacier	Pengeluaran	edition
Gubug	shed, hut	Penggaraman	salt pans
Gudang	magazine	Penggergadjian	saw mill
Gunung	mountain	Penting	prominent
H	black	Periode	period
Halus	soft	Perseroan	company
Hidjau	green	Pertambangan	mine, quarry
Hitam	black	Pertjabaan	experimental
Institut	institute	Peternakan	farm
Intji	inch	Pteropods	pteropoda
Kaki	foot	Pulau	island
Kaku	stiff	Puntjak	summit, peak
Kampung	village	Puri	castle
Kasar	coarse	Putih	white
Katedral	cathedral	Rabuk	marl
Kelompok	group	Rawo	marsh, swamp, slough
Kepulauan	archipelago	Rintangan	obstruction
Kapur	chalk	Ruangan	pillar
Keran	crane	Rumah	house
Kerang	shells, oysters	Rumput	grass
Kerangka	a number of sunken ships	Sawah	paddy fields
Keras	hard	Scoria	scoriae
Kerikil	gravel, shingle, pebbles	Sedjati	true
Ketjepatan	velocity, rate	Sekolah	school
Ketjil	little	Sektor	sector
Ketjil (sempit)	large	Selat	strait
Kira-kira	approximate, about	Selatan	south
Koral	coral	Semenanjung	peninsula
Kota	city or town	Sentimeter	centimeter
Kpn	archipelago	Seperempat	quarter, quadrature
Kr, krueng	river		

V Abbreviations of principal foreign terms, (Glossary)

Stadion	stadium
Suar atas	upper light
Suar bawah	lower light
Suar belakang	rear light
Suar darurat	auxiliary light
Suar depan	front light
Sumur	well
Sungai	river, stream
Surut	ebb
Taman	park, garden
Tanjung	cape
Tanggul	embankment, levee
Tangki	tank
Telegrap	telegraph
Telepon	telephone
Teluk	bay, gulf, creek, cove
Tembok	wall
Tempat	ground
Tengah	middle
Tenggara	southeast
Terbatas	pyramid
Tertutupes	glacial
Terusan	tunnel (railroad or road), cutting
Tiang	wreck masts visible
Tiangkepil	dolphin
Tiap-tiap	every
Timur	east
Tinggi	height, altitude
Tjandi	temple
Tjerlang	flash
Tjiatan	narrows
Tjoklat	brown, chocolate
Topan	typhoon
TPSB	great trigonometrical survey station
Triangulasi	triangulation
Tua	old
Tua, gelap	dark

Udjung	cape
Ug	cape
Unga	violet
Utara	north

Variasi variation

W, wai river

ITALIAN CHARTING TERMS

A	kelp
A band	flagstaff, flagpole
Aco	ancient
Aff	dries
Alb	hotel
All to, allineamento e rotta	leading line, range line
AM	high water
AN	notice to mariners
Anc, anco	anchorage
Ant	front
Appr	approximate
AR	antenna radio
Ar	orange
Arcgo	archipelago
A seg	signal mast
Astr	astronomical
Aum ann	increasing annually
Aus	auxiliary
A var nulla	annual change nil
Azz, azzurro	blue
B	bay
Ba, baia	bay
Banco	bank
Battigia	foreshore: strand (in general)
Bco	bank

Bianco	white
BM	low water
Bna	quay
Boc	mouth
Bq	quarantine buoy
Br	dolphin
Briccole	dolphin
Bt	mooring buoy with telephonic communications
Btg	mooring buoy with telegraphic communications
BVB	compass adjustment buoy

C	cape
Cal	wharf
Calo	cove
Cam Neb	fog bell
Cam Stm	submarine fog bell
Can	channel
Cann Neb	fog gun
Capo	cape
Cas	castle
Cl	cove
Cle	hill
Cma	summit
Cna	range
Co	cape
Coclo, cocuzzolo	boulder
Colle	hill
Comlo	gable
Convto abb	monastery, convent
Cop	covers
Corne da nebbia	fog horn
Cosp, cospicuo	conspicuous
Cn	shells
Cr	coral
Czo	mountain, mount

Decl	variation
Depo	warehouse, storehouse
Dim ann	decreasing annually
Dir	directional
Dr	dredged

Eccl	occultation
EF	list of lights
Eletr	electric
Eso	estuary
Est	east
Eta	entrance

F	mud, muddy, river
Fca	factory
Fce	brick kiln
Fdo	fjord
F(Ff)	fixed light
Fi Neb	fog whistle
F Lam	fixed and flashing light
F Lam	fixed and group flashing light
Flo	chimney, stack
Fna	fountain

G	yellow
Gde	great
Grp	group
Gta	jetty

H altitude

I	island, islands, islet, islets
IMAM	mean establishment of the port
Inf	lower, lower light
Int	intermittent light, occulting light
Irreg	irregular

V Abbreviations of principal foreign terms, (Glossary)

ISAM	high water full and change (vulgar establishment of the port)	RC	circular radiobeacon
Iso	isophase	RC AERO	aeronautical radiobeacon
Ist, istitut	institute	RD	directional radiobeacon, radio range
Ito	islet	Rdf	radio broadcasting station
		Rel	wreck showing any portion of hull or superstructure
Lam	flash	RG	radio direction finding station
Lam	group flashing light	Rifl	reflector
Lam L	long flashing light	Ril	bearing
LM	mean sea level	Rist	reprint
LRS	chart datum (datum for sounding reduction)	RT	radio telephone station
Lum	lighted, luminous	R Telem	distance finding station (synchronized signals)
		RW	rotating loop radiobeacon
M	madrepores, magnetic, mountain, mount	S	sand, saint, south
Mag	magazine	Sc	quick flashing light, ridge of rocks
Mar	maritime	Scal	shoal
MAMQ	mean high water neaps	Scaf	wreck
MAMS	mean high water springs	Sci, sco	rock(s), reef(s)
MBMQ	mean low water neaps	Scogliera	ridge, ridge of rocks
MBMS	mean low water springs	Scogli, scoglio	rock(s), reef(s)
Mgna	mountain, mount	Scop Em	uncovers
Mlo, molo	mole, pier	Scra	ridge
Mun	town-hall	Se, secca	shoal(s)
		Seg	signal
Nauto	nautophone	Seg Neb	fog signal station
NE	new edition	Segnale	signal
Nord	north	Sem, semaforo	semaphore
Nord Est	northeast	Serb, serbatolo bafta	oil tank
Nord Ouest	northwest	Serra	range of mountains
NP	new chart	Set, settore	sector
Nvo	new	SMT	seamount
		Somm	submerged
Occas	occasional light	Sopp, soppresso	discontinued
Off	factory	Sra	range of mountains
Orriz	horizontal light	Stab	establishment
Osc	obscured light	Ste	station
Osp	hospital	Ste Pt	pilot station
Oss	observatory	Ste Salo	lifeboat station
Ost	obstruction	Ste Seg	signal station
Ouest	west	Stm	submarine
		Sto, stretto	strait
P	square	Sud	south
Pali	piles, stakes, stumps, perches	Sud Est	southeast
Pass	pass, passage	Sud Ouest	southwest
Pco	peak	Sup	higher, upper
Per	period		
PG	coast guard station	T	intermittent stream, torrent
Pgio	mound, small hill	Tam	temporary light
Pietre	stones	Tav	table-land
Pil	pillar	Tel	telegraph
PI	piles, stakes, stumps, perches	Telno	telephone
Pla	peninsula	Torre	tower
Ple	grain	Tre	tower
Plo	little, small	Tre Ved	lookout station, watchtower
Po	hill	Tro Neb	fog trumpet
Port, portolano	sailing directions	TV	television mast or tower
Post	rear		
PPTT	telegraph office	Uff	office
Pref	government house		
Prio	promontory	V	green, true, street
Prog	projected	Va	villa
Prov	provisional light	Vedi piano	see plan
P sb	landing	Verde	green
Pta	point, summit	Vert	vertical
Pte	bridge	Vietato	prohibited
Pto	haven	Viol	violet
Pubbl	publication	Vie	valley
Pzo	peak	Vno	volcano
		Vo	old
R	radio telegraph station, rock, rocky, red	VP	see plan
Ra	road, roadstead, radar station	Vto	prohibited
Ra (cosp)	radar conspicuous	Vto Anco	anchorage prohibited
Ra Rifl	radar reflector		

V Abbreviations of principal foreign terms, (Glossary)

Zo elevation of mean sea level
above chart datum

JAPANESE CHARTING TERMS

B bay
Byati anchorage
Cab cable length
Dake, de mountain, hill
Destd destroyed
Ga, gawa river
GTS great trigonometrical survey station
H height
Ha, hana cape, point
Hakuchi roadstead
Hi roadstead
Hn haven
Hr harbor
Irie loch, lough
Irikuti entrance
Ja, jima island
Ka river
Kaikyo, ko strait
Kaiwan gulf
Kako estuary
Kawa river
Ko loch, lough, strait
Koro passage
Kuti mouth
Kyoko fjord
LL list of lights
Ma village
Machi, mi town
Mi, misaki, mki cape
Mura village
Sa island
Saki cape, point
San mountain
Sankakusu delta
Sdo sound, pass, channel
Seto narrows, strait
Shima island
Si cape, point
Sn mountain
So narrows, strait
Suido sound, pass, channel
Take, te hill, mountain
Wan bay
Ya, yama mountain
Zaki cape, point
Zan mountain
Zi cape, point
Zn mountain

MALAY CHARTING TERMS

A, ayer stream
Bandar seaport
Batang river
Batu rock
Bdr, bendar seaport
Bt hill
Btg river
Bu rock
Bukit hill
Gg shoal, reef, islet
Gg mountain
Gosong, gosung shoal, reef, islet
Gunong mountain
Gusong shoal, reef, islet
Kali river
Kampung, kampung village
Karang coral reef, reef
Kg village
Kg coral reef, reef
Ki river
Kla, Kuala river mouth

Lab, labn, labuan, labuhan anchorage, harbor
Ma, muara river mouth
Parit stream, canal, ditch
Pelabuhan, pln roadstead, anchorage
PP group of islands
Prt stream, canal, ditch
Pu, pulau island
Pulau-pulau group of islands
Pulo, pulu island
Selat strait
SH strait
Si river
Sungai, sungei river
Tandjong, tandjung, tanjong cape
Telok, teluk bay
Tg cape
Tk bay

NORWEGIAN CHARTING TERMS

Aero aeronautical
Ankerplass anchoring berth, anchorage
Aust east
Austre eastern
Bae rock (submerged rock)
Bake tower beacon
Bakre fyr rear light
Banke bank
Bekk river, stream
Berg mountain, mount, hill
Bg mountain, hill
Bifyr auxiliary light
Bla blue
Bl, blink flash
Blokk boulder
Blot soft
Br brown
Br, bredde latitude
Bukt bay, bight
By city, town
Dia, diafon diaphone
Dm decimeter
Dnl sailing directions
Duc d'albe dolphin
Efs notice to mariners
Elv river, stream
F fine, rock, rocky, fixed
Famm fathom
Farbar navigable
Fast stiff, fixed
Favn fathom
Fd, fdn fjord
Fin fine
Flak rock (submerged rock), bank
Flo flood
Flu sunken rock
Fm occulting
Fm bl fixed and flashing
Fm n fm gpoc group occulting light
Fm oc occultation
Fremre front light
Fv fathom
Fyr light
Fyrskip light vessel, light ship
G green, coarse
Gl yellow
Gml old
Gn green
Godt synlig conspicuous
Gong fog gong
Gp group

V Abbreviations of principal foreign terms, (Glossary)

Gp hbl, gp hurtigbl	interrupted quick flashing light	P	post office
Gp lynbl	group short flashing light	Pilar	pile, pillar
Gr	gravel	Pir	pier
Gr, gra	gray	Pos	position
Grad	degree, degrees	Pr	private
Gran	green	Puller	bollard
Grov	coarse	Pynt	point, head, headland
Grunne	ground, rock (submerged rock), shoal	R	mooring ring
Grus	gravel	Rad mast	radio mast, radio tower
Gs	sea-weed, grass	Rad st	radio broadcasting station
Gul	yellow	RC	circular radio beacon
H	white	RD	direction radiobeacon, radio range
Hamn	harbor	Red	road, roadstead
Havn, havneby	harbor, port	Rev	reef, ridge
Hbl	quick flashing light	RG	radio directing finding station
Hd	altitude, height	Rad	red
Hefte	obstruction	RS	lifesaving station
Hn	harbor	R st	radio telegraph station
Holme	islet	RT st	radio telephone station
Hv, hvert	every	RW	rotating loop radio beacon
Hvit	white	S	second (of time), southern, south, black
HW	high water	Sec, sek	second (of time)
In	inner	Sekt, sektor	sector
K	cape	Sem, semafor	semaphore
Kai	quay, wharf	Sg	shingle, pebbles
Kbl	cable	Sk	chimney, stack
Kil	cove	Skall	rock (submerged rock)
Klakk	rock (submerged rock)	Skalle	shoal
Kn	knots	Skjær, skjart	shoal
Kr	coral	Skjer	rock (submerged rock)
L	little, small, clay	Skjerane	rocks above water
Lavere	lower, front light	Skolt	rock (submerged rock)
Lav kyst	flat coast	Sl	mud, muddy, ooze
Lbl	short flashing light	So	southeast
Ldg	longitude	Sor	south
Lei	channel	Sp	spring tide
Lengde	longitude	St	saint, large, stones
Lille	little, small	Stake	spar buoy
Lop	channel	Stein	stones
Los	pilot station always attended (on older charts)	Sto	ramp
Ls	pilot office	Stor	large
LW	low water	St St	boulders
Lykt	light, light beacon	Svart	black
Lynbl, lynblink	short flashing light	Syd	south
Lys	light	Sydlig	southern
Lysboye	light buoy	Sydvest	southwest
Lysende	lighted, luminous	Synl, synlig (rekkevidde)	visible (range)
Lysflate	light-float	T	ton
M	middle, with, nautical	Taren	sunken rock
Magn	magnetic	Tarn	tower
Med	with	Tn	sunken rock
Mil	nautical mile	TS	telegraph station
Myr	marsh, swamp	Tydelig	conspicuous
N	north, nautical mile, northern	Uren bunn	foul ground
Ned	lower	Ute av bruk	abandoned
Nes	head, headland	Ute av posisjon	out of position
No	northeast, number	Uv	submarine
Nord	north	Uv kl	submarine fog bell
Np	neap tide	V	cairn, tower beacon, western
Nr	number	Vest	west
Nut	peak	Vg	bay, cove
Ny	new	Vks	alternating light
Os	estuary mouth	Vrak	wreck
Ost	east	Vorr	submerged jetty
Ov	higher, upper, rear (light)	Vs	weather signal station
Ovre	upper	Yt, ytre	outer
Oy	island	Zo	elevation of mean sea level above chart datum

V Abbreviations of principal foreign terms, (Glossary)

PERSIAN CHARTING TERMS

B, bandar	harbor
Jab, jabal	hill, mountain
Jazh, jazireh	island, peninsula
K, khowr	inlet, channel
R, rud	river

POLISH CHARTING TERMS

Jez, jezioro	lake
Kan, kanal	channel
Miel, mielizna	shoal
R, rzeka	river
Wa, wyspa	island
Zat, zatoka	gulf, bay

PORTUGUESE CHARTING TERMS

A	sand, yellow, range of tide
Aband	abandoned
Aero	aeronautical
Aerom.	marine or air navigational light
Aeroporto	airport
Aero RC	aeronautical radiobeacon
AF, Af	Shoal, fine sand
Afi	muddy fine sand
Ag	coarse sand, spire, steeple, compass adjustment buoy
Aguada	watering place
Agua descorada	discolored water
Al	muddy sand
Alf	custom-house
Alg	kelp, sea-weed
Alt	alternating light
Am	neap tide, marine and air navigation light, yellow
Amarra	cable length
Amarracao	mooring
Amb, ambar	amber
AN	notices to mariners
Anc	roadstead
Ang	cove
Ant, anterior	front, front light
Antigo	ancient
Apito	fog whistle
Apodrecido	rotten
Aprox	approximate
Ar	clay
Arborizado	woodland
Arco vis	sector of visibility
Arg	clay
Arm	warehouse, storehouse
Arq	archipelago
Arr	brook
Ars	Arsenal
At, AT	lookout tower, power transmission line
Aux	auxiliary light
Av	spring tide, avenue
Az	blue
B	gravel, bay, white
Bal	beacon, range targets (markers)
Barragem	dam
Bat, bateria	battery
Bb	fathom
Bc, Bco	bank
BM	low water
BM AM	mean low water neaps
BM AV	mean low water springs
BM de AV da India	Indian spring low water
Br	white, fathom
Bt	tenacious
Buz	fog horn
Buz elt, buzina de nevoeiro electrica	electric fog gun
Bxa, Bxas, Bxio, Bxo	shoal
C	strand, shingle, cape, gravel

Cabeco de poco	wellhead
Cabo	head, headland
Cabo submarino	submarine cable
Cach	waterfalls
Cada	every
Cal	inlet, calcareous
Calhau	strand
Calvario	calvary, cross
Camp	spire, steeple
Can, canal	channel
Canalizacoes subm	submarine pipeline area
Canhao de nevoeiro (cerraçao)	fog gun
Cap	chapel
Carta	chart
Casa de campo	villa
Cast	castle, brown
Casuarina filao	filao
Cat, catedral	cathedral
Cem	cemetery (non-christian)
Cerca de	about
Ch, Chm, CH	chimney, stack, elevation of top of building
Ci	cirripeda
Cin, Cin F	ash, cinders
Cin, cinzento	gray
Cir	cirripeda
Cist, cisterna	cistern
Cl	light (quality of bottom)
CM	town-hall
Cme	summit
Co	shells, cape
Cob, cobre	covers
Col	hill
Com	reported
Comp ag	compass adjustment beacon
Compia	company
Con	shells, cape
Con, conv	convent
Consp	conspicuous
Cor	coral, shoal
Cord	range of mountains
Cor do sector	color of sector
Corr	correction
Corr, corrente	stream
Cre	chalk
Crista sub	ridge
Cruz	cross
CS	wreck, telegraph cable buoy
Ct	quick flashing light
CtI(int)	interrupted quick flashing light
CtR	continuous very quick light
CtRl	interrupted very quick light
CtR(n)	group very quick light
CTT	post and telegraph office
CtU	continuous ultra quick light
CtUl	interrupted ultra quick light
Cume	summit
Cup	cupola
Cz	gray
D	diatoms, distance, delta, doubtful, hard
DA	water tower, stand-pipe
DC	oil tank
Decl	variation
Des	landing
Des, descb, descobre (periodicamente)	uncovers, dries
Descor, descolorido	discolored
Desigual	uneven
Dest	destroyed
Det	decayed
Dia	diaphone
Dist	distant
Distr	district
D Mg	variation

V Abbreviations of principal foreign terms, (Glossary)

Dol	dolphin	GTS	great trigonometrical survey station
Duque de alba	dolphin	Gw	Greenwich
Duro	hard		
DW	deep water route		
E	dark, red	H	amplitude of a tidal component (half of the range), height, elevation, hour
Ecl	eclipse	Hor, Horiz	horizontal lights
Ed	edition	Hora	time signal station, hour
Electr, elt	electric		
Elev, elevador	elevator	I	intermittent light, island
Empena	gable	Ig	church
En ch, enchente	flood	Igp	creek
Enf	in line (range)	Igreja	church
Ens	cove	IH	sale place of charts and nautical publications of the instituto hidrografico
Ent	entrance, magazine		
Equin, equinocial	equinoctial	Il	islet (islets)
Erv mar	sea-weed, grass	Ilheu	islet
ES	signal station	In	discontinued
Esc	school, dark, scoriae	Inf	lower, lower light
ES(corr)	stream signal station	Inst	institute
ES(gelo)	ice signal station	Int	inner, intermittent light
ES(mare)	tide signal station	Inter	intermediate, intermediate light
ES(meteor)	weather signal station	Irreg	irregular light
Esp	sponge	Is, Iso	isophase light
Espic, espiculas	spicules	Ita	islet
Espanja	sponge		
ES(temp)	storm signal station	J, jarda	yard
Est	stadium		
Estab	established	L	mud, muddy, lake, light
Estal, estaleiro	shipyard	La, lama	sandy mud, lagoon, orange
Estb	established	LAN	list of navigational aids
Est salv	lifesaving station	LAR	list of radio navigational aids
Esto	creek	L aux	auxiliary light
Estr	strait	Laz, lazareto	lazaret
Exp	experimental	LC	full moon
Explos	explosive, explosive fog signal	Ld	ooze
Ext	outer	L det nev	fog detector light
Extr, extremo	extreme	L dir	directional light
		LF	list of lights
F	fixed light, branch, fine	L int	intermittent light
Fab	factory	L irreg	irregular light
Fal	cliff, bluff	List, listrado	streaky
Faz	farm	LN	new moon
Fc	fucus	L/ocas	occasional light
Fd	fjord	Lp	flash, flashing light
F Gr Lp	fixed and group flashing light	L part	private light
F Lp	fixed and flashing light	LpC	short flashing light
For	foraminifera	LpCl	short-long flashing light
Foz	mouth	Lp R	quick flashing light
Fr	faint light	L prov	provisional light
FRI	fixed and flashing light	LpRln	interrupted quick flashing light
FRI Agr(n), FRI(n)	fixed and group flashing light	LpUR	ultra quick flashing light
Ft, Fte	fort, small lighthouse	LpURln	interrupted ultra quick flashing light
Fu	fucus	L rot	rotating light
		L temp	temporary light
G	corse, gulf, phase lag	Lv	lava
Gas	gasometer, gas tank	Lz	light
Gasoduto	gas pipeline		
GC	Coast Guard station		
Gde	great	M	meter, nautical mile, bearing
Gelos	ice signal station	Mad	madrepore
Ggo	fog gong, gong buoy	Mag	magnetic
Gl	globigerina	Mal, malhado	speckled
Glac, glaciares	glacial, glaciers	Mang	manganese
Gol	narrows	Mangal	mangrove
Gongo	fog gong	Manganesio	manganese
Gov	government house	Mangrullo	dolphin
Gp	group	Mangue	mangrove
Gr	great, large	Mant, mantido	maintained
Gr Lp	group flashing light	Marabuto	marabout
Gr Lp C	group short flashing light	Mare	tide
Gr Lp MR	group very quick flashing light	Mareg, maregrafo	tide gauge
Gr Lp R	group quick flashing light	Mares	tide signal station
Gr Oc	group occulting light	Mar, marítimo	maritime
		Mas, MAST, Mast	mast, signal mast

V Abbreviations of principal foreign terms, (Glossary)

MAST AT	power transmission mast	Plan	tableland
MAST (Mas)TV	television mast	PM	high water
MASTROS	wreck of which only the masts are visible	PM AM	mean high water neaps
Mat	boulder	PM AV	mean high water springs
Md	ground (shells), middle	Po	peak, polyzoa
Med	middle	Poco	well
Merc	magazine	Pod	rotten
Meteo	weather signal station	Pol	polyparia, polyzoa, inch
Mex, mexilhao	mussels	Pontao	hulk
Mg	magnetic, marl	Pos, posicao	position
Min	minute of time	Post	rear, rear light
MI	soft	Poste	post
MN	bench mark	Pp	pumice
Mo	hill	Pr	black, beach
Mo	morse code light	Prados	grass fields
MON, Mon	monument	Prel	preliminary
Most	monastery, convent	Princ	principal light
Mt	mountain, mount	Proem, proeminente	prominent
Mt sub	seamount	Prof menor, Profundidade minima em canoas (ou rios) estreitos	least depth in narrow channels
Mun	municipality	Proib	prohibited
Na sa	our lady	Proj	projected
Nauto	nautophone	Prom	promontory
Navegavel, Navg	navigable	Prov	provisional, provisional light
NC	new chart	Pt	pteropods
NE	new edition	Pta	point
NM, nm	mean sea level, mean tide level	Ptal	head, headland
No	number	Pub, Publ	publication
No	knot	Purp, purpura	purple
Nora	norio	Q	quarantine, quarantine buoy, quarter, quadrature, broken, farm
Nos	knots	QC	2nd quarter
Not, notavel	remarkable	QM	1st quarter
Novo	new	Qta	farm
NR	chart datum (for sounding reduction)	Qtel	barracks
NS	our lord, our lady	Qtz	quartz
NV	unwatched light	R	true course, street, rock, rocky, river, stream, radiotelegraph station, measured distance, recommended track
Obs	observatory	Ra	river, stream, radar guided track, radar station
Obsc	obscured light	Rad	radiolaria
Obst, Obstr	obstruction	Rada	road, roadstead
Oc	occluding light	Rap	ramp
Ocas	occasional, occasional light	Rc	rock
Ocid, occidental	western	Rch	creek
Oc Agr (n), Oc (n)	group occluding light	Rd, RD	radiolaria, directional radiobeacon
Oc (n t m)	composite group-occluding light	Red	small
Ocultacao	occultation	Res	tank
OI	brick kiln	Res met, Residuos metalicos	mattes
Oleoduto	oil pipe	Rest	spit of land
Ord ordinario	ordinary	RF	radiobeacon
Os, Ost	oysters	Rfe	reef
O sub	submarine oscillator	RG	radio direction finding station
P	broken, black, harbor, port, haven, preliminary, stones	RI	flashing light
Pa	branch	RI Agr(n)	group flashing light
Pad, padrao	standard	RI L	long-flashing light
Pag, pagode	pagoda	RI(n)	group flashing light
Par	gray	RI(n+m)	composite group flashing light
Part	private, privately, private aid to navigation	Riba	river, stream
Pas, Pass	passage, pass	Ric	bar
Pc	peak	Rio	river
Pcel	bank, shelf	RN	bench mark
Pe	foot	Rocha	rock, rocky
Ped, pedregoso	flinty	Rot	revolving light, rotating light
Pen	peninsula	RT	radio telephone station
Peq	small, little	Ru, ruinas	ruins
Per	period	RV	true course
Pesq	fish haven	RW	rotating loop radiobeacon
PICO SUB	seamount	S	pebbles, saint, second of time, syzygy
Pil, pilar	dolphin, pile, pillar	Sa	range of mountains, gritty
PILOTOS	pilot station		
Pinhal	coniferous woodland		
Pir, piramide	pyramid		

V Abbreviations of principal foreign terms, (Glossary)

Sarg, sargaco	kelp, sea-tangle
Sc	small bay
Sem	semaphore
Ser	fog siren, saw mill
Set, setentrional	northern
Simb	symbol
Sin ac sub	submarine sound signal with platform
Sinai	signal station
Sinal	signal
Sino	fog bell
Sino sub	submarine fog bell
Sir	fog siren
Sizigia	syzygy
So	height of mean sea level above the zero of tidal staff
St, Sta, sto	saint, farm
Sub	submarine
Subm	submerged
Sup	higher, upper light
T	ton, temporary light, ground
Temp	temporary light
Temp bud, Templo budista	buddhist temple, joss-house
Tempo	storm signal station
Tf, TF	tufa, federal territory
T oleo	oil tank
Tr	tower, reed horn, power transmission mast
Trib	courthouse
Tufo	tufa
U	unit of height
Ur	bank, shelf
V	see, ooze, true, green
Va, vale	valley
Var	stranding harbor (dries at low-water)
Var, variado	varied
Vau	ford
Vaz, vazante	ebb
Vd	green
Velho	old
Vel, velocidade	velocity, rate
Ver	see
Vert	vertical, vertical lights
Vi	violet
Vig	lookout station, watch tower
Viol	violet
Vis, visivel (alcance)	visible (range)
Vm	red
Vsc	sticky
Vul	volcano
Vul sub	submarine volcano
X	schist
Z	azimuth (bearing)
Zero hidrografico (plano de reducao de sondas), ZH	chart datum (datum for sounding reduction)
Zo	elevation of MSL above chart datum
Zv	true bearing

ROMANIAN CHARTING TERMS

Br, brat, bratu, bratul	branch, arm
C, cap, capu, capul	cape
I, insula	island
L, lac, lacu, lacul	lake
O, ostrov, ostrovu, ostrovl	river island

RUSSIAN CHARTING TERMS

Banka, banki, bka, bki	bank(s)
B, bukhta	bay, inlet
G, gavan	harbor, basin

G, gora	mountain, hill
Ga, guba	bay, inlet, creek
Kam, kamen	rock
M, mys	cape
O, ostrov, ostrova	islands
Oz, ozero	lake
Pol, poluoostrov	peninsula
Proliv, prv	channel, strait
R, reka	river
Z, zaliv	gulf, bay

SPANISH CHARTING TERMS

A	gritty, yellow, sand, orange, amber
A de Bdo	flagstaff, flagpole
A de la M	range (of tide)
Abr, abra	haven
ACo	sand and gravel
Ad, aduana	customhouse
Aero	aeronautical
Aeromar	marine and air navigation light
AF	sand and mud
Agua	water tower, standpipe
Al	alternating
Alg	kelp, seaweed, seaweed grass
Alm	magazine
Alm	mussels
Alm Dep	warehouse, storehouse
Air	about
Alt	alternating, alternating light
Am	yellow
An	narrows, orange
Anch	anchorage, bridge clearance (horizontal)
Ang, angostura	narrows
Ant	front light
Antg	ancient
Apag, apagdo, apogada	extinguished light
Aproxte	approximate
Ar	clay
Arc	clay
Arch, Archo, archipelago	archipelago
Arrf, arrecife	reef, rock (uncovers)
Arro	stream, creek
AS	signal mast
Aserr, aserrado	saw mill
Astrm, Astro	astronomical
At	faint light
Aux	auxiliary light
Av, avd	avenue
Az	blue
B	bay, white, reed horn
Ba, bahia	bay
Bajo	shoal
Bal	beacon (in general), bathing establishment
Banco	bank
Bat, bateria	battery
Bca	mouth
Bco	bank
Bd, bdo	soft
Bjmar	low water
BM	low water
Bo, boca	shoal
Br, braza	fathom
Bulevar	boulevard
Bzo	arm (of the sea), loch, lough, lake
C	cape, small, fog bell, shells, every, shingle, post office, quarter, quadrature
Ca	mountain range, shells, calcareous, house
Cable	cable length
Cabo	cape

V Abbreviations of principal foreign terms, (Glossary)

Cada	every
Cal, caleta	inlet, tufa
Calle	street
Cam Send Hlla	track, footpath, trail
Can, canal	channel, sound, canal, fog gun
Canal	dredged channel
Carbon	cinders
Carta	chart
Cas, castillo	castle
Casa	house
Cat	cathedral
Cbl	cable length
Cc	shells
Cd	new candle
Ce	summit
Cerro	hill
Cha	chimney
Cima	summit
Cisterna	cistern
Cj	gravel
Cjo	farm
Cl	light (quality of bottom), coral
Claro	light (quality of bottom)
CN	post office
Co	gravel, hill
Col, colina	hill
Comp, agj	compass adjustment beacon
Con	with
Consp, conspicuo	conspicuous
Card	range
Corr	correction
Corto	small
Cr	coral
Cra	mountain, range
Cre	summit
Crec	flood
Cruz	calvary, cross
Ct	quick flashing light
Cte	stream (current)
Ctl	int. quick flashing light
Cto	convent, quarter, quadrature
CTR	continuous very quick flashing light
Cu	quartz
Cuba, cubierto	covers
D	doubtful, delta, flash, flashing light, hard, diaphone
Darna	dock
De	drydock, floating dock
Demora, demarcacion	bearing
Des	flashing, landing place
Descol	discolored, discolored water
Descubo, descubierto	uncovers
Desemb	landing place
Dest, Desto	decayed, destroyed
Diaf	diaphone
DL	riprap surrounding light
Dm	city or town (small scale)
Do	reported
Dta	delta
E	east, sponge, explosive fog signal, station, eclipse
Ea	farm
E B Salv	lifeboat station
Ec	scoriae
E de I P	mean establishment of the port
Elec, Elect	electric
Enf	in line with
Ens, Ensa	bay, creek, cove
Ent, entr	entrance
Entrante	flood
Ep	sponge
Equin, equinicial	equinoctial
ES	signal station

E Salv	lifesaving station
Esc	scoriae, school
E S Horaria	time signal station
Esp	sponge
Esq	schist
Est	estuary
Estabdo, establecido	established
Este	east
Esto	stadium
Estr	strait
Event	eventual
Exp, Exper	experimental
Expl, Explos, Explosivo, Expvo	explosive
Ext, exterior	outer
F	fixed light, mud, muddy, fine
F D, Fd	fixed and flashing light, fjord
F Des	fixed and flashing
F Gp D	fixed and group flashing
F Gr D	fixed and group flashing
Fabca	factory
FC	railway
Fca	factory
Fdo	ground, fjord
Fdo So	foul ground, foul bottom
Fm	fathom
Fo	lighthouse, light
Fond	anchorage
Fondo Aero	anchorage for seaplanes
Fondo Prohdo	anchorage prohibited
Fondo sucio	foul ground, foul bottom
Freu	sound
Frontispicio, Fronton	gable
Fte	fort
G	phase lag, gray, coarse, revolving or rotating light, pebbles
Gde	great
Gj	flinty
Gja	farm
Gl	glacial, globigerina
Go	gulf, shingle
Gob, gobo	government house
Gong, Gongo, gong de niebla	fog gong
Gp	group
Gp Ct	group quick flashing light
Gp D	group-flashing light
Gp Oc	group occulting light
Gp Rp	group very quick flashing light
Gr	group, gray, large, gravel, shingle, chalk, Greenwich
Grd	great, large
Gr D	group flashing light
Gr Dc	composite group flashing light
Gr Des	group flashing light
Gris	gray
Gr Oc	group occulting light
Gru	coarse
Gs	coarse
H	hour, height, altitude, elevation, bridge clearance (vertical)
Hlla	track, footpath, trail
Hor, hort	horizontal light
I	island, islet
Ig, Igl	church
Inf, inferior	lower, lower light
Ins, instituto	institute
Int, Interior	inner
Ip	stiff
IQ	interrupted quick flashing
Irreg	irregular light
Is	island
Iso, Isof	isophase light

V Abbreviations of principal foreign terms, (Glossary)

Ite (Ites)	islet (islets)	Ord, ordinario	ordinary
IUQ	int. ultra quick flashing light	Os	oysters
IVQ	int. very quick flashing light	Osc	submarine oscillator, dark, obscured light
Kn	knot, knots	Ost	oysters
L	light, large, ooze, lake, pond, loch, lough	O sub	submarine oscillator
La	lagoon	P	peak, brown, stones, position, shoal sounding on isolated rock
Laz, lazareto	lazaret	Pal	wreck with only masts visible (above sounding datum)
Lum	lighted, luminous	Part	private, privately
Lv	lava	Paso	passage, pass
M	meter, minute (of time), nautical mile, speckled	Pblo	village
Ma	mountain	Pc	peak
Mad, madrepora	madrepore	Pd	pebbles
Mag	magnetic	P de O	observation spot
Mal	jetty (partly below MHW)	P de R	point of reference
Mco	magnetic	Penl, penla	peninsula
Md	middle, madrepores	Peq	little
M de S	mean low-water springs	Pet	oil tank
M de Sic	spring tide	Pg	sticky
Mdo	speckled	Pie	foot, feet
Me, medio	middle, mole	Pil, pilares	pilar
Mejillon	mussels	Pl de R	chart datum (datum for sounding reduction)
Mj	mussels	Plmar	high water
MI	ground (shells)	Ply	beach
Mlle	mole	P M	high water
Mma	swamp	Pm M de S	mean high-water springs
Mna	mountain, mount	PnFo	light vessel, lightship
Mo	morse code light, head, headland	Po	passage, pass
Mol	windmill	Pob	village
Mon	monument	Pod, podrido	rotten
Mons, monasterio	monastery	Pol, Polv, polvorin	powder magazine
Mr	marl	Posn, posicion	position
Ms de C	neap tide	Pq	small
Ms de S	spring tide	Pr	brown
Mta	tableland (plateau)	Prof men	lesser depth possible
Mte, Mtna	mountain, mount	Prof min	least depth in narrow channels
Mte sub	seamount	Proh, prohdo	prohibited
Mto	monument	Prom, promo	promontory, prominent
Municipio	town hall	Prov, Provo	provisional light
Muralla, muro	wall	Proy, proyecto, proyo	projected
Mv	bearing	Pta	point
N	north, knot, nautophone, black, nautical mile	Pte	bridge
Naut, Nautof, nautofono	nautophone	Pto	harbor, port
Nav	navigable	Publ, publicacion	publication
N de R	bench mark	Pz	pumice
Nj, nja	orange	Q	stream, quick flashing light
N M	mean tide level	Qb	broken
NMM	mean sea level	Queb, quebrada	stream
No	number	Quebrado	broken
Noray	dolphin	R	red, radio fog-signal station, radio telegraph station, rock, river, qtg radio station
Not	notable	Ra	isolated rock, radar station, radar guided track
NRS	chart datum (datum for sounding reduction)	Rada	road, roadstead
Ns	knots	Ram	ramark
Nv, nvo	new	RC	circular radiobeacon
O	dark, submarine oscillator	Rcso	rocky
Obs, obsn	obstruction	RD, Rd	directional radiobeacon, radiolaria
Obso	observatory	Rda	road, roadstead
Obston, obstr	obstruction	Rdf	radio broadcasting station
Obsv	observatory	Ref	hut
Oc	occultation, occulting light	Regla	standard
Ocas, Ocasl	occasional, occasional light	RF, RFo	Radiobeacon
Occ	occulation, occulting light	RG	radio direction finding station
Occidental	western	Rga	ridge
Of	office	Ria	creek
Of de pto	harbormaster's office	Rs	rocks, ruins
Oficina	office	Rso	rocky
Of Tel	telegraph office		

V Abbreviations of principal foreign terms, (Glossary)

RT	radio telephone station
Ru	dumping ground
R Telem	distance finding station
Rui, ruinas	ruins
RW	rotating loop radiobeacon
S	station, south, fog signal, second (of time), signal, syzygy, saint, sector
S A S	submarine fog bell (mechanical)
S A So	submarine fog bell (action of waves)
S C Bal	cardinal marking system
S G	unwatched light
S Mt	seamount
S S	signal station
Sa	mountain range
SD	doubtful sounding, lesser depth possible
Seg	second (of time)
Sem	semaphore
Senal	signal
Sic	syzygy
Sil, silb, silbato	fog whistle
Sir, sirena	fog siren
Sn	saint
So	low-water datum, sound
Son	morse code fog signal
SSN	submarine fog signal
Sta, sto	saint
Subm	submarine
sumdo, sumg, sumgd	submerged
Sup	higher, upper light
Supdo, Suprim	discontinued
T	temporary, temporary light, ton, tufa
Tba	tomb
Te	tower
Te bal	tower beacon
Tejar	brick kiln
Tel, telegrafo	telegraph
Tem	temporary, temporary light
Tfno	telephone, mooring buoy with telegraphic communications
Tn	ton
Tri, Triang, triangulacion	triangulation
Trompa, Trompeta de niebla	fog trumpet
T V	television mast, television tower
U	unit of height, ultra quick flashing light
UQ	ultra quick flashing light
V	true, green, valley, volcano, ebb, lookout tower
valle	valley
Var	variation
Var an, Variacion anua	annual change
VC	see chart
Vc	volcanic
V de T	triangulation point (station)
Ve	valley
Verd	true
Vert	vertical lights
Verto, Vertedero de draga	spoil area
Vi	violet
Vigia	lookout station, watch tower
Vis	visible (range)
Vj	old
Vo	true
Vol, volcan	volcano
VP	see plan
VQ	very quick flashing light
Vt	streaky
Zo	elevation of mean sea level above chart sounding datum, chart datum (datum for sounding reduction)

Zona C Subm	submarine cable area
Zona Can Subm	submarine pipeline area

SWEDISH CHARTING TERMS

B	bay, bight
Berg, berget, bg, bgt	mountain
Bk	bank
Bukt	bay, bight
Fj, fjard	fjord
Grd, grund	shoal
Hamm, hamnen	harbor
Hd	headland
Hm	islet
Hn	harbor
Holm, holmen	islet
Huvud	headland
K, kap	cape
N, nord, norr, norra	north, northern
Sk, skar, skaret	rock above water

THAI CHARTING TERMS

Kh, khao	hill, mountain
Laem, lm	cape, point
Mae nam, MN	river

TURKISH CHARTING TERMS

Ad, ada, adacik, adasi	island, islet
Br, burnu, burun	point, cape
Ca, cay, cayi	stream, river
Da, dag, dagi	mountain
De, dere, deresi	valley, stream
Li, liman, limani	harbor
Te, tepe, tepesi	hill, peak

YUGOSLAV CHARTING TERMS

Br, brda, brdo	mountain(s)
Gr, greben, grebeni	rock, reef, cliff, ridge
Hr, hrid, hridi	rock
L, luka	harbor, port
O	islet(s)
O, otoci	island(s)
Otocic, otocici	islet(s)
Otok	island(s)
Pl, plicina	shoal
Pr, prolaz	passage
Sk, skolj, skoljic	island, reef
U, uvala, uvalica	inlet
Z, zaliv	gulf, bay

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aband Abandoned F 37
 ABAND LT HO Abandoned lighthouse If
 abt About F 17
 AERO Aeronautical F 22; K 4
 AERO R Bn Aeronautical radiobeacon M 16
 AERO R Rge Aeronautical radio range Md
 alt Altitude E 18
 Al, Alt Alternating (light) K 26
 Am Amber K 67a; L 48a
 anc Ancient F 9
 Anch Anchorage B 15; G 1, 2
 Anch prohib Anchorage prohibited G 12
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 approx Approximate F 34
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 Art Articulated light Lg
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 BELL Fog Bell N 14
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 B Hbr Boat Harbor G 33
 Bk Bank O 21
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 Bld, Blds Boulder, Boulders B 32; S 11a
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 Blvd Boulevard I 26b
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 Bn Beacon (in general) L 52, 53
 BR Bridge H 14
 Br, br Brown L 46; S 64
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 CRD Columbia River Datum Tc
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 Cswy Causeway H 3f
 Ct Ho Courthouse I 64
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 D, Destr Destroyed F 14; Kg
 dec Decayed S 52
 deg Degrees U 27
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 D F S Distance finding station M 15
 Di Diatoms S 34
 DIA Diaphone N 9
 Discol Discolored O 36
 discontd Discontinued F 25
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 dk Dark S 68
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 Dol Dolphin G 21
 DRDG RGE Dredging Range
 DW Deep Water Fn

E

E East, Eastern U 2, 10
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 ELEV Elevator I 37

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E'ly	Easterly	Fs	Hd	Head, Headland	B 24
Entr	Entrance	B 11	HECP	Harbor entrance control post	Jd
E Int	Isophase light (equal interval)	K 23a	Hk	Hulk	G 45
Est	Estuary	B 12	HHW	Higher high water	T la
estab	Established	F 28	Hn	Haven	B 16a; G 4
Exper	Experimental (light)	Kj	Hor	Horizontal lights	K 81
exper	Experimental	F 24	HOR CL	Horizontal clearance	H 18b
explos	Explosive	F 27	HORN	Fog trumpet, Foghorn, Reed horn, Typhon	N 12, 13, 13a, 16, Na
Explos Anch	Explosive Anchorage (buoy)	L 25	Hosp	Hospital	I 32
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F			H S	High School	Ig
F	Fixed (light)	K 21	ht	Height	E 19; T 25
Facty	Factory	I 47	HW	High water	T 1
Fd	Fjord	B 3	Hy	Highway	H 1
F Fl	Fixed and flashing (light)	K 29	Hz	Hertz	Ec
F Gp Fl	Fixed and group flashing (light)	K 30	I		
Fl	Flash, Flashing (light)	K 23, 45	I	Island	B 18
fl	Flood	Fg; T 31	IQ, I Qk, Int Qk	Interrupted quick	K 25
fly	Flinty	S 53	in, ins	Inch, Inches	E 6
fm	Fathom	E 9	In	Inlet	B 6
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Fog Det Lt	Fog detector light	K 68a; Nb	Irreg	Irregular	K 71
Fog Sig	Fog signal station	N 1	ISLW	Indian spring low water	T 10
FP	Flagpole	J 19	Is	Islands	Bi
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G	Gravel	S 7	kn	Knots	E 12; T 24
G, Gn, gn	Green	K 64; L 20, 20a, 45; S 60	L		
GAB	Gable	I 72	L	Loch, Lough, Lake	B 4
GCLWD	Gulf Coast Low Water Datum	Td	La	Lava	S 17
Gl	Globigerina	S 33	Lag	Lagoon	Bf; C 16
glac	Glacial	S 54	LANBY	Large Automatic Navigation Buoy	L 71
GONG	Fog gong	N 17	lat	Latitude	E 13
Govt Ho	Government House	I 30	LD	Least Depth	Od
Gp	Group	K 47	Ldg	Landing, Landing place	B 33; G 16
Gp Fl	Group flashing	K 28	Ldg Lt	Leading light	K 11
Gp Occ	Group occulting	K 27	Le	Ledge	O 24
Grd, grd	Ground	S 1, 47a	LFI	Long flashing (light)	Kb
Grs	Grass	S 28	Lit	Little	F 2
gt	Great	F 1	LLW	Lower Low Water	T 2a
gty	Gritty	S 51	LNM	Local Notice to Mariners	Fa
GUN	Explosive fog signal	N 3	Lndg	Landing place	B 33; G 16
GUN	Fog gun	N 10	long	Longitude	E 14
Gy, gy	Gray	L 47; S 66	LOOK TR	Lookout station, Watch tower	J 4
H			LOS	Pilot Station	J 8
HB	Horizontal bands or stripes	L 31	Irg	Large	F 3; S 45
Hbr	Harbor	B 16; G 3	LS S	Lifesaving station	J 6

Index of Abbreviations

Lt	Light	K 2	NW	Northwest	U 8
lt	Light	S 67	NWS	National Weather Service Signal Station	Jb
Ltd	Limited	li			
Lt Ho	Lighthouse	K 3			
LW	Low water	T 2			
LWD	Low water datum	Ta			
M					
M, Mi	Nautical mile	E 11; Kd			
M	Mud, Muddy	S 3			
m	Medium	Sg			
m	Meter	E 4, d, e			
m ²	Square meter	E 4d			
m ³	Cubic meter	E 4e			
m, min	Minute (of time)	E 2; Ke			
Ma	Marsh	Bj.			
Ma	Mattes	S 38b			
mag	Magnetic	U 23			
Magz	Magazine	I 34			
maintd	Maintained	F 36			
max	Maximum	Fp			
Mc	Megacycle	Eh			
Mds	Madrepores	S 15			
Mg	Mangrove	Bk			
MHHW	Mean higher high water	T 8b			
MHW	Mean high water	T 7a			
MHWN	Mean high-water neaps	T 8a			
MHWS	Mean high-water springs	T 8			
MHz	Megahertz	Ee			
MICRO TR	Microwave tower	Mc			
mid	Middle	F 7			
min	minimum	Fo			
Mkr	Marker	Lc			
Ml	Marl	S 5			
MLLW	Mean lower low water	T 9b			
MLW	Mean low water	T 8c			
MLWN	Mean low-water neaps	T 9a			
MLWS	Mean low-water springs	T 9			
mm	Millimeter	E 4c			
Mn	Manganese	S 22			
Mo	Morse code light, Fog signal	K 30a; Nc			
mod	Moderate	Fh			
MON	Monument	I 35			
Ms	Mussels	S 25			
μ sec, μ s	Microsecond (one millionth)	Eb			
MSL	Mean sea level	T 4			
Mt	Mountain, Mount	B 26			
Mth	Mouth	B 13			
MTL	Mean tide level	T 3			
My	Bearing	U 21			
N					
N	North, Northern	U 1, 9			
N	Nun, Conical (buoy)	L 6			
N M, N Mi	Nautical mile	E 11			
NAUTO	Nautophone	N 8			
NE	Northeast	U 5			
N'y	Northerly	Fq			
NM	Notice to Mariners	F 42			
No	Number	E 23			
Np	neap tide	T 7			
O					
	OBSC			Obscured (light)	K 68
	Obs Spot			Observation spot	D 4
	Obstr			Obstruction	O 27
	Obsy			Observatory	J 21
	Oc, Occ			Occulting (light), Occultation	K 22, 46
	Oc, Occ			Intermittent (light)	K 48
	Occas			Occasional (light)	F 39; K 70
	ODAS			Oceanographic Data Aquisition System	L 73
	Off			Office	J 22
	Or, or			Orange	K 65; L 48b; S 62
	OVHD				
	PWR CAB			Overhead power cable	H 4
	Oys			Oysters, Oyster bed	S 24; G 15a
	Oz			Ooze	S 4
P					
	P			Pebbles	S 9
	P			Pillar (buoy)	L 8a
	P			Pond	Bb
	P			Port	B 17; G 5
	PA			Position approximate	O 41
	Pag			Pagoda	I 14
	Pass			Passage, Pass	B 9
	Pav			Pavilion	I 67
	PD			Position doubtful	O 42
	Pen			Peninsula	B 21
	PIL STA			Pilot station	J 8
	Pk			Peak	B 29
	Pm			Pumice	S 18
	Po			Polyzoa	S 37
	P O			Post Office	I 29
	P, Pos			Position	O 44
	priv			Private, Privately	F 30
	Priv maintd			Privately maintained	K 17; L 29
	Prohib			Prohibited	F 26
	prom			Prominent	F 31
	Prom			Promontory	B 23
	Prov			Provisional (light)	K 72
	Pt			Point	B 25
	Pt			Pteropods	S 36
	pub			Publication	E 15
	P F			Pump-out facilities	Gd
	PWI			Potable water intake	
Q					
	Quar			Quarantine	G 26
	Q, Qk Fl			Quick flashing (light)	K 24
	Qz			Quartz	S 13
R					
	R			Red	K 66; L 15, 43
	R			River	Bd
	R			Rocks	B 35
	Ra			Radar station	M 11
	Racon			Radar responder beacon	M 12

Index of Abbreviations

Ra (conspic)	Radar conspicuous object	M 14	Shl	Shoal	O 22
RA DOME	Radar dome	Mh	Si	Silt	Se
Ra Ref	Radar reflector	Lf; M 13	Sig Sta	Signal station	J 9
Ra Sur	Radio responder beacon	M 12	SIREN	Fog siren	N 11
RBHB	Red and black horizontal bands	L 17, 18, 19, 20, 20a	Sk	Stroke, strike	Fu
R	Red beacon	L 52	S-L Fl	Short-long flashing (light)	K 28a
Bn			Slu	Slough	Be; C 18
R Bn	Radiobeacon	M 3, 4, 16	S'ly	Southerly	Fr
RC	Circular radiobeacon	M 4	sml	Small	F 4; S 44
Rd	Radiolaria	S 35	Sn	Shingle	S 8
rd	Red	S 63	Sp	Spring tide	T 6
Rd	Road, Roadstead	B 14; H 1	SP	Spherical (buoy)	L 7
RD	Directional Radiobeacon, Radio range	M 5	Spq	Sponge	S 26
RDF, Ro DF	Radio direction finding station	M 7	Spi	Spicules	S 31
REF	Reflector	K 10; L 64	S'PIPE	Standpipe	I 45
Rep	Reported	O 35	spk	Speckled	S 50
Restr	Restricted	Fv	S Sig Sta	Storm signal station	J 11
Rf	Reef	O 23	St	Saint	F 11
RG	Radio direction finding station	M 7	St	Street	I 26
Rge	Range	B 27	St	Stones	S 10
RGE	Range	Ki	Sta	Station	J 1, 2
Rk	Rock	B 35	std	Standard	F 32
Rk, rky	Rock, Rocky	S 11	stf	Stiff	S 43
Rky	Rocky	Bh	Stg	Sea-tangle	S 29
R MAST	Radio mast	M 9	stk	Sticky	S 46
Ro Bn	Radiobeacon	M 3	St M, St Mi	Statute mile	Ea
Rot	Rotating (light), Revolving	K 31	Str	Strait	B 7
RR	Railroad	H 3	Str	Stream	Bc; T 17
R RELAY MAST	Radio relay mast	Mb	str	Streaky	S 49
R Sta	Radio telegraph station, QTG Radio station	M 1, 10a	sub	Submarine	F 20
RT	Radio telephone station	M 2	SUB-BELL	Submarine fog bell	N 5, 6
rt	Rotten	S 48	Subm, subm	Submerged	F 33; O 30
R TR	Radio tower	M 9	Subm Ruins	Submerged ruins	Gd
Ru	Ruins	I 40	SUB-OSC	Submarine oscillator	N 7
RW	Rotating loop radiobeacon	M 6	Sub Vol	Submarine volcano	O 8
RW Bn	Red and white beacon	L 52	Subm W	Submerged Well	Ob
RWVS	Red and white vertical stripe	L 14, 14a	SW	Southwest	U 7
Ry	Railway	H 3	sw	Swamp	Bl
S			T		
S	Sand	S 2	t	Tonne	E 12a
S	South, Southern	U 3, 11	T	Ton	Ei
S	Spar (buoy)	L 8	T	Telephone	I 70; L 22c
Sc	Scoriae	S 20	T	True	U 22
Sch	Schist	S 13a	T	Tufa	S 19
Sch	School	I 65	TB	Temporary buoy	L 30
Sd	Sound	B 8	Tel	Telegraph	I 27; L 22b
SD	Sounding doubtful	Q 1	Telem Ant	Telemetry antenna	Ma
SE	Southeast	U 6	Tel Off	Telegraph office	I 28
sec, s	Second (time; geo, pos.)	E 3; Kf	Temp	Temporary (light)	F 38; K 73
SEC	Sector	K 49	ten	Tenacious	S 55
Sem	Semaphore	J 10	Thoro	Thoroughfare	B 9
S FI	Short flashing (light)	K 25a	Tk	Tank	I 53
sft	Soft	S 41	TR, Tr	Tower	I 41; L 63; Ld; M 9a
Sh	Shells	S 23	Tri	Triangulation	D 10
			T.T.	Treetop	C 11
			TV TR	Television tower (mast)	M 9a
			U		
			uhf	Ultra high frequency	Mi
			Uncov	Uncovers; Dries	O 2, 32, 34
			Univ	University	Ih

Index of Abbreviations

unverd	Unverified	Fb
unev	Uneven	S 71
μ sec. μ s	Microsecond (one millinotch)	Eb
UQ	Continuous Ultra Quick	Kc

V

var	Variation	U 24
vard	Varied	S 70
VB	Vertical beam	Kh
vel	Velocity	T 23
Vert	Vertical (lights)	K 80
VERT CL	Vertical clearance	H 18a
vhf	Very high frequency	Mi
Vi, vi	Violet	K 61; S 58
View X	View point	D 6
Vil	Village	I 3
Vol	Volcanic	S 16
Vol Ash	Volcanic ash	Sb
VQ, V Qk FI	Very quick flashing (light)	Kc
VS	Vertical stripes	L 32

W

W	West, Western	U 4, 12
W, wh	White	K 67; L 41; S 56
W		
Bn	White beacon	L 52
Wd	Seaweed	S 28
Whf	Wharf	G 18
WHIS	Fog whistle	N 15
Wk	Wreck	O 15, 15a, 28
Wks	Wrecks, Wreckage	O 29
W Or	White and orange	Le
W'ly	Westerly	Ft

Y

Y, yl	Yellow	L 24, 44; S 61
yd, yds	Yard(s)	E 8

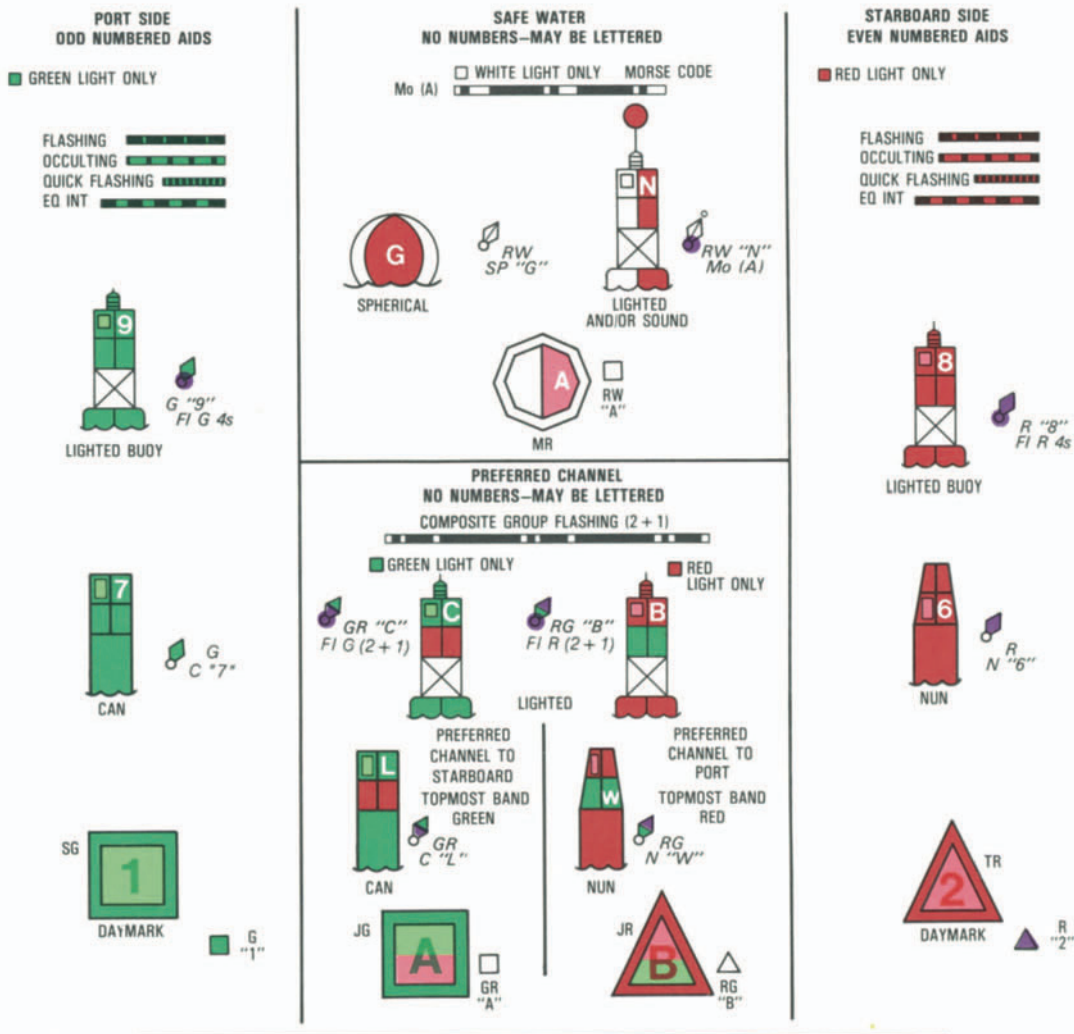
1st	First	Fj
2nd, 2d	Second	Fk
3rd, 3d	Third	Fl
4th	Fourth	Fm

°	Degree	E 20
'	Minute (of arc)	E 21
"	Second (of arc)	E 22

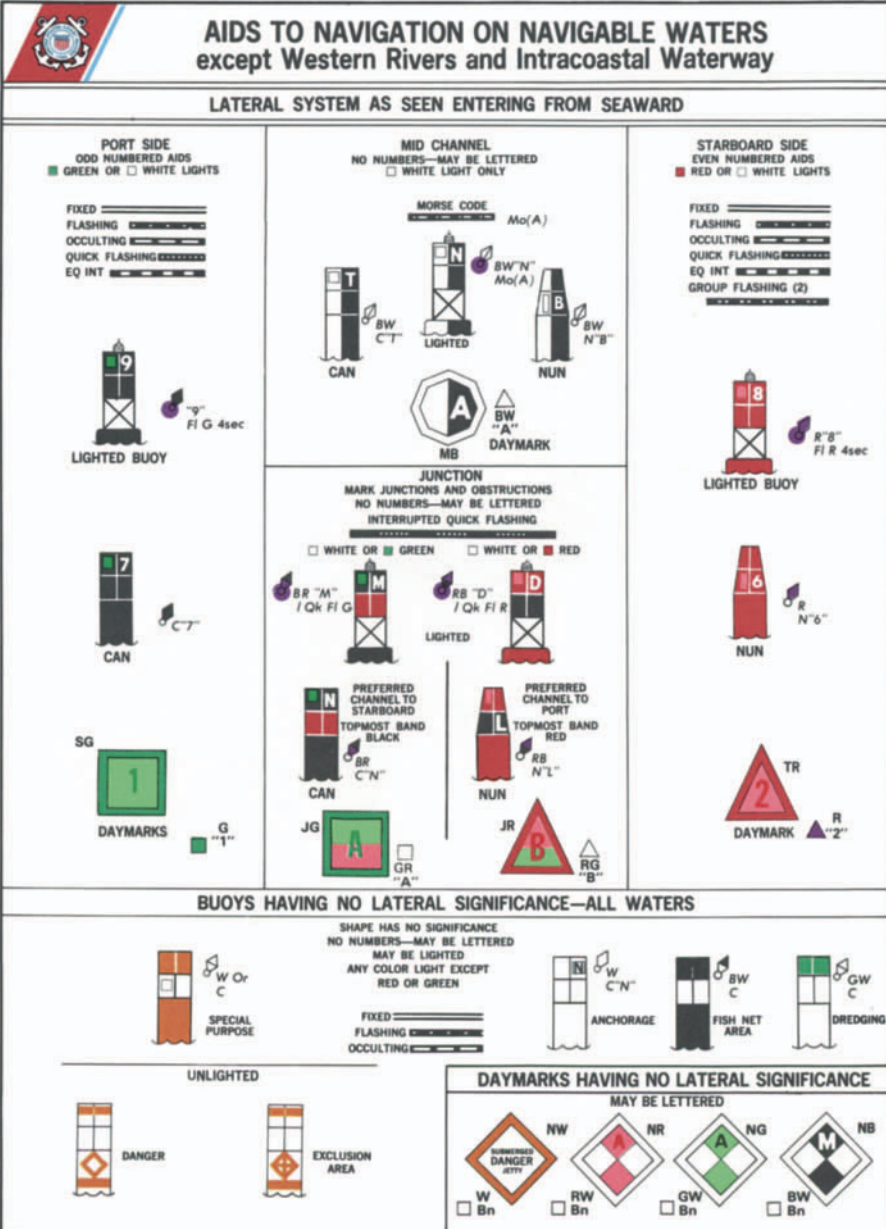
AIDS TO NAVIGATION
IN
UNITED STATES WATERS

MODIFIED U.S. AID SYSTEM

LATERAL AIDS AS SEEN ENTERING FROM SEAWARD



NOTE: WHEN USED ON THE INTRACOASTAL WATERWAY, THESE AIDS ARE ALSO EQUIPPED WITH SPECIAL YELLOW STRIPS, TRIANGLES, OR SQUARES. WHEN USED ON THE WESTERN RIVERS (MISSISSIPPI RIVER SYSTEM), THESE AIDS ARE NOT NUMBERED. (MISSISSIPPI RIVER SYSTEM ABOVE BATON ROUGE AND ALABAMA RIVERS)





AIDS TO NAVIGATION ON THE INTRACOASTAL WATERWAY











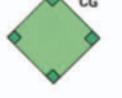





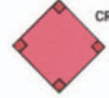
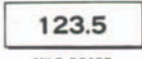
AS SEEN ENTERING FROM NORTH AND EAST—PROCEEDING TO SOUTH AND WEST

<p>PORT SIDE ODD NUMBERED AIDS GREEN OR WHITE LIGHTS</p> <p>FIXED OCCULTING </p> <p>FLASHING QUICK FLASHING </p> <p>EQ INT </p> LIGHTED BUOY FI G 4sec CAN C 9° DAYMARK SG-I G "1"	<p>JUNCTION MARK JUNCTIONS AND OBSTRUCTIONS NO NUMBERS—MAY BE LETTERED INTERRUPTED QUICK FLASHING</p> <p>WHITE OR GREEN LIGHTS WHITE OR RED LIGHTS</p> BR "J" I Qk FI G RB "N" I Qk FI R <p>PREFERRED CHANNEL</p> <p>TO STARBOARD TOPMOST BAND BLACK CAN BR "A" C "A"</p> <p>TO PORT TOPMOST BAND RED NUN RB "S" N "S"</p> JG-I GR "A" JR-I RG "B" <p>MID CHANNEL MORSE CODE NO NUMBERS—MAY BE LETTERED WHITE LIGHT ONLY</p> MB-I BW "B" CAN C "C" LIT SW "L" NUN SW "N"	<p>STARBOARD SIDE EVEN NUMBERED AIDS RED OR WHITE LIGHTS</p> <p>FIXED OCCULTING </p> <p>FLASHING QUICK FLASHING </p> <p>EQ INT </p> <p>GROUP FLASHING (2) </p> LIGHTED BUOY FI R 4sec NUN R N°6° DAYMARK R "2"
<p>DUAL PURPOSE MARKING USED WHERE THE ICW AND OTHER WATERWAYS COINCIDE</p>		
<p>DUAL PURPOSE DAYMARKS</p> SG-SY G "5" <p>DUAL PURPOSE BUOYS</p> C 5° <p>TR-SY</p> R "6" <p>JG-SY</p> GR "A" <p>JR-SY</p> RG "B"	<p>When following the ICW from New Jersey through Texas, a should be kept to your starboard hand and a should be kept to your port hand, regardless of the color of the aid on which they appear.</p>	<p>DUAL PURPOSE DAYMARKS</p> R "6" <p>DUAL PURPOSE BUOYS</p> R N°6° <p>SG-TY</p> G "5" <p>JG-TY</p> GR "C" <p>JR-TY</p> RG "B"



























AIDS TO NAVIGATION ON WESTERN RIVERS (MISSISSIPPI RIVER SYSTEM)

AS SEEN ENTERING FROM SEAWARD

PORT SIDE GREEN OR WHITE LIGHTS FLASHING	JUNCTION MARK JUNCTIONS AND OBSTRUCTIONS INTERRUPTED QUICK FLASHING	STARBOARD SIDE RED OR WHITE LIGHTS GROUP FLASHING (2)
 LIGHTED BUOY	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>PREFERRED CHANNEL TO STARBOARD TOPMOST BAND BLACK</p>  CAN </div> <div style="text-align: center;"> <p>PREFERRED CHANNEL TO PORT TOPMOST BAND RED</p>  NUN </div> </div> <p style="text-align: center;">LIGHTED</p>	 LIGHTED BUOY
 CAN	 CAN	 NUN
 PASSING DAYMARK	 CAN	 NUN
 CROSSING DAYMARK	 JG	 NUN
 MILE BOARD	 JR	 PASSING DAYMARK
		 CROSSING DAYMARK
		 MILE BOARD

RANGE DAYMARKS AS FOUND ON

NAVIGABLE WATERS — EXCEPT — ICW — MAY BE LETTERED											
KGW	KWG	KWB	KBW	KWR	KRW	KRB	KBR	KGB	KBG	KGR	KRG
											
INTRACOASTAL WATERWAY — MAY BE LETTERED											
KGW-I	KWG-I	KWB-I	KBW-I	KWR-I	KRW-I	KRB-I	KBR-I	KGB-I	KBG-I	KGR-I	KRG-I
											



UNIFORM STATE WATERWAY MARKING SYSTEM

STATE WATERS AND DESIGNATED STATE WATERS FOR PRIVATE AIDS TO NAVIGATION

REGULATORY MARKERS



BOAT EXCLUSION AREA

EXPLANATION MAY BE PLACED OUTSIDE THE CROSSED DIAMOND SHAPE, SUCH AS DAM, RAPIDS, SWIM AREA, ETC.



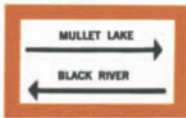
DANGER

THE NATURE OF DANGER MAY BE INDICATED INSIDE THE DIAMOND SHAPE, SUCH AS ROCK, WRECK, SHOAL, DAM, ETC.



CONTROLLED AREA

TYPE OF CONTROL IS INDICATED IN THE CIRCLE, SUCH AS SLOW, NO WAKE, ANCHORING, ETC.



INFORMATION

FOR DISPLAYING INFORMATION SUCH AS DIRECTIONS, DISTANCES, LOCATIONS, ETC.



BUOY USED TO DISPLAY REGULATORY MARKERS

MAY SHOW WHITE LIGHT
MAY BE LETTERED



AIDS TO NAVIGATION



MOORING BUOY

WHITE WITH BLUE BAND
MAY SHOW WHITE REFLECTOR OR LIGHT

MAY SHOW WHITE REFLECTOR OR LIGHT



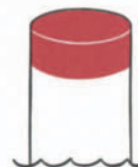
RED-STRIPED WHITE BUOY

MAY BE LETTERED
DO NOT PASS BETWEEN BUOY AND NEAREST SHORE



BLACK-TOPPED WHITE BUOY

MAY BE NUMBERED
PASS TO NORTH OR EAST OF BUOY



RED-TOPPED WHITE BUOY

PASS TO SOUTH OR WEST OF BUOY

CARDINAL SYSTEM

MAY SHOW GREEN REFLECTOR OR LIGHT



PORT SIDE

SOLID RED AND SOLID BLACK BUOYS
USUALLY FOUND IN PAIRS
PASS BETWEEN THESE BUOYS

MAY SHOW RED REFLECTOR OR LIGHT



STARBOARD SIDE

LATERAL SYSTEM

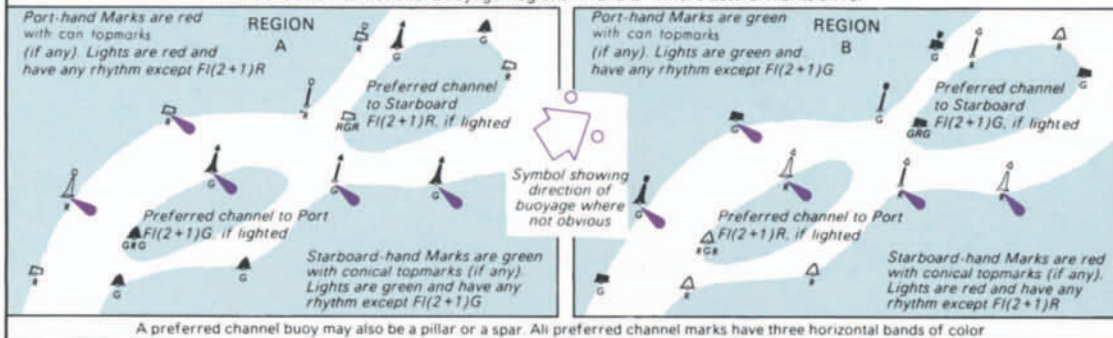
INTERNATIONAL ASSOCIATION OF
LIGHTHOUSE AUTHORITIES (I.A.L.A.)
MARITIME BUOYAGE SYSTEM

L 70 Buoy and Beacons IALA* Buoyage System

Where in force, the IALA System applies to all fixed and floating marks and occasionally lighthouses, sector lights, range marks, lightships and LANBY's (large automatic navigational buoys).

The standard buoy shapes are cylindrical (can) \square , conical Δ , spherical \circ , pillar (including high focal plane) \perp and spar \perp , but variations may occur, for example lightfloats \ominus . In the illustrations below, only the standard buoy shapes are used. In the case of fixed beacons (lighted or unlighted), only the shape of the topmark is of navigational significance.

Lateral Marks (used in conjunction with a conventional direction of buoyage) are generally for well-defined channels. There are two international Buoyage Regions—A and B—where Lateral marks differ

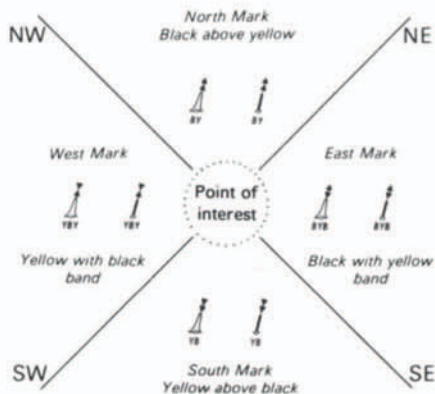


All marks other than Lateral Marks are the same in REGIONS A and B

UNLIGHTED MARKS

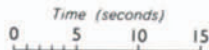
Cardinal Marks indicating navigable water to the named side of the marks

Topmark: 2 black cones



LIGHTED MARKS

White light



North Mark



East Mark



South Mark



West Mark



The same abbreviations are used for lights on spar buoys and beacons. The periods, 5s, 10s and 15s, may not always be charted.

Isolated Danger Marks, stationed over dangers with navigable water around them.

Body: black with red band(s)
 Topmark: 2 black balls



$F(2)$



White light

Safe Water Marks, such as mid-channel and landfall marks.

Body: red and white stripes
 Topmark (if any): red ball



Iso. or Oc. or L Fl. 10s. or Mo(A)

White light

Special Marks, not primarily to assist navigation but to indicate special features.

Body (shape optional): yellow
 Topmark (if any): yellow X



Fl Y etc

Yellow light

BEACONS with IALA System topmarks are charted by upright symbols, eg.

Beacon towers are charted: \perp \perp \perp etc. (occasionally lighted)

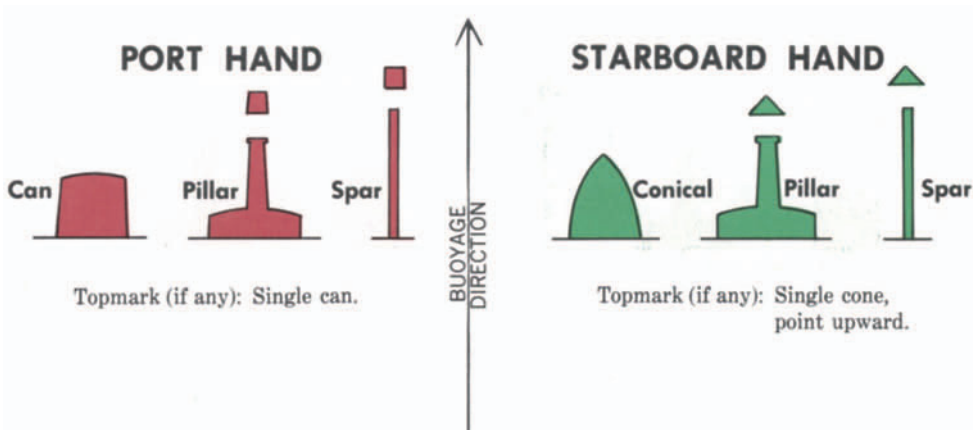
RADAR REFLECTORS on buoys and beacons are not generally charted.

COLOR ABBREVIATIONS under symbols, especially those of spar buoys, may be omitted, or may be at variance with symbols shown above.

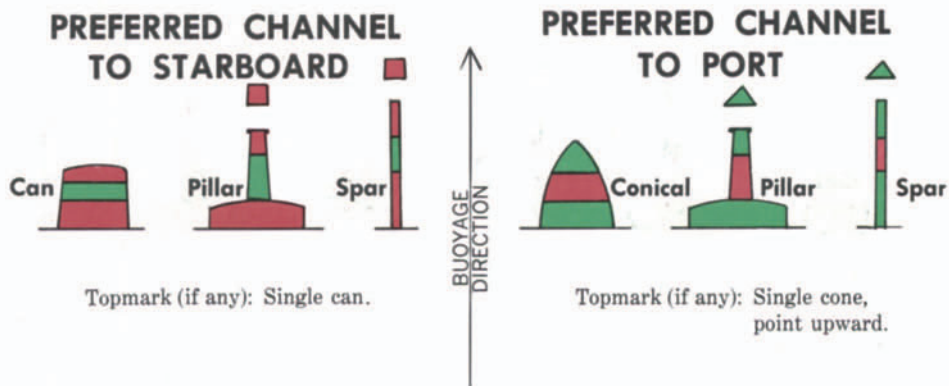
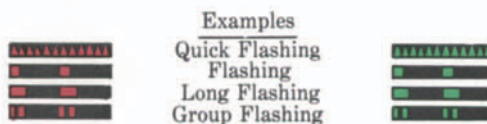
LIGHTFLOATS: The IALA System is not usually applied to large lightfloats (replacing manned lightships) but may be applied to smaller lightfloats.

* IALA is an abbreviation of International Association of Lighthouse Authorities.

IALA MARITIME BUOYAGE SYSTEM LATERAL MARKS REGION A

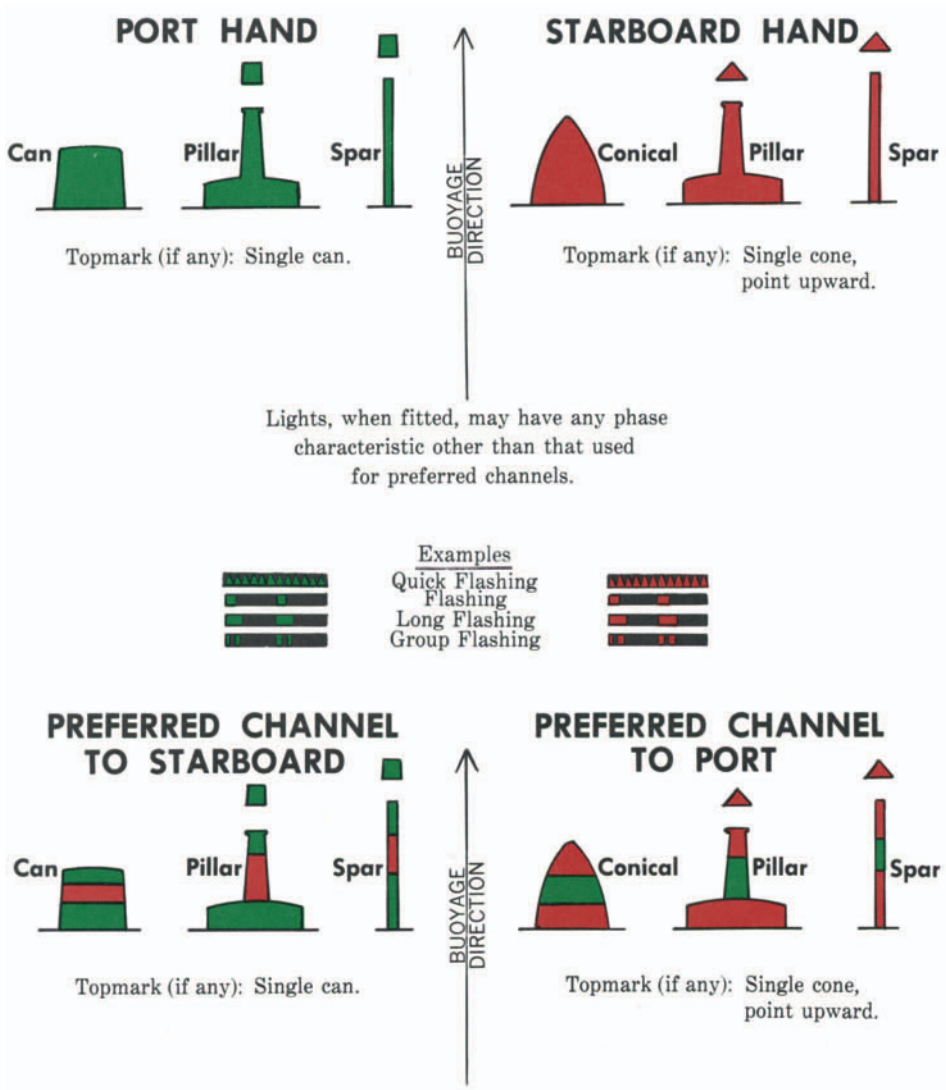


Lights, when fitted, may have any phase characteristic other than that used for preferred channels.



Lights, when fitted, are composite group flashing Fl (2 + 1).

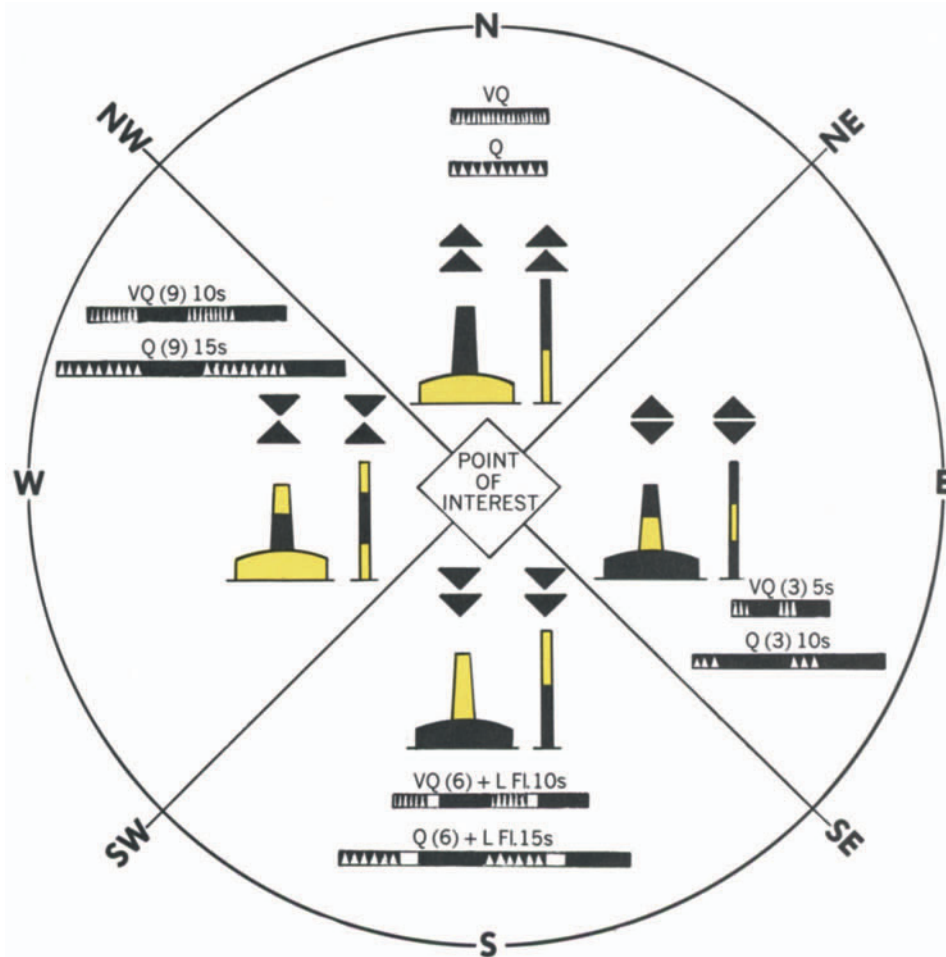
IALA MARITIME BUOYAGE SYSTEM LATERAL MARKS REGION B



Lights, when fitted, are composite group flashing Fl (2+1).

IALA MARITIME BUOYAGE SYSTEM CARDINAL MARKS REGIONS A AND B

Topmarks are always fitted (when practicable).
Buoy shapes are pillar or spar.

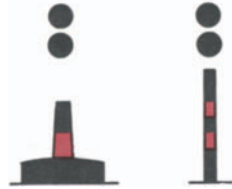


Lights, when fitted, are **white**. Very Quick Flashing or Quick Flashing; a South mark also has a Long Flash immediately following the quick flashes.

IALA MARITIME BUOYAGE SYSTEM REGIONS A AND B

ISOLATED DANGER MARKS

Topmarks are always fitted (when practicable).



Light, when fitted, is **white**
Group Flashing (2)

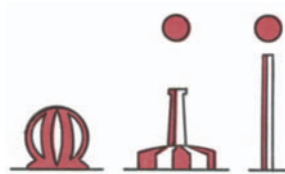


F1 (2)

Shape: Optional, but not conflicting with lateral marks; pillar or spar preferred.

SAFE WATER MARKS

Topmark (if any):
Single sphere.



Light, when fitted, is **white**
Isophase or Occulting,
or one Long Flash every 10 seconds or Morse "A".



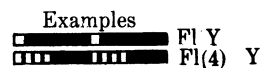
Shape: Spherical
or
pillar or spar.

SPECIAL MARKS

Topmark (if any):
Single X shape.



Light (when fitted) is **yellow** and may have any phase characteristic not used for white lights.



Shape: Optional, but not conflicting with navigational marks.

Appendix B. Abbreviations and Symbols Commonly Used in Piloting

ATP	Allied Tactical Publication	GMT	Greenwich Mean Time
Bn	beacon	IALA	International Ass'n of Lighthouse Authorities
C	course	JA	captain's battle sound-powered telephone circuit
CIC	combat information center	JW	navigation sound-powered telephone circuit
CO	commanding officer	kn	knot (of speed)
COG	course over the ground	L	latitude
D	drift	λ	longitude
DB	danger bearing	LMT	local mean time
DG	degaussing	LOGREQ	logistics requirement message
DMA	Defense Mapping Agency	LOP	line of position
DMAHTC	Defense Mapping Agency Hydrographic/ Topographic Center	LPO	leading petty officer
DMAODS	Defense Mapping Agency Office of Distribution Services	M	magnetic
DR	dead reckoning	m	meter
E	east	Mi	mile
ec.	eclipse (of a light)	MHW	mean high water
ECM	electronic countermeasures	MLW	mean low water
EP	estimated position	N	north
ETA	estimated time of arrival	1-N	<i>DMAHTC Catalog of Nautical Charts</i>
ETD	estimated time of departure	NEOC	Naval Eastern Oceanography Center
fm	fathom	NOS	National Ocean Survey
ft	foot	NWOC	Naval Western Oceanography Center

OOD	officer of the deck	SOA	speed of advance
OTSR	optimum track ship routing	SOG	speed over ground
P_n	north pole	SOP	standard operating procedure
pgc	per gyro compass	SOPA	senior officer present afloat
PIM	position of intended movement	T	true
PMP	parallel motion protractor	TR	track
PPI	plan position indicator	W	west
psc	per standard compass	XO	executive officer
pstgc	per steering compass	yd	yard (unit of measure)
P_s	south pole	ZD	zone description
QMOW	quartermaster of the watch	ZT	zone time
R	relative	Miscellaneous Symbols	
RF	radiofrequency	°	degrees
RPM	revolution per minute	'	minutes of arc
S	speed; south; set	"	seconds of arc
SI	International System of Units	□	estimated position
		⊙	fix, running fix
		△	DR position
		λ	longitude

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