O - Buoys, Beacons and Daymarks, Notice Marks

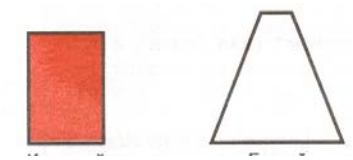
O.1 Buoys

O.1.1 Buoy at Bifurcation of Channel (M)

A buoy at a fairway junction may indicate by its top mark on which side it is preferable to pass (main channel).

Graphics	Encoding Instructions	Object Encoding
Real World  *Chart Symbol*  *Chart Symbol (single mark)*  *Chart Symbol (double marks)* 	A) In the event there is a light on the day mark, the BOYSPP object should be designated as the master and coded with the OBJNAM of the LIGHTS object. B) EU: The designator as it appears on the buoy, if it can be read from a passing vessel, should be encoded in the attribute OBJNAM. Administrative information on the buoys that is not relevant for navigation should be encoded in the attribute NOBJNM. It is not repeated for each slave object. C) EU: If a buoy is according to IALA with preference of channel, object class: BOYLAT, CATLAM = 3 or 4 shall be used. D) EU: Coding of the CATLAM attribute is mandatory. In case TOPMAR is added: the buoy has to be encoded as master and TOPMAR as slave TOPSHP = 3 (sphere) and COLOUR/COLPAT see buoy; and/or TOPSHP = 1 (cone, up) if CATLAM = 3 or TOPSHP = 5 (cylinder, can) if CATLAM= 4 If buoy according to IALA with preference of channel, BOYLAT, CATLAM = 3 or 4 E) IALA: If there is no preference to pass BOYSPP with (M) CATSPM = 54 (channel separation mark) is used F) EU: If a buoy is according to CEVNI, object class: 'boylat', 'catlam' = 3, 4 or 8 shall be used. catlam/COLOUR attributes must be used in the following combinations: 10 (bifurcation of channel) / 3,4,3,4 (red / green)	**Coding of Structure Object** **Object Class =** BOYLAT(P) (M) CATLAM = [3 (preferred channel to starboard lateral mark), 4 (preferred channel to port lateral mark)] (M) BOYSHP = [1 (conical (nun, ogival)), 2 (can (cylindrical)), 3 (spherical), 4 (pillar), 5 (spar (spindle))] (M) COLOUR = [1 (white), 3 (red), 4 (green)] (C) OBJNAM = (Refer to letter B) (C) NOBJNM = (Refer to letter B) (C) MARSYS = [1 (IALA A), 2 (IALA B)] (C) INFORM = (Refer to letter I) (M) SCAMIN = [EU: 22000; US: 60000] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance) **Alternative (see coding instruction E)** **Object Class =** BOYSPP(P) (M) BOYSHP = [1 (conical (nun, ogival)), 3 (spherical), 4 (pillar), 5 (spar (spindle))] (M) CATSPM = [54 (channel separation mark)] (M) COLOUR = [1 (white), 2 (black), 3 (red), 4 (green)] (M) COLPAT = [1 (horizontal stripes), 2 (vertical stripes)] (C) MARSYS = [1 (IALA A), 2 (IALA B)] (O) CONRAD = [3 (radar conspicuous (has radar reflector))] (C) OBJNAM = (Refer to letter B) (O) NOBJNM = (Refer to letter B) (M) SCAMIN = [EU: 22000; US: 60000] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance) **alternative (see coding instruction F)**

Chart Symbol (double marks)



IENC Symbolization

G) EU: If not under the issuing authority, use INFORM to indicate responsibility of operation of the buoy.

H) EU: For CEVNI buoy with two topmarks, encode only the upper TOPMAR.

I) If the system of navigational marks of a special sign is different from the system mentioned in 'm_nsys', the attribute MARSYS, INFORM or 'marsys' must be used.

Object Class = boylat(P)

(M) BOYSHP = [1 (conical (nun, ogival)), 2 (can (cylindrical)), 3 (spherical), 4 (pillar), 5 (spar (spindle))]

(M) catlam = [3 (preferred channel to starboard lateral mark), 4 (preferred channel to port lateral mark), 10 (bifurcation of the channel)]

(M) COLOUR = [3 (red), 4 (green)]

(M) COLPAT = [1 (horizontal stripes)]

(C) marsys = [1 (IALA A), 2 (IALA B), 9 (no system), 10 (other system), 11 (CEVNI), 12 (Russian inland waterway regulations), 13 (Brazilian national inland waterway regulations - two sides), 14 (Brazilian national inland waterway regulations - side independent), 15 (Paraguay-Parana waterway - Brazilian complementary aids)]

(O) CONRAD = [3 (radar conspicuous (has radar reflector))]

(O) INFORM = (EU: Refer to letter G)

(C) OBJNAM = (EU: designator as it appears on the structure; US: "Name" + (River Mile), e.g., Avoca Island Cutoff Buoy (132.7)

(O) NOBJNM = (Refer to Section B, General Guidance)

(M) SCAMIN = [EU: 22000; US: 60000]

(C) SORDAT = [YYYYMMDD]

(C) SORIND = (Refer to Section B, General Guidance)

Coding of Equipment Object

Object Class = TOPMAR(P)

(M) COLOUR = [3 (red), 4 (green)]

(M) TOPSHP = [1 (cone, point up), 3 (sphere), 5 (cylinder (can))]

(C) COLPAT = [1 (horizontal stripes)]

(M) SCAMIN = [EU: 22000; US: 60000]

(C) SORDAT = [YYYYMMDD]

(C) SORIND = (Refer to Section B, General Guidance)

Object Encoding

Object Class = LIGHTS(P)

(M) COLOUR = [1 (white), 3 (red), 4 (green), 6 (yellow)]

(M) EXCLIT = [1 (light shown without change of character), 2 (daytime light), 3 (fog light), 4 (night light)]

(M) LITCHR = [1 (fixed), 2 (flashing), 4 (quick-flashing), 7 (isophased)]

		(C) SIGPER = [xx.xx (e.g. signal period of 12 seconds coded as 12)] (C) SIGGRP = [(x),(x)…], e.g., (), (2), (2+1) (C) SIGSEQ = [L.LL + (E.EE)] (seconds) (M) SCAMIN = [EU: 22000; US: 60000] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance)