

Buoyage



Buoyage Systems

- 1) The Lateral Systems (*IALA-A / IALA-B*)
- 2) The Cardinal System
- 3) Isolated danger marks
- 4) Safe water marks
- 5) Special marks.

The lateral system

P

SB

In the Lateral Buoyage System the fairway has been divided into a *starboard* side and *port* side.

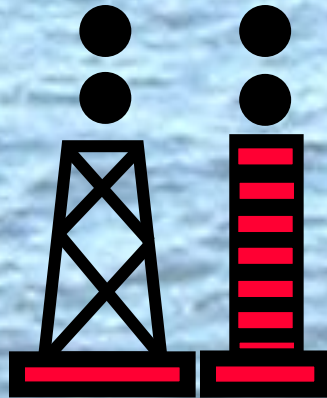
The Cardinal system

Cardinal buoys *indicate* how to pass a danger in a certain quadrant.



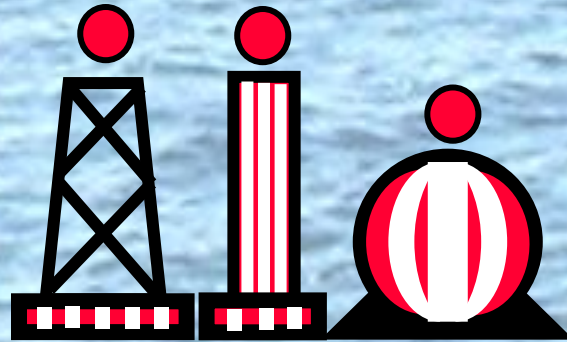
The four Cardinal buoys are:
North Cardinal buoy;
South Cardinal buoy;
West Cardinale buoy;
East Cardinal buoy.

Isolated danger marks



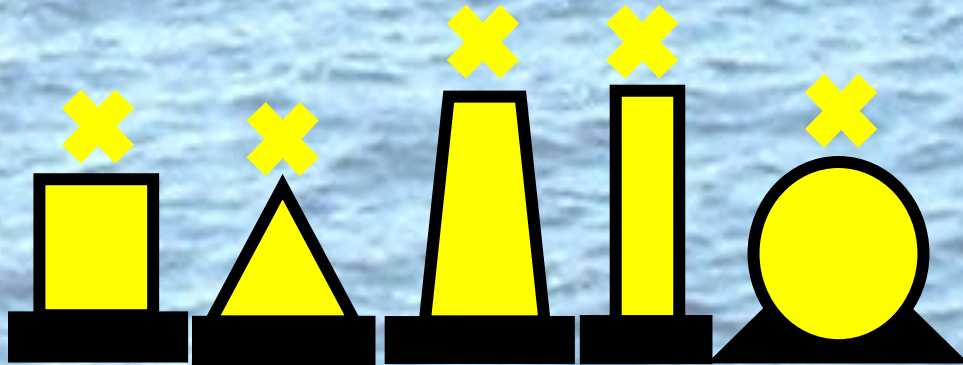
Isolated danger buoys are pillar-shaped or spar-shaped with 2 black *spherical* topmarks.

Safe water buoys



Safe water marks, or *landfall marks*, indicate that one *approaches* the coast.


Special buoys





Special buoys indicate the fairway-features that are *described* in the pilotbook of the area.

Shapes of buoys

CAN BUOYS 

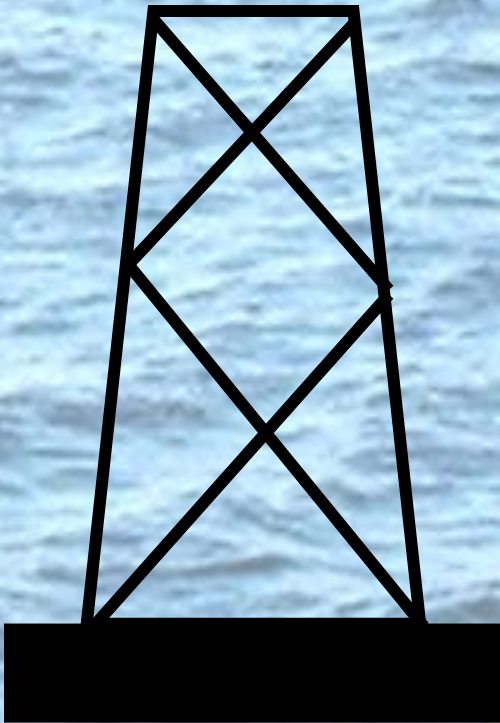
CONICAL BUOYS 

PILLAR BUOYS 

SPAR BUOYS 

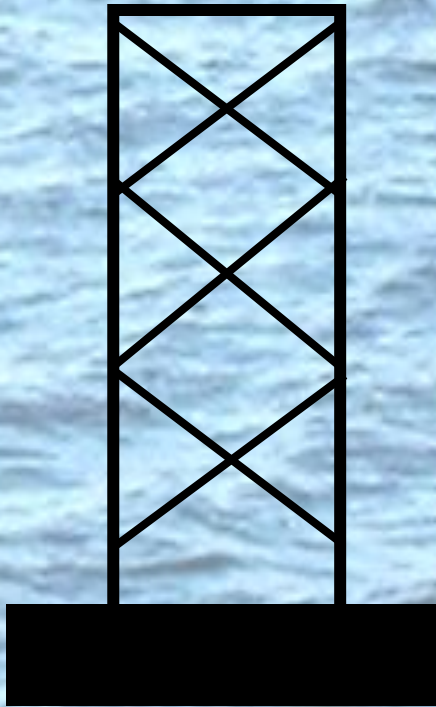
SPHERICAL BUOYS 

The pillar buoy



The shape of the pillar buoy itself does not give any information about the fairway.

The spar buoy



The shape of the spar buoy itself does not give any information about the fairway.

Spar buoys are not easily carried away by *ice floes*.

The spherical buoy

The yellow coloured *spherical* buoy is used to indicate important *features* in the fairway;



RWVS-sphericals are used to indicate safe water or that one approaches the coast.

Lights

Buoys may be fitted with a light.
The type of light that is used
is indicated by an *abbreviation*.

<u>FIXED LIGHT</u>	<u>F</u>
<u>FLASHING LIGHT</u>	<u>FL</u>
<u>OCCULTING LIGHT</u>	<u>OC</u>
<u>ISOPHASE LIGHT</u>	<u>ISO</u>

The fixed light (F)

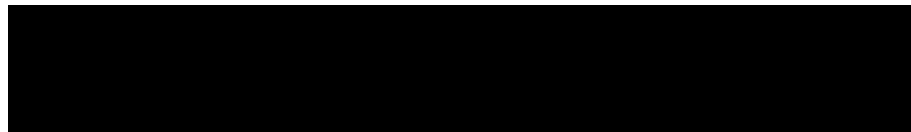
A fixed light is a light that shines continuously.



The flashing light (FI)

The flashing light is a light with a long dark interval and short light interval.

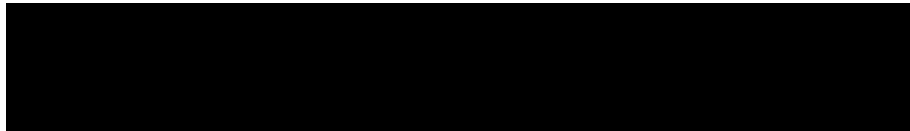
Rhythm: Quick or Very Quick (Q or VQ)
e.g. Q(9).



The occulting light (Oc)

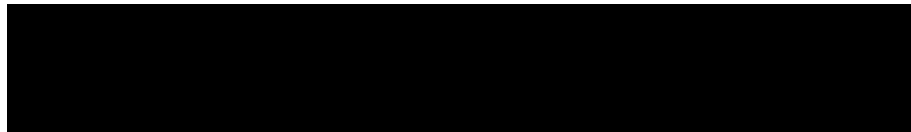
The occulting light is a light with a long light interval and a short dark interval.

Rhythm: Quick (Q) or Very Quick (VQ).



The isophase light (Iso)

The isophase light has light and dark intervals of equal durations.



The alternating light (AI)

The Alternating light is a light that shows different colours alternately (e.g. AIWGR).



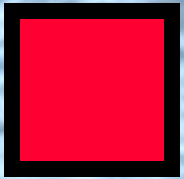
Group lights

Group lights are flashing lights or occulting lights in group that are repeated at regular intervals.

F1(3)



Topmarks (Daymarks)



CAN



CONE



2 CONES



SPHERE

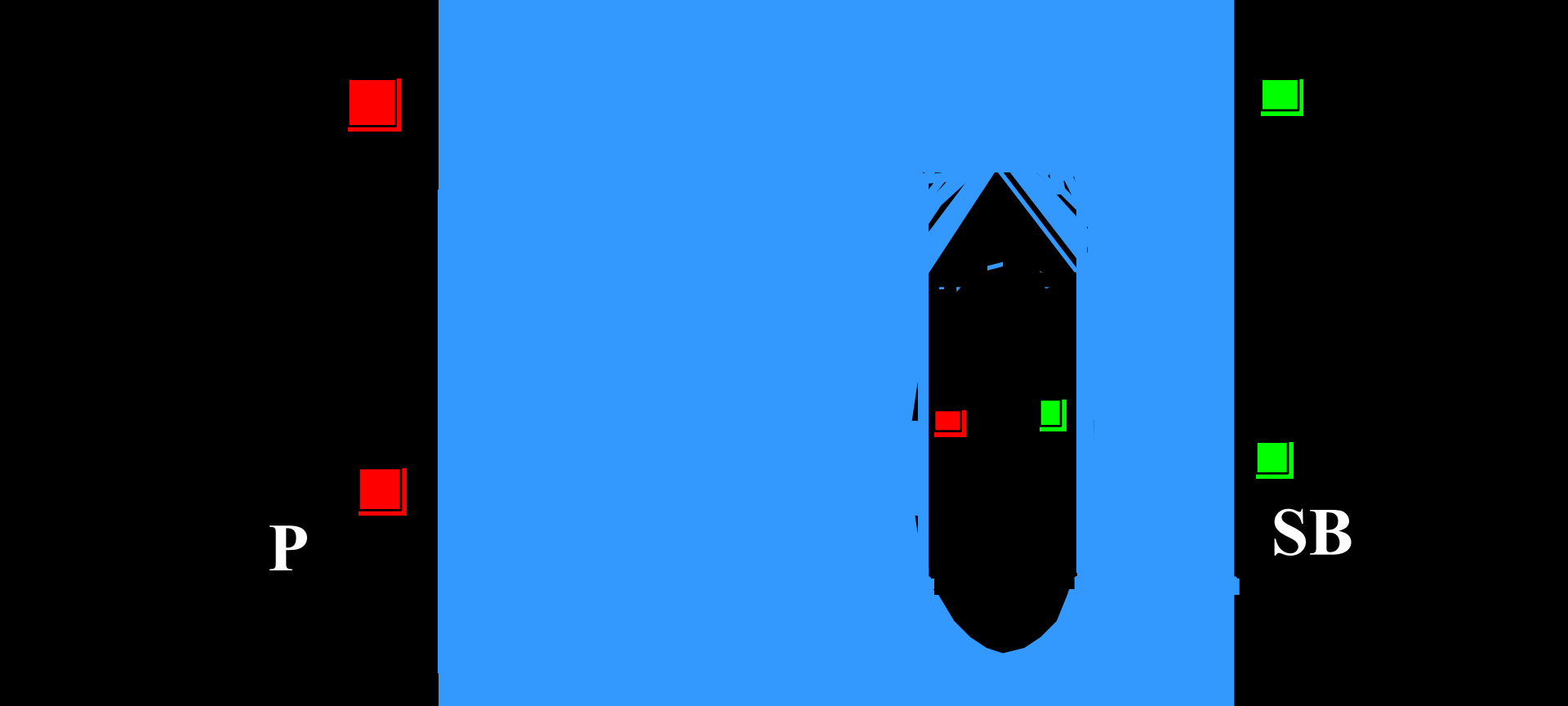


CROSS

Buoyage

A large ship is visible on the horizon line, centered under the word 'Buoyage'. The sea is dark blue with a bright, shimmering reflection of the sun in the center, extending from the horizon towards the bottom of the frame. The sky is a pale, hazy blue.

The lateral system (IALA-A)



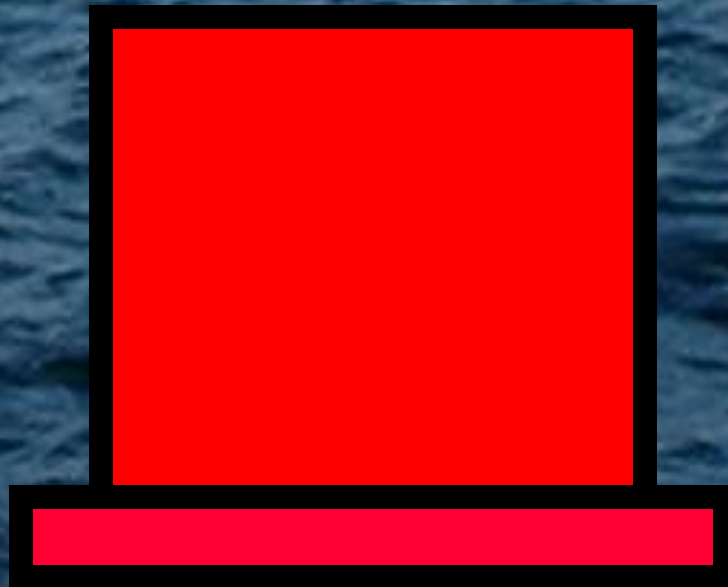
For vessels inward in the IALA-A buoyage system:

*Green to green,
Red to red,
Perfect safety,
Go ahead.*

the lateral system

The can buoy

In the IALA-A system the red-coloured *can buoy* indicates *port side*.



the lateral system

The conical buoy

In the IALA-A system the green coloured *conical buoy* indicates starboard side.



the lateral system

Port buoys

Even numbers on lateral buoys indicate port side.



the lateral system

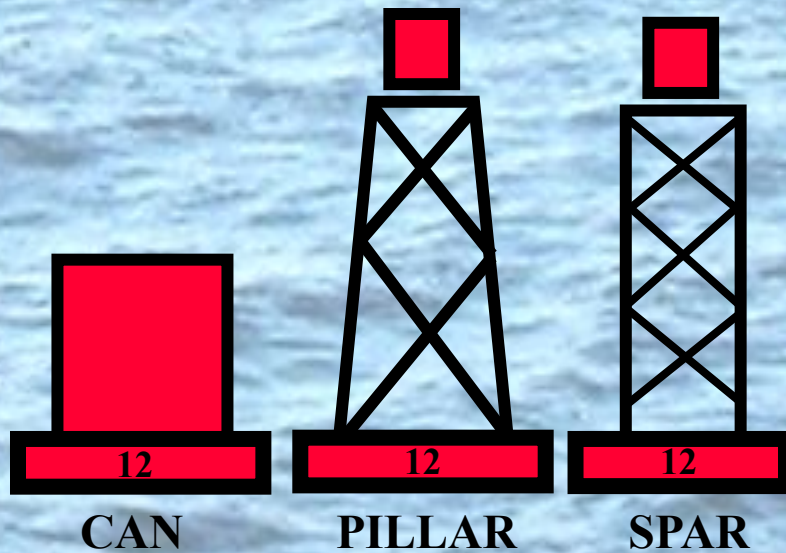
Starboard buoys

Odd numbers on lateral buoys indicate starboard side.



the lateral system

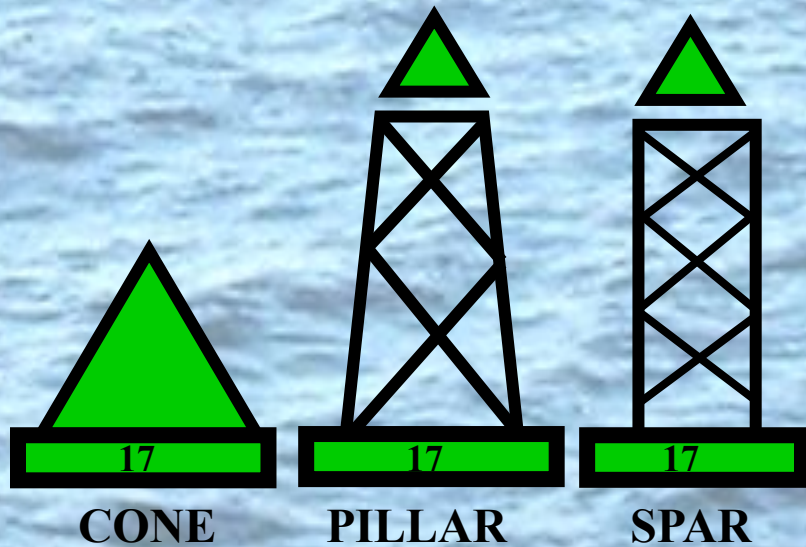
Port buoys



Counting from seaward we find *red* coloured *even* numbered *can* buoys (*cans*), *pillar* buoys or *spar* buoys on port side.

the lateral system

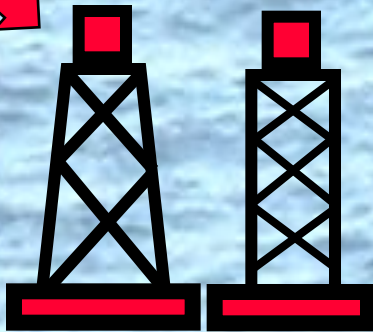
Starboard buoys



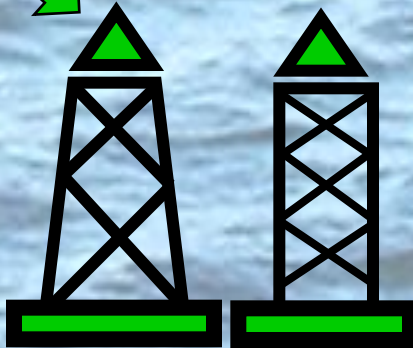
Counting from seaward we find *green* coloured *odd* numbered *conical* buoys (*cones*), *pillar* buoys or *spar* buoys on starboard side.

the lateral system

Lateral topmarks



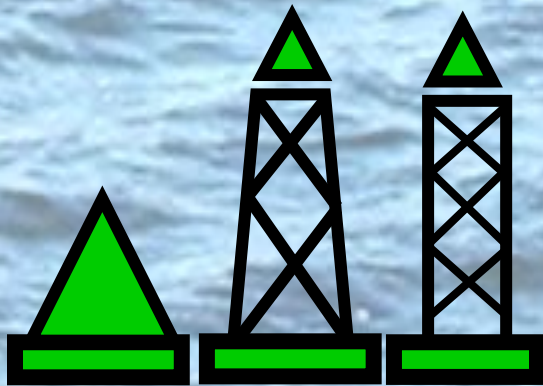
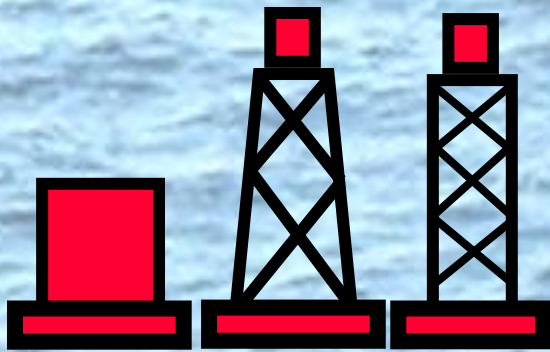
A *can* on a pillar buoy or spar buoy indicates *port side*.



A *cone* on a pillar buoy or spar buoy indicates *starboard side*.

the lateral system

Lateral lights



Lights fitted on lateral buoys may be:

FL. RED OR GREEN

OC. RED OR GREEN

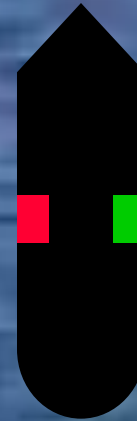
ISO. RED OR GREEN

F. RED OR GREEN.

the lateral system

The IALA-B system

P



SB

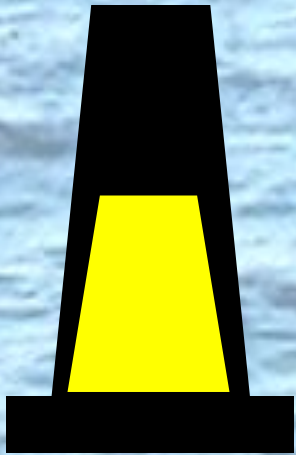
In America and Japan the IALA-B system is employed.
This means that red indicates starboard and green indicates
port side.

the lateral system

The Cardinal system



The Cardinal buoys



Pillar



Spar

The buoys used in the Cardinal System are the pillar buoy and the spar buoy.

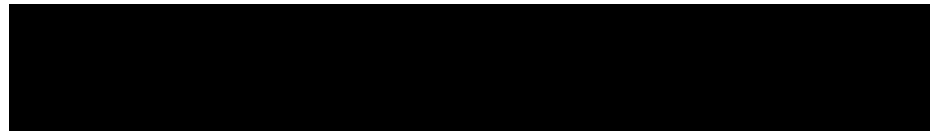
Cardinal lights

On a Cardinal buoy a white Flashing Light is fitted.

Charted abbreviations for a flashing light:
Q or VQ.

North-Cardinal light

Q or VQ (*continuously flashing light*)



South-Cardinal light

Q6 + 1LFI or VQ6 + 1Lfi



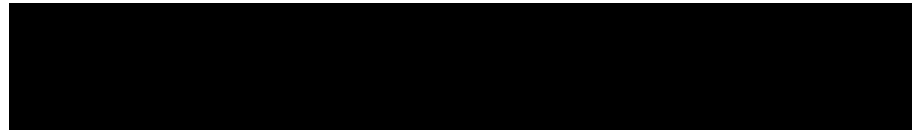
West-Cardinal light

Q9 or VQ9



East-Cardinal light

Q3 or VQ3

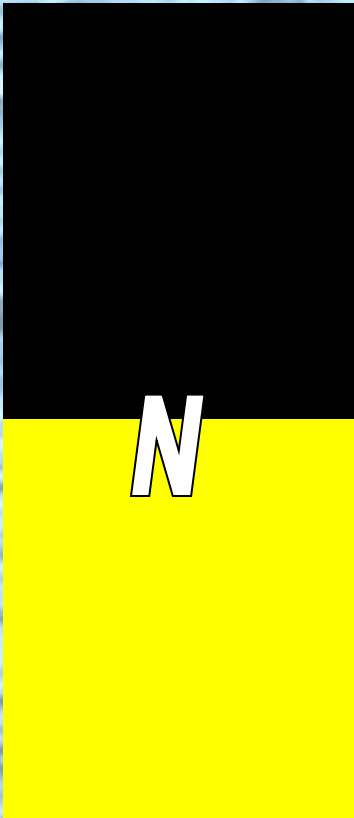


Cardinal topmarks

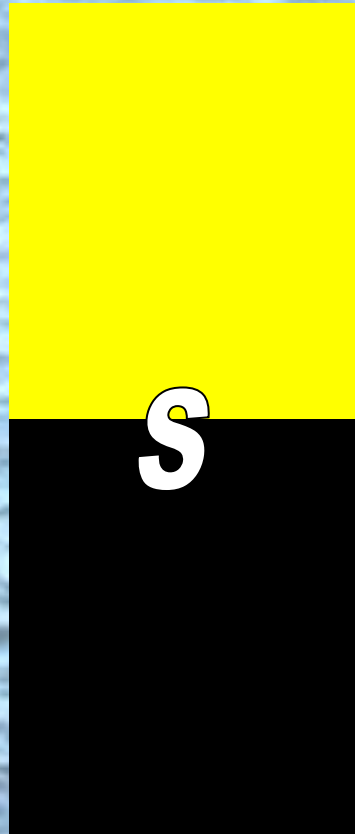


The topmarks (or daymarks) on Cardinal buoys are 2 black cones.

Cardinal colours



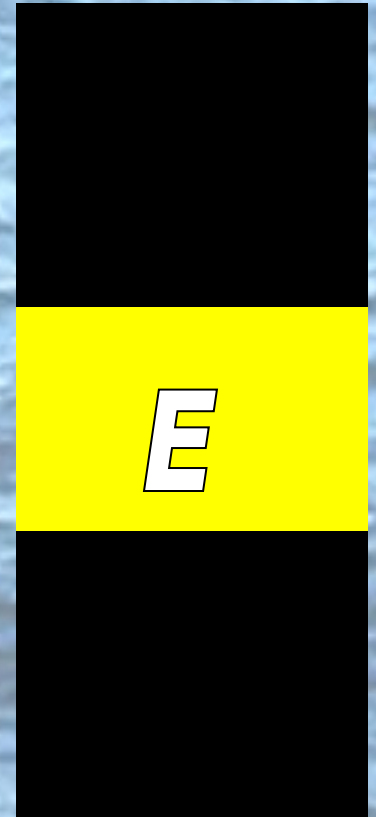
*BLACK OVER
YELLOW*



*YELLOW OVER
BLACK*

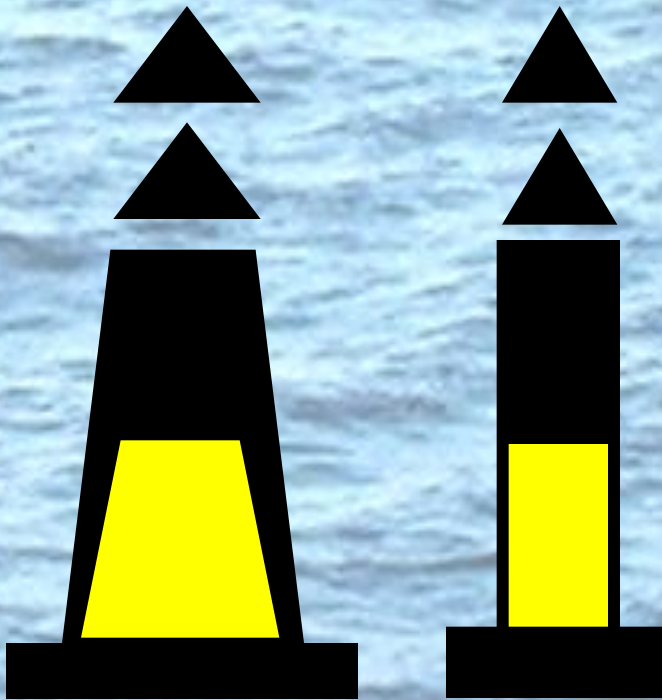


*YELLOW WITH A
BLACK
HORIZONTAL
BAND*



*BLACK WITH A
YELLOW
HORIZONTAL
BAND*

North Cardinal buoy



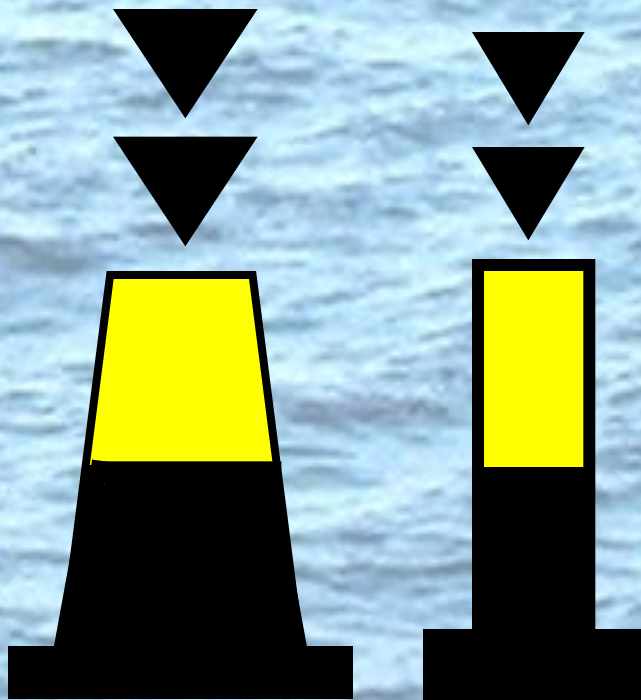
COLOUR: B/Y

TOPMARKS: 2 BLACK CONES
POINTS UP

LIGHT: WHITE Q OR VQ

the Cardinal system

South Cardinal buoy



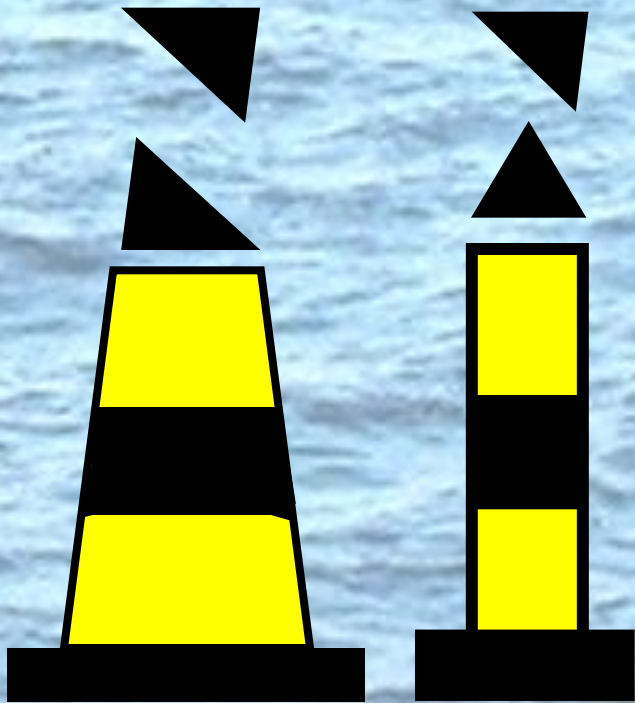
COLOUR: Y/B

TOPMARKS: 2 BLACK CONES
POINTS DOWN

LIGHT: WHITE Q6 + 1LFL OR
VQ6 + 1LFL

the Cardinal system

West Cardinal buoy



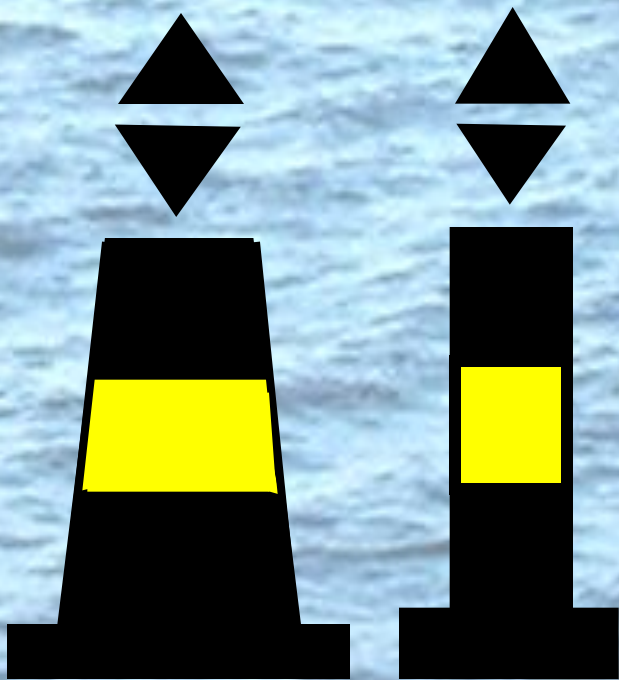
COLOUR: Y/B/Y

TOPMARK: 2 BLACK CONES
POINT TO POINT.

LIGHT: WHITE Q9 OR VQ9.

the Cardinal system

East Cardinal buoy



COLOUR: B/Y/B

TOPMARK: 2 BLACK CONES
BASE TO BASE.

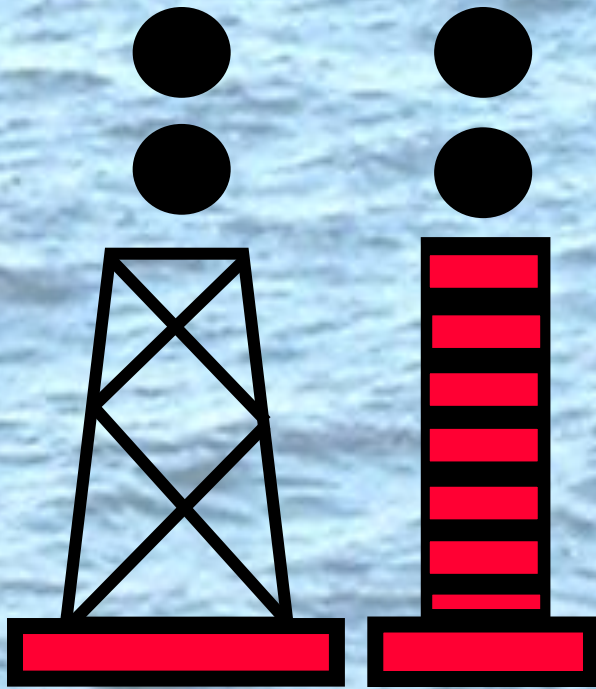
LIGHT: WHITE Q3 OR VQ3.

the Cardinal system

Buoyage

Isolated danger buoys, Safe water buoys, Special buoys

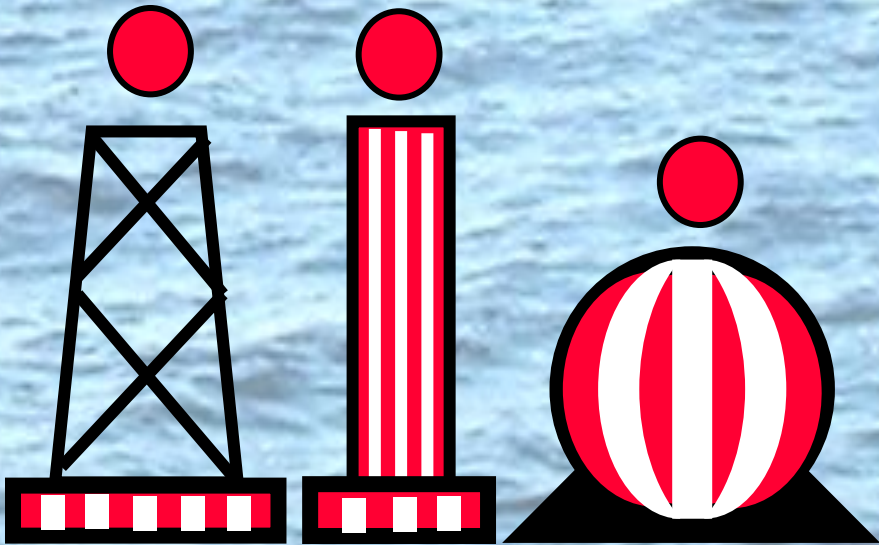
Isolated danger buoys



Isolated danger buoys are pillar shaped or spar shaped with 2 black spherical topmarks (light: white Fl, Oc or Iso).

Safe water buoys

Safe water buoys are red-and-white pillar buoys, spar buoys or spherical buoys (*spheres*) with a single red spherical topmark (light: white Fl, Oc or Iso).



Special buoys



Special buoys are yellow cans, cones, pillars, spars or spheres;
topmark: yellow cross;
light: yellow Fl, Oc or Iso.

The International Maritime Language Programme – IMLP

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