

## The Basics - Buoys and buoyage

Ever since the Egyptians lit the first beacons to warn mariners of rocks, navigation marks have been keeping mariners safe over the centuries.

Indeed, the Pharos lighthouse of Alexandria was one of the seven wonders of the ancient world, with a height of 117 metres, it used a mirror to focus the light of a wood burning fire.

Returning to the modern day, lights and buoyage have developed considerably, and It's fair to say that an understanding of buoyage is pretty important when you're heading out to sea.

Even if you're a seasoned mariner, however, it's easy to forget some of the more obscure light phases. It's also good to have a bit of a reminder when it comes to buoyage, so here is a simple guide to buoys and light sequences.

## The Basics

Let's keep it really simple to start with: Here you have your port and starboard markers. These flash red or green to any rhythm and mark the outer edge of a channel.



In the diagram below, the boat going between them leaves the port marker to port and the starboard marker to starboard as she heads in to the channel towards land. This sounds pretty obvious, but if you are in North or South America, Canada or certain parts of South East Asia, this is in fact the opposite, just to confuse everyone!

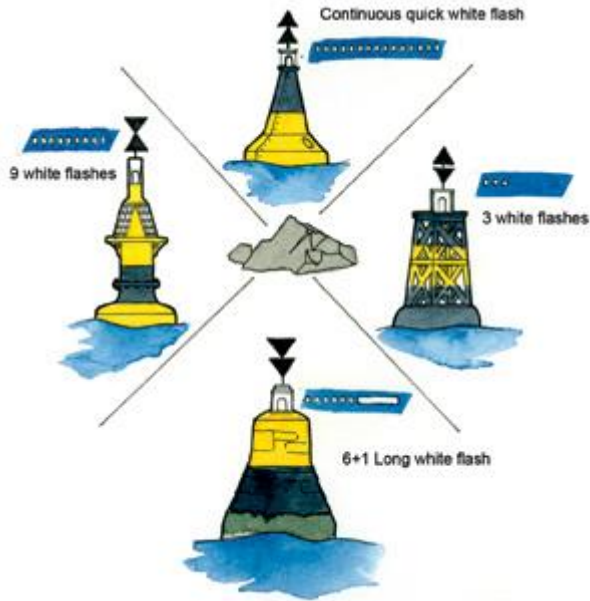
NB: port and starboard marks will flash any rhythm apart from two short flashes, then a long flash. Anyway, it's best to ignore that for the purposes of this article and tackle that if you're lucky enough to be heading for foreign waters.

If you are in any doubt about the direction of buoyage, then check on the chart for this arrow below:



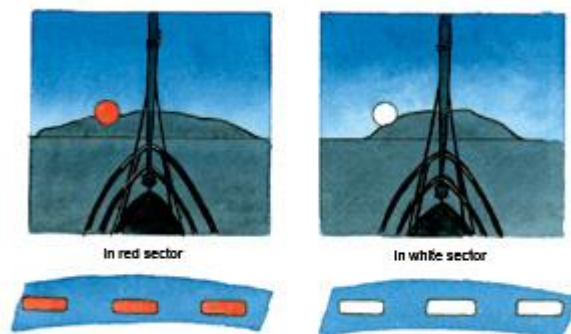
## Cardinal Marks

These are used to indicate the direction of the safest navigable water from a mark. So if you see a South Cardinal ahead, you should stay to the south.



## Sector Lights

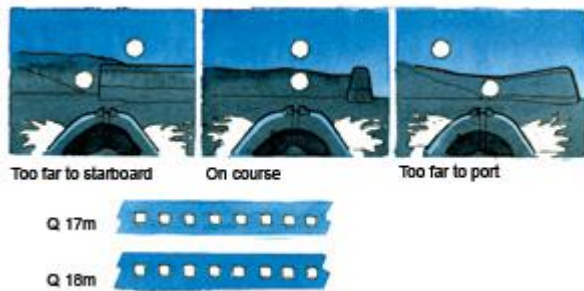
Sectored lights lead you in to safety by making you stay within the white light. If you head too far to port, you will end up in the red sector and correspondingly, too far to starboard will put you in the green sector.



## Leading Lights

These are two lights, one above the other, designed to guide you into a harbour. The trick is to keep both lights lined up one above the other in order to stay in the safe water.

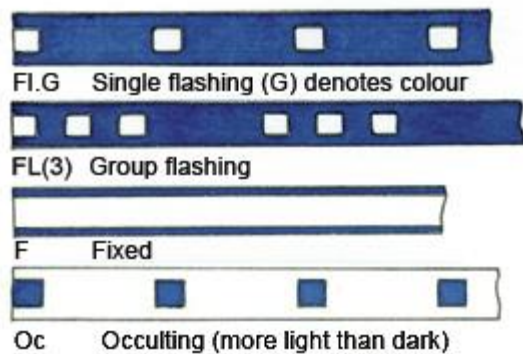
Q 17M denotes that the light will flash quickly and is visible from a range of 17 miles in good conditions.



## Different Light Phases

This brings us on to different light phases. Different types of flashing on different lights enable you to identify which light you are looking at by referring to your chart.

Here are some of the phases:



Other light phases are Quick (Q) and Very Quick (VQ). The diagram on sectored lights also illustrates an Isophase light. Isophase means that a light is on then off for equal periods of time.

A chart will also denote the timeframe in seconds for whichever light phase. For example: Q(6)+L FL 15s means six quick flashes and one long flash every fifteen seconds.

If a chart does not give a light a colour i.e (R) or (G), this means that the light is white.

## Some more marks

### *Safe water mark*

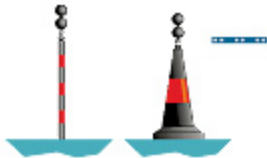
Sometimes called a 'Fairway Buoy' or 'Sea Buoy' they are striped vertically red and white, have a single ball on top and will flash a single long white flash every ten seconds.



These buoys are usually set in safe, deep water at the seaward end of fairways, or harbour approach channels. Traditionally, they are the 'point of departure' and then the waypoints to aim for, and mark the transition from open water navigation to pilotage.

### *Isolated danger mark*

These marks are used to mark a relatively small hazard in the middle of an area of open water, they can be passed on either side.



They can be buoys, beacons, or even concrete pillars but they are always painted with red and black hoops with two black balls on top. If they are lit it will be with a white light flashing in groups of two.

### *The 'special' mark*

These marks have no navigational significance. They are used as race buoys, to define swimming or water-skiing zones, firing ranges, but not to mark a hazard to navigation.



They can be all sorts of shapes, but they are always yellow and often have a Cross as a top mark. If lit, it will be with a yellow light.