



## Courses

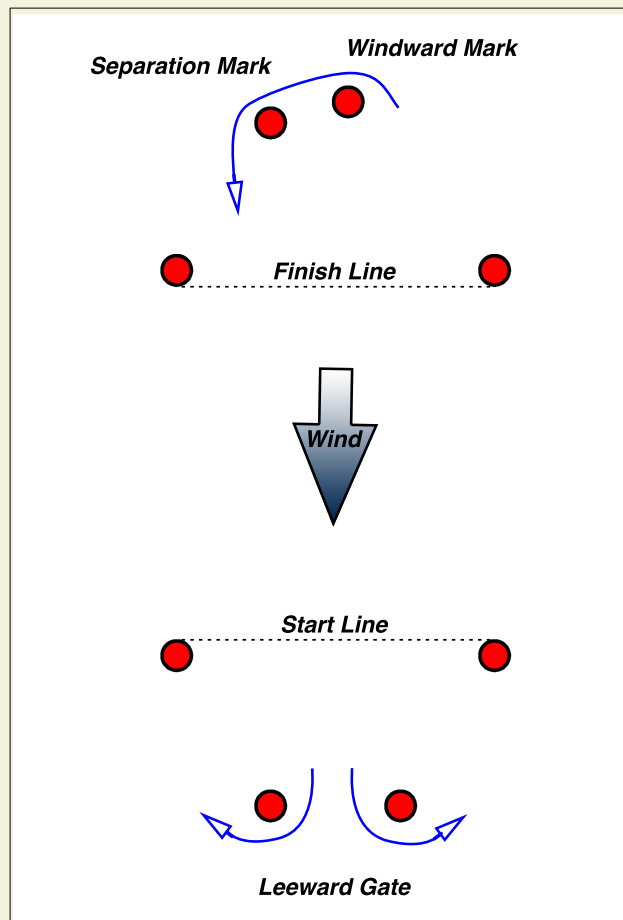
Radio sailing races are nearly always held on some variation of a windward-leeward course. Windward-leeward courses are primarily favoured because beating and running are the two points of sailing that offer the widest range of tactical options when racing. Reaching, on the other hand offers fewer options to attack the competition and reaching legs tend to be “follow the leader” sections of the race.

A secondary benefit of a windward-leeward course is that the longer, narrower shape makes it easier to set close to the shore and therefore closer to skippers, observers and race officials.

Port rounding, particularly of the windward marks, is always preferable to starboard rounding. Rights of way are less complicated and the chances of contact between boats is reduced.

### ***Parts of the Course***

The makeup of a typical radio sailing course is shown below. The course should be laid so that the central axis aligns as close as possible to the wind direction.



*Components of a typical radio sailing course*

**Start line** – Usually positioned at about half way up the beat, but can be placed anywhere to leeward of the

windward mark. Some ROs will even place the start line to leeward of the gate marks in order to maximise the length of the first beat and minimise congestion at the top mark in big fleets. Note that the start line is between the upwind sides of the start marks. The length of the line should be:

$$1.5 \times \text{number of starters} \times \text{hull length}$$

**Finish Line** – usually combined with the start line about half way up the beat, but can be placed anywhere to windward of the gate marks. It may even be set to windward of the windward mark in order to maximise the length of the last beat. At some race venues the finish line may be set closer to the shore to give race officials (and spectators) an unobstructed view of the finish. Note that the finish line is between the downwind sides of the finish marks. There is no set length for the finish line.

**Windward and Separation Marks** – The purpose of the separation mark is to keep boats on different legs of the course apart. They are rounded as a pair, but each has its own zone and mark room and right of way apply separately at each. The position of the separation mark relative to the windward mark is not fixed. The RO will usually set the separation mark abreast or slightly to leeward of the windward mark, but with these two marks so close together, any drift of either mark may result in a significant heading change along this short leg – be prepared.

**Leeward Mark or Gate** – The leeward gate has become popular in recent years as it offers the skipper more tactical choices at the beginning of the beat and helps to spread the crowd at the bottom of the course. Gates are rounded “inside out” (go between, then round outside the mark on your chosen side) as shown in the diagram. When a single leeward mark is used, round it in the same direction as the windward mark. Note that both marks of the gate have their own zone (as does a leeward mark) and the usual mark room and right of way rules apply.

## Course Geometry

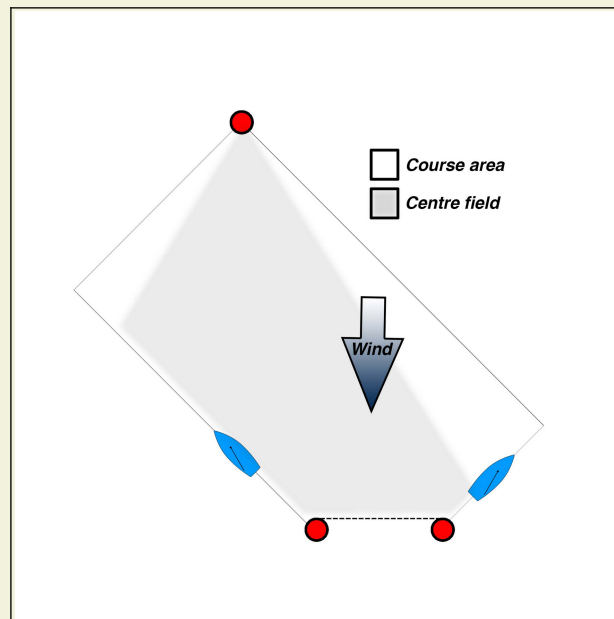
The perfect course is symmetrical, but a wind shift after the start, or constraints on where marks can be laid may mean that parts of the course are skewed.

Be aware of how marks are positioned relative to each other and the wind direction? When you are planning your race before the start, you should be concerned primarily with the location of the windward mark. For example, is it dead upwind from the starting line or off to one side?

One of the rules of thumb in racing is that before you get to any mark you should always visually locate the next mark. So before the start, make sure you know where the windward mark is positioned, then use this information to help plan your first-leg strategy.

The position of the windward mark can have a significant impact on your strategic plan. One of the basic rules of thumb is that you should sail the longer tack first since that gives the best chance of taking advantage of future wind shifts. If windward top mark is to the left of the

mean wind direction, going left (starboard tack) is favoured as that will keep you closest to the middle. Conversely, if the windward mark is to the right, port will be the long tack.



*Skewed course geometry – windward mark set to left*

Look at not only the direction to the first mark, but the distance as well. The shorter the first leg, the sooner you will get to the sides of the course and hit a layline.

Once you've identified the windward mark, develop your first leg strategy to consider these basic principles:

- Sail the longer tack first.
- Avoid laylines and corners as long as possible.
- When in doubt, stay closer to the middle of the course.

The angle of the starting line is important, but first figure out race strategy (particularly the first leg) based on the factors above, then add in the starting line last. Many sailors put way too much importance on the bias of the line and not enough on where they want to go on the first leg.

Consider the effect of wind shifts during the race. When the wind shifts, so do the laylines and therefore the course geometry.