



Release notes (final) for class rules for 2016 – Marblehead, Ten Rater & A Class

Short form version

Extensive commentary is provided in the long form version

Notes to introduce the revised class rules and indicate the significant changes and their rationale
Notes in this colour indicate how existing and new boats may be affected

Common to all classes

Effective Date

1 July 2016. Measurement of boats and other equipment shall be to the revised rules from this day onwards.

Grandfathering

Except as prescribed in Section C, existing equipment is grandfathered as follows:

A Class	Hull, appendages, rig, sails
Ten Rater	Hull, sails
Marblehead	Hull, sails

Interpretations and Q&As

All existing interpretations are incorporated in order to make them redundant.

Since the class rules were last revised there have been many interpretations answering questions about the meaning of the class rules. Where possible (that is, where a simple answer to a question is satisfactory and where no rule change is possible to improve the understanding of the class rules) a Q&A has been issued. Please see the Q&A section under the Class Section of the IRSA website <http://www.radiosailing.org/classes>

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Advertising

Advertising shall comply with the ISAF Advertising Code.

This is not a change but brings the class rule up to date with the ISAF rules concerning advertising.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Automated sheeting, steering, navigation, on board cameras

All are prohibited.

This is a rule change felt necessary to ensure that Radio Sailing remains the same as sailors currently understand it until such time as the classes feel they want to revise class rules to permit any such items. In the meantime, this avoids differences in performance achieved by using relatively advanced technology, the possibility of an 'arms race', and/or a drop in the popularity of the classes themselves, due to cost, complexity, and/or perceived unfairness of using such equipment.

Action required for an existing compliant boat	Remove any such device
Additional action required for a new boat	Remove any such device

Multiple certificates

Whereas the 1994 (A Class) and 2002 (Marblehead & 10Rater) class rules permit only the most recent certificate to be valid, the revised class rules permit multiple certificates to be valid at the same time.

Past practice for IRSA events is that it is the competitor who enters and, even if he is requested to send details of his boat in advance of the event, use of that particular boat is not binding in any way. Not only is this normal practice for IRSA (International) events, it appears to be normal practice for most Radio Sailing events worldwide.

Whereas some owners have a single boat, others may have two or more boats which are each suited to different conditions. The latter are able to arrive at an event and choose the boat they will compete with. This allows them to match their boat to the expected conditions at the event and clearly gives those multiple boat owners an inherent advantage over those with a single boat.

Conclusion

Permitting multiple certificates for a single boat to help level the playing field with a multiple boat owner is a class rule change that can be as effective under such a central register of certificates as under the previous system. Permitting multiple certificates additionally addresses the issues around the variability of DNM practice, ensuring fairness for all competitors, particularly at open events.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Hull geometry

It is prohibited to change the geometry of the hull shell during an event.

Whereas placement of the appendages is generally heavily restricted, there has been no rule limiting or prohibiting change of hull form during an event or race.

As with the prohibition of on board automated sheeting, steering, navigation, and camera equipment, this is a rule change felt necessary to ensure that Radio Sailing remains the same as we currently understand it until such time as the classes feel they want to revise class rules to permit this feature. In the meantime, this avoids differences in performance achieved by using relatively advanced technology, the possibility of an 'arms race', and/or a drop in the popularity of the classes themselves, due to cost, complexity, and/or perceived unfairness.

Action required for an existing compliant boat	Remove or de-activate any such device
Additional action required for a new boat	Remove or de-activate any such device

Minimum mainsail luff length

A universal minimum mainsail luff length is introduced.

There are three reasons for this:

- To ensure the mainsail is large enough to carry the normal sail numbers and national letters

- To ensure that, when a race is abandoned because boats cannot sail, it is likely that all boats will be similarly affected and criticism of the race officer/race team will be minimised
- To introduce a cost reduction/limiting factor that assists owners to sensibly plan their investment/expenditure.

The large number of Marbleheads in use and the consistency of level of preparation between the more competitive owners provided a sound basis for making an assessment of what should be the minimum height limit. The IRSA technical committee comprises many Marblehead owners who were able to use their judgement about an appropriate limit. The relatively small range of 'normal' displacement and draught serves to focus the size of smallest rigs already in use. A figure of 990 mm would cover the vast majority of existing rigs.

The same decision for the 10R class was considerably eased by virtue of the fact that most 10R owners own Marbleheads and would choose to use their smallest Marblehead rig on their 10R. Again the relatively small range of 'normal' displacement and draught serves to focus the size of smallest rigs already in use. Hence the figure of 990 mm was chosen for this class too.

The A Class poses a more difficult problem by virtue of boats ranging more widely in displacement and sail area. An informal poll of 'smallest' mainsail luffs showed them to be in the region 1400-1600 mm. Wishing to avoid the problem of setting a limit so far below the current 'normal' that a new target would be set, a limit of 1390 mm was chosen.

Action required for an existing compliant boat	Do not use a mainsail with a luff less than the limit
Additional action required for a new boat	Do not use a mainsail with a luff less than the limit

Carrying and reefing a mainsail

The mainsail (largest sail for the 10R class) is to be carried set and may not be reefed.

The purpose of having a minimum size, of which the mainsail may be the only sail on which sail marks are displayed, would be subverted if it were permitted not to use the mainsail or to reef it.

Action required for an existing compliant boat	Always carry mainsail; do not reef it
Additional action required for a new boat	Always carry mainsail; do not reef it

A Class

General

SCR format

For the first time the class rules are formatted according to the ISAF Standard Class Rules.

Having class rules written to the SCR format is a prerequisite for having and maintaining any IRSA class status. This step is seen as an investment for the future of this class.

Boat/Hull

Measurement trim

The concept of measurement trim has been introduced. The boat is measured when floating in this prescribed state. Instead of requiring the boat to have sails on board for this step a nominal sail weight of 100 grams is used instead. The heaviest headsail luff spar (if used) and headsail boom shall be on board. The mast shall be vertical, rigging shall be slack.

Under the revised rules, the owner can have his boat measured and then have his sails made to the maximum permitted sizes while remaining fully compliant with the class rules.

Action required for an existing compliant boat	None
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Additional action required for a new boat	Boat can be measured before purchase of sails.
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Recesses, hollows, projections etc in the deck.

It is made plain that recesses and opening in the deck are permitted for a handle, the mast, access to radio control equipment, and for a deck edge rail.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Deck datum point

In the revised rules this distance is taken to a deck datum point on the deck aft of the mast.

Damage to the bow of the boat is not, and should not be, critical to the compliance of the boat with its certificate. Having the deck datum point aft of the mast ensures this distance is always positive.

Action required for an existing compliant boat	None
Additional action required for a new boat	Provide transverse line across centreplane aft of the mast

Waterline limit marks

As a confidence-building measure the revised rules state that they shall be long enough to be visible when the boat is afloat.

Action required for an existing compliant boat	None
Additional action required for a new boat	Provide waterline limit marks long enough to be visible when afloat

Quarter beam lengths

It is known that offsetting a boat with a QBL penalty from the centreline of the measurement jig will result in a reduction of the average QBL and hence an increase in sail area. The opportunity to gain sail area in this way should be limited and so a maximum difference in the measured QBL dimensions is introduced. How to measure a boat with unequal half beams and where the QBLs are not within the permitted maximum difference are issues that can be handled by the issue of Q&As.

Action required for an existing compliant boat	None
Additional action required for a new boat	If difference exceeds permitted figure the measurer adjusts boat's position on measurement jig

Rig

Main boom depth

A datum line is established for the main boom spar. This is used to determine the vertical and transverse cross sections.

The method in the revised rules ensures consistency in application of the rules and permits normal boom arrangements to be used on future boats without modification.

Action required for an existing compliant boat	None
Additional action required for a new boat	Check boom design is compliant

B measurement – mainsail luff perpendicular

The mainsail foot, B, is measured as the mainsail luff perpendicular.

The revised rule eliminates the need for limit marks on the main boom, and in particular the need for two limit marks when a boat uses pocket luff and other luff sails.

Action required for an existing compliant boat	None
Additional action required for a new boat	No limit mark (boom band) required on main boom

No spinnaker or genoa

Spinnakers and genoas are prohibited.

Rather than find that an owner has devised a workable system that gives a performance advantage at some stage in the future thereby precipitating a rule change to prohibit at that point or, alternatively, an arms race for the other owners, it is thought best to prohibit these items now.

Action required for an existing compliant boat	Remove any such device
Additional action required for a new boat	Remove any such device

Sails

Headboard limit zone

A headboard limit zone is established. It is then not important if a headboard is used, or how large the headboard is within that zone, as the dimensions are taken to the perimeter of the zone.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Mainsail foot roach

The revised rules measure the foot roach relative to a line through the tack point and clew point thus enabling the sail maker to ensure compliance when constructing the sail. Once the sail is compliant the owner cannot easily then set the sail in a non-compliant way.

Action required for an existing compliant boat	None
Additional action required for a new boat	None (assuming sail made to rules)

Luff perpendicular of mainsail to be measured

The revised rules measure the luff perpendicular of the mainsail instead of a distance from mast to a boom limit mark. This follows from the removal of the need for the boom limit mark. In order to retain some clear control over the size of sails used on the boat, sails are marked with the smallest B dimension with which they will comply.

In order that existing sails shall comply with the revised class rules they will be permitted to have a luff perpendicular dimension of up to $B + 10$ mm. This additional length is thought to permit all existing sails to comply with the revised rule.

Action required for an existing compliant boat	None
Additional action required for a new boat	None (assuming sail made to rules)

Headsail half height cross width

To conform to normal practice, this is rationalised to the half-height cross width in the revised rules. From that dimension, the smallest J measurement with which the sail complies is determined.

Action required for an existing compliant boat	None
Additional action required for a new boat	None (assuming sail made to rules)

B and J measurement to be marked on sails

Sails will be marked with the smallest B and J measurements with which they comply. It follows that any sail with a B measurement smaller than or equal to the B measurement permitted by the certificate may be used providing it is set within the limit marks on the mast and complies with the sail marks rules. Similarly for the headsail.

Action required for an existing compliant boat	None
Additional action required for a new boat	None. Measurer task

Events

Event measurement

The revised class rules contain tolerances for the principle hull dimensions that can be checked at event measurement given some rudimentary equipment used with reasonable care. For example the following

can be checked: the distance between the waterline limit marks, the draught to the datum waterplane, and the freeboard to the datum waterplane. The tolerances chosen are such that if a boat has been measured accurately by a competent measurer and it is subsequently checked by an event measurer exercising reasonable care then the boat will be found to be compliant with its certificate.

Where there is access to the same equipment used for certification measurement another set of tolerances is given in the expectation that the measurements can be taken with greater accuracy.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Non compliance with the certificated dimensions

Where a boat is found not to comply with the tolerances and cannot be brought into those tolerances, it is suggested that the jury should consider allowing the boat to be brought into rating in another configuration.

Currently the RRS allow a boat to correct deviations in excess of tolerances and continue racing. However, if it is impossible to correct the boat, there appears to be no option but to cease racing. Rather than leave a competitor exposed to this possibility the option to allow him to return the boat to another compliant rating is suggested.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Marblehead Class

Rig

Measured area marked on sails

The measured area of the largest mainsail shall be marked on all mainsails in a sail group. Likewise for headsails. This is a confidence-building measure for other owners that will minimise the risk of a larger than permitted sail are being used.

Action required for an existing compliant boat	None
Additional action required for a new boat	None. Measurer task

Foot roach restriction

As an alternative to a straight or a fair curve foot roach profile, the option is offered to use a foot roach profile that fits within a triangle with 25 mm depth.

Construction of booms will be less complex/costly as a result of being able to use commonly available straight tubes.

Action required for an existing compliant boat	None
Additional action required for a new boat	None (assuming sail made to rules)

Certificate values of cross widths

Where the measured cross widths of sails are less than the maximum permitted by the class rules the certificate will show the maximum permitted values rather than the measured values.

The 2002 measurement forms and certificate require the actual cross width of an undersize sail to be recorded on the certificate. Sails made subsequently shall comply with this reduced size. The revised class rule eliminates this effect.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Ten Rater Class

Hull/boat

Slack rigging when measured

When the waterline endings are checked against the waterline limit marks the rigging shall be slack.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Waterline limit marks on plumb ended boats with a full length waterline

A suitable wording is given that permits plumb ended boats to comply with the class rules regarding placement of the waterline limit marks.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

No restriction on lower displacement

There will now be no lower limit to displacement or waterline length compared to the certificated dimensions.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Weight of boat

The weight of the boat will be recorded at certification measurement. At an event the weight shall be no more than this figure plus a tolerance.

This allows some simple event measurement that will give a good indication of whether a boat is likely to comply with the waterline limit mark rules. It also makes it easier for the owner to maintain his boat and be confident that it remains in compliance.

Action required for an existing compliant boat	None
Additional action required for a new boat	None. Measurer task

Sails

Measured area marked on sails

The measured area of the largest mainsail shall be marked on all mainsails. Likewise for headsails. This will minimise the risk of a larger than permitted sail area being used and is a confidence-building measure that will reassure other competitors that the rules are being complied with.

Action required for an existing compliant boat	None
Additional action required for a new boat	None. Measurer task

Measured sail area - method

There are some refinements to the way in which sails are measured. The principle change is that a line through the head and tack of a sail shall be perpendicular to the grid lines with the clew point placed on a grid line. Cross widths (horizontal) are taken at 200 mm spacing above the clew point and depths (vertical) are taken at 50 mm spacing below the clew point.

Several benefits arise from this change:

- The approximate luff, leech and foot dimensions can be determined from the measured data and will be quoted on the certificate as an aid to sail makers and equipment inspectors at events.
- The luff, leech and foot dimensions can be quickly checked at event measurement as a rough guide to a sail's compliance.
- The requirement for smaller, alternative, sails to fit within the profile of the largest will become redundant although the effect is retained.

- It becomes possible for replacement and alternative smaller sails to be measured and found to be compliant without reference to the sails that were checked at the boat's initial certification measurement.

Action required for an existing compliant boat	None
Additional action required for a new boat	None

Sail luff length

It is thought useful to limit the luff length of the tallest sail to 2200 mm for the following reasons:

- Equalises performance of boats in low wind speeds and helps ensure competitors are not aggrieved when racing is postponed/abandoned because the wind is too light.
- Makes it easier for owners to plan their expenditure on rigs.
- Ensures those travelling by plane to any event are not unduly penalised compared to those travelling by road because of maximum length restrictions on outside baggage.
- It is a similar restriction to that used in the M Class.
- Should an event be planned for a renowned light airs venue, competitors will be able to make a sensible choice regarding design of rig and/or boat that can be expected to be competitive.

It is thought useful to set a minimum luff length of the tallest sail to 1990 mm. This serves to focus the height of the largest measured rig on boats to the range 1990 – 2200 mm.

Action required for an existing compliant boat	None
Additional action required for a new boat	None (assuming sail made to rules)

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