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# AUSTRALIAN EC12 ONE-DESIGN

# CLASS RULES

*Revised March 2008*

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## INTRODUCTION

Thanks go to the New Zealand EC12 Association for providing the basis of these rules. As the very original EC12 rules in both countries way back in the 90's? were virtually identical, I have applied the same principle here.

One major difference is that as far as I am aware, as at the date of this revision, (13 March 2008), I am not aware of the existence of an EC12 Owner's Association in Australia, but am aware of the existence of such an association in New Zealand. Not quite sure what the folks in the US of A are up to

These rules are not intended to be official, and I am sure they never will be, but in the absence of the ARYA publishing any, this is my effort. And hopefully for the enjoyment of the reader.

In the absence of an EC12 Owner's Association in Australia, I have suggested a committee be formed of one (1) member each, such member to be nominated by the state radio yachting authority in each of the states, and such committee to be known as the Australian EC12 Authority. ( **AEC12A** )

### 1. GENERAL

### 1.1 The Intention Of The Class Rules

1.1.1 The intention of the Class Rules is to provide a one design specification for moldings of identical hulls from AEC12A authorised molds, while at the same time allowing all existing registered hulls to maintain their eligibility to compete.

1.1.2 The Australian EC12 Class is a One Design radio controlled racing class.

1.1.3 The Class Rules ensure that all yachts are as reasonably alike as possible in all aspects affecting sailing performance.

1.1.4 Anything not specifically permitted in these Rules shall be referred to the AEC12A for a ruling. When considering anything in connection with the yacht which is not established practice within the Class or is not clearly covered by this specification and its attached drawings, you must assume is illegal and not in the spirit of the Class.

1.1.5 In interpreting any rule, the AEC12A shall consider the intended meaning and shall bear in mind at all times, the basic principals of the Class Rules which is to maintain the Australian EC12 Class as a One Design Class.

### 1.2 Authority

1.2.1 The governing Australian Authority of the Class is the AEC12A.

1.2.2 The AEC12A does not accept any legal responsibility with respect to these Rules, the measurement diagrams and the measurement form or any claims arising there-from.

### 1.3 Eligibility

1.3.1 Before a yacht is eligible to race: the hull shall be if possible, a registered pre 2008 hull or a hull molded from the AEC12A mold after 1 March 2008 with an official AEC12A approved manufacturer's label and serial number molded inside the hull.

1.3.2 The yacht shall have a current measurement certificate issued by the AEC12A in the Owner's name.

1.3.3 In the absence of a hull manufactured prior to 1 March 2008 ever having been registered, a grandfather rule will apply where a manufacturer's label from a known manufacturer permanently affixed inside the hull will be sufficient proof that the hull was manufactured according to the rules of the day, and will be eligible to be issued with a valid measurement certificate.

1.3.4 The Owner shall be a financial member of any Radio Yacht Club affiliated with the ARYA.

### 1.5 Measurement And Measurers

1.5.1 Measurements shall be taken in accordance with the ISAF Equipment Rules of Sailing for 1997 – 2000 unless otherwise specified in these Rules.

1.5.2 Only a measurer officially recognized by the AEC12A shall measure a yacht, her spars, sails and equipment and sign measurement forms.

1.5.3 A measurer shall not measure a yacht, her spars, sails, or equipment owned, designed or built by himself or herself, or in which he or she is an interested party or has a vested interest.

1.5.4 If a measurer is in any doubt as to the legality of any part of the yacht, spars, sails or equipment, he shall report accordingly on the measurement form.

1.5.5 Alterations, replacements or repairs to the yacht shall be made in accordance with these rules and shall be checked by an official measurer.

1.5.6 New or substantially altered sails shall be checked by an official measurer and be dated and stamped or signed near the tack.

1.5.7 All yachts, spars, sails and equipment shall be liable to check measurement by an official measurer at the discretion of the National Authority or Race Committee.

1.5.8 Hulls built before March 2008, (which have a current measurement certificate and a registered number shall be issued with a new certificate of eligibility) shall comply in all respects with the ballast, spars, rigging and sails and other class rules except Rule 4.2.7 beam measurements. These hulls which have a current registration as at 1 March 2008 will be grandfathered for the life of the yacht where the owner is a financial member of any Radio Yacht Club affiliated with the ARYA. All new hulls built after 1 March 2008 have to be built by a licensed manufacturer using an AEC12A authorised mold and comply with the current class rules.

### 1.6 Owner's Responsibility

1.6.1 It is the Owner's responsibility to ensure that the yacht complies with the Class Rules and all relevant International Yacht Racing Rules.

## 2. ADMINISTRATION

### 2.1 Language

2.1.1 The official language of the class is English and the English text shall prevail in the event of a dispute in translation.

2.1.2 In translating and interpreting these rules it shall be understood that the word “shall” is mandatory and the words “can” and “may” are permissive.

2.1.3 Wherever in these rules the words “class rules” are used, they shall be taken as including the measurement diagrams and measurement form.

### 2.2 Administration Of The Class

2.2.1 The administrative authority in Australia for the class shall be the AUSTRALIAN EC12 AUTHORITY, which shall maintain a liaison with other EC12 Owners Associations, EC12 Authorities, and similar organisations in other countries, relating to all matters pertaining to the class and these rules.

### 2.3 Authorised Manufacturers

2.3.1 The Australian EC12 One Design Class hulls shall be produced only by Manufacturers authorized by the AEC12A and may include manufacturers whose hulls have been approved by the NZRYA.

2.3.2 The authorization shall include clauses requiring good standards of workmanship and quality control, inclusion of Manufacturer’s Name and hull serial numbers molded into the hulls, compliance with the Class Rules and use of only AEC12A sanctioned molds.

2.3.3 Alterations of the plug, or mold made without the approval of the AEC12A shall result in the builder’s authority to manufacture being revoked. This same action shall be taken in case of intention and/or repeated infringements of the Class Rules by the Manufacturer.

2.3.4 The Manufacturer shall at his own expense, correct or replace any hull which fails to pass measurement as the results of an omission or error of the builder provided that the yacht is submitted for measurement within twelve months of purchase.

### 2.4 Registration and Measurement Certificate

2.4.1 A valid measurement certificate is an original measurement form, or true copy of the measurement form which has been stamped by the AEC12A.

2.4.2 Once an initial Registration Certificate has been duly issued, and provided that there has been no subsequent change to any part of the hull, deck or sails, requiring the issue of a new Measurement Certificate, race officers may accept for any regatta, measurement of the weight of a fully rigged boat provided it is eligible in accord with rules covered in Section 4, and a current Measurement Certificate able to be produced if required, as eligibility to compete, without having the need to measure minimum/maximum waterline lengths or other dimensions .

2.4.3. The intending owner shall apply to the AEC12A with any required fee to transfer a registered hull.

2.4.4 The Owner on completion of the yacht shall apply to the AEC12A for the Measurement Certificate. Recorded on this certificate shall be the allocated sail number which will in most instances be the same as the hull number.

2.4.5 Change of Ownership invalidates the certificate. The AEC12A Secretary or other nominated member is to be advised of a change of ownership (in writing) stating all relevant details, and when feasible a new measurement will be done to ensure compliance following which a new Measurement Certificate will be issued.

## 3. PROTECTION OF THE ONE DESIGN

**3.1** The primary standard for the hull form shall be the AEC12A plug and the supporting table of offsets maintained by the AEC12A

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## 4. CONSTRUCTION AND MEASUREMENT RULES

### 4.1 Identification Marks

The hull shall carry the molded-in, serially numbered, Manufacturers label.

### 4.2 Hull Shell And Deck

4.2.1 The hull shell shall be obtained from an approved manufacturer. An approved authorized Manufacturer shall supply the hull and deck.

4.2.2 The hull shell shall be constructed only of glassfibre reinforced plastic (GRP) with interior surface unpainted and consisting of unpigmented resin to allow visual inspections of hull laminate and its materials. Resin type shall be unrestricted.

4.2.3 The minimum hull shell weight including deck flange and or inwales, and before anything else is added shall not be less than 1.5 kg.

4.2.4 The hull shell shall only be modified by piercing for fitting of rudder tube and stock. The cheeks of the rudder recess at the aft face of the keel may be faired on the trailing edge to confirm with the rudder.

4.2.5 The hull length overall (LOA) shall be 1470 – 1500mm.

4.2.6 The maximum load waterline length (LWL) shall be 1092mm. The minimum LWL shall be 1066 mm. Reference lines of length 20mm and width 2mm, whose edges mark the limits of the maximum and minimum LWL of a colour which contrasts with the colour of the hull, shall be placed across the centre line of the hull 13mm apart at each end in accordance with Fig 1. The hull fully rigged with the A rig and at rest in fresh water, shall float between the reference lines, and shall be of a minimum weight of 11.5 Kg and a maximum weight of 12.5 Kg.

4.2.7 The beam at the deck shall comply with the measurements below at each station. A tolerance of 2mm each side of the specified measurements will be accepted. Distances to each station shall be taken along the centerline of the deck measuring from the bow.

| ***Distance from Bow, mm*** | ***Beam Distance from mm*** | ***Beam bow, mm*** | ***mm*** |
|---|---|---|---|
| *0* | *0* | *762* | *291* |
| *127* | *80* | *889* | *298* |
| *254* | *142* | *1016* | *289* |
| *381* | *195* | *1143* | *260* |
| *508* | *240* | *1270* | *210* |
| *635* | *270* | *1397* | *138* |

4.2.8 The deck may only be obtained from a licensed manufacturer. The deck shall only be constructed of wood, glassfibre ( which may be cored with foam or wood ). A combination of the permitted materials is permitted. The centre line of the deck in side view from bow to stern shall be a straight line. Cross section through the deck shall be a convex curve from gunwale through the point of intersection with the centre line. The sheer line shall be as per the molded hull shape.

4.2.9 One main deck hatch not to exceed the maximum area of 375 sq cm abaft of the mast shall be covered with any homogenous sheet material with a minimum thickness of 2mm.
Two additional access hatches for servicing under deck equipment are permitted, and shall be made of the same material and construction as the deck and shall be of a maximum area of 25 sq cm each.

4.2.10 Any colours, finishing paints or lacquers may be used for exterior finish of hull, deck, rudder and spars.

### 4.3 Rudder

4.3.1 The rudder shall neither extend above the bottom of the keel more than 125mm nor below the bottom of the keel. No portion of the rudder shall extend more than 89mm aft of the keel. The rudder shall have a maximum thickness no greater than the keel section immediately forward of it.

4.3.2 The rudder shall be made of GRP and/or wood. The rudder shaft shall be made of brass, aluminium or stainless steel.

4.3.3 The rudder shall be turned by remote control using one channel only.

### 4.4 Ballast

4.4.1 The ballast material shall have a density of no greater than lead (11.3 kg/dm3).

4.4.2 All ballast shall be located within the interior of the hull. Ballast shall be fixed in place and shall not be removable.

4.4.3 Corrector of trim ballast, shall meet the requirements of paragraph 4.4.2.

### 4.5 Spars

4.5.1 **Mast**

(a) Materials of construction shall be either wood, which may be solid or laminated or aluminium. No taper shall be allowed. Maximum diameter shall be 19mm.

(b) Masts may be stepped on deck or on the keel, with the forward edge at the deck 623 – 723mm aft of the bow. Mast shall be non-rotating and may employ such equipment fixed on the centerline of the deck and below the lower mast band, necessary to restrain its bend or control its position.

(c) Masts shall carry three distinctly coloured measurement bands, not less than 3mm wide and shall comply with Figure 1.

**(d)** Masthead crane may extend a maximum of 75mm aft and 10mm forward of the mast.

4.5.2 **Main Boom**

(a) The boom shall be constructed of wood, which may be solid or laminated, aluminium or GRP, and be capable of passing through a 19mm diameter ring.

(b) The main boom may be tapered at one or both ends and/or curved.

(c) The top of the boom at the mast shall not be set more than 25mm lower than the upper

edge of the lower mast band.

(d) The attachment points for the mainsail clew and the kicker (vang) may be adjusted by manual means only.

4.5.3 **Jib Boom**

(a) The boom shall be constructed of wood, which may be solid or laminated, aluminium or GRP and be capable of passing through a 19mm diameter ring.

(b) The jib boom may be tapered at one or both ends and/or curved and shall not extend beyond the bow.

(c) The attachment points for the jib tack, jib clew, swivel and topping lift may be adjustable by manual means only.

(d) The jib swivel of any design, shall be attached to the deck on the centreline of the deck and may allow for manual adjustment.

## 4.6 Rigging

4.6.1 The mast shall be supported by the following rigging, adjustable only by manual means.

(a) Side Stays and Spreaders – Two (2) side stays shall be attached to the mast below the lower edge of the middle mast band, then pass through the outboard ends of the spreaders and terminate at the chain plates. Spreaders shall be attached to the mast as in Figure 1. They shall be aligned athwart ships to the mast in approximately the same plane as the mast and the side stays. They shall extend a maximum of 108mm from the centreline of the mast and may be fixed or removable for transport. They may be made of wood, brass, aluminium or stainless steel.

(b) Lower Shrouds – Two (2) lower shrouds shall be attached to the mast within 10mm from the underside of the spreaders as shown in Figure 1. The lower shrouds shall terminate at the chain plates abaft the side stays.

(c) Jumper Stays and Jumper Struts (Optional) – Jumper stays, if fitted, shall be attached within 10mm of the mast head, pass through the jumper struts and attach to the mast at the point shown in Figure 1. Tension on the jumper stays shall be adjustable by manual means. Jumper struts (2) shall be affixed to the front of the mast as shown in Figure 1. Each strut shall be horizontal and make an angle of between 30 and 60 degrees with the centreline of the boat. They shall be made of wood, brass, aluminium or stainless steel and shall have a length of 63 to 75mm measured from the centreline of the front of the mast.

(d) Backstay – the backstay shall be affixed to the top of the mast or the masthead crane and terminate on the deck in the vicinity of the transom and approximately on the centreline of the boat. Backstay tension may be adjustable by manual means only.

(e) Jib Stay – the jib shall be attached to the mast in such a way that a line through the jib tack and jib head cuts the forward face of the mast below the lower edge of the middle mast band when the jib boom is held on the centreline of the deck.

4.6.2 The position of the main and jib booms may be adjusted by remote control and/or manual means. No more than two radio channels shall be employed for control of the booms.

4.6.3 The following items, used in conjunction with running rigging and working in tension are permitted, but shall only be adjusted by manual means: mainsail luff tensioner, jib luff halyard.

4.6.4 The Main Boom Downhaul (vang, kicking strap) may operate in compression as well as tension and shall be adjusted by manual means only.

### 4.7 Sails

4.7.1 **General**

(a) Sails shall be constructed and measured according to the current ISAF Equipment Rules of Sailing 2001-2004, except where varied herein. Sails shall be measured off the spars.

(b) Sails shall be made of polyester based material (i.e. Dacron, Mylar, and Terylene) and may be single or multi-panelled construction. Kevlar and carbonfibre are not permitted materials.

(c) Eyelets shall be placed entirely within 25mm of each sail corner.

(d) Corner reinforcements, broadseam reinforcements and batten pockets are unrestricted as to material. Corner reinforcements may extend a maximum of 200mm from the corners of the mainsail and 150mm from the corners of the jib.

(e) In addition to the following rules, class insignia, national letters and sail numbers shall comply with ISAF RRS 77 and Appendix H with the exception of clauses H1 .2b, H1 .3, H2, H3 and H5 which shall not apply. The class insignia, and sail number shall be placed as prescribed in the current ISAF Equipment Rules of Sailing. The sail number shall be placed as high as possible with the starboard sail number placed the highest on both main and jib.

(f) The class insignia shall be the number **12** underlined placed on the main only. A line, a minimum of the same length as the width of the class insignia and minimum 4mm in thickness, shall be placed under the insignia number. Class insignia shall be to the following dimensions: Height 60-66mm, width 40-45mm (except number 1) and thickness 9-1 1mm. The space between 1 and 2 shall be 13-1 5mm.

(g) The sail registration number shall be of the following dimensions: height 100-110mm, width (except number 1), 60-73mm, thickness 12-18mm. The space between adjoining numbers shall be 20-25mm. A space between numbers and class insignia on opposite sides of the sail shall be 60-100mm.

(h) The sails of the A, B and C rigs shall be used as distinct, unmixed sets and marked for identification.

4.7.2 **Mainsail**

(a) Mainsails shall comply with the measurements in Figure 2. Foot and leech edges shall be equal to or less than the smooth curve produced by a constant section batten connecting the corners of the sail and the intervening measurement points, with no bending in the batten induced beyond those corners.

(b) There shall be a maximum of four (4) battens in the leech. They shall not exceed 130mm in length and 10mm in width and shall be equally spaced along the leech.

(c) The foot of the sail may be attached to the upper centreline of the main boom using attachment methods in 4.7.2 (d) below.

(d) The mainsail shall be attached to the after centreline of the mast using boltrope or internal sail track slides in grooved mast, or attached to a jack line by hooks, tubes or loops or by individual ties around the mast.

4.7.3 **Jib**

(a) Jibs shall comply with the measurements in Figure 2. Foot and leech edges shall be equal to or less than the smooth curve produced by a constant section batten connecting the corners of the sail and the intervening measurement points, with no bending in the batten induced beyond those corners.

(b) The foot of the jib may be attached to the upper centreline of the jib boom using attachment methods in 4.7.2 (d) above.

(c) The jib luff may be attached either by a luff tabling enclosing the jib stay or by ties.

(d) The jib may have a maximum of two (2) battens in the leech, of maximum length 50mm and maximum width 10mm.

**5. ADDITIONAL RULES WHICH APPLY WHEN RACING**

**5.1 Equipment**

5.1.1 Only one (1) hull and one (1) rudder shall be used during a race or series of races, except in cases of authentic damage or loss. All replacements shall be authorized by the Race Committee.

5.1.2 A maximum of two radio channels may be used only by the skipper, to control the rudder, mainsheet and jib sheet.

**5.2 Class Rules**

5.2.1 These rules shall not be varied by a Race Committee.

5.2.2 When in doubt over the interpretation or application of these rules, a Protest Committee shall refer the protest to the AEC12A which administers the class.

**5.3 Racing Rules**

Class races shall be sailed under the International Sailing Federation Racing Rules. At National Championships, these rules shall be varied only with the agreement of the AEC12A.

**5.4 Owner To Be A Member Of The ARYA**

The Owner shall be a financial member of any Radio Yacht Club affiliated with the ARYA, to be eligible for entry to AEC12A sanctioned events.

**RULES STATUS**

These Class Rules have been formulated, initially in April 2007, and further revised in March 2008, by a frustrated Aussie EC12'er using the IMRYU International East Coast 12 Metre One Design Class Rules 1990 and the AMYA 12 Metre Rules, and the NZRYA EC12 Class Rules, as a basis, to be read in conjunction with the rules and regulations of the Radio Sailing Division of the International Sailing Federation (ISAF-RSD)

This Edition is effective from 1st March 2008 and replaces any and all previous Australian EC12 Class Rules.