

2019

International Optimist Dinghy Association
www.optiworld.org



IODA Measurement Manual



World Sailing
Class Association

INTRODUCTION

This manual is designed to be a complementary tool for IODA Members that are bidding to host an IODA Championship. It is also intended to be a key reference for Members already confirmed to host an IODA Championship. The aim of this document is to provide consistency in the organisation of IODA Championships and Optimist events all over the world.

This manual must be a living document. It needs to be updated constantly to accurately reflect the continual evolution of our sport. The responsibility for the contents of the Measurement Manual and for keeping it current lies with the Technical Committee of IODA. It is by no means perfect, and contributions to improve its contents are always welcome. Any changes will be incorporated and posted on the IODA website as soon as approved by the Executive Committee.

We want to take this opportunity to thank the many experienced organisers, measurers past and present and the current IODA Technical Committee members Jean Luc Gauthier, Alberto Pindozi and S. V. Balachander, measurers Tetsutaro Muramatsu and Claudio Zon and Maho Udagawa and our IM's Curly Morris, Conxa Ontiveros Caffaro and Diego Freiria for their help with photographs and design of the manual. We would also like to mention Susan Elliot Beatty the IODA Regatta Secretary and Fiona Kidd, IODA General Secretary for their valuable input and guidance and work in editing this version.

Olive Parker
IODA Technical
Committee Chairperson,
February 2019

REVISED MEASUREMENT MANUAL – FEBRUARY 2019

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1. TERMINOLOGY

Annual General Meeting (AGM): The highest authority of IODA formed by the official representatives of the Members present or their appointed substitutes. In accordance with Article 13 of the Articles of Association in the IODA Handbook, the AGM is held each year in conjunction with the Optimist World Championship.

Boat Builder: As per Class Rule 2.2

International Optimist Dinghy Association (IODA): A non-profit association formed with the following objectives, as described in Article 2 of the Articles of Association:

1. To administer the IODA in accordance with World Sailing requirements and to see that the Class Rules are observed.
2. To promote the International Optimist Dinghy and the Class
3. To establish Conditions for the Optimist World and Continental Championships and determine where they are to be held.

International Measurer (IM): World Sailing appoints officials to perform certain functions at the top level of the sport and the International Measurer (IM) is one of these official. The main purpose of having IMs is, first and foremost, to ensure that qualified specialist Officials will lead the equipment inspections/event measurements at major Class or World Sailing events. This is reflected in the WS Regulations: Class obligations in 10.5(g) (v), and IM appointment requirements in 31.13.

IODA Chief Measurer and Deputy Measurer: The Chief Measurer who is appointed by IODA will be the liaison person between IODA and the Organising Committee with regard to all aspects of preparation for equipment inspection throughout the event. IODA shall also appoint one or more Deputy Measurer(s), who will work alongside the Chief Measurer to ensure the sailing equipment is relevant and complies with IODA Class Rules.

IODA Conditions: The rules to be followed by members who want to bid to host an IODA championship, organisers of the corresponding event, and members entering an IODA championship. These conditions are published in the IODA HANDBOOK: Articles of Association and Championship Conditions and can be downloaded from the IODA website (www.optiworld.org).

IODA Executive Committee: Elected representatives of IODA: a President, a Vice President Europe, a Vice President Africa/Asia/Oceania, a Vice President Americas, Chairman of the Regatta Committee, and Chairman of the Technical Committee.

IODA Measurement Manual: States the minimum mandatory requirements for measurement procedure and equipment inspection to be followed by the organisers and their measurement team when hosting an IODA event.

IODA Microsite: Website platform provided to the OC by IODA for each IODA championship. Use is mandatory, and includes the online entry system, the Official Notice Board as well as the Jury and the Technical Committee areas.

IODA Official: Executive or Committee member or qualified person appointed by IODA to a role of authority on behalf of IODA, at a championship. May include a Technical Committee representative, race officer, a judge, or an umpire.

IODA Principal Race Officer (IODA PRO): Appointed by IODA for IODA World and Continental Championships. Refer to IODA Regatta Manual.

IODA Secretary General: Appointed by IODA in accordance with Article 12 of the Articles of Association in the IODA Handbook.

IODA Regatta Manual: States the complementary requirements to be followed by the organisers and their Race Committees when hosting an IODA championship.

IODA Regatta Secretary: Appointed by IODA in accordance with Article 9 of the Articles of Association in the IODA Handbook.

IODA Technical Committee (IODA TC): As per Article 8 of the Articles of Association in the IODA Handbook.

Measurement Area: Shall be a clean, indoor (strongly recommended) space of not less than 200 m² with elements arranged in accordance with the requirements of this manual. The entire area shall be protected from elements of rain, wind, and sun, and shall contain adequate power supply and internet.

Member: This is a term described in Article 3 of the Articles of Association in the IODA Handbook.

Member National Authority (MNA): The national governing body for sailing recognized by World Sailing.

National Optimist Class Association (NCA): As per Article 3 a) of the Articles of Association in the IODA Handbook.

Official Arrival Day (OAD) and Official Departure Day (ODD): Dates of official arrival and departure at an IODA Championship between which accommodation and meals shall be included in the entry fee.

Organising Authority (OA): As per RRS 89.1. This shall include IODA.

Organising Committee (OC): Group appointed by the successful host bidder to organise the championship.

Race Committee (RC): As per RRS 90.1

Racing Rules of Sailing (RRS): The current World Sailing Racing Rules of Sailing.

“Shall”, “May”, “Will”: The word “shall” is mandatory, the word “may” is permissive, and the word “will” is intention.

Team Leader: Appointed by an NCA to deal with all onshore issues for a national team. Each team attending an IODA championship shall be accompanied by a Team Leader who shall be responsible for the team at all times.

Template: IODA use various templates for Sails, Foils and Spars which define the minimum and maximum measurements.

World Sailing (WS): The world governing body for the sport of sailing.

2. HOSTING AN IODA CHAMPIONSHIP

All IODA championships must abide by:

- The current WS Racing Rules of Sailing
- The current IODA Handbook: Articles of Association and Championship Conditions
- The IODA Regatta Manual
- The IODA Race Management Manual
- The IODA Measurement Manual
- The Bid Form
- The Class Rules
- The Notice of Race
- The Fleet Racing Sailing Instructions
- The Team Racing Sailing Instructions
- The IODA Race Management Guidelines

This document should be read in conjunction with the Regatta Manual and prior to bidding for an event. Potential hosts should satisfy themselves they can meet the requirements of this manual (with assistance from IODA where appropriate).

3. THE ROLE OF IODA

All communications with IODA should be through the IODA Regatta Secretary and/or the IODA Secretary General and copied to the relevant regional Vice President or, for the World Championship, to the President. All IODA Measurement Officials appointed by IODA shall have full access to the relevant areas and shall be able to work in close proximity with the local volunteers.

IODA shall appoint a Chief Measurer (normally an IM) and a Deputy Measurer to the event, with the exception of the IODA World and European Championships where more than one Deputy Measurer will normally be appointed. The number of Deputy Measurers appointed to an event shall be at the discretion of IODA. Approximately 6 months prior to the event, the OC shall provide a contact name to IODA for the purpose of coordinating the preparation of the measurement area. The IODA Chief Measurer shall assist the local measurement team and quality assure the local measurers, providing training when appropriate.

Measurement usually starts two or three days before the OAD. Measurement is the first area that sailors encounter when arriving for an event, therefore it is important to make it an agreeable experience. In order to ensure that all runs smoothly, the IODA measurers normally arrive early to ensure all areas are prepared appropriately to begin the process.

Refer to IODA Condition 20 for Continental Championships, and Condition 19 for the World Championship (see the IODA Handbook) for complete details regarding the OC's responsibility for transport, accommodation and meals of the IODA Measurer(s).

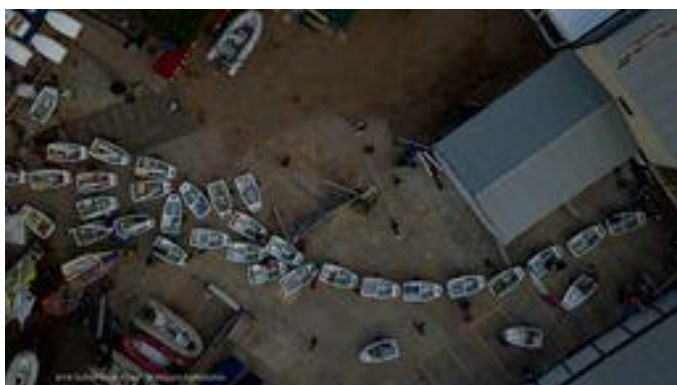
4. FUNDAMENTALS

The following document will provide details of the measurement process, the physical requirements, and the personnel the organisers will have to provide. Ideally volunteer measurers should be available for the duration of measurement during the entire event, but this is often compatible with undertaking other duties.

4.1 THE MEASUREMENT AREA



The Measurement Area must be located close to the boat park and the perimeter must be free of cars, vans and trolleys in order to allow good access to it.



It is especially important that the circulation of cars with trailers does not cross the perimeter in order to avoid problems with the flow of sailors/teams to be measured.

Access to the Measurement Area shall only be permitted to those directly involved with the measurement process (Team Leaders/Coaches and Sailors) by means of doors or fences, and a control area for inflow organised on the perimeter. The entry and exit of the area shall be separate, to allow a proper flow of the sailors/teams with their equipment to be checked. This is plan is fundamental for a fast and well-controlled process.



The Measurement Area should be indoors if possible, or **at the very least shall be adequately sheltered from the elements (sun, rain, wind)**, with a surface of not less than 200 m

If there is a possibility of rain a covered area should be available adjacent to the boat entry area in order to a sheltered from the elements (sun, rain, wind), with a surface of not less than 200 allow teams to prepare and dry boats for measurement.

It shall be required that the Measurement Area is able to be closed and secured during lunchtime and especially overnight, when a security guard shall be assigned to prevent theft and damage of valuables.

Electric Light and multiple sources for power for scales and individual computers shall be provided

Area can be used for other purposes, but at least 60m must remain available for the Measurement Committee in order to do the controls (weight of boat, sails, etc.).

4.2 DURING THE RACE DAYS – INSPECTION ON THE WATER



During the Championship racing days, the Measurement Committee will inspect equipment on the water. For this task a rigid inflatable boat (RIB) solely designated for the Measurement Committee is required. The most suitable size is 6m length and 40CV with a central helm if possible. It should be capable of towing competitors to the shore for measurement checks.

If there is a Team Racing Championship, where two race areas are designated, the Measurement Committee will require a second RIB, similar to that mentioned above. An effective anchoring system is essential and a fixed pole for the Measurement flag is needed.



The Measurement flag should be white with the letter “M” printed in black on it. A minimum of one flag is required, two if there is a Team Racing Championship with two courses.

5. EQUIPMENT CONTROL

The stamp and stickers used by the Measurement Team on the equipment confirm successful measurement. They both shall include the official championship logo and be approved by IODA in advance of the event.

5.1 STAMPS

To confirm measurement of the sail, a minimum of two event stamps must be provided and be approximately 10 X 10 cm in size . New, clean stamp pads, should be made available (2 minimum) with a supply of **WATERPROOF** ink.

Oil free inks are safer and long lasting on Dacron fabric.

5.2 STICKERS



Stickers, which are applied when the equipment has been measured successfully, should be circular, with the approved logo over **a transparent background**. The signature of the measurer must be visible under the sticker after application to the equipment and it is important that the sticker is of **good waterproof quality vinyl** so that it doesn't fall off when wet.

Hull: one (1) 10 X 10 cm sticker per boat

Equipment: five (5) 5 X 5 cm stickers per boat.

In total, six (6) measurement stickers are required per boat.

It is recommended that at least 10% extra are ordered to allow replacement of stickers which may become detached during sailing.

Waterproof markers are essential (e.g. Staedtler Lumocolor F or Edding 750). Given that spars are usually black there is a need for waterproof markers with white, silver or gold ink. Good supply required.

Regular ink Pens, pencils, paper and a stapler should be made available.

6. MEASUREMENT STATIONS

The code letter and colour of each station has been standardized by IODA for continuity at all championships. The volunteers described below must be willing to undergo some training and be available for all measurement days. The person in charge of each station shall be able to communicate in fluent English.

Note: As IODA develops a paperless measurement process, the method will be modified but the basic principles will remain the same.

6.1 STATION A: REGISTRATION Check in/ Out

Function Check in: Identify teams awaiting measurement, distribute their documentation and encourage them to book their measurement time slot if not pre-assigned.

Receive, check and classify the documentation filled in by the Team Leader one hour before the measurement of his or her Team starts. Once the documentation is verified, the measurement forms for the Championship, which will be used at the other stations, must be completed. Each sailor shall (unless sailing an official charter boat) present a **valid measurement book** for verification and also a **valid sail certificate**. This data from these will be recorded on the measurement paperwork. Statistics of the equipment used shall be recorded at this station (Excel File including sail number, manufacturer of hull, sail, spars and foils).

The Team entering will receive a briefing (usually by Chief Measurer) and equipment will be reviewed prior to entry into the Measurement area and checked for: boats and equipment are dry, buoyancy bags inflated but out of straps, mainsheet removed from blocks, foils and spars out from covers, sail not attached to spars. Also the following equipment must be present: Personal Flotation Device (PFD)/ wind indicator/ tow line/ bailer(s) and paddle.

Function Check Out:

Check the coloured forms previously filled in at each station. When everything is found to be correct, then issue the white event "Measurement Certificate" which will allow the competitor to participate at the event with the equipment checked by the Measurement Committee. This form must be signed and stamped by the Chief Measurer if all items are 'ok'. When one or more items are found to be "not OK", re-measurement will be needed. When possible, a re-measurement time will be scheduled at the end of the day, or in periods with a less heavy workload.

Once measurement is complete, all forms must remain on the Check-out station (organised by Teams and in folders) except the white event Measurement Certificate which shall be returned to Race Office by the Team Leader for acknowledgment of completion of measurement for the sailor/team. All sailors must pass measurement in order to be eligible to participate in the championship and this must be done before the close of event registration. Any changes to sail numbers will be noted during the measurement process and must be recorded by the Race Office Registration Authority.

Volunteer Staff to be Provided by the OC: Total 2

Volunteer 1: Registration Secretary: It is preferable that this person shall be knowledgeable about the measurement procedure in general, and specifically with the documentation of the Optimist Class. This job requires a person who is good with computers, knows Excel, and can manage the Team Leaders in a calm and pleasant way, in circumstances which can often be hectic and pressured.

Volunteer 2: Assistant for the Chief Measurer: to be in charge of entry to the Measurement Hall

Good Dedicated Internet Connection

1 x Large table/desk

3 x Chairs

1 x Laptop Computer

1 x Printer (or available connection to one)

File Folders or adequate filing system for paperwork of each Country participating
Measurement Forms (1 full set per country, refer to "Forms Provided by IODA" below)

Pens, pencils, paper, stapler.

6.2 STATION B: FOIL CONTROL



Yellow Measurement Form

Function: To check the shape of foils using the templates, to check the materials, positioning of fittings of the rudder and the centre of gravity of the dagger board, and to verify the weight of foils, serial numbers and manufacturers. Once checks completed to place the stickers on agreed side of all checked equipment over signature.

**Volunteer Staff to be Provided by OC:
Total = 2**

1 x Measurer

1 x Volunteer

Equipment Required: (Quantity will change for World Championship – refer to page 20)

3 x Tables of 1,5 x 1 meters.

2 x Chairs.

1 x Dagger board Measurement Template (available from IODA)

1 x Rudder Measurement Template (available from IODA)

1 x Digital scale for 5kg. (With a precision/error of maximum 5gr).

Pens, pencils and paper.

Waterproof markers.

6.3 STATION C: CONTROL OF SPARS



Yellow Measurement Form

Function:

To check mast, boom and sprit, to verify that each piece has the sail number but also the serial number. To check the measurement bands on the mast and boom, which shall be permanently fixed and check the positioning of holes and fittings and also the length of the sprit. Once checks have been satisfactorily completed to place the control sticker on each piece over the signature

Volunteer Staff to be Provided by

OC: Total = 2

1 x Measurer

1 x Volunteer

Equipment: (Quantity will change for World Championship, refer to page 20)

1 x Spar template (available from IODA)

1 x table (length 3 metres x 1 metre width for the template)

1 x chair

Pens, pencils and paper

Waterproof markers (selection of gold, black and silver).

6.4 STATION D: HULL WEIGHT



At some events, the Chief Measurer may require full measurement to be carried out on a number of hulls at this station which may include hull shape, materials, positioning of fittings etc.

There should be an area set aside to allow these measurement to be checked as this generally takes longer than the inspection of weight.

Green Measurement Form

Function: to check mould numbers, sail number on the mast thwart and ISAF Plaque Number (which must match the numbers recorded on the green form by the Registration Secretary).

To check that the hull complies with the weighing specifications (dry, no lines, no other items e.g. sponges, buoyancy bags out of the straps, etc...) and weight the hull.

To check the accuracy of the scales. Once the hulls are checked the control sticker and signature is placed on the mast thwart.

It is important to place this station on a level concrete floor (not on wooden or grass floors) and that it is well protected from the wind.

This station will be overseen by the IODA Chief or Deputy Measurer.

Volunteer Staff to be provided by OC: Total = 3

1 x Volunteer – measurer

1 x Volunteer assistant to measurer

1 x Volunteer assisting to help in flow of boats ready for hull measurement

EQUIPMENT:



1 x Table

2 x Chairs

1 x Digital scale for 50Kg, (with a precision/error of maximum 50gr).

1 x Certified Weight of 35Kg (in various different weights)

1 x Master list with all the controlled boats including weights and correctors if needed.

2 x Hull Trestles with foam. Approximate Height: 700mm. (Only if full measurement planned).

Towels to dry hulls if wet/raining.

Various wooden pieces of 300, 200, 100 y 50 gr. approx. (up to 10 Kg) to supply teams as weight correctors for hulls. Suitable adhesive (**quick drying and waterproof**) for attaching corrector weights to hulls.

Pens, waterproof markers, paper.

6.5 STATION E: SAILS



Red Measurement Form

Function: This is the most complicated station due to the number of items to be controlled. For that reason the station is divided.

For events with more than 130 entries: 2 sail tables are required.

For events with over 210 entries: 3 sail tables are required.

Therefore, the number of entries will determine the number of sail tables required and the number of templates required.

It is crucial to enter on the form the sail button number of the sail.

Check the material of the sail and reinforcements, length of leech, luff, foot, diagonals, concavities and convexities at the leech, sail width, sail measurement band, foot mid-point, etc.

Check positioning and dimensions of Class logo, batten pockets, reinforcements, sail numbers, etc.

Volunteer Staff to be Provided by OC (dependent on number of tables): 4 (6)

2(3) Volunteers – if possible be experienced on Optimist sail measurement

2 (3) Volunteers to Assist Measurers

Equipment:

2(3) x Tables of 2,3 metres X 2, 9 meters, which must be completely flat and smooth (like melamine i.e.). If possible, the table should be made with one single board with reinforcements underneath. Height of the table should be 90cm.



2(3) x Sail Measurement Templates (see 'Templates', page 20 of this Manual) 1 x Table

4 x Chairs

1 x Digital Micrometre.

2 x Flex meters (tape measure) class II of at least 3 meters length (Stanley or similar)

2 x Official stamps of the Championship

3 x Ink Pads – Will be Waterproof ink for cloth (like STK Berolin R9 or similar) Waterproof markers, pens, pencils, paper

It is recommended that an additional table of similar dimensions is provided at an adjacent location to enable teams to rectify minor sail errors (numbers letters etc.)

7. EXTRA EQUIPMENT REQUIRED FOR EVENT MEASUREMENT

- Radio (VHF) and/or phone for communications with the Race Office, Race Committee Boat, International Jury
- T-shirts and/or caps to identify the measurement Volunteers
- Fridge containing water
- Wastepaper baskets (large size)
- Acetone and cloth
- 1- Table 2 x 2 meters outside the hall for repairs
- Transparent tape (scotch tape)

8. PROVIDED BY IODA

8.1 MEASUREMENT TEMPLATES

The following measurement templates are required for an IODA Championship:

- Sail
- Spars
- Dagger Board
- Rudder

It is mandatory to use an IODA template (as per IODA Condition 13.1 for Continental 12.1 for World Championships). Templates can be acquired through IODA by contacting the Secretary General. All costs for the templates including shipping will be provided. Individual prices are also available on the IODA website (www.optiworld.org).

For events with more than 130 entries you will need 2 sail templates.

For events with more than 210 entries you will need 3 sail templates.

For Worlds you will need 2 x spar templates, 2 x rudder templates and 2 x dagger board templates.

8.2 MEASUREMENT PAPERWORK (Forms)

The IODA Regatta Secretary will provide the measurement paperwork to the OC customized for each event. A file containing two formats - xls.file and pdfs – will be sent approximately 2 months prior to the event or as soon as registration numbers are complete. The xls workbook is the source file and each page corresponds to a form required by the stations listed in this manual. The pdfs are created from this source file and provided ready for printing. A printing order specifying number per team and colour is also provided.

Each form should to be printed on heavy paper in different colours. (Size A4 or 'Letter' depending on standard in host country).

Station A-F: WHITE – one per team

Station B-C: YELLOW – one per sailor

Station D: GREEN – one per sailor

Station E: RED – one per sailor

The Time Reservation Form is to be printed on a white A3 sheet. You need one for each day of scheduled measurement.

8.3 SAIL MEASUREMENT CERTIFICATE

A blank Sail Measurement Certificate will also be sent to the OC of each championship. Approximately 25 copies should be printed in advance on light blue A4 sheets (paper of normal thickness), double sided.

A sail measurement certificate is issued to all the sailors that present unmeasured sails. Measuring a sail and issuing an official certificate has a cost of USD50, payable to IODA during measurement at the venue, and this information is specified in the Notice of Race section 9. Payments shall be collected by IODA at the event.

8.4 ADDITIONAL INFORMATION TO DOWNLOAD

IODA have created several additional documents which should be downloaded, printed and posted for sailors and coaches to view prior to passing through measurement. All documents are available on the IODA website (www.optiworld.org).

BE READY FOR MEASUREMENT

EVENT MEASUREMENT PROCEDURE FOR TEAMS

WATER MEASUREMENT