

BUOYBOTS ! - As at 12th December 2022, our anchorless buoys are;

- 350mm diameter circular, 380 OD rotating top works
- EVA foam hull and topsides.
 - High quality, UV resistant, chemical resistant, all temperature ranges.
- aluminium skeg, twin motors, draft ~250mm.
- mass ~2.5 kg inclusive of 620 gram battery.
- all control electronics inside IP67 ABS box.



<https://www.youtube.com/channel/UC4bFbzEi-i1VW942aT6dpFA>

The Buoybots are designed to meet the following criteria;

- Be as low cost as possible.
- Function over form.
- Buoybots are not designed to operate “over the horizon”, but the Rx/Tx combination is rated to 200 meters, i.e further than the eye could see sail numbers.
- Operate at ~1.9 knots while traveling to/from their position.
- Rotating top works (optional) to allow visibility when/which boats hit a Buoybot.
- *No, your boat keels will not “foul” the skeg when passing or rounding your Buoybot mark.*
- Move within seconds of operator touching the control unit.
- Hold station for six plus hours, in 20+ knots, in whatever chop the fetch pushes up.
- Accuracy, the published (<http://www.mateksys.com/?portfolio=m8q-5883>) GPS has accuracy of about 1 mtr radius, of the point where the GPS is engaged.
 - Just like an anchor and a tethered buoy (when does a buoy ever float directly above its anchor ?), Buoybot will relax back to the max radius and stay there, “circling” that point if the breeze and or tide vectors move around.
 - Tested successfully in breaking waves. Will cope unharmed with capsize, but may not self right.
- Not to be bullet proof or indestructible, but in the event of damage, hulls, skeg, top works parts, skegs etc are all professionally manufactured, with spares available at low cost, ex stock Brisbane.
 - The volume of the control box will allow the motors and skeg to be neutrally buoyant in the event they are run over by say, a jet ski.
- Control box that while IP67 rated (tested water proof for 30 minutes submerged 300mm), needs to be kept free of condensation internally, and the receiver, GPS, flight controller etc inside must be kept free of corrosion. i.e. like any other vessel, maintained !
- Motors are off the shelf from a reputable manufacturer, 90 day warranty.
- Pack in boxes approximately 400mm cube.

Buoybots will;

- Reduce the resources your club has to outlay to own, launch, retrieve and maintain dinghies.
- Significantly reduce the time to set up your course.
- Significantly reduce the time during your events, to adjust your course.

- Adjustments can now be performed from the land, with one operator, providing a skilled PRO the ability to adjust the course themselves.
- Increase significantly the number of races that can be held per day at any given regatta.
 - Less effort, less aggravation, higher quality courses = more smiles on more faces.

Features.

1. One custom built transmitter controls your entire fleet;
 - Ability to;
 1. operate more than one Buoybot at the same time in transit to/from position.
 2. manually steer, or program the direction and range of one or more Buoybots.
 3. return home all Buoybots at once.
 4. automatically, and accurately establish length of the start line.
 5. swap between Buoybots with a push of a button.
 6. A skilled operator will have the ability to rotate a course around the port end of the start line if/when the conditions change with a couple of button pushes !
2. Built in count down to start (you choose one or two minute) on the controller.
3. Two digital screens display show;
 - which Buoybot you are talking to,
 - and the status (at anchor, trundling, distance etc) of all Buoybots in operation.

BATTERIES

Buoybot is designed to carry a battery as large as 6200 mAh, three cell (12V), LIPO fitted with **XT60** plug providing up to eight hours duration. This battery weighs 620 grams, and measures, with allowance for cables measures, 175mm long, 25mm thick, 50mm high.

The smallest battery we would recommend, providing max five hours duration is a 3300 mAh LIPO, weighing 260 grams (160 grams less), and with allowance for cables measures, 145mm long, 20mm thick, 40mm high.

Controller requires 1 x 2200 mAh, two cell (6V), Lipo **XT30** connection.

Battery testing information.

* three Bouybots with 6200 mAh operated each for 4 hours in max 10 knots, in almost flat water, no weed or any adverse conditions, and on return home measured an average of 78% capacity remaining.

* the following day, these same three batteries (without top up charge) operated in 12-18 knot wind range, heavy weed, up to 500mm wind driven swell, against an outgoing tide, for three additional hours and returned home measuring an average of 54% capacity remaining. i.e. after seven hours, in varying conditions, approx 25 % battery capacity safety margin remained above what may be generally accepted as a technically "flat" battery.

That above is consistent with data accumulated over the last twenty four months, and hence why we consider a 6200 as the optimum battery size.

Further, on the same two days, one Buoybot equipped with a 3300mAh LIPO battery returned home after day one with 63% capacity remaining, was topped up to full charge over night, and returned home after the second day with 62 % capacity (and 11.74V) remaining. i.e., after seven hours of use in varying conditions, consumed approx 80% of the capacity. If the 3300 mAh battery was not topped up that night, the battery may have run below 25% remaining capacity and risked significant voltage drop.

Conclusion.

* If you wish to operate Buoybot for short periods (less than four hours),

* if your conditions are generally flat water, (& minimal weed)

* if not above 12/15 knots during those hours,

* if you charge every night before the next use,

... then a battery as low as 3300mAh may be sufficient. If NOT - suggest battery you choose is up to 6200mAh.

NOTE WELL - Buoybot is not large, and is designed to float relatively flat, so weight distribution is important. If you choose to use a battery smaller than 6200mAh, then ADD required weight, in the right place, to restore Buoybots balance. The ideal when travelling, is a slight "nose up attitude".

We have been under development now since early 2021. Since the beginning of development, we have included a number of videos chronicling our development journey, and will continue to do so.

The latest videos are dating Dec 18th 2022. The link to our channel <https://www.youtube.com/channel/UC4bFbzEi-i1VW942aT6dpFA>, please subscribe !

The Wynnum Manly club has been the testing and development ground from Buoybots, and the following feature will be of interest to you ; <http://www.wmrmc.club/index.php/about-us/features/122-how-the-wynnum-manly-radio-model-yacht-club-is-curing-a-sailing-addiction-for-many-yachties-2>

You will also find many club racing videos, featuring Buoybots under development, under the "results" section.

Price;

Prices are AUD, ex Brisbane (Australia) and subject to change.

- ready to float, including tops of your choice,
 - will include 4 x rotating, 2 x clear circular with any standard fleet of six Buoybots.
- \$1,350 AUD each, ex Brisbane.
 - Postage ex Brisbane to EU/USA approx. \$500 AUD for 6 Buoybots.
- Bespoke, fully featured controller with built in timer, \$350.
 - *NOT waterproof !*
- **excludes batteries.**
- Yes, you can start with one or two Buoybots, and add to your fleet over time.

If you are ready to order, drop me an email without delay. I will send you an invoice (not a tax invoice) asking for 50% non refundable deposit, balance payable (Paypal or direct debit). I will be building in batches of twelve, so provided I have that quantity, delivery in six to eight weeks, COVID dependant !

Look forward to your feedback you may have.

Thanks and regards,

Andrew R Wilson

AndrewRwilson62@gmail.com

20 Gordon Circuit, Seventeen Mile Rocks, QLD, 4073

Australia [+61 \(0\) 407 019 933](tel:+610407019933)

