

# GPS Controlled Timing System

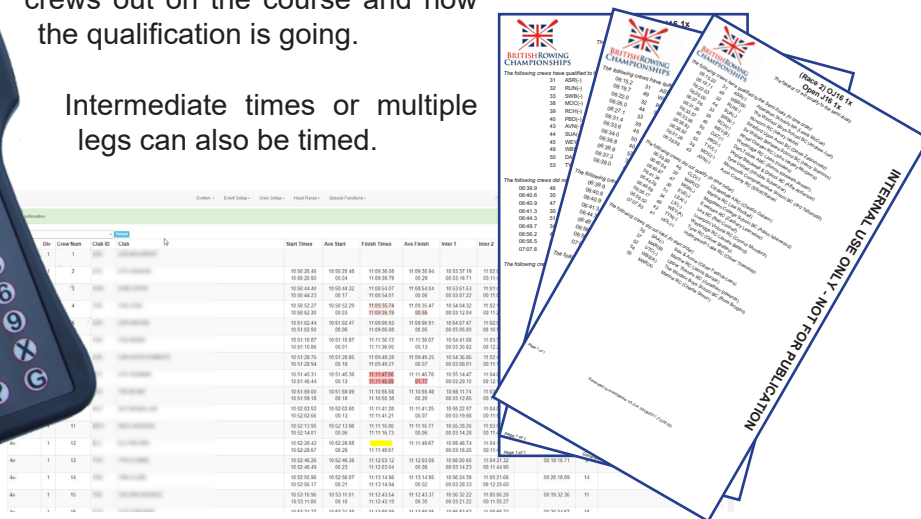
## DESCRIPTION

The RowTime system is an integrated head, time trial, and regatta timing system. It has been created from practical experience of timing heads in the middle of winter and it is designed to minimise data entry and transcribing errors whilst producing the results promptly and accurately.

The advantage of the system is that only crew numbers have to be entered as the times are automatically recorded every time the "timing button" is pressed. Another advantage is that there is no requirement to synchronise the start and finish stopwatches as these boxes receive timing information from the GPS system.

The system is designed to give almost live information back to the chief timekeeper and the processing team, by using GSM modems in each timing box. This allows the head or regatta to have an indication of the crews out on the course and how the qualification is going.

Intermediate times or multiple legs can also be timed.



## FEATURES

### Timing Box

- ⌚ Waterproof (designed for outside use)
- ⌚ Independent turn on (no countdown!)
- ⌚ GPS accurate timing (ms accuracy)
- ⌚ Separate timing button
- ⌚ Up to 1000 times and crews stored
- ⌚ Able to pre-store up to 6 crew numbers
- ⌚ Every time stored
- ⌚ Able to correct any crew number
- ⌚ Able to scroll through all times
- ⌚ Last 6 crews and times displayed
- ⌚ GSM/3G data modem (option)
- ⌚ Bluetooth (option)

### Dimensions

220x1115x51mm  
550gms

### Event Manager

- ⌚ web based (requires internet access)
- ⌚ multi-day, division, race access
- ⌚ reconciliation of stopwatch times
- ⌚ Controlled release of times
- ⌚ Penalty time allocation
- ⌚ Full Head management system
- ⌚ Crew Number label printing (A4,A5,A6)
- ⌚ BROE import/export capability

### Results Module

- ⌚ Competitor result sheets
- ⌚ Full results for next round decisions
- ⌚ Data Verification reports
- ⌚ On-line availability

<http://www.rowtime.co.uk>

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## HOW TO USE THE SYSTEM

Before the head or regatta, the System controller needs to have the event and crew information uploaded to it. For Heads, this can be imported directly from BROE and the draw created within the system. For Time Trials and Regattas, the information is created in the regatta software and exported. Advice and support for uploading information is available from mcl.

If required, crew numbers can be printed from within the system onto A5/A4 paper (waterproof laser paper is recommended) or 4 up labels for the side of the boat. The numbers can be printed in club or event order depending on the way the numbers are issued to clubs and crews.

At the beginning of the day, all of the timing boxes need to be turned on and left outside so that they can “see” the GPS satellites for about 10 minutes and receive the timing information from them. There need to be at least two boxes in use (one for the start and one for the finish).

Once the box has been turned on, it is a conscious decision to turn the box off! There are no buttons which will stop the watches or reset the information.

The GPS system is normally used for “SATNAV” giving the location of the user. The user’s location is calculated from measuring the time difference of the each visible GPS satellite (there are 24 satellites in the system). As GPS is a time based system, the RowTime system is able to extract the time to microsecond accuracy.

The same procedure is used at the start and finish. Every time a crew crosses the line, the “Time Button” is pressed. It is important that a time is recorded for every crew as the crew numbers can be sorted out afterwards. If it is known which crews are approaching the line, then up to six crew numbers can be entered. However if the crews are arriving too quickly for the numbers to be entered (as often happens at the finish), then the times can be stored and in the subsequent gap the crew numbers can be entered.

All of the crew numbers can be changed so that if a number has been misread or incorrectly entered then they can be corrected at any time.

Every few minutes, the new and modified crew numbers and times are transmitted to the central website for the system controller to process.

The System controller does not need to be near either the start or finish. All he needs is access to the internet and a 3G mobile broadband connection is sufficient.

The system controller controls when the data is processed and how the system checks its validity. For example, there must only be two times for each crew (1 start and 1 finish time). The system flags up if there are problems with the times so that they can be checked. The error can be either corrected on the timing box or on the central database.

When the race has been completed, then the system uses the criteria set out for the displaying of results. For example, if it is a time trial and the first 12 crews qualify, then these will be displayed in alphabetical or crew number order and the non-qualifying crews are shown in time order. The output is fully customisable.

## REFERENCES

The RowTime system has been used at the following competitions:

**Wycliffe Small Boats Head**

**Wycliffe Big Head**

**Fours Head of the River**

**BUCS Head & Regatta**

**National Schools Regatta**

**Henley Womens Regatta**

**Head of the Don**

**British Rowing Junior Championships**

**British Rowing Senior Championships**

**British Rowing Masters Championships**

**Metropolitan Regatta**

**Junior Sculling Regatta**

**North West Region Head**

**Pangbourne Junior Sculls**

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