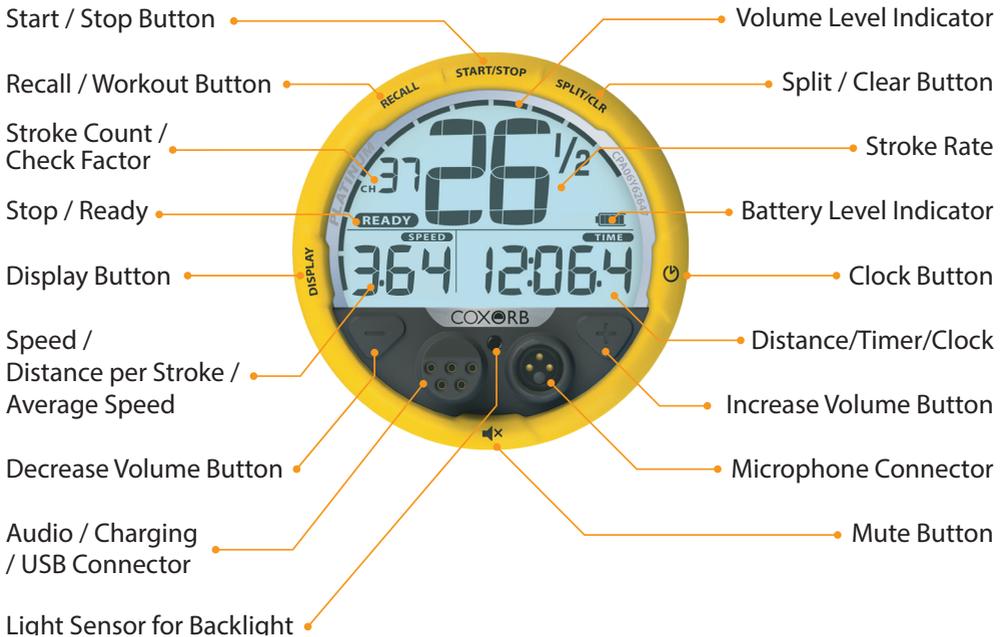


Congratulations on purchasing your new CoxOrb. It has been designed to be as easy as possible to use but the following information will help you get the most from it. If you do have any questions please email us at [queries@active-tools.com](mailto:queries@active-tools.com) or contact your local distributor.



### Basic Operation

Turn On	 <p><b>Press &amp; hold START/STOP for 2 seconds.</b></p> <p>The unit will turn on in 'STOP' mode and Rate, Stroke Count (or Check Factor) and Speed/Average Speed (or Distance Per Stroke) will be displayed.</p>
Turn Off	 <p><b>Press &amp; hold START/STOP for 3 seconds.</b></p>
Volume Control	 <p><b>Press INCREASE VOLUME / DECREASE VOLUME.</b></p> <p>Volume level is displayed on the 'Volume Level Indicator' and the level is saved when the unit is turned off.</p>

Mute		<b>Press &amp; hold MUTE.</b> The unit will be muted and the 'Volume Level Indicator' bars will disappear.
Clock		<b>Press &amp; hold CLOCK.</b> The Time of Day Clock will be displayed.

## Recording a Work Piece

Go To Ready		<b>Press START/STOP.</b> Unit will go to 'READY' mode (all data fields ready to record).
Start		<b>First boat movement or press START/STOP.</b> When in 'READY' mode the unit will automatically start recording on the first movement of the boat. Alternatively you can press START/STOP again. During a timed work piece Stroke Rate, Stroke Count, Speed, Distance Per Stroke, Elapsed Time, Distance, Check Factor and Voice Data will automatically be recorded. <i>Work Pieces under 10 seconds long will not be recorded.</i>
Recording a Split		<b>Press SPLIT/CLR.</b> The time/distance display will freeze and flash for 3 strokes to indicate that a split has been recorded (the timer will continue to run internally).
Stop Timing		<b>Press START/STOP.</b> Work Pieces can be stopped at any time. The unit will return to 'STOP' mode and display the last recorded figures until the piece is resumed or cleared. Alternatively, if you stop rowing or paddle very lightly elapsed time/distance will flash. If you then press START/STOP while it is flashing the time you stopped rowing hard will be used as the end of the work piece.
Resume Timing		<b>Press START/STOP.</b> Work Piece will resume as a continuation of the original piece.
To Clear and Reset the Timer		<b>Press SPLIT/CLR.</b> Unit must be in 'STOP' mode.



## Configuring the Display

Configure Area 1	 <p><b>Press &amp; hold DISPLAY and press DECREASE VOLUME</b> to cycle between Stroke Count, making this area blank, and Check Factor.</p>
Configure Area 2	 <p><b>Press &amp; hold DISPLAY and press INCREASE VOLUME</b> to cycle between 'SPEED', Average Speed (AS), and Distance per Stroke (Σ). Distance Per Stroke is displayed as, for example, 9.52 (metres) and its symbol is not displayed after it has been selected. If it goes over 10 the 1 is not displayed, eg: 12.53 will be displayed as 2.53</p> <p><i>Speed can be displayed in metres/sec or splits (minutes and seconds/500 metres). To change between them press and hold 'DISPLAY' and 'CLOCK' buttons for 3 seconds. The display will alternate between 'Str-AVG' 'SPd-SPL', 'I-CAL' and 'ICF-SEt at 2 second intervals. Release the buttons to select 'SPd-SPL' and use the Volume buttons to choose between Speed (SPd) or Split (SPL) readings.</i></p>
Configure Area 3	 <p><b>Press DISPLAY</b> to swap between 'DIST' and 'TIME'</p> <p>If you want to display alternating 'DIST' and 'TIME' press and hold DISPLAY for 8 seconds (to exit this mode press DISPLAY for 3 seconds)</p> <p><i>Note that when 'DIST' and 'TIME' are alternating in a workout and you pass 250 metre marks the time will stay on screen for 5 seconds (unless you are doing a pre-programmed work piece based on minutes when it will display distance for 5 seconds every complete minute).</i></p>

## Recall

Enter Recall	 <p><b>Press RECALL.</b></p> <p>When in 'RECALL' mode 'MEM' is displayed on screen and the most recent work piece is numbered '01'.</p>
--------------	--

<p>Selecting Work Piece to View</p>	 <p><b>Press INCREASE VOLUME / DECREASE VOLUME.</b></p> <p>Work Pieces are labelled with the Time of Day they were recorded. The highlighted work piece will flash and if you leave it highlighted for more than 2 seconds it will be selected. The unit will store 20 work pieces and after that it will automatically delete the oldest one when a new one is recorded.</p>
<p>Reviewing Work Piece</p>	 <p><b>Press INCREASE VOLUME / DECREASE VOLUME.</b></p> <p>The parameters configured on the display are recalled in increasing increments depending on the length of button press.</p> <p>SPLIT/CLR cycles through recorded splits, including the start and end of each Work Piece.</p> <p>The 'Volume Level Indicator' shows your approximate location within the Work Piece.</p>
<p>Erasing Work Piece</p>	 <p><b>Press &amp; hold SPLIT/CLR for 5 seconds when on the work piece you wish to remove.</b></p> <p>The screen will flash ERASE when preparing to erase and ERASED when complete.</p>
<p>Exiting Recall</p>	 <p><b>Press RECALL or START/STOP</b></p> <p>Unit will return to home screen in 'STOP' mode.</p>

## Workouts

<p>Set a Work Piece</p>	 <p><b>Press RECALL twice to select 'PIECE'.</b></p> <p>Once selected 'DIST' will flash for workouts in metres and if you press 'RECALL' again 'TIME' will flash for workouts in minutes. When you leave one of them flashing for 2 seconds it will be selected.</p>
<p>Adjusting Time / Distance</p>	 <p><b>Press INCREASE VOLUME / DECREASE VOLUME.</b></p> <p>Once you have selected 'DIST' or 'TIME' the INCREASE VOLUME and DECREASE VOLUME buttons can be used to adjust the time/distances of the piece in 30 second/50 metre increments. Once you have selected your desired distance/time leave it flashing for 2 seconds, the unit will then display 'SET' and return to the main screen in 'STOP' mode.</p>
<p>Repeat a Workout</p>	 <p><b>Press RECALL three times.</b></p> <p>To repeat a workout, start with the unit in 'STOP' mode and press the 'RECALL' button three times to select 'RPtPIECE'. The unit will then display the last workout followed by 'SET' and return to the main screen in 'STOP' mode.</p>

## GPS

GPS speed is displayed automatically unless an impeller is detected. By default it is averaged over three strokes and can be displayed as a 500m split or in m/sec.

Adjusting Number of Strokes GPS Averages Over (1-8)



**Press and hold the 'DISPLAY' and 'CLOCK' buttons for 3 seconds.**

The display will alternate between 'STr-AVG', 'SPd-SPL', 'I-CAL' and ICF-SEt at 2 second intervals, select 'STr-AVG' by releasing the buttons. Use the INCREASE VOLUME and DECREASE VOLUME buttons to alter the number of strokes GPS speed is averaged over.

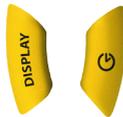
*Note that trees, bridges and buildings can sometimes affect the accuracy of GPS readings.*

**Top Tip:** Although GPS is reasonably accurate we recommend the use of an impeller when training as it is more accurate and is not affected by any stream.

## Calibrating the Impeller

This is done automatically using the GPS distance sensor. You will need to do it on a clear, and reasonably straight, 500 metre stretch of water. You are likely to get a more accurate calibration if you do it on still water but if the water is moving you should use 'Stream Compensation' before starting the calibration.

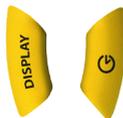
Calibrating the Impeller



**Press and hold the 'DISPLAY' and 'CLOCK' buttons for 5 seconds.**

The display will alternate between 'STr-AVG', 'SPd-SPL', 'I-CAL' and ICF-SEt at 2 second intervals, select 'I-CAL' by releasing the buttons. The unit will enter Calibration Mode and '500' will be displayed. You then need to row at a reasonable pace, and use the rudder as little as possible, for 500 metres. The distance will count down as you do this and when it reaches zero 'READY' will be displayed and your Impeller is calibrated.

Adjusting the Calibration



**Press and hold the 'DISPLAY' and 'CLOCK' buttons for 3 seconds.**

The display will alternate between 'STr-AVG', 'SPd-SPL', 'I-CAL' and ICF-SEt at 2 second intervals, select 'ICF-SEt' by releasing the buttons. The unit will enter Impeller Calibration Factor mode where you can then adjust the Calibration Factor number using the INCREASE VOLUME and DECREASE VOLUME buttons. You would do this if you were using your CoxOrb in a boat that has an Impeller with a known Calibration Factor or if you were setting the Calibration Factor of an Impeller using markers on a rowing course rather than using the automatic GPS calibration method. To do this you would see what distance the CoxOrb displayed when the boat travelled between 500 metre markers and then adjust the Calibration factor up or down by the percentage the displayed distance was out (adjust factor down if the distance displayed is less than 500 metres and up if greater).

## Stream Compensation

When using GPS speed on moving water it is recommended that you use the stream compensation feature to give more accurate readings.

### Setting Stream Compensation



Put CoxOrb in 'STOP' mode and have the blades square in the water so that the boat is moving with the stream.

**Press 'SPLIT/CLR' for 3 seconds.**

The unit will show a flashing 'Str C'. It will then measure the speed of the boat over 20 seconds, which will count down on display. When this is complete the distance the boat moved during the 20 second period will be displayed briefly, in metres, so you can see that the compensation process produced a sensible result.

*Note that you will need to re-compensate each time you turn the boat.*

## Setting Time of Day Clock

### Setting Time and Date



**Put CoxOrb in 'STOP' mode and hold 'CLOCK' for 8 seconds.**

'24hr' will flash and you can press the volume control buttons to switch between 12 and 24-hour mode. After 3 seconds of inactivity the unit will select your chosen format and switch to flashing the next data set. Hours, minutes and the date can be set in the same way.

*Note that in 12 hour mode A & P are displayed to distinguish between AM and PM.*

## Course Recording

The inbuilt GPS module will record your courses. This data can be viewed in Google Earth once uploaded to a Mac or PC.

To view your .GPX files in Google Earth you must first open the program and then use File > Open.

On open water your course is generally accurate to 2-3 metres / 6-9 feet, but on narrow rivers trees, bridges and buildings will affect the results.

## Check Factor

When this is selected the unit will display a factor that reflects how much you are slowing the boat each stroke. This is derived from the averaged boat decelerations measured over each stroke.

Checks vary considerably depending on boat types and crew weights but they are a useful way of evaluating technical changes, for comparing crews, and for seeing how consistent a crew's technique is throughout a race. However, because of this inherent variation, it isn't realistic to suggest what figures you should be aiming to achieve with a particular crew.

*Note that your CoxOrb must be square to the boat, when looking from above, in order to give accurate check readings.*

**Top Tip:** Record average checks for set workouts and compare them over time.

## Data and Audio Upload

The information from stored work pieces can be transferred onto a Mac or PC using the USB cable.

1. Ensure your CoxOrb is turned off and then press 'RECALL' until 'USB' is displayed.
2. Connect the USB cable supplied to the USB port on your computer and to the connector on your CoxOrb. Your CoxOrb will appear as a removable drive in My Computer on Windows computers and as a mounted volume on Mac computers.
3. Copy files to your computer in the normal way.
4. Delete any files off the CoxOrb that you don't want left on it.

## Opening Uploaded Data in Excel

To open graphs of your uploaded data you must have Excel installed on your Mac or PC and have downloaded the Platinum Excel template file from the support page of our website [www.active-tools.com](http://www.active-tools.com)

1. Open the Excel template file (note Excel may ask you if it is safe to enable macros on this document).
2. When opening the template file you will be prompted to import a Graph File. Locate the folder that contains your CoxOrb .CSV Graph Files and select the one you wish to view.
3. Once you have selected a file your graphs will be automatically generated and displayed in separate workbooks. There is also a workbook that contains the raw data.
4. Save your file, making sure to change the file name so as not to overwrite the template file and repeat steps 1-3 for any other graph files you wish to view.

## Battery & Charging

Battery Life		<b>Battery Level Indicator.</b> Each bar represents approximately 20% of battery life and a full battery gives around 6 hours of normal use.
Charging		<b>Connect the charger to the Audio/Charging/USB connector.</b> The battery takes approximately 3 hours to fully charge from empty. <i>During the last 10-40 mins of charging your unit will occasionally complete a memory clean up and during this process it is not usable. When memory clean up is in progress the unit will display 'MEM'.</i>
Full Charge	<b>FULL</b>	When the unit is fully charged the backlight will turn off and 'FULL' will appear.
Changing the Battery		Locate and press the dimple on the battery pack, twist anti-clockwise and gently pull the pack off. Reverse these steps to replace the pack.

## Adjusting the Microphone

The microphone arm can be bent to bring the microphone closer to your mouth, however this must be done gently.

*Please note that the warranty on the microphone only covers manufacturing faults. The CoxOrb must never be picked up and carried using the microphone cable.*

---

## Mounting Your CoxOrb

CoxOrbs can be supplied with a mounting cup and will also fit existing mounting cups and moulded-in holders. The spherical back allows the unit to be angled to suit the user.

# Frequently Asked Questions

***Why does my unit sometimes take a few seconds to display rate if I don't have a seat magnet fitted?***

*The CoxOrb accelerometer can take up to 40 seconds to recalibrate if the angle of the CoxOrb is changed.*

---

***Is my CoxOrb compatible with the NK wiring looms we have in other boats?***

*Yes, CoxOrbs are fully compatible with NK wiring looms.*

---

***I was charging my CoxOrb when it started flashing 'MEM'***

*During the last 10-40mins of charging your unit will sometimes complete a memory clean up and during this process the unit is not usable. When memory clean up is in progress the unit will display 'MEM'.*

---

***The Audio/Charging/USB connector is starting to wear out on my CoxOrb. Can I replace it?***

*Yes, the CoxOrb incorporates a user replaceable connector block, available from our website.*

---

***How long will a battery pack last, before it needs to be replaced?***

*You can expect at least 2-3 years life out of your battery pack.*



## Active-Tools Ltd

Capital House  
Westbourne Street  
High Wycombe  
Bucks  
HP11 2PZ

t: 01494 512487  
f: 01494 473442  
info@active-tools.com  
www.active-tools.com