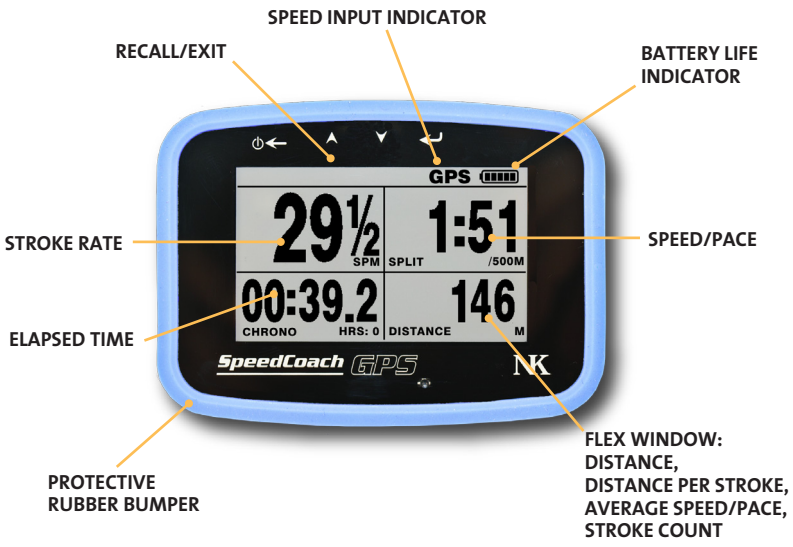
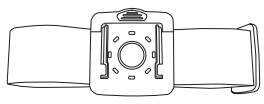
SpeedCoach® GPS

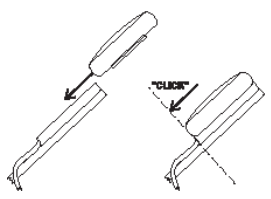


INSTALLATION

Strap Mounting
Use the provided strap mount to attach your SpeedCoach GPS to a rigger, foot stretcher or any other convenient location in any boat you row. The mount base rotates to allow you to install the strap vertically.



SpeedCoach Harness Dock Mounting
If your boat is equipped with a SpeedCoach harness, you can mount your unit on the dock. Your SpeedCoach GPS will always use its internal accelerometer to calculate stroke rate so a seat switch and magnet are not necessary. If an impeller is present, you have the option to select "Impeller" for speed and distance input. Otherwise, the harness dock will serve as a secure holder and your unit will use its internal GPS receiver to calculate speed and distance.

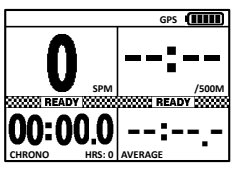


Use Your Lanyard
To prevent loss of your SpeedCoach GPS, install your lanyard on the bar on the rear of the case and make sure to loop your lanyard around any secure part of your boat when on the water. There are a lot of electronics packed into the SpeedCoach GPS and IT DOES NOT FLOAT. NK is not responsible if you do not secure your unit to your boat and it sinks.

BASIC OPERATION - JUST ROW!

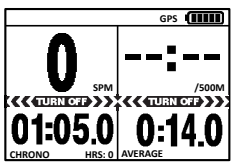
Turn On - Hold for 2 seconds.

Start - Press once. A checkered READY bar will appear on the screen. The READY bar will disappear and the stroke rate, speed/split, timer and flex windows will all start to run when the unit detects a stroke.



Stop - Press once.

Reset Timers - Hold for 2 seconds until the RESET bar appears, then release. Press again to Start.



Turn Off - Hold for 3 seconds until TURN OFF bar appears (after STOP and RESET), then release. Your SpeedCoach GPS will turn off automatically after 8 minutes of not sensing accelerometer movement. To preserve your battery, be sure to turn your unit off before carrying it in your workout bag,

Change Flex Field Measurement - Press up or down button to change the display in the flex window:

DISTANCE - Accrued distance since reset in your selected units of measure.

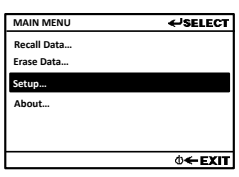
AVERAGE - Average Split or Speed since reset calculated as a function of the distance traveled over the elapsed time.

COUNT - Count of strokes detected since reset.

DIST/STROKE - Distance per stroke calculated on a stroke-by-stroke basis.

ADDITIONAL FUNCTIONS AND OPTIONS

NAVIGATING THE MENUS



Main Menu
Press once to access the Main Menu. From there, you can Recall Data, Erase Data, enter the Setup Menu or view the About screen for firmware version number.

Move/Adjust
Use the up and down buttons to navigate within a menu OR to adjust a selected value.

Select
On any menu, select the highlighted option to enter the submenu or adjust the value.

Go Back/Exit
Press to exit from any screen or menu to the previous screen.

ADDITIONAL FUNCTIONS AND OPTIONS (CON'T)

USING THE MEMORY

The SpeedCoach GPS memory stores 100 memory points at a fixed interval of 100 meters. It will also store a snapshot of your data each time you start and stop your timer during your row. At each memory point, the SpeedCoach GPS stores the distance and elapsed time as well as the instantaneous stroke rate, speed/split and distance per stroke from the last complete stroke prior to the memory point. The cumulative average speed to that point is also stored.

Recall Data
Select Recall Data from the Main Menu. The display will return to the normal window arrangement with a RECALL bar displayed. The Interval count is displayed in the top right corner.

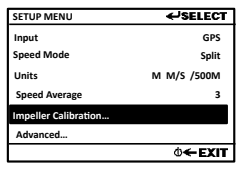
Step through Data
The screen will advance to the next point with each press.

Change the Flex Field.
At any data point, you may change the flex field to see the other stored values.

Erase Data
When your SpeedCoach's memory is full, it will cease storing data. To clear the memory, select Erase Data from the Main Menu. Note – data is erased immediately. Press to cancel if you do not wish to erase.

SETUP MENU

From the Main Menu, use the and select Setup. From there, use the menu navigation steps described above to navigate, select, adjust and exit setup options:



Input
The Speed (and distance) Input setting can be set to GPS or Impeller. Please note that you will need a wiring harness and impeller to use the Impeller mode.

Speed Mode
Options are Split (predicted split for your selected interval, such as /500M) or Speed (distance for a time, such as M/S).

Units
Change to select which units of measure you wish to be displayed.

GPS Speed Smoothing, Strokes
The Speed Smoothing feature will average the last number of strokes selected. If "2" is selected, for example, the Speed/Split displayed will be an average of the last two strokes, updated every stroke.

Auto Stop
Your auto stop selection will govern whether the timer will stop rowing automatically after you stop rowing, or continue running, allowing you to time rest intervals even if you stop rowing. If Auto Stop is "ON," the timer and other windows will all stop six seconds after that last stroke is detected. If the Auto Stop is "OFF," the timer will keep running whether or not you are rowing. To stop the timer when Auto Stop is off, press once. To resume rowing, press to bring up the READY bar. The timer will restart as soon as a stroke is detected.

NOTE: Average Speed is always calculated as a function of the distance covered in the elapsed time shown. Because the timer will continue to run while you are not rowing, turning Auto Stop "OFF" will impact the calculation of your cumulative average speed.

Advanced
To access more advanced setup options, see below.

ADVANCED SETUP MENU

Impeller Calibration
To change your Calibration Value or run the calibration routine (see the reverse side).

Starting Amplitude (Stroke Rate)
Amplitude governs the degree of acceleration that must be detected by the accelerometer to start the stroke meter. It is rarely necessary to change it for normal rowing. A lower value will cause the stroke meter to start more easily, which may result in it triggering before you start rowing. **The default value, and value recommended for rowing, is 40.**

Rowing Sensitivity (Stroke Rate)
Sensitivity governs the degree to which the accelerometer will register changes in acceleration as a stroke. A lower value will increase the variability of the stroke rate. **The default value of 3 is generally the best for all types of rowing.**

Diagnostics
The Diagnostics screen provides information about the performance of your unit's GPS receiver, accelerometer, impeller and charging system. It may be useful in the event your SpeedCoach GPS does not appear to be functioning as expected. Additional information is be available at NKhome.com or from NK tech support.

IMPELLER CALIBRATION

Calibration is only relevant if you are usng your SpeedCoach GPS with a wiring harness and speed impeller at times. The Calibration Value is an adjustment factor that compensates for any difference between your impeller's distance measurement and the "standard boat" upon which the SpeedCoach's calculations are based. The Calibration Factor applies only when in Impeller mode for speed and distance.

Entering Impeller Calibration
Select "Impeller Calibration" from the Advanced Setup Menu.

Entering a Calibration Value Manually
If you know your boat's SpeedCoach calibration value from previous calibration (it is the same for any SpeedCoach), you may enter it manually. From the Calibration Menu, press [↵] to select the Calibration Value, then press [▲][▼] to adjust the value, and [⏻←] to accept the value.

Running the Calibration Routine
The SpeedCoach GPS does not need a measured course to be calibrated. Because the SpeedCoach GPS knows both the GPS and Impeller distance measured, it can self-calibrate. Calibration simply involves rowing the selected distance in two directions. Your distance options are 500 to 1000M. Although a longer distance will somewhat improve the accuracy of your calibration, is important to choose a calibration distance that you can row in a relatively straight line in both directions. Ideally, it will also have relatively consistent current throughout. The Calibration Routine requires that you row your course in both directions so the unit can average out any impact of current, tide or wind, and to improve the accuracy of the calibration result through more comparison data.

If you wish to change your calibration distance from 500M, press [▼] to move to the distance line, [↵] to select, then [▲][▼] to adjust and to accept.

To run the calibration routine, press [▲][▼] to highlight Run on the Calibration Menu, then [↵] to select. From the calibration screen, press [⏻←] to start each calibration leg and follow the screen prompts. On each leg, the land distance and water distance will count up until the selected distance is reached in the land distance window (bottom left). Note that there will be a three- or four-stroke delay at the start of each leg while the GPS and impeller readings are synchronized. At the end of the routine, the newly calculated value will be displayed. Press [↵] to accept the new value and exit the routine, or press [⏻←] to exit the routine without changing your calibration value. At any time while running the calibration routine, you can press [⏻←] to exit the routine without changing your calibration value.

GPS FUNCTION AND ACCURACY

Your SpeedCoach GPS employs a high-precision 5-Hz GPS receiver. This means it receives GPS position and speed data from the GPS satellites 5 times a second. This update rate, which is five times that of any running watch on the market, is necessary to provide the data density for accurate stroke-by-stroke rowing speed. Your GPS receiver's performance is dependent upon having an unobstructed view of the sky. After passing under a low or wide bridge, you are likely to notice erratic speed data for a stroke or two. Your unit will return to accurate values as soon as it has re-established good satellite signal. A higher setting for speed-smoothing strokes will dampen both the initial error and the return to valid readings. Note that your total distance, elapsed time and average speed will not be affected by these few strokes of erratic speed readings. You may also notice slightly degraded speed performance (less stable readings) on extremely overcast days.

Note that when using your SpeedCoach GPS in team boats at a seat other than stroke seat, the body of the rower in front of you may interfere with the GPS signal, particularly if you are both long-legged. If possible, move the SpeedCoach to the side of the footstretcher so that it is not directly under the body of the rower in front.

The GPS receiver provides speed accuracy of +/- 0.1 m/s, which translates to +/- 3 seconds at a 2:00 /500M split pace. Distance accuracy is +/- 2.5M over any distance.

BATTERY USE AND CHARGING

A fully charged battery will provide approximately 6-8 hours of operation, depending on backlight use. Each bar on the battery indicator represents 20% of battery life, or approximately 1.2 to 1.6 hours.

To charge your unit, press it firmly into the charging dock of your SpeedCoach GPS charger until it clicks and you see "Charging ..." on the screen. The battery indicator will flash and the bars will indicate the charge status achieved. The battery indicator will show full and stop flashing after 90% charge is achieved, and the display will turn off when the unit is fully charged.

The SpeedCoach GPS can only be charged with the supplied charging dock. The SpeedCoach GPS is compatible with any USB charging source, including your computer or a cell-phone standby power source. A SpeedCoach® XL charger will not charge a SpeedCoach GPS.

WARNING! LITHIUM-ION POLY BATTERY HAZARDS

Your SpeedCoach GPS contains a lithium-ion poly battery pack. Lithium-ion batteries contain flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures or when damaged or overcharged. If ignited, batteries may burn rapidly with a flare effect and may produce irritating, corrosive and/or toxic gases, including toxic hydrogen fluoride gas, which may cause dizziness or suffocation. Contact with battery electrolyte may be irritating to skin, eyes and mucous membranes.

- Do not ever subject to fire or temperatures above 140°F | 60°C. NOTE: A car in hot sunlight may exceed these temperatures!
- Do not charge, use, transport or store above 115°F | 45°C.
- Do not charge below 32°F| 0°C.
- Do not puncture or open the unit.
- If the unit's internal battery pack is damaged, avoid contact with battery electrolyte, which may be irritating to skin, eyes and mucous membranes.
- In case of battery fire, evacuate the area to avoid inhalation of fumes. If possible, cover the battery with sand to extinguish the fire or use a dry ABC-type extinguisher.

SPECIFICATIONS

WEIGHT	Control unit and bumper: 5.2 oz. (150 gm.).
SIZE	Display unit measures 3.6 x 2.6 x 1.2 in. (92 x 67 x 31 mm.) with bumper.
BOUYANCY	Does not float.
WATER RESISTANCE	Waterproof (IP-67).
MEMORY	100 data point memory – store and review multiple pieces. Fixed 100-meter interval.
BATTERY CAPACITY	One rechargeable lithium-poly battery provides up to 8 hours of battery life.
BATTERY LIFE EXPECTANCY	Battery can be expected to last 300 full charge/discharge cycles. The expected cycles increase greatly for partial charge/discharge. After 300 cycles, expected capacity is 80% of original.
COMPLIANCE	The SpeedCoach GPS conforms with Council Directive 2004/108/EC (December 15, 2004) on Electromagnetic Compatibility and is CE-marked accordingly.
ENVIRONMENTAL	The SpeedCoach GPS is RoHS (Reduction of Hazardous Substances) compliant and marked in accordance with the WEEE (Waste Electrical and Electronic Equipment) Directive. Please do not dispose of the unit or battery in your household trash. Return to NK, an NK dealer or a designated recycling center for proper recycling and disposal.

LIMITED TWO-YEAR WARRANTY

NK warrants your SpeedCoach GPS and accessories to be free of defects in materials and workmanship for two years. NK will repair or replace your SpeedCoach GPS when notified within the warranty period, and will return the product via domestic ground shipping or NK's choice of method of international shipping at no charge. The following issues do not result from a manufacturing defect and are not covered under this warranty:

- Damage due to improper use or neglect (including corrosion).
- Damage resulting from severe impact, crushing or mechanical harm.
- Modifications, alterations or attempted repairs by someone other than an authorized NK repair agent.
- Water damage resulting from exposure to water after product enclosure has been visibly damaged and/or failure to return product for service promptly after product enclosure has been compromised.
- Normal wear and tear.
- Reduction in capacity of rechargeable battery normal for its age and/or number of charge/discharge cycles.
- Damage resulting from corrosion or leakage of batteries due to improper storage or charging.

Except for the warranties set forth herein, NK disclaims all other warranties, expressed, implied or statutory, including, but not limited to, the implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by applicable law are limited to the term of this warranty. In no event shall NK be liable for any incidental, special or consequential damages, including, but not limited to, loss of business, loss of profits, loss of data or use, whether in an action in contract or tort or based on a warranty, arising out of or in connection with the use or performance of an NK product, even if NK has been advised of the possibility of such damages.
You agree that repair, and (upon availability) replacement, as applicable, is your sole and exclusive remedy with respect to any breach of the NK Limited Warranty set forth herein. All product liability and warranty options are governed exclusively by the laws of the Commonwealth of Pennsylvania.

IMPORTANT: If you become aware that your product is no longer waterproof – either due to a severe impact or a visible product defect that has developed – stop using it IMMEDIATELY and return it to NK for repair. In many instances, we can repair the product if returned promptly. However, exposure to moisture for any length of time will cause permanent and irreparable damage to electronic components and void your warranty.

Register your SpeedCoach GPS!
Your warranty period will be measured from the date of your purchase if it can be proven, or from the date of manufacture if it cannot be. The best way for you to ensure full warranty coverage is to REGISTER your product promptly under the support section of NK's website. We keep your registration information in strict confidence and do not sell it, share it or use it for anything but product-related information bulletins (which you may decline receiving).

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