



**USE YOUR LANYARD – To prevent loss of your SpeedCoach GPS with Heart Rate, make sure to loop your lanyard around any secure part of your boat. There are a lot of electronics packed into the unit and **IT DOES NOT FLOAT**. NK is not responsible in the event that your unit sinks.**

## \*Training Pack Features

### INSTALLATION

#### Strap Mounting

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

#### 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 working 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.

#### SpeedCoach Heart Rate Monitor\*

The heart rate SMART (LE) monitor belt connects to your unit via Bluetooth® technology and adjust the strap to fit your body snugly. Attach belt across the lower portion of your chest, as shown in the figure to the right. To pair your strap to your unit, please see Setup Menu option.

### 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 an automotive USB or a cell-phone standby power source. A SpeedCoach® XL charger will not charge a SpeedCoach GPS.

**Warning:** Your SpeedCoach is equipped with a safety feature that will shut down charging if the battery is too hot or too cold. Do not charge below 32°F | 0°C or above 115°F | 45°C. If you receive a battery warning on the screen while the unit is within these temperature limits, immediately remove the unit from the charging dock and contact NK for service. Further attempts to charge may result in fire or permanent damage.

### BASIC OPERATION

**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 or car.**

**Change Flex Field Measurement** - Press up to change the bottom left flex window and press down to change the lower right 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.  
**HEART RATE\*** - Current heart rate in beats per minute (bpm).  
**ELAPSED TIME** - Amount of time since start of row.

### MENU NAVIGATION AND SETTING BUTTON USE

**Access Menus/Select**  
Press once to access the Main Menu. From there, you can Setup or Run Workouts, View Data Recall, use the Data LiNK, enter the Setup Menu or view the About screen for firmware version number and other information. On any menu, select the highlighted option to enter the submenu or enter adjustment mode. **SELECT** also moves to the next menu item adjustment.

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

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

Training Pack version

### WORKOUTS\*

**Run Last Workout:** Runs the last workout. This is a quick way to repeat single distance or single time workouts without setting up intervals.  
NOTE: Press **SELECT** to ready the workout. Workout will start when first stroke is detected. Press **SELECT** to pause a workout. Hold **SELECT** to cancel a workout

**Single Distance:** Select this option to run a single distance-based workout at the distance shown. Press **SELECT**, followed by **UP** and **DOWN** to adjust the distance. Then press **SELECT** 2x to run the workout.

**Single Time:** Select this option to run a single time-based workout for the time shown. Press **SELECT**, followed by **UP** and **DOWN** to adjust the time. Then press **SELECT** 2x to run the workout.

**Intervals...**  
Select this option to create a multi-interval based workout (e.g. time, distance, and/or rest periods). You can select from the pre-loaded workouts or customize to create your own. Upto 6 custom workouts can be programmed. The SPC is loaded with 6 default workouts, which are editable. Please note: Interval workout names are automatically generated based on the type of intervals performed.

**Creating an Interval Workout**  
First select a pre-existing workout to edit. Use **UP** and **DOWN** to select a field. Press the **SELECT**, followed by the **UP** and **DOWN** to modify the middle column. Press **SELECT** again, followed by **UP** and **DOWN** to adjust the right column value. Press **SELECT** return to field selection. Please note: pressing the **SELECT** will automatically SAVE and exit the workout when finished.

**Countdown:** When toggled ON, a countdown timer will start when the first stroke is detected. When the countdown reaches zero, the workout will begin. Tip: The countdown allows the user to build to "race pace" before starting their workout. If countdown is toggled OFF, the workout will start immediately when the first stroke is detected.

**Intervals:** Determines the number of intervals in the workout. If you select Equal, all work intervals will be equal in type and value and all rest intervals will be equal in type and value. If you select Variable, you can create a multi-faceted workout of work and rest intervals that can each vary by type and duration.

**Work:** Defines the first work interval of the workout. Work can be time based or distance based. If more than one interval is being performed, a number will be added to this entry (i.e., Work1, Work2, Work3, etc).

**Rest:** Defines the amount of rest in between work intervals. Rest can be time based or distance based. The number shown to the right is the rest value per the unit shown. Similarly if more than one rest period is entered in a variable workout, it will be followed by a number.

**Repeat:** Select ON if you would like to repeat the work and rest intervals found above this entry. You may also select the number of times you would like to repeat this interval grouping.

**Rest Each Repeat:** Only appears when Repeat is ON. Defines the rest period between repeated group of intervals. 30 seconds is the minimum value.

## SETUP MENU

From the Main Menu 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.

### HRM Setup\*

Selecting this option will automatically attempt to pair the Heart Rate Monitor (HRM) Belt with the unit. If more than one belt is found, you may need to change locations to isolate belt. The HRM will automatically turn on when attached to your body. The belt works best with moisture, so if you are not getting a reading, place some moisture on the rubber contacts of the belt before attaching to your body. Once the belt has been paired with the unit, you will not need to pair in the future (unless you select Forget HRM or change belts).

### Speed/Distance Setup

Options are Speed mode or Split mode. Speed mode will display your speed in the top left window. Split mode will display your pace expressed as a time to cover a distance (usually 500 meters). Units allows you to change the units shown for speed and distance (options are: M, M/S, /500 M; KM, KMH, /500M; or MI, MPH, /MI).

### Auto Pause

If toggled ON, the unit will stop the timer if it does not detect a stroke within the last 6 seconds. If toggled OFF, the unit will not stop the timer even if no strokes are being detected. If you would like to stop the timer manually, please select the button to start and stop the timer manually. Please note: the unit will not Auto Pause during the Rest sessions of a Workout.

**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 Pause "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 below).

### GPS Spd 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.

### Stroke Rate Setup

Options are Timer Start Acceleration, Noise Filtering and Axis.

#### Timer Start Acceleration

Governs the degree of acceleration that must be detected to start the stroke meter. The default value is 4. If you increase this value, a more forceful stroke is needed to start the timer. If you decrease this value, a less forceful stroke is needed to start the timer.

#### Noise Filtering

Governs the degree to which the accelerometer will register changes in acceleration as a stroke. The default value is 3. If you increase this value, more acceleration is needed to register a stroke. If you decrease this value, less acceleration is needed to register a stroke.

#### Axis

Allows you to select Front-Back (2) or Any (3). Front-Back (2) is generally recommended for rowing assuming that the unit will be mounted perpendicular to the long axis of the boat. If mounting at a non-perpendicular axis, the recommendation is to toggle to Any (3).

### Time and Date

Used to change the format of the date and time displayed. Please note: only time shows on the display, date will be shown on data recall screen. Please note in most U.S. locations daylight savings time is ON in the summer and OFF in the winter.

### Diagnostics

The Diagnostics screen provides information about the performance of your unit's GPS receiver, accelerometer, HRM\*, clock, and charging system. This information assists NK tech support in case your unit is not functioning correctly.

## IMPELLER CALIBRATION

Calibration is only relevant if you are using your SpeedCoach GPS with a wiring harness and speed impeller. 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. Calibration applies only when in Impeller mode for speed and distance can average out any impact of current or tide to improve the accuracy of the calibration results.

### 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 and tide 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 Calibration 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.

## MEMORY

The total memory that the unit can store is approximately 25 hours. Every stroke is stored in memory and the memory can be reviewed by every 100 meter increment. The speed input (GPS or Impeller) and system of units used will be stored as was rowed.

### Memory Storage

When the memory is full, the unit will stop recording data. When nearing or at full data, delete all session data to continue recording (see below). The amount of memory used can be found on the bottom of the Recall Menu. An alert message will appear when memory log is nearly full.

### Data Recall

Select Data Recall from the Main Menu to review stored data. Recall memory will be formatted in sessions according to date and time. Just Row sessions will have the JustGo prefix whereas a Workout session will just show the pieces run\*.

**Please note: a session is not complete until: a) In Just Row, you reset the counter b) In Workout, the workout is completed or cancelled.**

### Delete All Session Data

This selection will delete ALL memory if chosen. Sessions cannot be deleted individually.

### Viewing Sessions

Selecting a session will bring up the Session Overview (Figure 1). The overview provides the overall distance, time, avg split, and avg stroke rate during that session. Selecting the Session Overview will bring up the Session Details (Figure 2). This page will show the session breakdown by specified period (time or distance). Select MORE to view additional measurement values not currently shown on the screen.

### Data LiNK™

Select this to connect your unit to your PC for Firmware update. Please go to [www.nkhome.com/support/rowing-and-sports-support/manuals-and-downloads/](http://www.nkhome.com/support/rowing-and-sports-support/manuals-and-downloads/) to download SpeedCoach Connect and follow instructions.

**Please note: Bluegiga Bluetooth Smart dongle required**

RECALL MENU		← SELECT
Delete All Session Data?		
Mar 10 06:15a	JustGo-3050M	
Mar 10 06:00a	4x5:00/2:00	
Mar 09 06:27a	5x5:00/10:00	
Mar 06 03:24a	2(6:00,3:00,1000M	
Mar 01 06:17p	8x1000M/3:00	
		⊕ ← EXIT

JustGo-3050M				← SELECT
DIST	TIME	SPLIT	RATE	
3050M	15:36.0	01:57.0	28.7	
				⊕ ← EXIT

Fig1:Session Overview

JustGo-3050M				← MORE
DIST	TIME	RATE	HR	
100M	00:32	28.7	96	
200M	1:06	28.5	92	
300M	1:40	28.3	97	
400M	2:11	27.7	95	
500M	2:45	27.5	98	↓
				⊕ ← EXIT

Fig2:Session Details

JustGo-3050M				← MORE
DIST	TIME	/500M	SPM	
200M	1:06	01:57.0	28.5	↑
300M	1:40	01:59.0	28.3	
400M	2:11	02:03.0	27.7	
500M	2:45	02:00.0	27.5	
600M	3:14	02:03.0	27.0	↓
				⊕ ← EXIT

△ PREV	▽ NEXT	← MORE		
DIST	TIME	HR	D/ST	
200M	1:06	96	8.1M	↑
300M	1:40	92	7.9M	
400M	2:11	97	7.7M	
500M	2:45	95	8.2M	
600M	3:14	98	8.6M	↓
				⊕ ← EXIT

## 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.

## SPECIFICATIONS

WEIGHT	Control unit and bumper: 5.2oz.(150 gm)
SIZE	Measures 3.6X2.6X1.2 in (92x67x31mm) with bumper.
BOUYANCY	Does not float.
WATER RESISTANT	Waterproof (IP-67)
MEMORY	25 hours of memory. Stores every stroke.
BATTERY CAPACITY	One rechargeable lithium-poly battery provides up to 8 hours of battery life.
BATTERY LIFE EXPECTANCY	After 300 full charge and discharge 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.

## 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 charge in direct contact with flammable items.
- 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.
- Allow good air circulation around top and sides of unit while charging.

**NK Nielsen-Kellerman**

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