

autocoach:

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Operation Guide – Race Analysis

Software version 5.0 +

Running and Swimming Version

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1. Timing the Race

The AutoCoach SmartWatch has two stopwatches built into it allowing for the timing of two athletes simultaneously. The race performance of athletes can be recorded using either **Watch** mode or **Speed** mode depending on race distance, course length, desired data, and number of swimmers. Below is a table of the recommended mode to use while timing a **single** swimmer with the given settings.

Course Length	Race Distance	Mode
Short	≤100m	Speed
	≥100m	Watch
Long	≤200m	Speed
	≥200m	Watch

1.1: Stopwatch Controls

- **Start:** Short press the appropriate button to start the associated stopwatch. Long press the right button to start both stopwatches simultaneously.
- **Finish:** Long press the appropriate button to stop the associated stopwatch.
- **Splits:** Short press the appropriate button to record a split for the associated stopwatch.

1.2: Features

Stroke Rate: When timing a **single** swimmer, the stroke rate can be measured only using the left button. To record the stroke rate, short press the left button at the start of three successive stroke cycles. These stroke cycles should be measured when the athlete is approximately at the mid-lap area and it should be relatively the same point during each lap.

1.3: Performance Measurement Features

Stroke Index, SWOLF and Distance per Stroke: If stroke rate is measured, this information will automatically be calculated. These indexes are calculated using the stroke rate, course length and the lap time. If stroke rate was measured, short or long press the right button at the end of the lap to record the lap split/time and display the data.

Reaction Compensation Value: If you have to react to a stimulus to start the stopwatch, the final timing result will be faster by the amount of time it took for you to react to the stimulus. This “reaction time” can be adjusted by the Smart Watch to obtain more accurate results. To change this value, hold the unlock button and turn the select (right) dial until you have adjusted the reaction compensation value to the desired value.

In both watch and speed mode, you can plug in the supplied earphone (or any other iPod compatible) and you can listen to the split times and stroke rate whilst the race is in progress.

1.4: Watch Mode (used for timing one or two athletes)

Two athletes in the same race: **Watch mode** must be used. Two separate buttons control two individual stopwatches. Can only record timing.

- **Right Button:** controls the primary (right) stopwatch for the athlete in the right lane
- **Left Button:** controls the secondary (left) stopwatch for the athlete in the left lane

One athlete in the race: **Watch** or **Speed** mode can be used. One button controls one stopwatch. Can record timing, stroke rate, distance per stroke, etc.

- **Right Button: Starts** and **stops** the stopwatch. Can also record split times. If the stroke rate was measured, this will also calculate the distance per stroke.
- **Left Button:** Used to measure **stroke rate**.
 - Measuring Stroke Rate: Stroke rate should be measured mid distance at approximately the same point each lap. Stroke rate can be measured each lap. Measure the stroke rate by pressing the left button on three successive stroke cycles.

1.5: Speed mode (only for a single athlete)

- **Right Button:** Same as watch mode for a single athlete.
(Note that the splits in this mode are taken at specific points)
- **Left Button:** Same as watch mode for a single athlete.
- **Section Splits: the section** below describes the start and stop of a specific section split while using the Smart Watch in Speed mode
 - **50m (long course):** In this course, each lap is broken up into four sections. The start and stop points of the sections is at the 0m, 15m, 25m, 35m, and 50m points. These points mark the start, false start, halfway, other end false start, and finish points respectively. Record the split at each point when the athlete's head passes the split point for the intermediate points on the pool. Record the split or end when the athlete touches the wall.
 - **Lap 1.1:** Lap 1 0m to 15m
 - **Lap 1.2:** Lap 1 15m to 25m
 - **Lap 1.3:** Lap 1 25m to 35m
 - **Lap 1.4:** Lap 1 35m to 50m
 - **Lap 2.1:** Lap 2 0m to 15m
 - **Lap 2.2:** Lap 2 15m to 25m
 - **Etc etc.**
 - **25m (short course):** In this course, each lap is broken up into two sections. The start and stop points of the sections is at 0m, 15m, and 25m points. These points mark the start, 15M and finish points respectively. Record the intermediate split when the athlete's head passes the 15M point. Record the second/final split when the athlete touches the wall.
 - **Lap 1.1:** Lap 1 0m to 15m
 - **Lap 1.2:** Lap 1 15m to 25m
 - **Lap 2.1:** Lap 2 0m to 15m
 - **Etc etc.**

2. Reviewing the Race Results

Once the race is over and the stopwatch(es) have been stopped, race information can be presented in a variety of ways.

2.1: Watch Mode

In **Watch** mode, if timing was just finished, the display will show the final accumulated time, the number of laps recorded, the last successive split times, and the distance per stroke and stroke rate, if recorded. In order to conserve battery, the results will be cleared from the display after approximately seven seconds. The results can be re-displayed by pressing the unlock button. Splits can be scrolled across the screen by rotating the right dial when the watches are not running.

2.2: Speed Mode

In **Speed** mode, the results displayed will be the same as Watch mode except that the last intermediate velocity splits will be shown instead of split times.

2.3: Splits Mode

In **Splits** mode, all the data recorded from the previous race will be listed. A tabulation of each lap will show the lap number and incremental and cumulative split times. If recorded, the stroke rate, distance per stroke, and speed will also be displayed. Rotate the select (right) dial to scroll through the recorded laps. Press the right button to display the right lane results. Press the left button to display the left lane results.

2.4: Graph Mode

In **Graphical Analysis mode**, the results are displayed visually. If two or more split times are recorded they are displayed as a bar graph. The speed splits (if recorded) are displayed as a line graph. The maximum and minimum speed splits will be displayed in the top left of the display. The maximum and minimum lap splits will be displayed in the bottom left of the display. If only one time was recorded (no splits), no graph would be displayed and a “No Data” message will be displayed. There are three graphs that can be viewed: bar and line graph, bar graph only, and line graph only. Rotate the select (right) dial to scroll through these graphs. Press the right button to display the right lane (split times or speed) results. Press the left button to display the left lane (split time) results.

3. Stopwatch Data Logging

The Performance Stopwatch from AutoCoach has inbuilt non-volatile memory that records all performance data in Watch, Speed and Race modes for the last 200 Races. Each race is a maximum of 60 laps. The data captured includes the following:

- Date & Time of measurement
- Course length and number of laps recorded
- Stopwatch Mode and Data set number
- All split and cumulative times
- All stroke-rates, velocities, Stroke Indexes and SWOLF measurements

3.1: Retrieving Log Data

The data can be listed, filtered, transferred using AutoCoach Manager or deleted. This allows historical data to be kept on your athletes, and the log file is formatted to allow easy importing into a spreadsheet program or database.

Log data can be retrieved by plugging the Stopwatch into a Computer (windows or MAC), or a compatible Android Smartphone with a suitable adapter cable.

4. Handy Hints

- You can use the Left and Right Watches with a single athlete e.g. recording 25M splits on the right watch, and 100M splits on the Left.
- You can alternate what watch you use each event so you can easily show the swimmer their results after timing a later event.
- Graphical split display is effective for showing an athlete their range of lap times and any drop-off or negative splits
- Speed mode is a very accurate method to show Athletes their Start and turn performances each lap.
- Using an ACS80 USB SmartNode connected to a notebook or PC can record all watch timings in real time for later analysis or record.
- Stopwatch times can also be seen on an ACS200 or ACS250 SmartDisplay so an audience can see the measured times.