Operation Guide – Training

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1. Introduction

The AutoCoach SmartWatch, SmartDisplay and SmartSpeaker are designed to operate as a complete training system. These components can be set up in various configurations to suit individual requirements.

There are three main modes used in training:

- **Interval** – *used when many swimmers per lane forming queues to take turns.*
- **Pace** – *from 1 to 9 swimmers per lane with defined target and cycle times.*
- **Race** – *one on one race for practicing the real thing*.

If using only an SmartWatch without SmartSpeakers or SmartDisplay, swimmers must be started by the Coach and a lap clock as per normal.

If using an ACS200 or ACS250 SmartDisplay, you can leave the display set to Lap Clock or Time mode, and it will display timings whilst the set is in progress, and these automatically revert back to a lap clock or time after the set is over.

You can synchronize your SmartDisplay lap clock to the swim center lap clock by making a short press on the lower dial when the center lap clock is at the 12O'clock position.

2. Examples

## 2.1: Interval mode - Start Practice – 15M Dive entry

Equipment Setup: Set the SmartWatch to "Interval" mode and have your swimmers in one or two lanes. Position yourself at the 15M mark, and place a SmartSpeaker in "normal" mode a few meters from the start blocks, away from the water but in a safe position where it won't be tripped over (e.g. on a spare chair poolside). Set the volume on the SmartSpeaker loud enough to be clearly heard, but not too loud to annoy others in the pool.
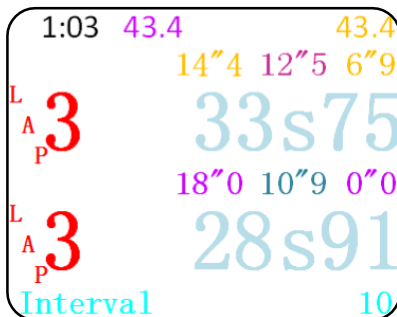
If you have a second SmartSpeaker, or a SmartDisplay, these should be placed at a safe position approx. 18M from the start. The SmartDisplay would be set to "race mode" and if used the second SmartSpeaker be set to "timing" mode.

Configuration: Swimmers are instructed to form 2 lines behind the start blocks (including backstroke swimmers) and told to swim to 20M, then get out of the water and walk back and queue up again.

Select the interval time so as to have a few swimmers "waiting" in the queue (recovering). If you have only a few swimmers or freestylers mixed with breaststrokers then use longer interval times to avoid gaps in the queue or swimmers touching other feet.
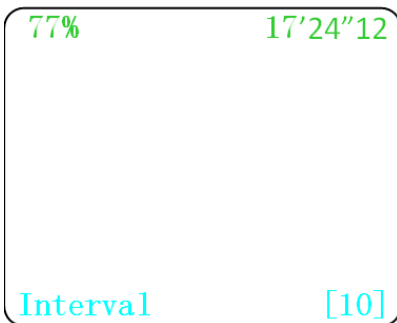
In the event you have more than 2 lanes of swimmers or need rapid turnaround use the [10] interval setting, in which the system just indicates the truncated seconds of the measured times, and is suitable for the most rapid timekeeping. In this mode it is expected the swimmer will know the difference between 22.3 and 32.3 seconds!

Usage: Start the interval system at five seconds before red or black top on any external lap clock by a short press on the right Watch button. This will ensure the start beep will be synchronized to the clock. As each swimmer passes the 15M mark, either announce their times as they finish, or let the Swimmers see their times on the SmartDisplay or listen to their times on the speaker.

If you need rest the swimmers, or pause for coaching etc., a long press on the left Watch button will pause the system, and can be un-paused by another long press.

Notes:

There is a pseudo random delay between "take your marks" and the start beep, ensuring swimmers do not learn to anticipate starts.

This configuration can be used for more than two lanes by setting another SmartWatch to "Group 1", "Group 2" etc. so two lanes are added per Watch. The "Master" watch operator sets up the intervals, and pauses / resumes the system.

All split results are transmitted wirelessly and can be collected on a PC or MAC by plugging in the supplied USB cable and running a terminal software program.

When two or more squads need to operate independent systems, configure the "beep type" under Setup to be different. For in water starts, you can set to announce "eight.. nine… go!", or using "beep" setting to announce in beeps in order to avoid confusion amongst squads training in the same pool. We recommend stickers on different squad equipment to avoid confusion, although the Squad number is spoken or displayed on equipment when powered on.
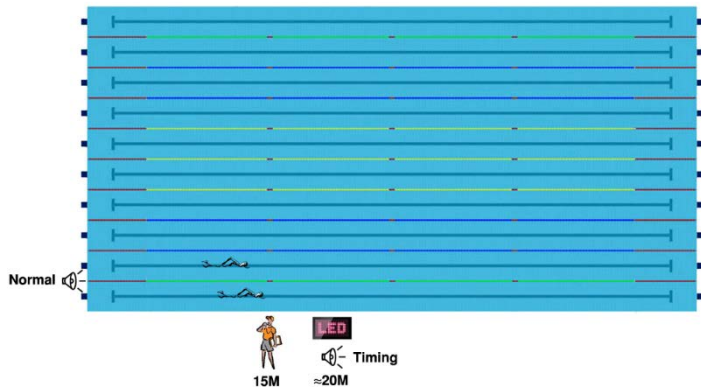
2.2: Interval mode – 50M In water starts

Equipment Setup: Set the SmartWatch to "Interval" mode and have your swimmers in one or two lanes. Position yourself at the opposite end of 50M pool or start end of 25M pool, and place a SmartSpeaker in "normal" mode a few meters from the start blocks, away from the water but in a safe position where it won't be tripped over (e.g. on a spare chair poolside). Set the volume on the SmartSpeaker loud enough to be clearly heard, but not too loud to annoy others in the pool.

If you have a second SmartSpeaker, or an SmartDisplay, these should be placed at a safe position approx. 10M from the start where the display is visible and unobstructed by the swimmers below the start blocks. The LED display would be set to "race mode" and if used the second SmartSpeaker be set to "timing" mode.

Configuration: Swimmers are instructed to form 2 lines in the water beside the lane-ropes as per "over the top" starts, keeping clear of any backstroke starters. Swimmers will be told to swim 50M, then return to the queue till their turn and repeat.

Select the interval time based on how quickly you want to circulate swimmers in their queue and the range of swimmers times. E.g. if you have many swimmers of similar ability then use 5 or 10 seconds intervals, if you have a few swimmers or freestylers mixed with breaststrokers then use longer interval times.

In the event you have more than 2 lanes of swimmers or need rapid turnaround use the [10] interval setting, in which the system just indicates the truncated seconds of the measured times, and is suitable for the most rapid timekeeping. In this mode it is expected the swimmer will know the difference between 32.3 and 42.3 seconds!

Usage: Start the interval system at five seconds before red or black top on any external lap clock by a short press on the right Watch button. This will ensure the start beep will be synchronized to the clock. As each swimmer completes their lap(s) take their split time using the appropriate button for their lane. If using the

SmartDisplay or second speaker, ensure they can see or hear their results. This frees you, the coach to correct technique, etc. with your athletes. By pausing the system, you can talk to the swimmers, perhaps let them rest or change the stroke they swim and then resume the intervals. Of course, the intervals can be of anything, including drills, IM sets, kicking etc.

50M Pool
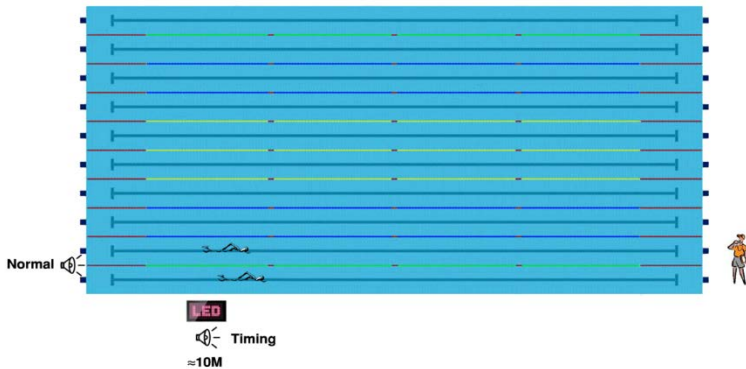
Notes: Interval mode is capable of displaying correct timings, even when there are gaps in the swimmer queue and a swimmer is absent on their turn. For this to occur, there is a calculation made for a valid range of times for each swimmer. This time is calculated as the first split time on the Right Watch, plus half the start interval time.

E.g. at 10S start intervals, and first swimmer is 33.5, any time more than 38.5 would be assumed no swimmer was present and another 10 Seconds deducted from the timer.

If you have a wide range of swimmers starting, ensure the Start interval is more than the difference between your slowest and fastest swimmers, and start with a slower swimmer (not the fastest one).

E.g. swimmers from 29 to 43 seconds, use 15 second intervals, and start the breaststroker first on the right lane.

2.3: Pace Mode – 1:15 swim on 1:30 Cycle with in water starts

Equipment Setup: Firstly, go to "Setup->Max/Lane" in the SmartWatch and select the maximum number of swimmers you have in a lane. This minimizes unwanted start beeps and gives the maximum range in valid set times for the swimmers.

```
72%                    18'26"11
Lap #1   2.0
Ptst Stp    1
Max/Lane    8
Course   50 M
Lanes       9876543210
Max. No. Per Lane
Setup           NET: 0103
```

Then set the SmartWatch to "Pace" mode and have your swimmers assemble in one or two lanes. Initially position yourself at the 15M mark, and place a SmartSpeaker in "normal" mode a few meters from the start blocks, away from the water but in a safe position where it won't be tripped over (e.g. on a spare chair poolside). Set the volume on the SmartSpeaker loud enough to be clearly heard, but not too loud to annoy others in the pool.

If you have a second SmartSpeaker, or an ACS200 or ACS250 SmartDisplay, these should be placed at a safe position approx. 5M from the start where the display is visible and unobstructed by the swimmers below the start blocks. The SmartDisplay would be set to "race mode" and if used the second SmartSpeaker be set to "timing" mode.

Configuration: Swimmers are instructed to form 2 lines in the water beside the lane-ropes as per "over the top" starts, keeping clear of any backstroke starters. Swimmers will be told to swim 100M, then return to the queue till their turn and repeat. If there is a large difference in ability, the faster swimmers should be started first in each lane, in order to maximize number of swimmers swimming at once and maintaining suitable inter swimmer distance.

Select the target swim set time (e.g. 1:16) using the right dial, and then select a cycle time of 1:30 using the left dial. On the top status line the Watch will then

display how many swimmers it will be starting and at what start interval it will be using.

You can adjust the Start interval by pressing the "unlock" button and rotating the right Dial. Start interval times from 5, 7.5, 10, 12.5, 15, 17.5 and 20 seconds can be selected. Longer start intervals will reduce the maximum number of

```
8 @ 10.0          0:34-1:57




Pace      C1:30      S1:16
```

swimmers started. E.g. 8 swimmers @ 10S, 7 @ 12.5 S, 6 @ 15 S, up to 5 swimmers at 20 seconds spacing. On the top right is displayed the valid range of times for each swimmer the system will respond to. By adjusting the right dial (set time), you can adjust the range based on your swimmers ability. A typical setting would be 8 swimmers at 10S spacing, giving a valid range of 1:05 to 1:25.

Usage: Start the Pace system at five seconds before red or black top on any external lap clock by a short press on the left SmartWatch button. This will ensure the start beep will be synchronized to the clock. As each swimmer completes their lap(s) take their split time using the appropriate button for their lane. If using the SmartDisplay or second speaker, ensure they can see or hear their results. This frees you to correct technique, etc. with your athletes. Of course, the intervals can be of anything, including drills, IM sets, kicking etc.

Normal 🔊

LED
🔊 Timing
≈5M   15M
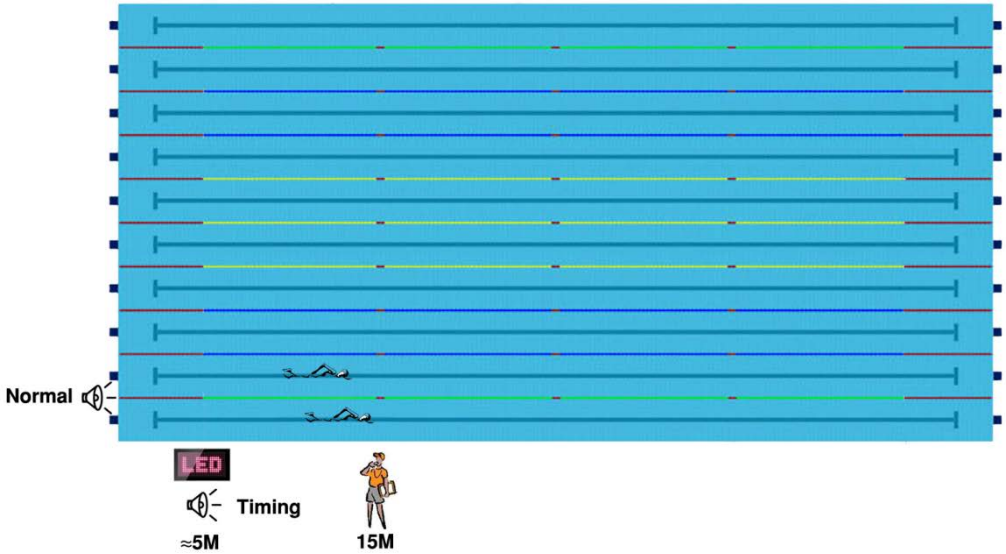
Notes: For Pace mode to display correct timings, swimmers must start at the start beep and in sequence. There cannot be a gap between swimmer starts within a given time cycle. A swimmer can, however, miss a whole time cycle provided the remainder of the swimmers all start on sequence.

The red "Lap" display on the SmartWatch displays the cycle number during a Pace set. On the left top status line, the yellow L and R numbers indicate the swimmer number within the current cycle. On the right top status line, the cumulative time from the first swimmers within the current cycle is displayed. Each subsequent swimmer who touches will have their split time calculated by deducting their start offset time from this cumulative time.

## 2.4: Pace Mode – 800M Race pacing at 34.5 Seconds per lap

Equipment Setup: Set the SmartWatch to "Pace" mode and have one swimmer per lane, up to two lanes. Position yourself at the 15M mark, and place a SmartSpeaker in "normal" mode a few meters from the start blocks, away from the water but in a safe position where it won't be tripped over (e.g. on a spare chair poolside). Set the volume on the SmartSpeaker loud enough to be clearly heard, but not too loud to annoy others in the pool. If you are in a 50M pool and want to pace every lap, you will need a second SmartSpeaker located at the other end of the pool as per the first speaker, otherwise setup the system for 100M lap times instead of 50M (1:09 per lap). If you have an ACS200 or ACS250 SmartDisplay, these should be placed at a safe position approx. 5M from the start where the display is visible and unobstructed by the swimmers below the start blocks.

Configuration: This example can only be used with one swimmer per lane. If the race is a dive start, you can configure the first lap to be compensated for the dive under "Setup" mode – Lap #1. E.g. you may set this to 2.0 seconds for the first lap to become 32.5 Seconds, the remainder being 34.5. This is not needed for in water starts. Then go to Pace mode and select the Cycle time to be "Cont" using the Left Dial. Then using the right dial, and then select a Lap time of 0:34. To adjust the 10ths seconds, press the Lock button and adjust the right dial to setup the .5 Seconds.

```
72%                    17'31"23




Pace        Cont     L1:16. 0
```

Usage: Start the Pace system at five seconds before red or black top on any external lap clock by a short press on the Right Watch button for dive entry. This will ensure the start beep will be synchronized to the clock. Three seconds before each lap is due to be completed two beeps a second apart will sound, indicating to the swimmer they should be about to turn. In freestyle or backstroke the

swimmers will not hear the final beep at the desired Lap interval, as they will be doing the tumble turn underwater. As each swimmer completes their lap(s) take their split time using the appropriate button for their lane. Times can be recorded and splits graphed or listed as per normal stopwatch mode.
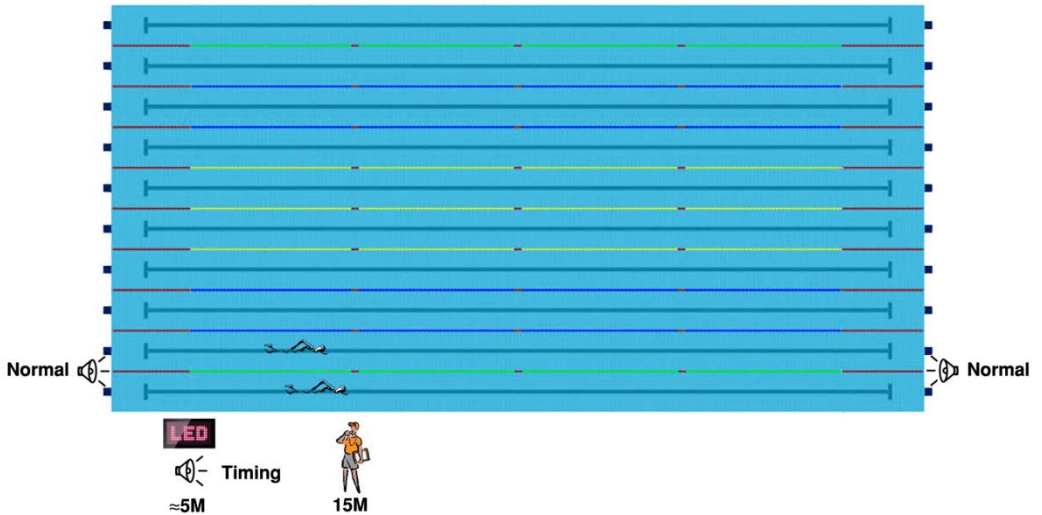
Notes: If you don't have two swimmers of the same ability, you can compensate by giving the lesser able swimmer some advantage such as fins, relay swimmers in the other lane etc., in order to make a realistic race simulation for the other swimmer.