CAS User Manual

REVISION HISTORY

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Contents

Cronos Audio Slalom (CAS) is an Audio Slalom Signal Generator (ASSG) that gives you a virtual official Water ski slalom track including pre gates in a small box.

CAS combines an accurate tracking and timing to give you a virtual official water ski slalom track everywhere. It also generates all required signals for the skier automatically. Once started CAS works independent, freeing the operator to watch and coach the skier instead.

Every track is logged and can be analysed afterwards. Simply connect CAS to a computer via USB. No additional drivers are required.

1   Installation.

CAS is very simple to install. It takes only a couple of minutes to get up and running.

CAS consists of the following parts:

- CAS handheld.

- Tracker.

- CAS encoder

1. First, mount the tracker to the encoder and feed the quick release cable through.

2. Mount the encoder to the mast of the boat and adjust the height so that the tracker can move freely. Best is the keep a gap between the tracker and the top of the mast to allow easy access for installing the rope on the mast.

3. Orientate the encoder in such way that the tracker movement is not blocked by the bracket.

⚠ **Warning**

Adjust the encoder forth and back to that the center of the encoder is right above the center of the mast.

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1. Connect the battery to the encoder. The power cable comes with aligator clips for easy connecting.

2. Finally connect the handheld to the encoder. CAS will beep shortly.

CAS is now mounted and ready for use.

2   Calibration

Calibrating CAS is very simple and done by one person in merely a minute or less.

Attach a rope to the quick release and find the your reference point on the back of the boat. If your mast is mounted in the center, your reference point is the center of the stern. Straighten the rope to remove any slack. Verify if the tracker follows correctly.

Reset the angle counter using the up or down on the handheld. If required or wanted you can repeat it as many times as you like.

Press *OK* when you agree with the center position. CAS will respond by sounding three times.

Calibration is finished and CAS is ready for use. Calibration is not necessary as long as CAS remains powered and the encoder is not repositioned.

3   Operating CAS

CAS can be used for game, training and leisure. It is all a matter of selecting the right options in the menu.

3.1   Training

CAS gives you your virtual slalom track as it does in competition mode, with the exeption that there is no time limit. The trainee can slowly build up his rithm before and learn how to take the buoys. The track with can be changed for the beginners and allow gradually working up to a regular width track.

3.2   Competition

CAS gives you your official virtual slalom track with resemples an official physical track with buoys. All settings are made automatically so that mistakes are avoided.

As opposed to the training mode, rounding the buoys must be done as would be done on an official track. the skier's timing is checked and buoys must be taken in time to avoid being flagged off in *over time*.

The timings match the timing a skier would have in a regular track. This aids while training with CAS and without a real slalom track.

3.3   Preparing for making a pass

The operator selects either *competition* or *training* as required or requested by the skier.

CAS requires the boat speed and rope length work correctly. Follow the instructions on the display.

Please take in mind that some restrictions apply. Combinations of boat speed and rope lengths which are not allowed are not selectable and related menu's are skipped.

After entering all required data, CAS is now *armed*.

3.4   Making the pass

CAS waits in *armed* indefinitely. This gives time for the skier, pilot and trainer to prepare for pass. The operator has to trigger CAS when the boat passes through the pregate.

The skier is informed by a single signal from CAS. In trainings mode the skier can take his time to make his slalom. In competition mode the timings and distances from an official track are honored. The skier cannot start later than when he would with a regular track. He can however start sooner.

The same applies for taking the buoys. Timing is not enforced in trianing mode, but is in competition mode. The buoys must be rounded *in time* or sooner in competition mode.

CAS gives a single signal when a buoy is passed correctly. 2 signals are given when passing through the exit gate.

If the skier fails to take a buoy in time (competition mode), 3 signals are given. The same happens when the operator aborts the run.

4   Customizing CAS

4.1   Skiers names

Every pass made with CAS is logged. The settings made for both training and competion mode are stored in the log file. Adding the name of the skier is possible if a simple ascii file (e.g. made with notepad or equivalent) skiers.lst on CAS exists. Only 1 name per line is allowed.

4.2   Formatting data storage

Formatting the internal data storage needs to be done by CAS itself to avoid incompatibilities between filesystems. This is possible via the appropriate item in the tools menu.

4.3   Access to the data storage

CAS has an USB interface for easy access. Go to USB storage in the main menu to activate. CAS will represent itself as a simple USB stick.

⚠ **Important**
unmount CAS properly before unplugging to avoid data corruption.

Files can be added or remove via USB access.