Sentinel UI QuickStart Guide (DRAFT)

Initial Setup:

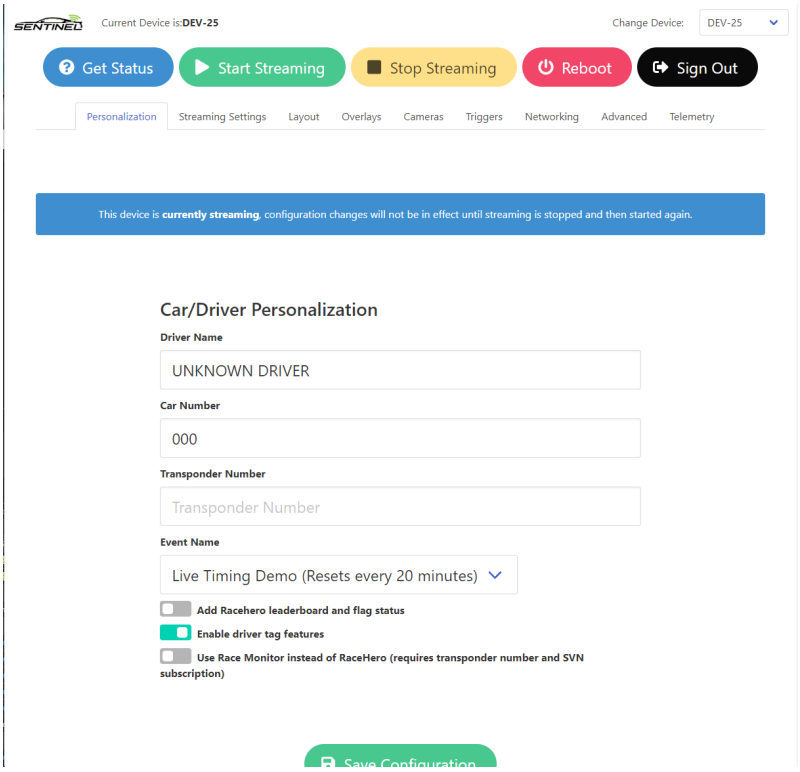
Once the Sentinel hardware is setup and communicating with the cloud, you are ready to configure the system via the SCC (Sentinel Cloud Configuration) utility.

Log in via https://scc.candelaria-racing.com

- If you have not created an account, please create one with the same email address as the one used to purchase the unit from the webstore.
- Once logged into the configuration utility your system status will be reported
    - If you have more than one system assigned to your account you will see a dropdown box in the upper right corner of the screen where you can select your serial number.

Personalization:

On the personalization tab, input your driver name (as you wish it displayed on the feed) , car number, and transponder number. If you have purchased the driver tag feature, you can enable it here as well



Layout:

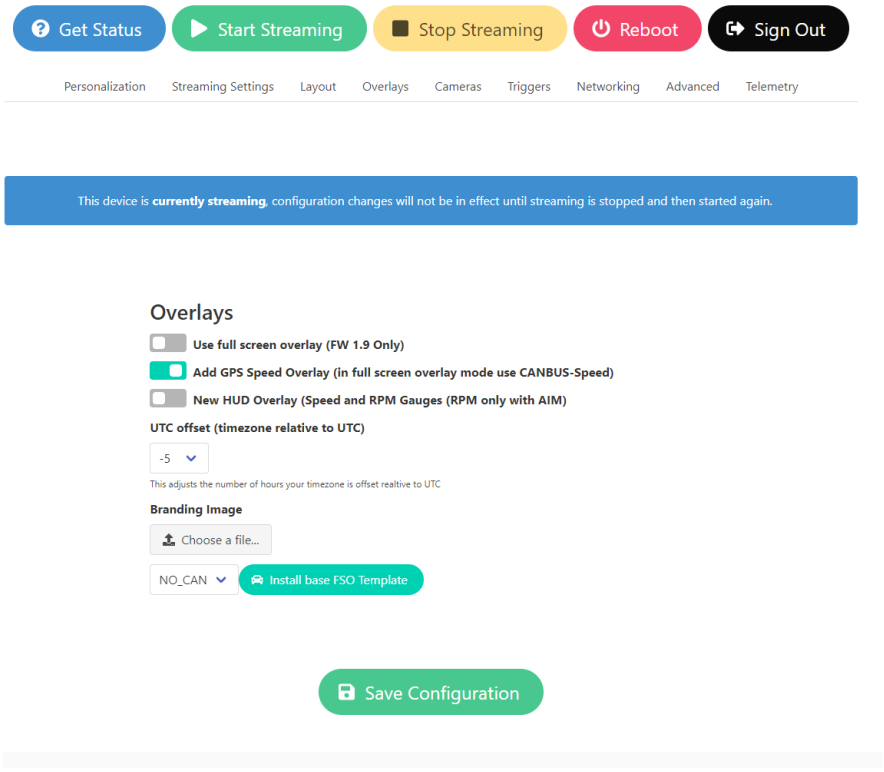
The layout tab will allow you to move certain visual elements around on the canvas. As of version 1.95 of the FW, the full screen overlay feature is the preferred way of adding branding, racehero, and canbus fields and you can safely ignore their placement if using the full screen overlay features.

- Camera position and Map Overlay are the only elements that are actively rendered and enforced via the layout tab if the full screen overlay is enabled. The other elements are overridden by the FSO configuration.
- Changes to these elements will be reflected within 30 seconds of saving the configuration.
- Position these elements in the way you want them reflected on your stream.

Overlays:

The overlays tab allows you to enable full screen overlay, upload your own custom FSO install a default FSO template as well as allows you to setup your timezone

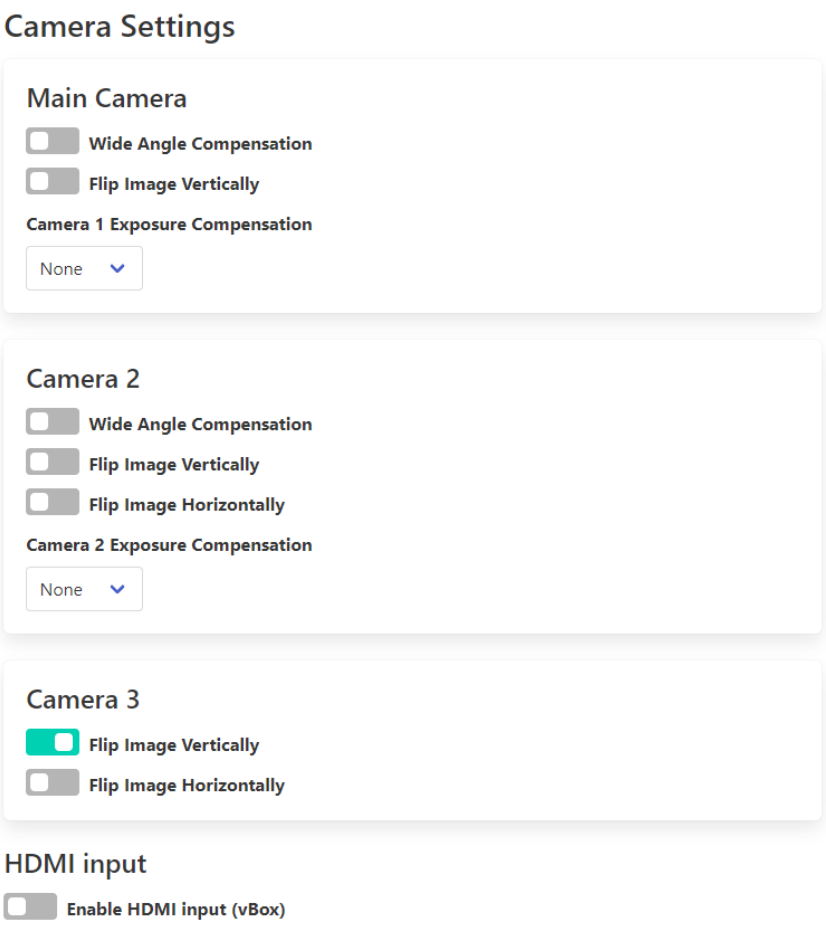
- Timezone is auto-set in firmware 2.15 based on GPS position
    - UTC offset is used as a backup in case of a failed GPS lock
- GPS speed overlay is only used for “classic” mode and not with Full Screen Overlay.
- New HUD overlay is also a “classic mode” feature but is required to be turned on if FSO is enabled (the UI enforces this)
- Clicking the install base FSO template installs the base full screen overlay template for your selected resolution.



Cameras

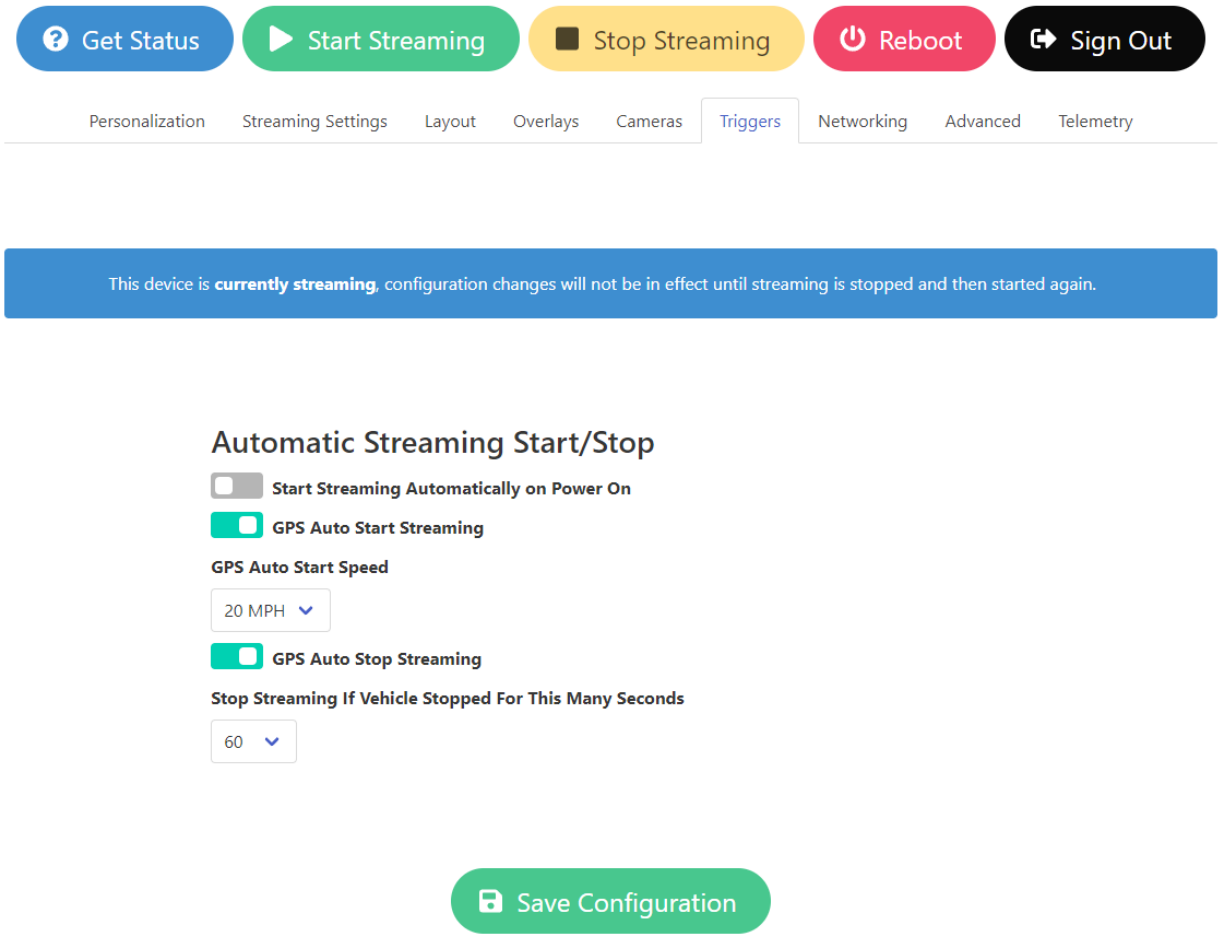
The main camera and camera #2 are the cameras that plug into the face of the Sentinel hardware using HDMI cables . In the base kit you are provided with one “wide” 75* HFOV and one “standard” 68* HFOV camera. The wide angle camera is pictured below

- It is important to select wide angle compensation for the camera that is “wide” as failure to do so will result in a persistently “pink” image.
- Setting a standard angle camera as wide will result in a blue/green image
- If your cameras are mounted upside down you will need to flip the image
- If you have a 3rd camera it is plugged in via USB and it will be controlled as indicated
- If you are integrating with vBox you should enable the vBox switch



Triggers

- The triggers tab allows you to configure the system to stream at power on as well as to trigger based on GPS events.
    - It is recommended that you configure GPS autostart to ensure you don't forget to "go live"



Streaming Settings

Once you have visited all the tabs and settings above, click save configuration. It is now time to setup your initial stream. The streaming settings tab is where this will be configured.

- Clicking on the "create new livestream at YouTube button" will open up a YouTube workflow that will allow you to create YouTube events without ever needing to visit YouTube studio.
    - You will need to authorize your channel via YouTube before this will be successful. Please see this link on how to accomplish this.

        - https://youtu.be/Da0pu3bGuBo?t=31
        - This tutorial is created by another YouTube user and not affiliated with Candelaria Racing Products or Sentinel, however it accurately describes the process necessary to complete authorization

    - The YouTube dialog box will prompt you for a name and description. In addition you will have the option to have your stream as "unlisted" and also adjust for ultra low latency
        - Ultra low latency is sub 3 seconds of latency from the car to the receiver however if the car is not broadcasting there will be no ability to replay the footage. Standard latency is usually sufficient for most cases where consumption of the video is by a social media audience . Ultra-low-latency is typically used with remote coaching customers.
        - Unlisted means that the video wont be posted publicly to your YouTube channel, only people who know the link will be able to see it.

- The streaming bitrate drop down adjusts the visual quality of the stream. The higher the bitrate the higher the quality, however the cellular network does not typically support rates higher than 2 mb on race weekends at most tracks. It is suggested that you start at 1mb/s and work your way up or down from there.
- Stream size, is the resolution of the broadcast. While Sentinel does support 1080P it is not suggested as most race tracks will be bandwidth constrained and it will have less quality at the same bit rate as compared to 720P.
- The local encoder bit rate is the quality of the video saved to the USB stick. 10mb is an excellent choice.
- Once everything is configured, click save settings and then start streaming!
    - If the system is streaming successfully you will see the device state change to "streaming". You will also be able to copy your YouTube public link and paste it into a browser to see your feed.

Streaming Settings

Ingest Endpoint URL

rtmp://a.rtmp.youtube.com/live2/ubep-kkup-z6by-gk26-9m81

This will be provided by your streaming provider of choice, for example Youtube.

Youtube Public URL

https://www.youtube.com/watch?v=gTyAuR6HuJ4

This is the public URL of the newly created Youtube stream.

Copy to Clipboard | Share on Twitter | Share on Facebook

Create New Live Stream At Youtube | Sign Out Of Youtube

Streaming Bitrate

1 Megabits/sec

The bitrate is the amount of data sent per second, adjust this downward if you are getting warnings about streaming latency. As the bitrate is decreased the stream's visual quality may also decrease.

Automatically reduce bit rate when dropping packets

Video Codec

H.264

This selects algorithm will be used to encode the video, different streaming providers support different algorithms.

Video Frames Per Second

30

This is how often a new video frame will be sent.

iFrame Interval

28

Stream Size

720p

This selection determines the resolution of the stream, a larger stream looks better on larger screens. Streaming using a smaller size can potentially use less bandwidth.

Local Encoder Bitrate

5 Megabits/sec