RaceStreaming.com

StreamKit User Guide

1. August 2026

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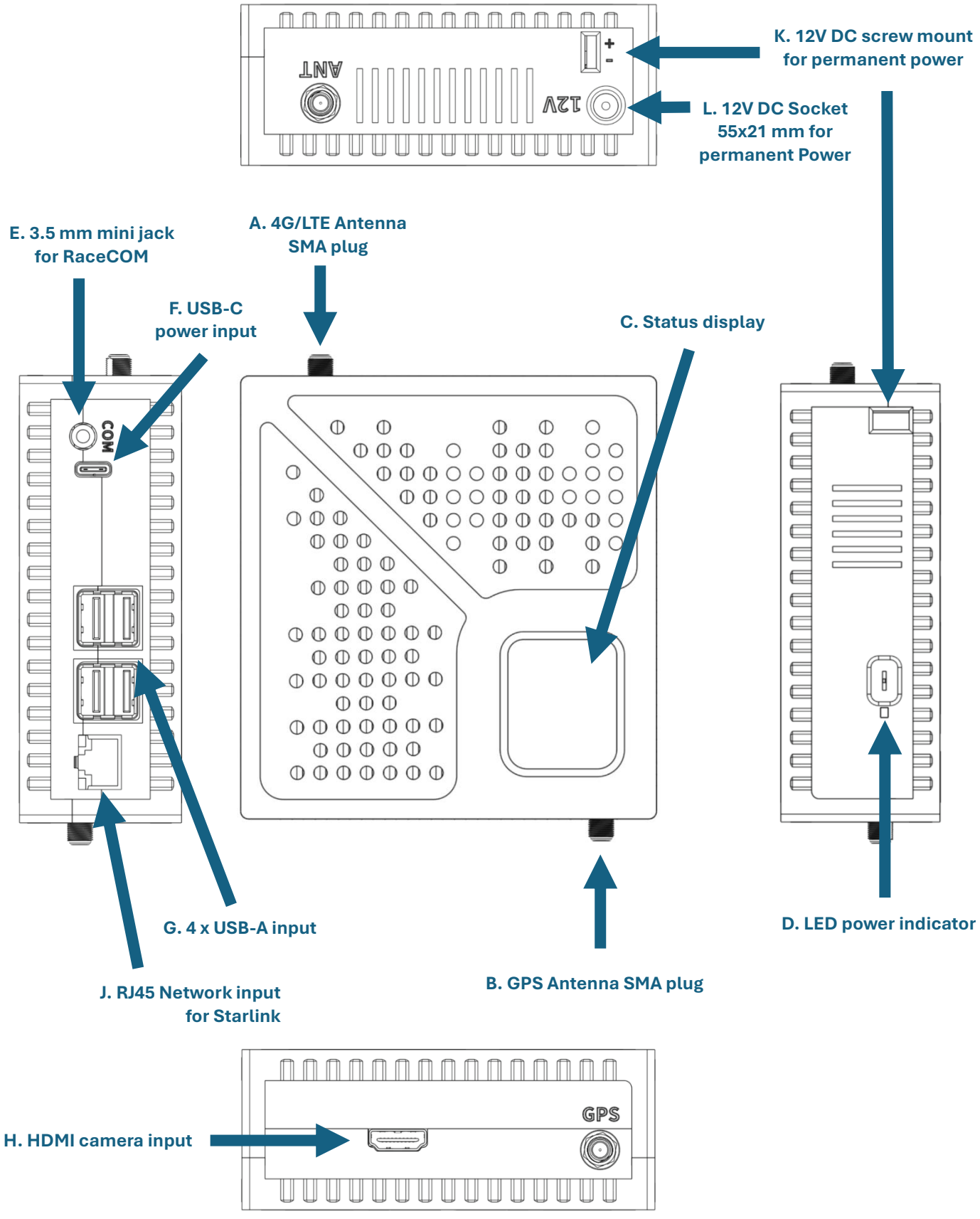

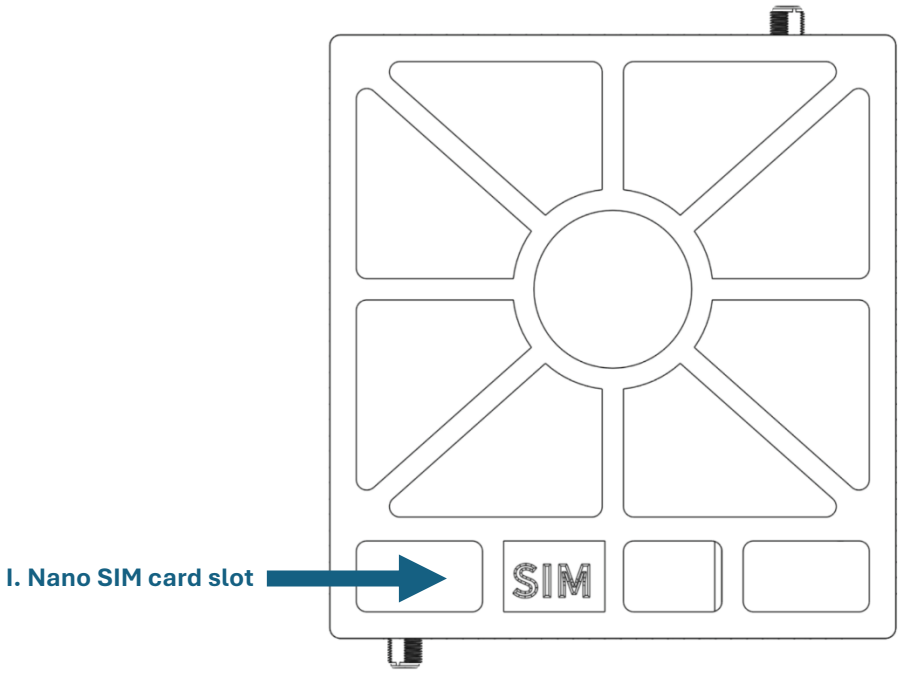

A) SMA plug for the 4G/LTE Antenna
B) SMA plug for the GPS Antenna
C) Status Display. Indicates connectivity quality, device temperature, Live Streaming status
D) LED power indicator
E) 3.5 mm mini jack for RaceCOM, digital communication
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G) 4 x USB-A input for e.g. cameras, PTT adapter, external microphone etc.
H) HDMI camera input for cameras connected via HDMI, e.g. GoPro including the MediaMod add-on or similar.
I) Nano SIM card slot (The device is already provided with a SIM card and a data plan)
J) RJ45 network input for e.g. Starlink connection
K) 12V DC screw mount for permanent power (ONLY USE ONE POWER CONNECTION METHOD)
L) 12V DC Socket 55x21 mm for permanent Power (ONLY USE ONE POWER CONNECTION METHOD)

1.2 Package Contents

The RaceStreaming StreamKit package contains the following:

- StreamKit hardware device
- Internal 4G/LTE Antenna
- External 4G/LTE Antenna including 3-meter cable (Recommended for improved connectivity)
- GPS Antenna including 3-meter cable (Required to indicate speed (km/h or mph)
- Mounting Bracket for flat surface mount
- Removable 3M ribbon sealer to mount the external and GPS antenna
- 12V DC Socket 55x21 mm cable
- PTT USB Adapter for push-to-talk (RaceCOM is required)

 RaceStreaming StreamKit	 GPS Antenna	 External 4G/LTE Antenna
 Internal 4G/LTE Antenna	 12V DV Socket 55x21 mm cable	 Mounting Bracket
 Removable 3M ribbon sealer	 PTT USB Adapter for RaceCOM	

1.3 Required items, not included

- Power source, 12V DC or a power bank
- Camera with USB or HDMI output port
  - DJI Osmo Action cameras can connect via USB-C to USB-A
  - GoPro 8 or newer, incl. the GoPro Media Mod cover to connect via Micro-HDMI to the HDMI port.
- Cable for USB cameras use **USB-C to USB-A** and/or
- Cable for HDMI cameras

1.4 Key Features

The RaceStreaming.com StreamKit is a comprehensive in-car streaming solution designed for motorsports enthusiasts, race teams, and organizers. It enables high-quality live streaming of race footage directly from the vehicle via the internet. Below are the key features of the RaceStreaming StreamKit:

1.4.1 High-Quality Live Streaming

- Streams at 1080p or 4K resolution at 30 or 60 FPS for clear and smooth video output.
- SRT streaming support, allowing simultaneous connections to platforms like YouTube, Twitch, Kick, Instagram and Facebook Live via ViewPoints from within the RaceStreaming APP.
- RaceCOM (add-on) for digital radio communication between driver and pit box.
- RaceStreaming Web APP for managing the entire platform and StreamKit Configurations.

1.4.2 Multi-Camera Connectivity

- HDMI & USB Camera Support: Connect up to two cameras (one via HDMI, two via USB) for enhanced coverage.
- Picture-in-Picture (PiP) Mode: When two cameras are connected, PiP mode is automatically enabled, allowing simultaneous front and rear or driver-facing views.
- RaceStreaming RaceCam PRO, for optimal high-quality clean video
- Compatible with VBOX HD2 or AIM SmartyCam 3 or 4 (USB-C or HDMI).
- Compatible with popular action cameras like DJI Osmo Action, GoPro 8 (or newer), and others with HDMI/USB output.

1.4.3 Reliable 4G/LTE Mobile Connectivity

- Built-in 4G/LTE modem ensures stable, high-speed data transmission.
- IOT SIM card with a mobile data plan for live streaming in EEA (EU & UK), USA & Canada 24 hours of monthly streaming included.
- External 4G/LTE antenna to improve connectivity and signal strength.

1.4.4 Advanced GPS & Telemetry Features

- Integrated GPS antenna provides real-time speed and movement data (km/h or mph).
- Auto-mute audio and recording with GPS speed is zero.
- Additional data overlays can be added to streams when used with software like OBS Studio (https://obsproject.com/).

1.4.5 Live Center for audience access

- Invite your audience to follow from your Live Center.
- Live Center can be branded with own images and event information
- Add manual latency for delayed public broadcast.
- Separate stream for your external audience, which can be disconnected in case of incidents.
- Mask/Blur areas with critical information you do not want to share.

1.4.6 RaceCOM Digital communication (Add-on)

- High-quality communication between Driver and any-one using the RaceStreaming APP.

- Full duplex with PTT (Push-to-talk) adapter for connecting to the [TALK] button.
- Android and iOS APP available for RaceCOM

1.4.7 Compact & Portable Power Solution

- USB-C power input recommended for desktop use only.
- 12V DC power connector for connecting to a permanent and stable power source.
- **NOTE: ONLY CONNECT ONE SINGLE POWER SOURCE AT THE SAME TIME**

1.4.8 Low Latency Streaming

- Ultra low below 1 sec latency via internet-connected devices.
- Single-Cast 500-700ms latency connection for professional broadcasters
- Maximum 3 to 5 seconds delay (latency) when streaming to platforms like YouTube.

1.4.9 Professional & Semi-Professional Broadcast Integration

- RTMP and SRT streaming support enables integration with broadcasting setups.
- Fully compatible with OBS Studio (https://obsproject.com/) or vMix, allowing overlays for real-time race positions, rankings, additional data or any other camera sources.

1.4.10 Easy Setup & Compatibility

- Simple plug-and-play connectivity with existing action cameras (via USB or HDMI).
- Provide the ability for race teams to setup monitoring, allowing pit crews and guests to follow live streams.

1.4.11 Expandability & Customization

- Can be used individually or as part of a multi-camera, multi-car streaming setup.
- Bundle options available for race teams and organizers - contact RaceStreaming.com for customized packages.

The RaceStreaming StreamKit is built to offer seamless and high-quality race streaming, ensuring that every moment of the race can be shared in real time with fans, teams, and organizers worldwide.

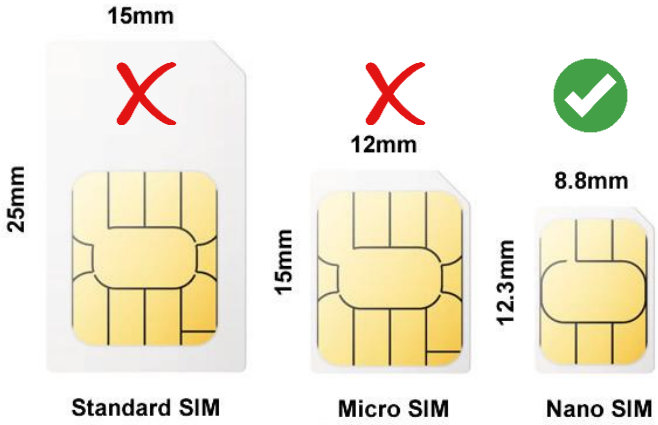
2 Installation and Getting ready

2.1 Included IOT-SIM data plan

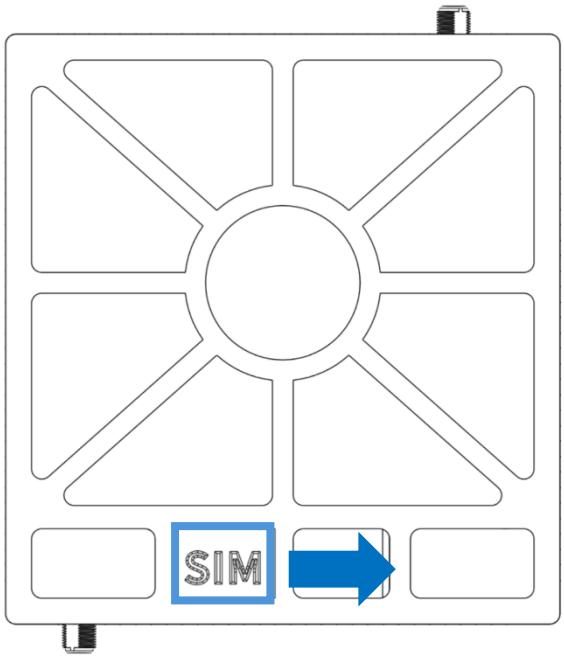
The StreamKit is provided including a network independent data plan for EEA (EU & UK), USA and Canada. This plan includes appx. 24 hours of monthly streaming. Should you need more streaming hours, the plan can be upgraded to 48 hours of monthly streaming.
The included IOT data plan will automatically connect to the best possible network in your area. If you will be running the StreamKit outside of the supported geographical areas, you can replace the included SIM card with another SIM card supported in the area.

2.2 Installing the 4G/LTE SIM card

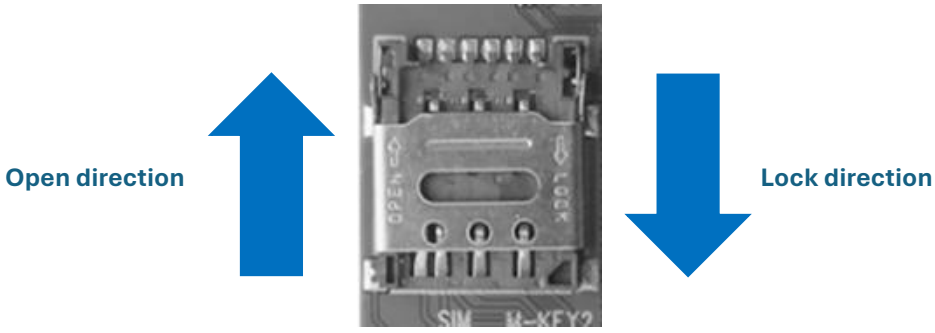
If you want to replace the included IOT SIM card, you can install a **Nano SIM card** from your preferred telecom provider.



A) Open the SIM card slot by sliding to the right, as shown below...



B) **Place the StreamKit on a flat and planar surface.** Open the SIM card metal frame, pull back to release and open the metal frame as indicated here.



C) Install the antenna to the 4G/LTE SMA plug and power on your StreamKit device. After a few minutes the **device display** should indicate "**Connected**".

Please note: When starting your device from a new regional country (Roaming), your device may need a little extra time to connect for the first time.

2.3 Installing the StreamKit

NOTE: *Keep away from hot surfaces/areas.*

NOTE: *Covering the StreamKit may cause overheating issues.*

NOTE: *Do not unmount the Mounting Bracket. Purchase additional brackets for installation within multiple cars. Only the StreamKit should be moved between the cars.*

1. Place the mounting bracket at a flat and clean surface inside the car. The included sticker will hold the StreamKit in place.
2. Insert the StreamKit into the mounting bracket.
3. Secure the StreamKit with a plastic zip tie.
4. Connect the needed cables
    - 12V DC Power
    - Your camera system to either USB-A or HDMI

2.4 Installing the antennas

To ensure optimal streaming quality and performance, it's recommended to use the external 4G/LTE antenna. Install both the external antenna and the GPS antenna outside of your car. You can use the provided 3M ribbon sealer to mount the antennas without having to drill any holes. The 3M ribbon sealer can be removed without leaving any marks.

3M Ribbon sealer product information:

3M™ Auto Glass and Body Caulking Butyl Sealer (Ribbon Sealer)

Part No. 08610

3 Getting Started

3.1 Powering On the device

When power is applied via the 12V DC plug or to the USB-C cable, the device will automatically start.

The LED indicator will show constant **blue** for appx. 10 seconds followed by **blue and green** flashing. After appx. 20 seconds the device should be on and will automatically start to connect via 4G/LTE.

Booting the device after changing country (Roaming), your telecom provider may need longer time before the device will be online and ready.

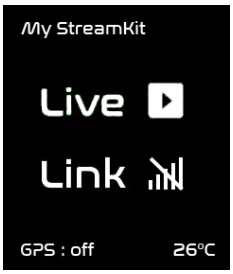
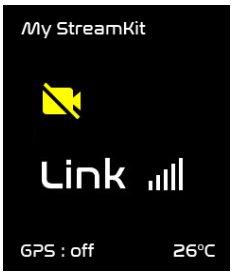
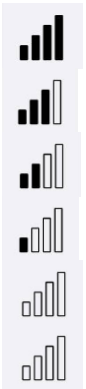
3.2 Powering Off the device

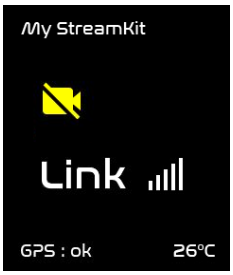
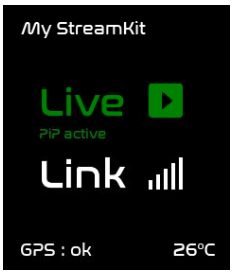
Unplug or disconnect the power source.

3.3 LED Indicator Status Guide

LED Indicator	Description
Blue (Constant) appx. 10 seconds followed by **Blue and Green** flashing	Device is starting. Allow appx. 20 secs for the device to boot and connect.
Blue and Green flashing	Device is on and running, see the device display for further information
Green (Constant)	Device is turned off
No light	Device is either off or no power is provided
Green (Constant) and Device display blinking on and off	The USB power source cannot be used. Please try another power source.

3.4 Device Display

Power on 	When powering on the device you will see the “Ready, Set Go!” welcome greeting. Please wait a few seconds to allow the StreamKit to power on.
Getting ready 	After powering on the device, it will attempt to connect to the best possible mobile data provider within your area. If you have moved geographical area, since last usage of the StreamKit, then please allow up to 5 minutes for the StreamKit to identify the best network within your new location.
Network Connected 	When connected you will no longer see the \ from the [Link] icon on the display.
Connectivity	When connected you will see one of the following icons, indicating your connectivity quality.  **Perfect** Best possible connectivity **Good** Good connectivity **Ok** Acceptable connectivity **Weak** Weak connectivity **Bad** Very weak connectivity **No Signal** Not connected

Camera connected 	When a camera has been connected, you will see the green [Live] indicator. If the camera is not providing any video you will see the following yellow icon: 
GPS 	When the GPS in plugged-in you will see the [GPS: ok] symbol from the bottom of the display.
Device name	From app.racestreaming.com you can rename your StreamKit device from the [Settings] menu. This will make it easy to identify each StreamKit, when operating multiple StreamKit's at the same time. 
Dual camera 	When connecting two cameras to the StreamKit, you will see the [PiP active] indicator under the live symbol. From app.racestreaming.com you can manage the configuration of the two cameras. 

3.5 Power Input

The StreamKit device requires a stable power input. Connect the StreamKit to a stable 12V DC power source using the included power cable or mount your own cable directly within the StreamKit. It is recommended to provide a permanent power source to the StreamKit.

Alternatively, most known power-banks can be used to provide power. The StreamKit device use appx.1.000 mA power during full operation. This will allow a run-time of appx. 10 hours using a fully charged 20.000 mAh power-bank.

Troubleshooting: *If the display is blinking on and off, while the LED indicator shows a constant* ***green*** *light, the power source is not compatible with the requirements of this device. Please try another power source.*

3.6 Using cameras with the StreamKit

You can connect one or two cameras to each StreamKit device...

One camera	Use either the USB or HDMI input port
Two cameras, option 1	Use the 2 x USB ports
Two cameras, option 2	Use the HDMI port plus one of the USB ports.

The first connected camera will automatically be configured as the main camera (Full screen), where the second connected camera will be displayed automatically as the PiP (Picture-in-picture) window of the stream.

If you need two full screen streams, you will need to install two StreamKit devices.

Login to app.racestreaming.com to manage your camera(s).

3.7 Connecting to a USB-A camera

After turning on the StreamKit and your camera, plug-in the camera. The stream will automatically start.

3.8 Connecting to a HDMI camera

After turning on the StreamKit and your camera, plug-in the camera. The stream will automatically start.

3.9 Useful GoPro tips

GoPro cameras are known to overheat when used with the built-in battery. To avoid having your GoPro camera shutting down from overheating, you can remove both the internal battery and SD-card. Then provide external power via USB-C directly to your GoPro's Media Mod USB-port. This will keep your GoPro camera on without overheating.

Advanced Tip: *GoPro cameras is also known to display on-screen text overlays. E.g. "No SD-Card" and "No-Bat". You can download and install the GoPro Lab firmware from here: https://gopro.github.io/labs/. After installing the GoPro Labs firmware you can simply disable on-screen overlays and configure your GoPro settings for optimal RaceStreaming configuration by scanning the QR code with your GoPro camera*

!MHDMI=1mV1r1080p50g0dL

(Update your GoPro firmware before scanning this code)

3.10 Using DJI Osmo Action camera

The DJI Osmo Action PRO 5 works great with the StreamKit, as the camera automatically switch into webcam-mode when turned on. Please remember to disable the auto-turn-off from the camera's setting menu. Recommended settings for the DJI Osmo Action PRO 5:

- Disable power-off from the [Settings] menu.
- Disable front screen from the [Settings] menu to extend the battery life
- Select [RockSteady+] and [Wide] for optimal video

4 Using the Device

When your stream is live, and your device link is either "perfect" or "good". Your stream is running, and you can connect online from https://app.racestreaming.com to follow the stream. From your RaceStreaming account you can connect your stream to YouTube, Facebook, Instagram, Twitch or any other preferred platform. You can also obtain your RTMP or SRT stream URL's, to allow your stream to be used within a TV production environment.

4.1 Using the GPS antenna

To enable the speed indicator and show your velocity (km/h or mph), please make sure you have installed the provided GPS antenna. It's recommended to install the GPS antenna outside of your car to improve accuracy and to allow the GPS signal to connect.
After enabling the device from a new location, the GPS may need longer time to connect. The display will show "GPS: ok" when the GPS signal has been obtained. Using the GPS, you will also have features like: Automatic mute audio when speed is zero, Automatic on-device recording when the speed is above 5 km/h, etc.

5 Technical Specifications

5.1 Hardware Specifications

StreamKit specifications:	
Dimensions	115 mm x 108 mm x 42 mm
Weight	315 grams, excluding antennas
Optimal operating temperature	-15ºC to 60 ºC
USB-C Input power	USB-C PD version 2.0 with 9V/2A, 12V/2A, 15V/2A or 20V/2A
12V Input Power	12V DC with 2A
Video encoding	H.265 HVEC
Video input	1 x HDMI 4 x USB-A
Video Output	1080p or 4K, 25 fps 1080p or 4K, 30 fps 1080p or 4K, 50 fps 1080p or 4K, 60 fps
Video Output formats	SRT (H.265 or H.264), HLS or RTMP
Additional Video interfaces	Youtube Live, Facebook Live, Twitch, Kick, Instagram Live, Vimeo, Azure Media Services, Livepush, Rumble, and many more
Communication	4G/LTE Cat 4, Up to 50 Mbps video upstream. Stable stream from 0,5
Communication regions	Global coverage
Communication GPS	GPS, Beidou, GLONASS, GALILEO, QZSS
Display	Built-in 1.7” LCD display
Waterproof	Not rated, please keep the device away from direct rain.

6 Troubleshooting Issues

Connectivity issues

- Make sure you have installed the 4G/LTE and GPS antennas in the correct SMA plugs. Installing them incorrectly will result in no or very bad connectivity.
- Install the external antennas outside of your car, to obtain best possible connectivity.
- My device will not connect to my telecom provider.
    - Please allow the device up to 5 minutes during the first start-up from a new roaming location.
    - When using your own SIM card, and if your device will not connect, please consult with your telecom provider to ensure your SIM card is active and does not require a PIN code to enable. PIN code requirements must be disabled.
- Some geographical areas do provide low cell coverage. You can configure your device to “Reduced quality”, which will lower the live stream quality and use less bandwidth. This will help you obtain a stable connection at the cost of a lower stream quality.
- My GPS will not connect.
    - Please make sure you have installed the GPS antenna into the correct SMA plug.
    - Turn-on your device and make sure your antenna is placed outside with without obstructed access to satellites. After a few minutes the GPS should prompt “OK”.

Overheating issues

- Make sure the device is installed somewhere ventilated.
- Make sure the frontside ventilation holes is not covered and facing vertical or upwards.
- If you keep getting overheating issues, please contact us at support@racestreaming.com as we can guide you to instal external USB fans to improve the ventilation.

7 Contact & Support

Should you encounter any issues, please contact our support team at support@racestreaming.com for further assistance.