



RACEIT USER GUIDE

Version 2.1

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1.0 QUICK START IN 10 STEPS!

- 1 - Make sure to use 4G Network on RaceIT Device;
- 2 - Open RaceIT APP on RaceIT Device;
- 3 - Login with credential if required;
- 4 - Press "Start Session" on main page;
- 5 - Press "Start Session" again on next page;

LIVE SESSION IS STARTED

- 6 - You can select the preferred camera with the middle round switch or you can do it later remotely from www.raceit.live website;
- 7 - Open www.raceit.live on the device you want to use to watch Live Session
- 8 - On upper right side select "Sign In" and Login with credential if required;
- 9 - Select "Stream Control" to watch Live Session;

ENJOY YOUR LIVE ONBOARD

- 10 - Below the video you can: change Video Quality based in Network stability, choose Camera, Start/Stop Recording, Start/Stop Session, Speak to Driver and much more.

EXPLORE RACEIT FULL FUNCTIONALITIES ON THIS GUIDE!



2.0 RACEIT APP

2.1 How to Start a Live Session

A - Open RaceIT App from device desktop.

B - If required, digit correct Username and Password to log in.

By flagging “Remember” the App will keep the login until logout or next major update.

C - On RaceIT App “Main Page”:

C.1 - Press “Start Session” to proceed to next page “Pre-Start Settings”.

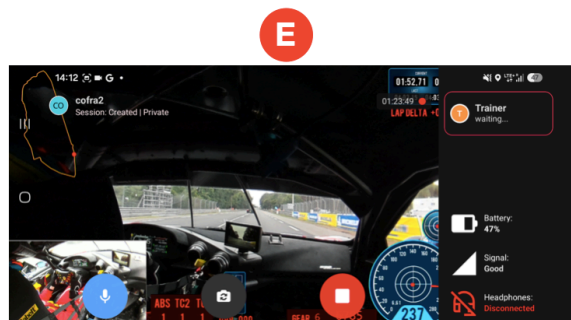
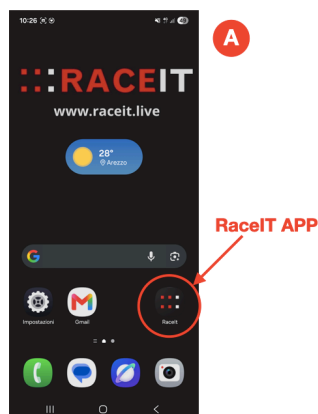
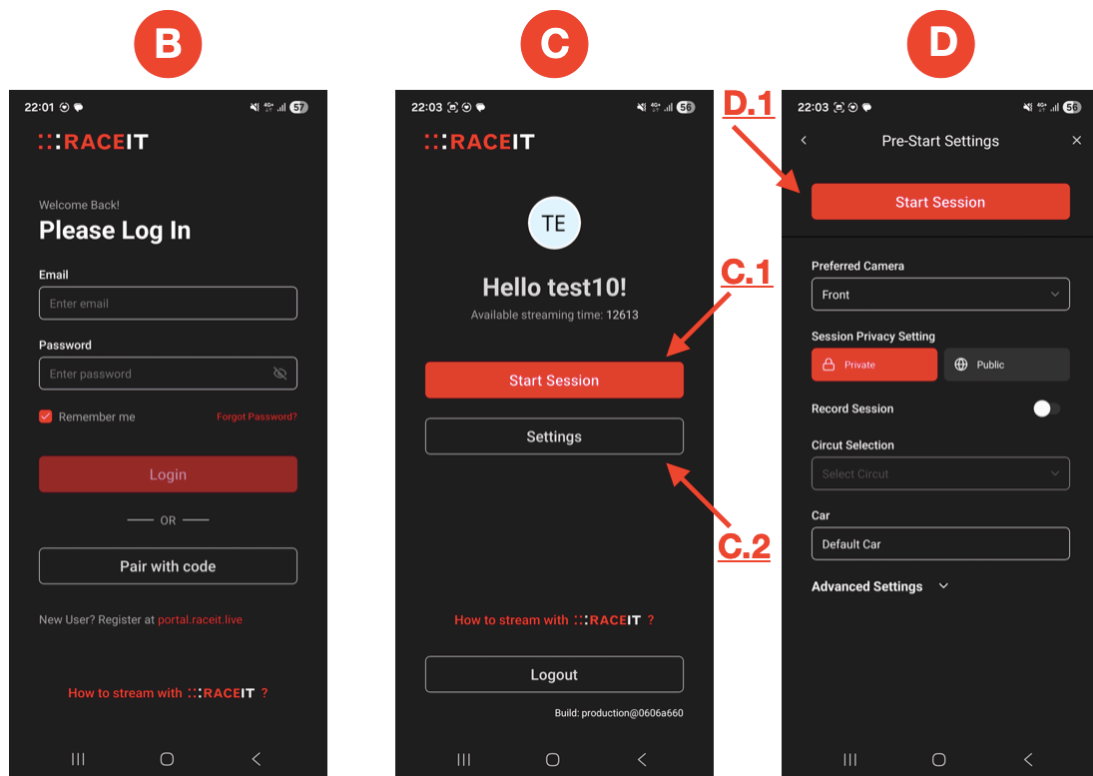
C.2 - Select “Settings” if you want to apply changes to all Live Session (Check 2.3).

D - On "Pre-Start Setting":

D.1 - Press “Start Session” to go live.

D.2 - It's still possible to change settings only for next Live Session (Check 2.3).

E - Live Session is started and video showed.



2.2 Live Session View

When Live Session is started, live video from the selected camera is showed. Same video is streamed on “Stream Control” page of RaceIT website.

Available Switches and Indicators on Live Session View:

- A - Mute/Unmute Microphone: Keep mic active if you want to hear sound from live streaming and especially if you are using Radio option to talk with driver (Point 7.0)
- B - Change Camera by clicking:
 - Front
 - Rear
 - External or HDMI (Available only when connected)
- C - Stop Live: to interrupt Live Session and go back to “Pre-Setting” Page. A pop up will ask Stop Session confirmation.
- D - User Name and Private or Public Streaming reminder.
- E - Time Counter for session length.
- F - “Stream Control” connected or waiting for connection from same login or Trainer login.
- G - Device’s battery status.
- H - Network’s Quality.
- I - Headphones status:
 - Disconnected: Audio will exit from device standard speaker.
 - Connected: When usbc cable is connected.
 - Bluetooth: when a bluetooth communication device is connected.(Headphones option are used to comunicate with driver and status indicator is helpful to check if the desired audio device is correctly connected)



IMPORTANT!

Screen must be always ON with RaceIT App OPEN during Live Session to stream the video. If screen is OFF only audio will be streamed and a black screen will be showed on Stream Control website page.

Also to remotely control the App from Stream Control, screen must be ON with App open. If RaceIT App is Open, screen will not turn OFF by itself (will stay ON endless) and will be possible to control the App remotely from Stream Control.

If RaceIT App is closed will be not possible to operate remote control. Also with App Closed, screen will turn OFF after 10min as per Android timeout.

2.3 Settings and Pre-Start Settings

Before “Start Session” it’s possible to change desired options as default on “Settings” page and temporary for next upcoming Live Session on “Pre-Start Setting” page.

The two pages are showing the same options:

A - Preferred Camera:

- Front
- Rear
- External or HDMI (Showed only when connected and detected)
For External it’s understood USBC connection to:
 - RaceIT StreamHub with HDMI and SDI ports
 - RaceIT Usbc BulletCam
 - Other Usbc cameras

B - Session Privacy Setting:

- Private: Streaming will available privately only for Stream Control User.
- Public: Streaming will be listed on Public Streaming page on RaceIT website and every RaceIT User will be able to watch it.

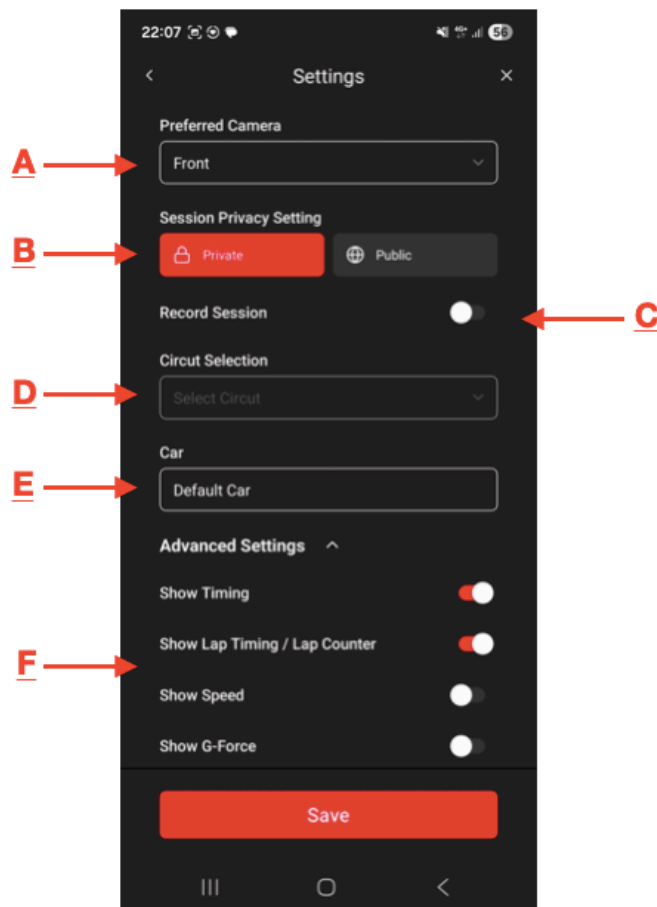
C - Record Session: If flagged, Live Session will be automatically recorded without start recording from Stream Control. If flagged as default, every session will be recorded. Recording will be automatically ended and saved when Live Session will be Stopped or can be stopped before the end of session from Recording switch on Stream Control. (Point 3.3.5)

D - Circuit Selection: Type the name of the Circuit to be shown on session details.

E - Car: Type the name of the car to be shown on session details.

F - Advanced Settings: If flagged, on right upper side of the video can be shown the following counters and GPS info:

- Show Timing: Streaming’s duration counter.
- Show Lap Timing / Lap Counter: Lap timing (Pending).
- Show Speed: Km/h speed based on device GPS info.
- Show G-Force: G-Force based on device GPS info.



2.4 Updates

RaceIT App updates are sanded to the Gmail account logged into RaceIT Device. Check periodically Gmail App.

Update Procedure:

- Click on the Google Drive link attached to the mail received from RaceIT Team.
- Because permission to install Unknown Apps is already unlocked on RaceIT Device, download should start. If Android asks for confirmation click on "Download".
- At the end of download procedure click on "Update" or "Install".
- RaceIT App may ask to log in again.

If Unknown Apps Download it's not unlocked, follow:

- Click "Settings".
- Digit "Install Unknown Apps" on "Search" tool or follow next steps.
- Click "Security and Privacy" than "More Security Settings".
- Click on "Install Unknown Apps".
- Flag for permission "Drive" and "Gmail".
- Go back to Gmail App and proceed with download as on the procedure.

3.0 WATCH LIVE STREAMING

3.1 Receiving device

To watch and control live streaming can be used any laptop, tablet or smartphone with every operative system.

RaceIT streaming codification offers full compatibility with every device and internet browsers.

Receiving device must be connected to a good and stable internet network to avoid troubles and ensure good download performances.

Circuit WiFi often is unstable due to high number of device connected.

Usually own internet network also from Hotspot is the best option.

3.2 www.raceit.live portal

Raceit.live is RaceIT website where you can find all commercial and technical info about the system and where to log in to watch and control Live Session.

Procedure to control and watch a streaming on www.raceit.live:

A - Click Sign In on upper right side of the website.

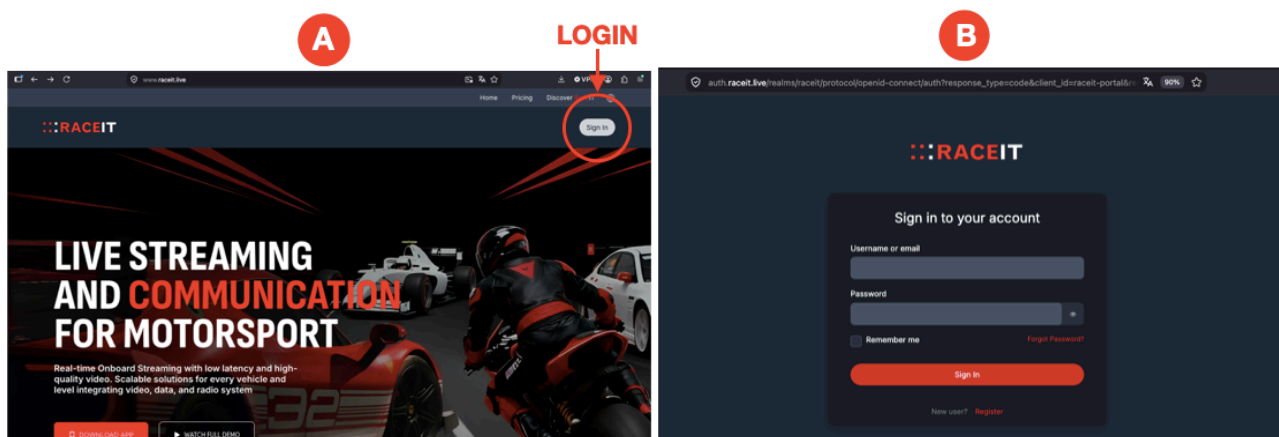
B - Insert Login credentials and save if you want future quicker access on the same device.

It's possible to use:

- Same User account used on device.
- A different account previously set as Trainer (Check point 3.7.1) .

C - Website will activate the following pages:

- Stream Control: To watch and control remotely the Live Session.
- Public Streaming to watch public live streaming.
- Recordings: To watch and manage recordings.
- Profile: to manage User profile options.



3.3 Stream Control

It's the Control Panel with remote features to watch and manage the Live Streaming.

If Live Session has been started from RaceIT Device, live video will be automatically shown. Streaming can be started also remotely by "Start Session" if device's screen is open and with RaceIT App open.

Streaming will start with Medium Video Quality to ensure video with no interruption but Best quality can immediately be tested.

All features:

3.3.1 - Connected Devices

On left side of Stream Control are listed all the Devices connected to the User:

- To check how to add a Device check point 3.7.1
- Every listed Device will show if is Offline, Online, Live.
- User can switch from a device to an other also when live sessions are ON.

3.3.2 - Live Session Window

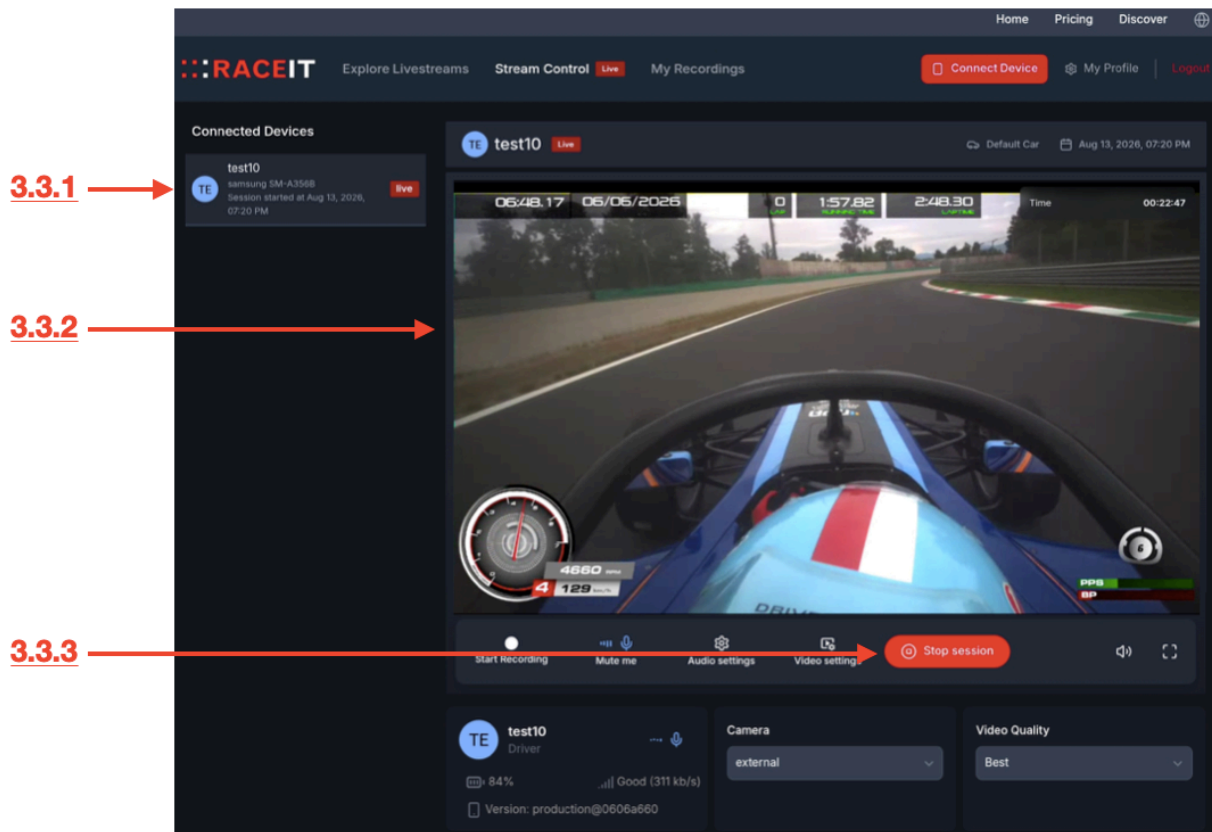
Here is showed the Live Video streamed by Device.

- Live video is showed after 2 seconds. At the beginning of Live Session may be shown a black screen with info: Waiting for Streaming.
- Black screen with info Waiting for Streaming is showed during Live Session if Network connection on Streaming Device is unstable and poor or if Network connection is bad on receiving device. Check point 3.3.6 to learn how to adapt Video Quality based on Network availability showed at point 3.3.7.B.

3.3.3 - Start/Stop Session

To remotely Start or Stop a Live Session.

Device's screen must be open with RaceIT App open to start a session remotely.



3.3.4 - Camera Selection

To remotely change camera for the live video:

- Front
- Rear
- External (Showned only when connected and detected)
 - For External it's understood USBc connection to:
 - RaceIT StreamHub with HDMI and SDI ports for Data Loggers and Cameras
 - RaceIT USBc BulletCam
 - Other USBc cameras
- HDMI (Available only on Sony Device)

3.3.5 - Start/Stop Record

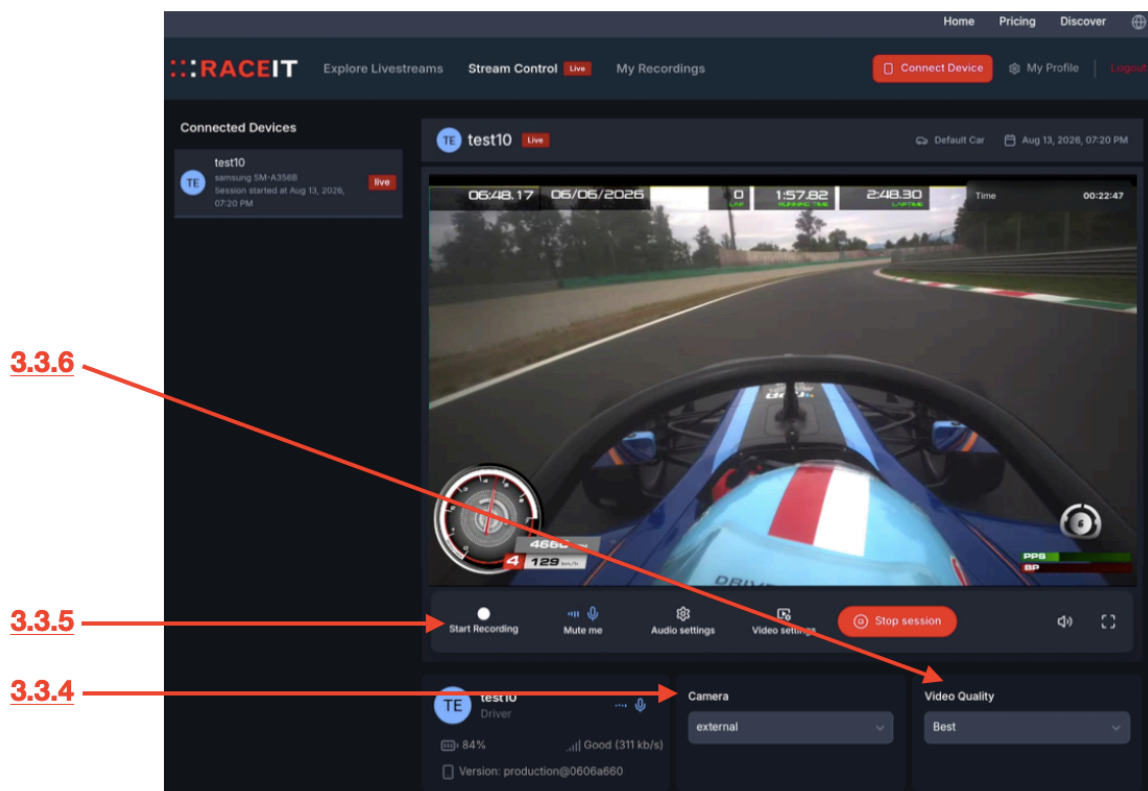
During a Live Session it's possible to record the video.

- A red dot is indicating that recording is ON with a time counter activated.
- Recording can be stoped by clicking on same switch.
- If Live Session is ended before to stop recording, recorded video will be automatically saved.
- If Live Session is controlled by a different User (Trainer), recording will be saved on both accounts.
- Recordings will be saved and stored on page "My Recordings" (3.5).

3.3.6 - Video Quality

To Change video quality (Pixel and fps) while latency is always as close possible to 0,5sec.

- Video quality depends by Network quality used by the RaceIT Device in the vehicle.
- If the average Network quality it's good and stable video will be good and stable and an high video quality can be used.
- If average Network quality it's poor, streaming performance may be low so a lower video selection will help to keep a stable connection.
In particular if Network coverage is unstable with big drops a low video quality will help to avoid streaming to step or stop for a fraction of second.
- Network quality can be checked on indicator. (3.3.7.B)



3.3.7 - Indicators

The indicator box is showing:

- A - Account name.
- B - Microphone indicator: It blinks when microphone is transmitting sound.
- C - Battery level of streaming device.
- D - Kb/s (Kilobit per second) send by Streaming Device. This is a useful tool to understand the quality of network find and used by Device. It helps to choose the correct video quality based on point.
- E - App version: App version on streaming device.

When view is at maximum size Indicators are showed temporary on upper right side and are showed at every touch of the screen or cursor movement.

3.3.8 - Microphone On/Off

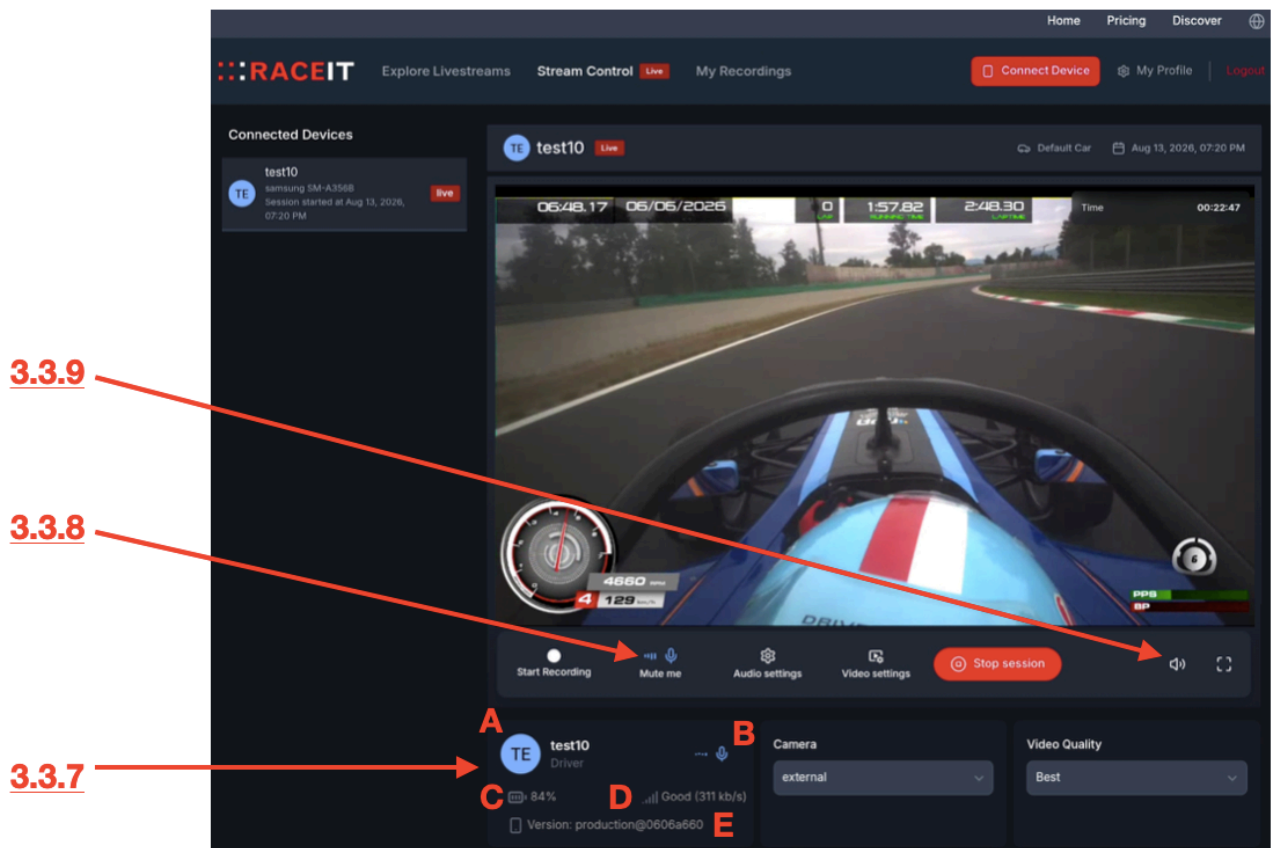
To activate or deactivate microphone.

It turn On/Off also remote microphone (bluetooth or cable) if connected.

3.3.9 - Speakers On/Off

To activate or deactivate speakers.

It turn On/Off also remote speakers (bluetooth or cable) if connected.



3.3.10 - Audio option

To make sure that desired Microphone and Speakers are correctly activated this tool make possible to manually selected them.

Especially when RaceIT is used as radio communication system, and external headset/microphone is connected (bluetooth and cable), this tool solve device and browser issues in activating desired communication accessories.

If an external accessory it's not listed on the available option, means that is not correctly detected by the receiving device. Device settings need to be checked.

3.3.11 - Video Option

Options that can be still changed and saved during Live Session ON

A - Camera: Initial preferred camera to start live.

B - Car: car name shoed during live.

Display Options: (Same of point 2.3.F on App) If flagged, on right upper side of the video can be shown the following counters:

- Show Timing: Streaming's duration counter.
- Show Lap Timing / Lap Counter: Lap timing (Pending).
- Show Speed: Km/h speed based on device GPS info.
- Show G-Force: G-Force based on device GPS info.

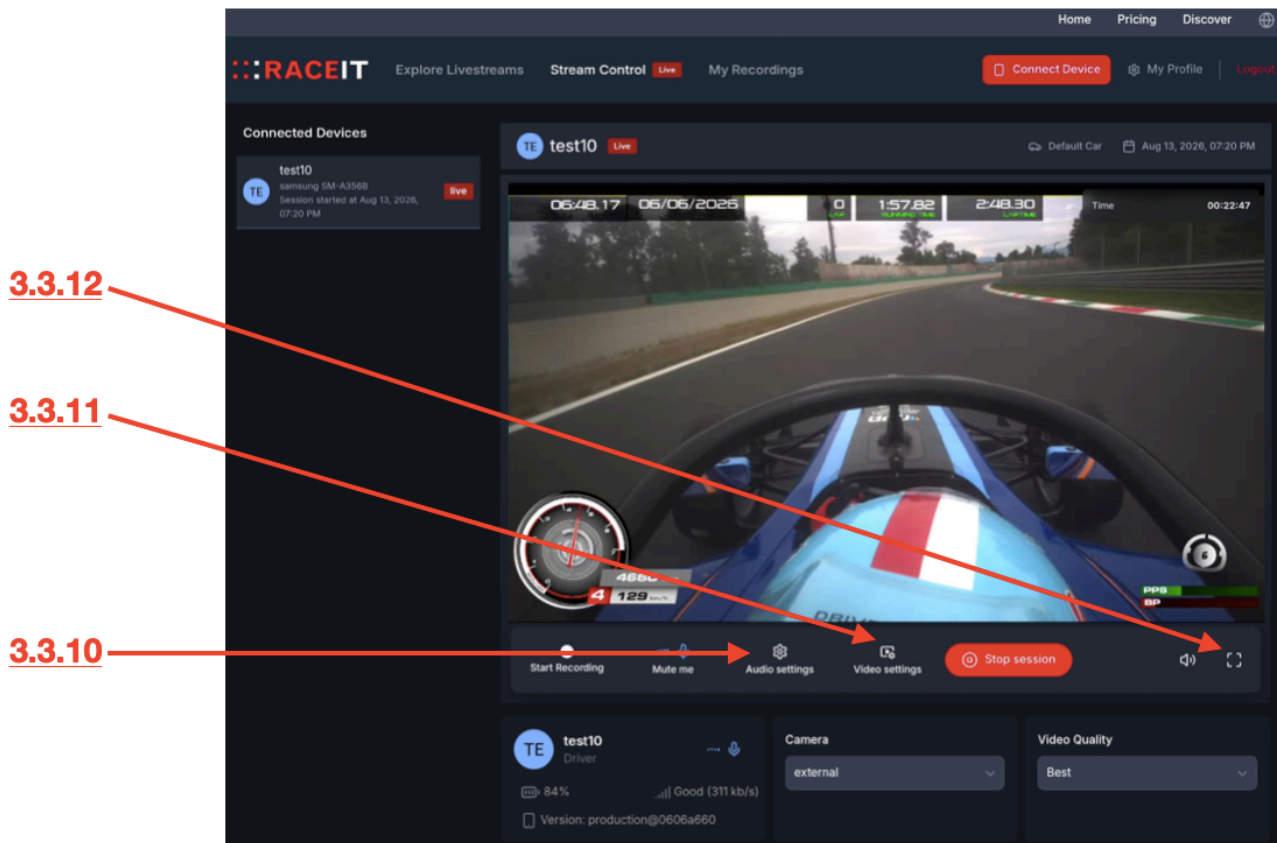
3.3.12 - Wide View

To activate full screen video view.

When Wide View is active only video and eventually counters (3.3.11) are showed

By touch device's screen or move cursor will temporary pop up:

- Indicators box as 3.3.7.
- Controller bar with quick tools: Start Recording, Mic On/Off, Audio Setting, Speakers On/Off, Exit Full Screen, Stop Session.



3.4 Explore Streaming

Page dedicated to watch Public Streaming and divided in:

- Live Sessions: for sessions that are live in the moment.
- Past Sessions: live sessions already ended but still available for public view.

3.5 My Recordings

Page dedicated to store and manage User recordings. User can:

- View: to watch recording directly on portal.
- Remove: to delete recording.
- Download: to download recording.

3.6 Connect Device

Quick App log in to avoid to insert User name and password on transmitting Device. Procedure:

A - User must be logged on www.raceit.live website.

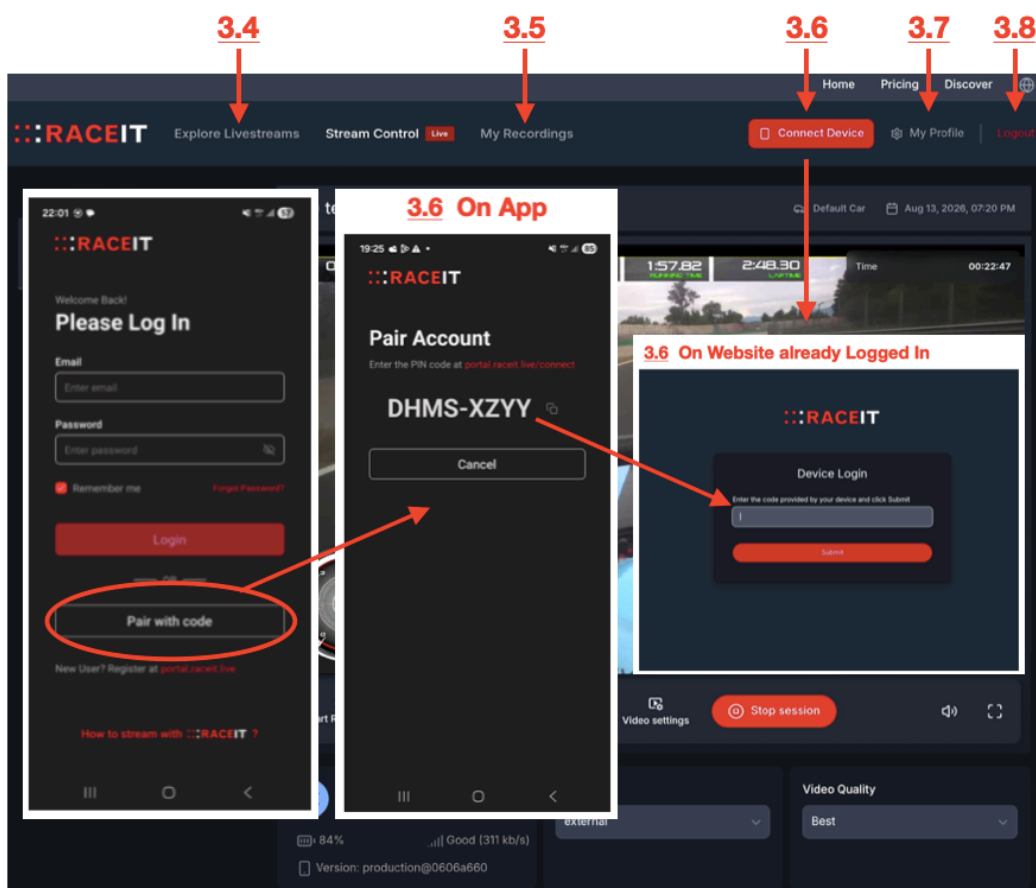
B - By clicking on “Connect Device”, website will ask to enter a Code provided by App.

C - Open Raceit App on transmitting device and login page is showed.

D - Instead of enter Email and Password click on “Pair With Code”.

E - A Code will be generated and can be entered on website page.

F - When Submit, transmitting Device/App will be logged in with same Account logged on website.



3.7 My Profile

User profile management page for:

- Personal Details: Name, Email, Change Password tool.
- Your License: Current Licence, Remaining Streaming minutes, Upgrade/Renew tool.
- My Trainer: It's possible to set an other User Account as Trainer that is able to watch the Live Session from his own Account and his own Stream Control. Check point 3.7.1.
- Session Settings: Live Session options as point 3.3.11

3.7.1 How to add a Trainer - How to add a Device

For better explanation lets name as:

- "Device Account" a pay/active account logged in to a device that is streaming a Live Session.
- "Trainer Account" an other account that has the possibility to manage and watch, on Stream Control, the Live Session streamed by "Device Account".

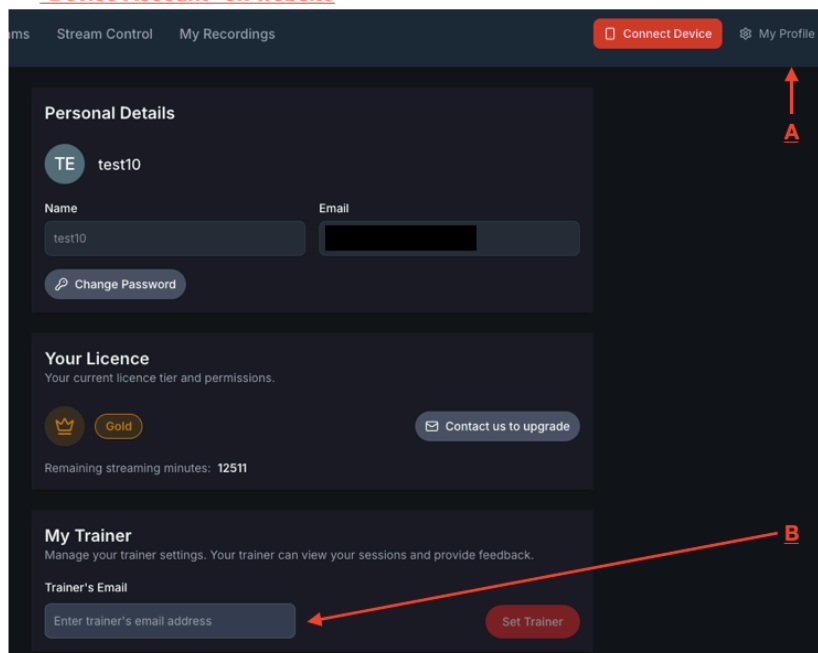
This means that:

- "Trainer Account" will have the "Device Account" listed on Connected Device list of Stream Control (Check 3.3.1)
- "Trainer Account" can have many "Device Accounts" listed on his Connected Device list
- "Trainer Account" can be also a Bronze account so a not paying Subscription because it's not streaming but only using Stream Control on website
- "Device Account", to be able to stream a Live Session, must be always a pay Subscription as Silver, Gold or Platinum.
- "Device Account" is the one and only to give permission to an other account to became "Trainer Account" and so to control and watch his Live Session on Stream Control. For safety and Privacy of every user. "Device Account" is also the one and only that can remove a "Trainer Account" without needing any permission.
- When a "Trainer Account" is managing the Live Session of a "Device Account" on Stream Control, "Device Account" can login at same time with is own credential to Stream Control. There will be 2 Stream Control pages connected to same Live session.
- When a "Trainer Account" is managing the Live Session of a "Device Account" on Stream Control, Stream Control tools are same as standard, except for Recording. When Recording is activated by "Trainer Account", recorded session will be listed on My Recordings page of both profiles. Same if Recording is set ON as default by "Device"

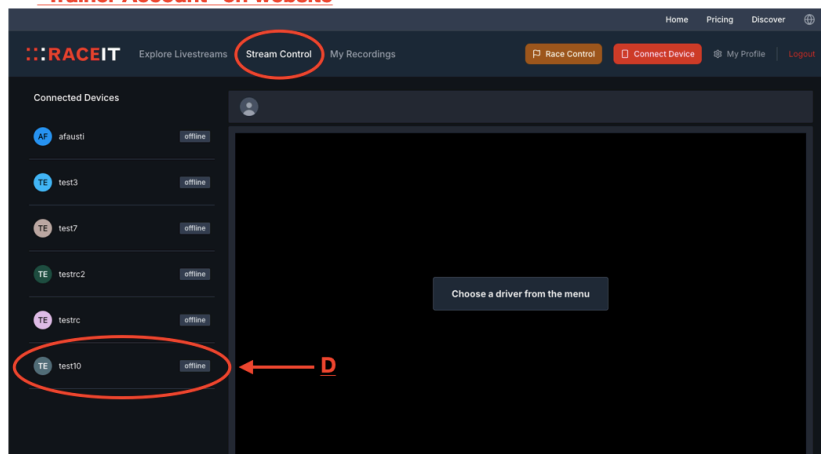
Procedure to add a “Trainer”:

- A - On website log in to the “Device Account” that must be controlled by “Trainer Account” and enter on Profile Page .
- B - On My Trainer, add the Email used by the User designed as “Trainer Account”.
- C - Now Trainer can log in to his own account.
- D - Trainer will find on Stream Control page the Device Account added on Connected Device list.
- E - Trainer user can switch from a device to an other when he want.
- F - “Device Account” must be logged in into the App.
- G - “Trainer Account” can manage “Device Account” Live Session using all Stream Control options.

“Device Account” on website



“Trainer Account” on website



3.8 Logout

To log out from www.raceit.live website.

Remember to logout if you are using not a own device to avoid other people to use improperly your RaceIT Account.

4.0 SUBSCRIPTION

To use RaceIT App and to have access to the operative part of www.raceit.live website is necessary to join a Subscription.

4.1 Available Subscriptions

	Pay For Use	Streaming	Access to Stream Control	Streaming Time	Subscription Duration	Recording	Public Streaming	Radio Communication
BRONZE	FREE	NO	YES	-	-	YES	-	YES
SILVER	YES	YES	YES	70h	1 Year	YES	YES	YES
GOLD	YES	YES	YES	200h	1 Year	YES	YES	YES
PLATINUM	YES	YES	YES	400h	1 Year	YES	YES	YES

Based on previous table:

Bronze is a Free Subscriptions that:

- Can be used by Users to watch Live Streaming on “Explore Streaming” Page.
- Can be used by Trainer User to manage and watch other pay account listed in “Connected Device” with full functionalities. (Check 3.7.1)
- Does not allows to stream from App.

Silver, Gold and Platinum are Pay Subscriptions that:

- Allows to stream from RaceIT App.

Silver, Gold and Platinum Subscription has an available Streaming Time and Duration of 1 Year (365 days).

Subscription will expire when which ever of the two conditions ends first.
If available Streaming time ends before the year, will be possible to renew.

Available streaming Time is showed (in minutes) in App first page and on “Profile” website page.

RaceIT is a complex project in continue evolution.

Subscription is necessary not only to cover costs of testing, building, maintenance and support, but also to cover fixed costs of Services Providers, Servers and Clouds based on streaming time.

We care about our Clients and we highly appreciate Your support.

5.0 DEVICES

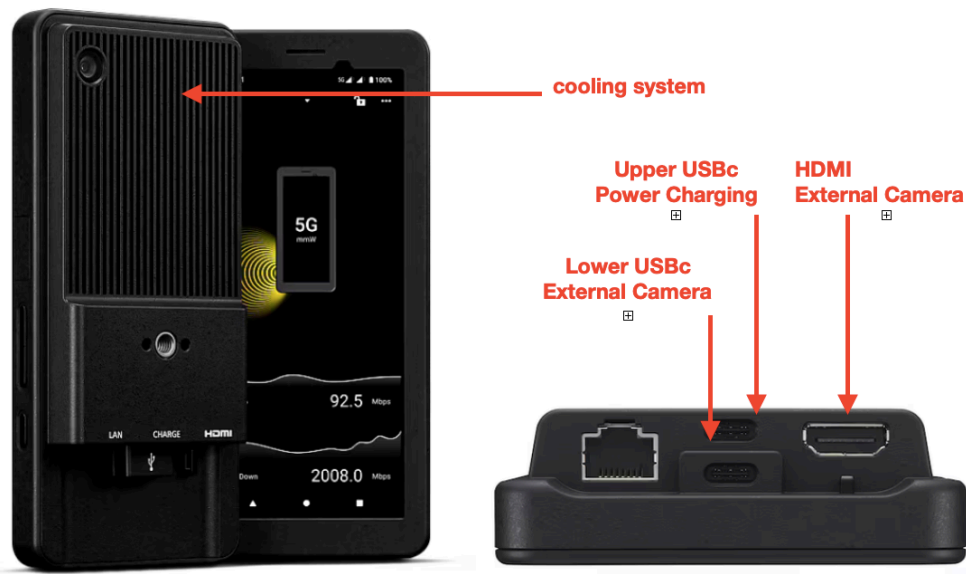
RaceIT Devices are:

- Samsung Smartphone
- Sony Transmitter

Both Devices are working with Android operative system.

For everything related to the devices and not indicated on RaceIT User Manual, it's possible to check the specific Device User Manual included in the RaceIT Kit.

Sony - RaceIT Cool Kit



Samsung - RaceIT Smart Kit



	RaceIT Sony	RaceIT Samsung
Dimension	170.0 x 80.0 x 26.6 mm (HxWxD)	161.5 x 76.8 x 6.9 mm (HxWxD)
Weight	308 g	179 g
OS	Android™ 15	Android™ 16
CPU	Snapdragon® 8 Gen 2	SAMSUNG Exynos 1680
Internal memory (RAM/ROM)	8 GB/256 GB	8 GB/128 GB
Battery	Lithium-ion (5000 mAh)	Lithium-ion (5000 mAh)
SIM type	2 x nanoSIM	2 x nanoSIM
eSIM	YES	YES
Front Camera	NO	YES for stand alone streaming
Cooling system	Yes Integrated	NO. Opt as external fan kit
Protection	Not water resistant	IP68 dust tight and water resistant (immersible up to 1.5m x 30 min)

5.1 Samsung Sim

Procedure to change or set a SIM card on Samsung Device:

- A - Open the SIM slot and add or change SIM
(Sim allocation is on the lower side of the device. Metal pin is needed to open it and it's available on Kit's travel case)
- B - Click **Settings** on Device desktop.
- C - Proceed to **Connections** than to **SIM Manager**.
- D - Flag the desired Sim.
- E - If you have more than one SIM make sure that the desired SIM is selected on **Mobile Data**.
- F - Step back to **Connections** than to **Mobile Networks**.
- G - Set **4G** or **LTE Preferred** on **Network Mode**.
- H - Flag **Data Roaming ON** if you are using an International Sim and if you are abroad.

5.2 Samsung Esim

It's possible to download eSIM from App. App can be installed on Samsung RaceIT Device or can be installed on other Smartphone. If eSIM App is on RaceIT device, Installing procedure may start directly from App by Clicking on Install eSIM.

Otherwise follow the full procedure:

- A - Click **Settings** on Device desktop.
- B - Proceed to **Connection** than to **SIM Manager**.
- C - Click on **Add eSIM**.
- D- Scan QR code from eSIM App.
- E - Follow device instructions and wait until the end of installing procedure.
- F - When procedure is done and system is back to **SIM Management**, make sure that the desired eSIM is selected on **Mobile Data**.
- G - Step back to **Connections** than to **Mobile Networks**.
- H - Set **4G** or **LTE Preferred** on **Network Mode**.
- I - Flag **Data Roaming ON** to let the eSIM works.

5.3 Sony Sim

Procedure to change or set a Sim card on Samsung Device:

- A - Open the Sim placement and change Sim.
(Sim allocation is on right side. No need for pin to open it)
- B - Click **Settings** on Device desktop.
- C - Proceed to **Network and Internet** than to **SIMs**.
- D - Flag the desired Sim.
- E - If you have more than one SIM make sure that the desired SIM is selected on **Mobile Data**.
- F - Click on desired SIM name to open details.
- G - Set **4G** or **LTE** on **Preferred Network Type**.
- H - Flag **Roaming ON** if you are using an International Sim and if you are abroad.

5.4 Sony eSIM

It's possible to download eSIM from App. App can be installed on Sony RaceIT Device or can be installed on other Smartphone. If eSIM App is on RaceIT device, Installing procedure may start directly from App by Clicking on Install eSIM.

Otherwise follow the full procedure:

- A - Click **Settings** on Device desktop.
- B - Proceed to **Network and Internet** than to **SIMs**.
- C - Click **Add SIM** than **Set up an eSIM**.
- D - Scan **QR Code** or **Enter Activation Code**.
- E - When procedure is done and system is back to **Network and Internet** make sure that the desired eSIM is selected on **Mobile Data**.
- F - Click on desired eSIM name to open details.
- G - Set **4G** or **LTE** on **Preferred Network Type**.
- H - Flag **Roaming ON** if you are using an International Sim and if you are abroad.

5.5 Network Suggestions

Raceit suggest to use 4G Network over 5G for more stable and reliable connection.

RaceIT streaming and video are optimised to work with 4G.

Is suggested to turn off WiFi when Device is ready to operate in car. This to avoid network issues when vehicle leaves wifi area.

5.6 Device Stand-alone Battery

Both RaceIT devices works by them self whiteout needing to be wired to external power.

Battery Life during a no stop streaming are:

- Samsung stand alone mode: 4h.
- Samsung connected to StreamHub or powering an other usbc camera: 3h.
(Note that when no streaming, StreamHub use 10% device battery every Hour. Consider to disconnect the USBc cable in case of long pause).
- Sony stand alone mode or HDMI mode 4h.
- Sony usbc connected to StreamHub or powering an other usbc camera: 3h.
(Note that when no streaming, StreamHub use 10% device battery every Hour. Consider to disconnect the USBc cable in case of long pause)

5.7 Device External powering

It's possible to wire both devices to external powering via USBc:

- USBc cable to vehicle USB/USBc plug.
- USBc cable directly to car power using car power accessory (Not included as standard in RaceIT Kit but available as extra).
- USBc cable to power-bank.

To connect Samsung to external power:

- In stand alone mode use standard Charging USBc plug.
- If USBc connection is busy because of StreamHub or other Camera/Audio, it's possible to use RaceIT double USBc connector (Included as standard in RaceIT Full Kit).

To Connect Sony to external power:

- Use always dedicated upper Charge USBc (Accessories are connected to the lower USBc).

4.7 Samsung Power and Camera



4.7 Sony Power and Camera



5.8 Device's Frames

RaceIT Devices can be used with plastic frame for better installation on every vehicle.

Sony RaceIT Device:

- It's necessary for installation on Formula and Prototype cars because the back of the device is including plugs and cooling system and doesn't allow to apply dual lock velcro.
- Sony Device can be locked into Frame with Zip Tie on dedicated hole.
- Frame can be fixed to vehicle using:
 - Dual Lock velcro as it has the necessary surface for application.
 - Screw as it already has dedicated holes.
 - Zip Ties as it has specific holes to not pass over the screen.



Samsung RaceIT Device:

- It's optional for Formula and Prototype installation. It's recommended only in the remote situation of USBc disconnection or vibration. Frame has USBc cable locker.
- Can be used for Go Karts and Motorbikes with RaceIT BulletCam or Action Cam.
- Samsung Device can be locked into Frame with Zip Tie on dedicated hole.
- Frame can be fixed using:
 - Dual Lock velcro
 - Screw
 - Zip Ties



6.0 CAMERA & DATA LOGGERS CONNECTIONS

RaceIT allows to work with different Cameras and connection to every Data Logger with a video output options:

6.1 Samsung camera options

- Stand alone mode using Device Front Camera.
- Stand alone mode with Device Rear Camera (not recommend because of optic vibration at high speed).
- USBc connection to RaceIT StreamHub for HDMI and SDI plugs.
 - HDMI to: Vbox HD2, AIM SmartyCam 4, Race Navigator, and every other data logger or camera with HDMI output.
 - SDI to: Smartcam 3 GP and Dual and every other data logger or camera with SDI output.
- USBc to RaceIT BulletCam.
- USBc to Action Cam

6.2 Sony camera options

- HDMI connection with integrated plug for direct connection to Vbox HD2, AIM Smartycam 4, Race Navigator and every other data logger or camera with HDMI output.
- USBc connection to RaceIT StreamHub for SDI plug to AIM SmartyCam 3 GP/Dual.
- USBc to RaceIT BulletCam.
- USBc to Action Cam.
- Stand alone mode with Device rear camera (NOT recommend because of optic vibration at high speed).

6.3 StreamHub

RaceIT StreamHub is the Device to connect both RaceIT Devices (Samsung and Sony) to any Video/Data Logger (or other cameras) with HDMI and SDI plug.



Connection procedure:

A - Fix StreamHub to the plastic frame using 2 zip ties.

B - Connect StreamHub to RaceIT Device (Samsung or Sony) using 1 of the 2 USBc cable on RaceIT Kit (long or short).

C - Lock the USBc cable to StreamHub plastic frame using the dedicated hole, in order to avoid disconnection or partial movement due to vibration and g-force.

D - A green led close to USBc plug on StreamHub will be automatically ON when StreamHub is connected to RaceIT device. There isn't any On/Off switch.

E - Chose HDMI cable or SDI cable from RaceIT Kit and connect it to your data logger and to StreamHub (SDI cable has a metallic lock system to StreamHub. To lock HDMI cable it's possible to use a zip tie on designed hole of plastic frame).

F - RaceIT App will automatically detect StreamHub that is identify as "External" on Camera Selection before to start Live Session. (If is first time connection, check 6.6)

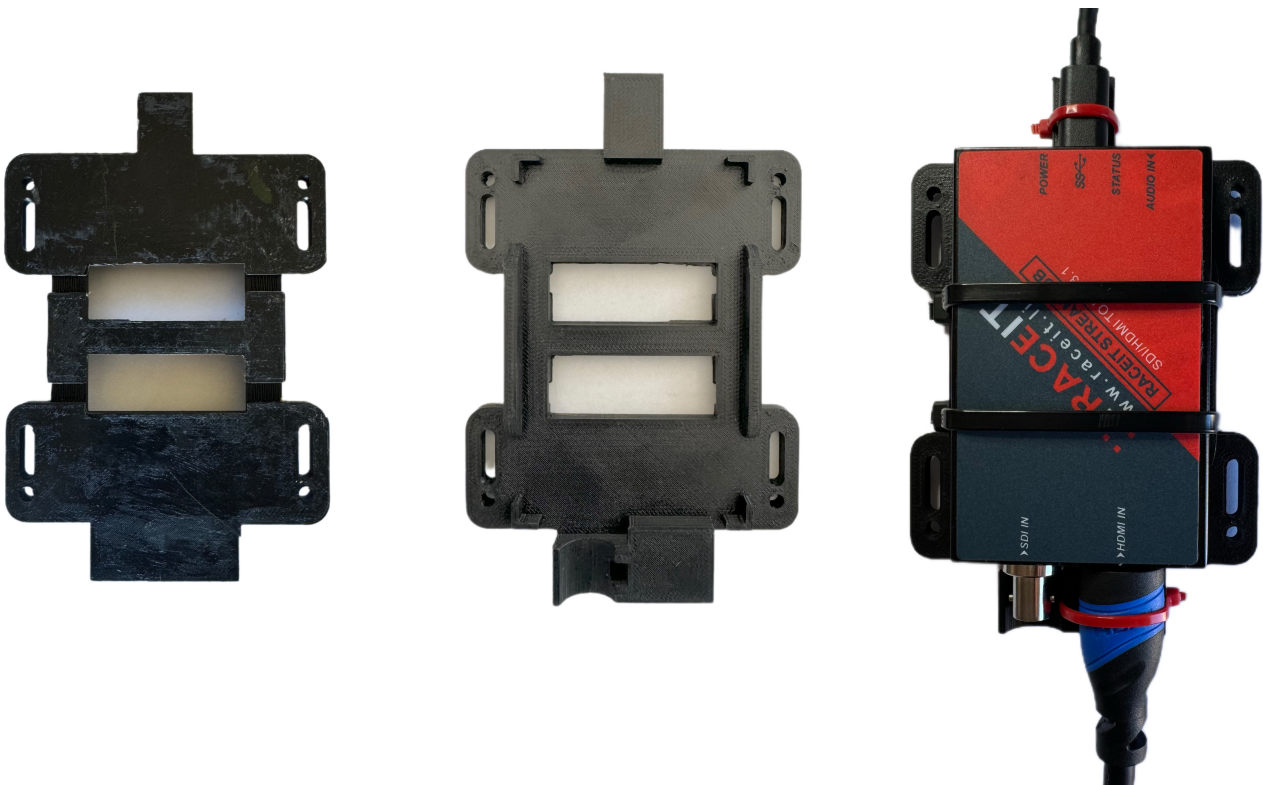
G - When Live Session is started is still possible to change camera to External using the middle round switch (click until External is selected). Check 2.2.B.

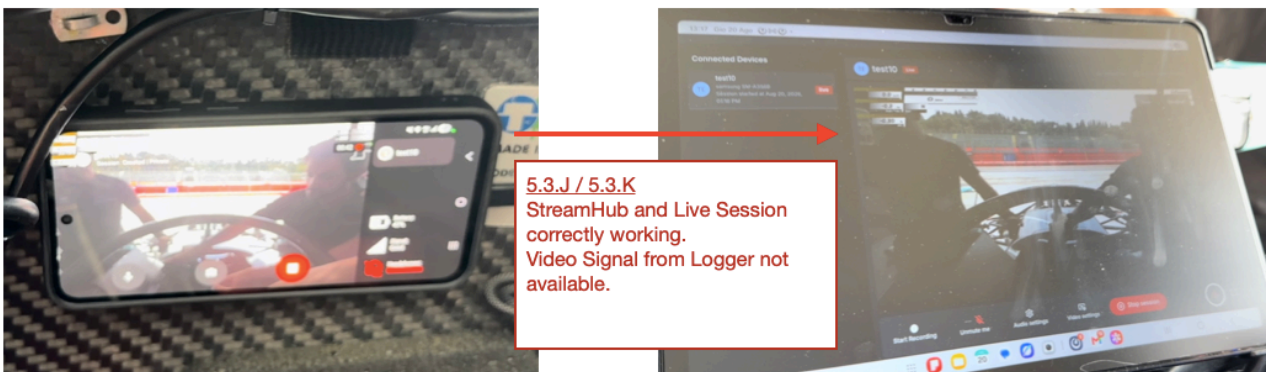
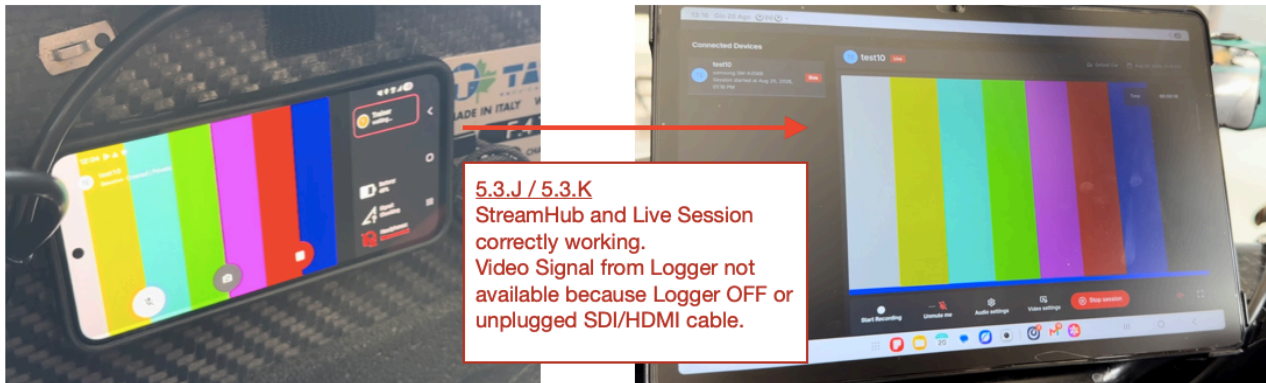
H - It's possible to select External Camera also remotely from Stream Control using Camera Selection tool. Check 3.3.4.

I - If data logger is ON and working before to start a Live Session, video from data logger will be immediately available on Live Session when External camera is selected.

J - If Data Logger is OFF, or not yet wired or with video output still locked on internal settings (Check 6.7), color strips will be showed on Live Session video.

K - Color stripes means that StreamHub is correctly working and is correctly connected to Device but no video signal is entering from data logger .





StreamHub doesn't require external battery as is automatically powered by RaceIT Device using the same USBc cable used to transfer the video.

StreamHub will reduce RaceIT Device internal battery from 4h to 3h of continue streaming.

When streaming is off, StreamHub battery consumption from RaceIT Device is 10% every hour.

Consider to disconnect the USBc cable in case of long pause.

6.4 RaceIT BulletCam Connection

RaceIT BulletCam is a USBc wide angle camera automatically detected by RaceIT App.

It may only require Android authorisation at first connection. (Check 6.6)

It's included in some of RaceIT Kits and option in other.

It comes with a full range of mounting brackets including (Check 7.7):

- RaceIT camera older.
- GoPro standard bracket and adhesive platform.
- 360° ball head.
- Roll cage adapter.

6.5 Action Cams Connection

RaceIT allows connection to every Action Cam with USBc video output and WebCam mode.

USBc Connection procedure (check 6.6) may be necessary on RaceIT Device.

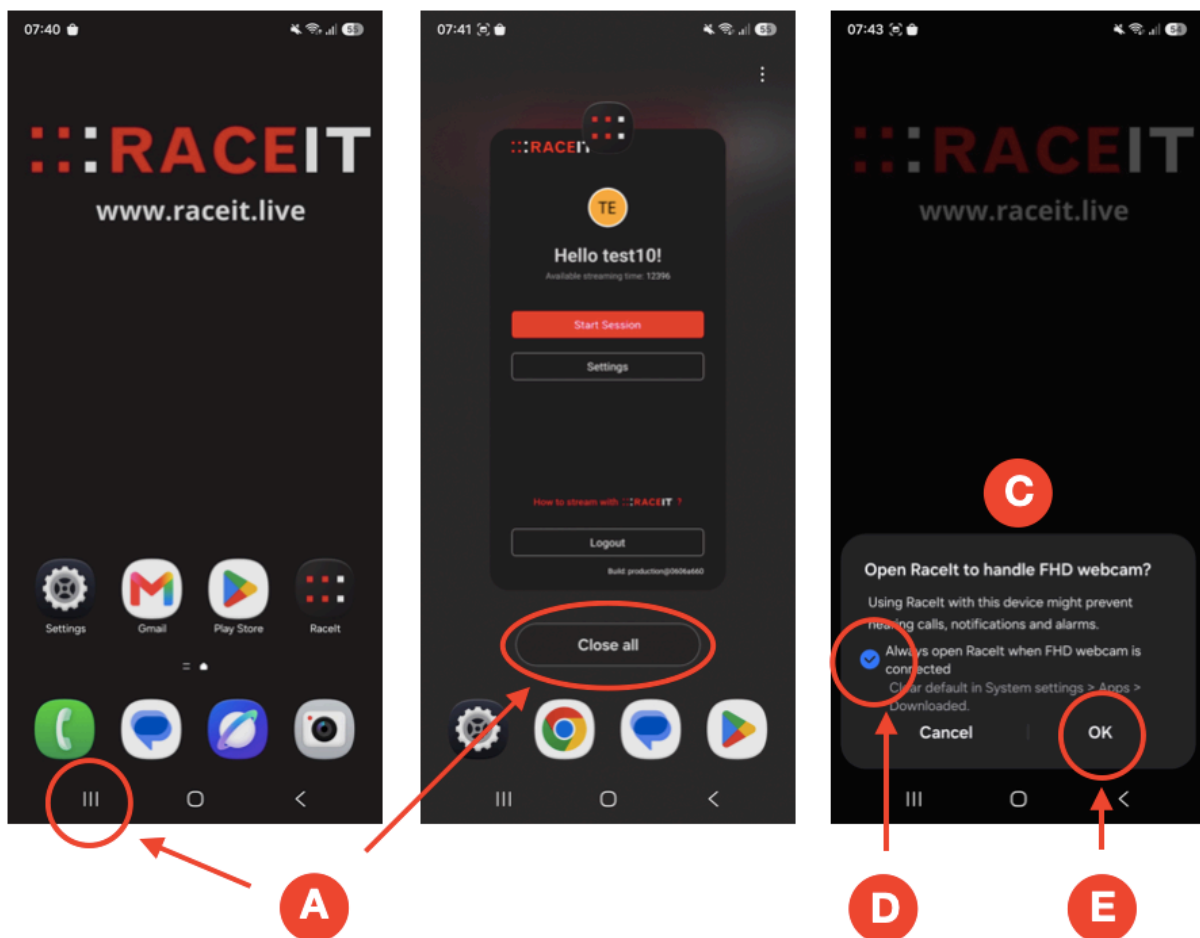
6.6 USB-C First Time Connection procedure

Every USB-C Camera or USB-C Video Device that are connected for the first time to RaceIT Devices, both Sony and Samsung (or any other Android Smartphone used to play RaceIT App) must follow an Android Approval Procedure.

Procedure is applied also to RaceIT StreamHub and RaceIT BulletCam.
RaceIT devices are standardly delivered with procedure already applied.
But a new procedure may be necessary after major App updates.

Procedure:

- A - Completely close RaceIT App using button.
- B - Connect the USB-C Device (StreamHub, BulletCam or any other Camera) to RaceIT Device, Sony or Samsung.
- C - Wait few seconds for Android message Popup.
- D - Flag to Authorize RaceIT.
- E - Press OK to confirm.



6.7 How to open Video Output Vbox HD2

VBOX Video HD2 is available with an HDMI video/audio output, located on the side of the unit.

HDMI port must be enabled within VBOX Video Setup Software or the VBOX Video App.

Setup Softer Procedure:

A - HDMI video output settings are available on Settings at the top left of the screen.

B - Dropdown menu at the bottom of the screen allows to choose the video feed output:

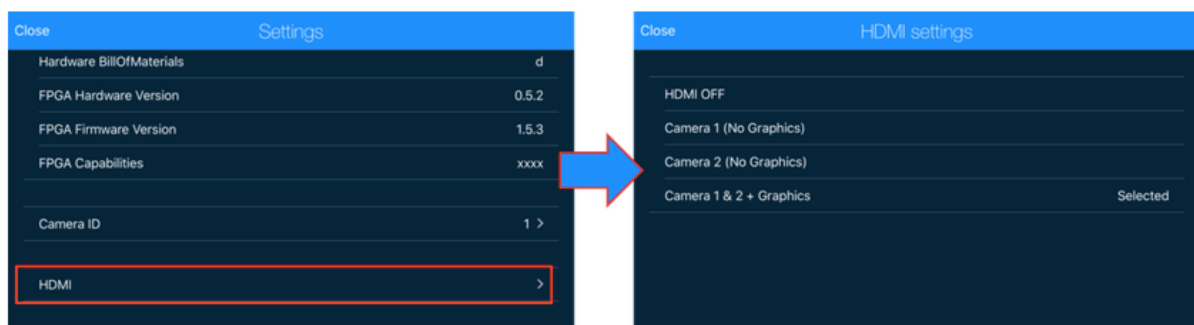
- Camera 1 (without graphics)
- Camera 2 (without graphics)
- Camera 1 and 2 (with graphics) (Choose this opt for view with data overlay. Enable/disable the audio output by ticking/unticking the Enable audio box.)

Video App Procedure:

A - HDMI video output settings are available on Settings at the top left of the screen.

B - Select the video feed output:

- Camera 1 (without graphics)
- Camera 2 (without graphics)
- Camera 1 and 2 (with graphics). (Choose this opt for view with data overlay)



6.8 How to open Video Output AIM SmartCam

AIM SmartyCam 3 Dual, SmartyCam 3 GP and Dual has a SDI video output.

Video Output is disabled as default and must be enable.

Procedure to enable video output directly from AIM unit and using the 3 switches is:

A - Enter Menu.

B - Enter Settings.

C - Scroll until Video Output and select.

D - Available option depending by version and update may be :

- disable (default set)
- 1080@60
- 1080@50
- 1080@30
- 1080@25 (use this option)

E - Select the lowest fps opt available (usually 1085@25) as the other may overheat Smartcam unit.

F - Confirm and go back to menu.

7.0 INSTALLATION

7.1 Safety Advices

User and Installer are the only responsible of installation, they must verify that all connections, cables, connectors, mounting points, and other installation components are properly secured and suitable for the intended operating environment and conditions, giving priority to Safety even in the eventuality of strong vehicle deceleration.

For this reason:

- Tighten strongly and firmly every part of roll cage clamp.
- Add a zip tie to roll cage clap to safely and firmly fix it to the cage even in case of very strong deceleration.
- If for any reason roll cage clamp connections still moves while tighten, wash using brake cleaner spray.
- Always tighten Device strongly and firmly into device clamp.
- If necessary (or required by Technical Scrutinisers) add a safety zip tie around device and clap.
- If for any reason Device Clamp is un-tighten by itself, first wash with brake cleaner spray the thread, then had one drop of medium thread lock.
- Find a location into the car that is not dangerous for Driver and Co-driver.
- If required by Technical Scrutinisers during competitions, add safety steel cable.



7.2 Stand-Alone Installation

To install Samsung RaceIT Device only and use Front Camera to stream.

Samsung front camera is very good in focus outside and inside the car at the same time. Try to keep windshield in the centre with almost an equal portion of roof and dashboard on upper and lower portion of video.

Place device beside or shortly behind driver seat to obtain a view of:

- outside the car from front windshield
- car display
- portion of steering wheel



Procedure:

- Secure firmly and strongly RaceIT Device into the Device Clamp.
- Take care to not catch any of the Device side switches.
- Find a position in to the car cockpit to fix the Roll Cage Clamp.
- Position should be as central is possible and high enough.
- Start the live session to check the view can help to quickly and precisely find the position.
- Fix the clamp to the roll cage using a zip tie.
- Double check all the connection to be strongly tighten.



7.3 Smart Full Kit Close Cockpit Installation

To install Samsung RaceIT Device + StreamHub and connect to Data Logger with HDMI (as VBox) or SDI (as AIM SmartyCam 3 GP) in to a close cockpit car as GT or TCR.

Procedure:

- Start fixing StreamHub to plastic frame using 2 zip ties.
- Plug and fix with a zip tie the thicker USBc cable included in the kit. To fix the USBc is very important to avoid movement of the plug and possible disconnections of the signal.
- Check the USBc alinement before to tight the zip tie. If necessary add some paper between plug and frame to avoid to bend the USBc plug.
- SDI cable included in the RaceIT Kit for connection to AIM SmartyCam 3. SDI cable has its own metal locking system.
- HDMI cable is included in RaceIT Kit to connect to VBox, Race Navigator, AIM SmartyCam 4. Fix it to plastic frame using a small zip tie.



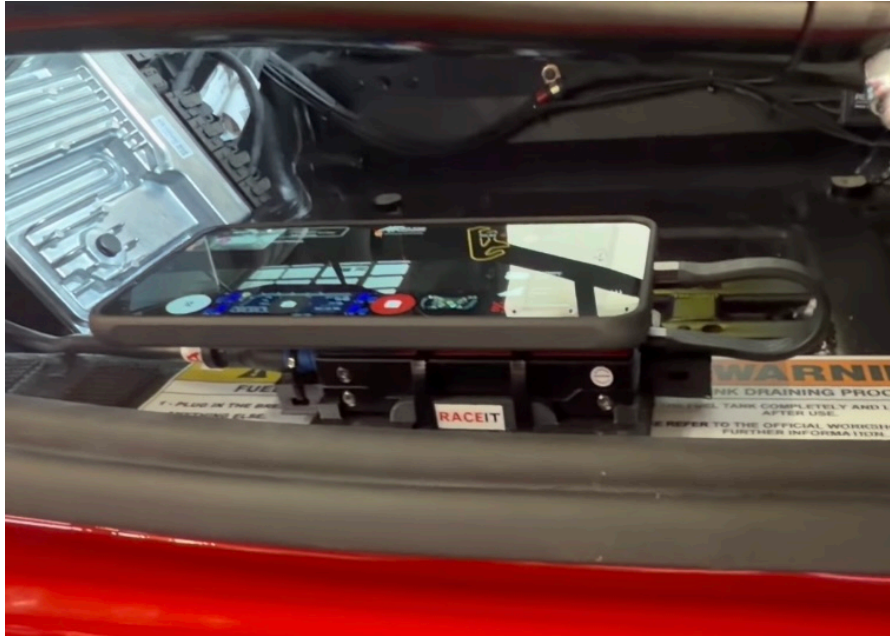
- To fix StreamHub to the car, you can use dual lock velcro or use frame screw holes to screw it to the car or fix it with zip tie
- StreamHub can be fix and hide in any part of the car, also hide and not easily accessible. Care to keep it in a clean and dry place also in case of rain. (StreamHub it's not water proof)
- Make sure to not band or damage the cables that must be left soft.
- Connect SDI or HDMI cable to Data Logger
- Check 6.3 for StreamHub working instructions.



- Secure firmly and strongly RaceIT Device into the Device clamp.
- Take care to not catch any of the Device side switches.
- To place Device into the car, best antenna reception is close to front windshield and dashboard.
- Fix roll cage clamp to roll cage and secure it with a zip tie.
- Connect USBc Cable to RaceIT Device.

Option B - No Clamp

- Place RaceIT Device on top of StreamHub or directly to the car using dual lock velcro
- Connect Device and StreamHub using shortest USBc cable included in the Kit



Option C - Single Unit for quickest way to move RaceIT car to car (Coaches preferred)

- Fix StreamHub with frame directly to device clamp.
- Fix RaceIT Device on top of StreamHub using dual lock
- Connect Device and StreamHub using shortest USBc cable included in the Kit.
- Fix clamp to roll cage and secure it with a zip tie.



7.4 Cool Kit Close Cockpit Installation

To install Sony Cool Kit Device on a close cockpit car as GT, TCR or any car with roll cage.

Procedure:

- Screw the go-pro standard connector to the back of Sony Device.
- Properly tight it with included tool.



- Connect Device to Roll Cage Clamp using the go-pro standard connector.
- Place Device into the car tightening clamp to the roll cage and adding the safety zip tie.



- To obtain the best network connectivity is suggest to place Device in vertical position in an area close to front windshield.
- Connect HDMI cable from Device to Vbox
- In case of AIM SmartyCam 3 GP/Dual using StreamHub, please follow point 7.2 than plug USBc cable to Sony lower USBc (point 4.0) and SDI cable to AIM unit.



7.5 Smart Full Kit Formula Installation

To install Samsung RaceIT Device + StreamHub on a Formula Car and connect to Data Logger (usually AIM SmartyCam 3 GP).

Procedure:

- Start fixing StreamHub to plastic frame using 2 zip ties.
- Plug and fix with a zip tie the longest USBc cable included in the kit. To fix the USBc is very important to avoid movement of the plug and possible disconnections of the signal.
- Check the USBc alinement before to tight the zip tie. If necessary add some paper between plug and frame to avoid to bend the USBc plug.
- Plug the SDI cable included in RaceIT Kit. SDI cable has its own metal locking system.



- StreamHub can be fix inside the cockpit close to AIM unit using dual lock (Clean well the surface before)
- StreamHub can be fixed in other parts of the car. Also hidden and not easily accessible. Only care to keep it in a clean and dry place also in case of rain. (StreamHub It's not waterproof)
- Plug SDI Cable to AIM unit. (First plug from left side)
- Make sure to not band or damage the cables that must be left soft .
- USBc cable can run under the carbon seat at the end of the seat itself to cross cockpit.

In green the USBC running under the seat



- Samsung RaceIT Device can be fixed on opposite side of AIM unit close to Car Frame Plate using Dual Lock
- It's good to keep RaceIT Device on an accessible place for easy managing.

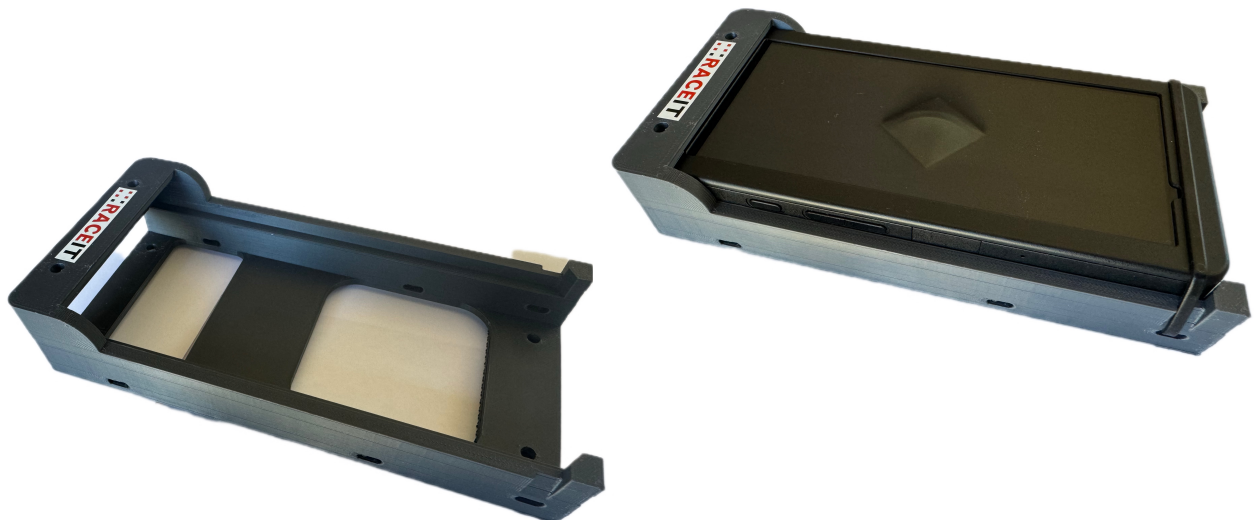


6.6 Cool Kit Formula Installation

To install Sony RaceIT Device + StreamHub on Formula Car and connect to Data Logger (usually AIM SmartyCam 3 GP).

Procedure:

- Installing procedure of StreamHub is same of Smart Full Kit. (Check 7.4)
- To instal Sony Device on a Formula Car it's necessary to use RaceIT Sony Frame. (Check 5.8)
- To fix Sony to the Frame use a zip tie.



- Sony Device can be fixed on opposite side of AIM unit close to Car Frame Plate using dual lock.
- It's good to keep RaceIT Device on an accessible place for easy managing.
- USBc cable to connect Sony RaceIT Device an StreamHub can cross the cockpit running under the end of the carbon seat. (Check 7.5)



- Optionally Sony can be place on front part of the car between dumpers (in this option, usb cable can run inside car frame to connect Device and StreamHub).



7.7 RaceIT BulletCam

RaceIT BulletCam can be used:

- In combination with Sony RaceIT Device if car is without Data Logger for connection. (As Sony doesn't has front camera)
- On Formula or Prototype cars with any RaceIT Device.
- On Go-Karts.
- On Motorbikes.

Procedure:

- Connect RaceIT BulletCam to Device using USBc.
- For the first time is suggested the procedure as Point 6.6
- App will automatically detected BulletCam as External Camera.
- Included in BulletCam Kit it's available a go-pro standard kit and a Roll Cage Kit to be assembled as in the pictures and fit to every vehicle and preferred mounting option.



8.0 RADIO COMMUNICATION

RaceIT Live Onboards also works as Radio Communication System Driver to Box.

The audio signal goes through the live streaming automatically and is optimised and stabilised to perform in Motorsport environment.

Sound is clear as on a phone call.

On a standard Live Session RaceIT devices are already performing bi-directional audio using integrated microphone and speakers.

To obtain the best communication performance we suggest to use Motorsport tested accessories connecting RaceIT Device to Driver's Helmet and connecting Coach or Team member to the receiving device (PC, tablet, smartphone).

There are two options:

8.1 Bluetooth Radio Stilo Verbacom

Stilo Verbacom is made of:

- A small Bluetooth Device to be placed in car. Bluetooth connection is between Stilo Device and RaceIT Device. Stilo Device has a Nexus standard connector for Driver's Helmet.
- Bluetooth Headset for Box. Bluetooth connection is between Headset and the receiving device (PC, Tablet, smartphone..) used to open RaceIT website and Stream Control. Headset is implemented of PPT (Push To Talk) button.

8.1.1 Silo Verbacom Bluetooth Pairing Procedure

Stilo Car Device:

A - Press and hold on/off switch until blinks quickly to activate pairing mode.

B - On RaceIT Device (both Samsung or Sony) enter on "Settings", then "Connections" then "Bluetooth."

C - Activate "Bluetooth" if necessary or activate "Scan". New devices are listed on lower "Available Devices" list.

D - Press the Stilo-CAR BT 2.5 to activate pairing (If code is required it's: 0000)

E - Stilo-CAR BT 2.5 will be moved on "Paired Devices" list.

Stilo Box Device:

A - Press and hold the black lower on/off switch until blue led blinks quickly to activate pairing mode.

B - Connect Stilo-BOX BT 2.5 Bluetooth to the device used to watch live streaming. Use settings of the operative system. (If code is required it's: 0000)

8.1.2 Silo Verbacom Bluetooth on RaceIT Device

RaceIT App automatically catch any Bluetooth device (Including Stilo-CAR) any time. Even if App is already open and even if live streaming is already started. Bluetooth Headset Connected will be indicated as describe at point 2.2.i.

On RaceIT website, if Stilo-BOX is not automatically detected, it's possible to select it on "Audio Settings" as describe at point: 3.3.10.

Also check that Microphone and Audio are activated as at pints: 3.3.8 and 3.3.9.

Full instructions are included on Stilo product packaging.

8.2 Wired Radio

When RaceIT Devices USBc ports are free of other connections (External Camera) it's possible to connect a USBc to Nexus cable or jack 3,5 + USBc adaptor to Nexus to wire directly RaceIT Device to Driver's Helmet.

Suggestion is to use Motorsport standard cables made by Stilo, Zero Noise or other Motorsport supplier. Cheap cables made for aviation may not offer correct volume level.

Also for Box receiving device there is the option to use a cable headset with PPT switch with jack 3.5 and USBc adapter. There are few Motorsport producer as Zero Noise.

This option solve possible bluetooth troubles of same devices (especially Apple) with bluetooth accessories.

8.3 Intercom Radio

Some Intercom Systems (wired radio Driver to Co-Driver) has bluetooth option.

It's possible to bluetooth connect RaceIT device to Intercom.

Radio to Box will works both if Intercom is working with driver and co-driver are wired or if only driver is wired.

9.0 WARNINGS AND LIMITATION OF LIABILITY

- RaceIT shall not be held responsible for damage, malfunction, or failure resulting from incorrect installation, improper wiring, inadequate mounting or securing of the device, incorrect power supply, or modifications made to the product.
- The Installer is responsible for ensuring that all connections, cables, connectors, mounting points, and other installation components are properly secured and suitable for the intended operating environment and conditions.
- The product must only be used for its intended Motorsport purpose and in accordance with the instructions provided in this manual. The User is responsible for ensuring that the product is operated correctly and safely.
- The product is intended as an onboard streaming and data transmission system and does not constitute a safety system or a substitute for the Driver's, Team's, or Operator's judgment and supervision.
- The User is solely responsible for ensuring that the installation and use of the product comply with the applicable rules, regulations, and requirements of the relevant racing series, circuit, governing body, or event promoter.
- Before each use, the User must verify that the device, mounting system, cables, connectors, and power connections are in good condition and securely installed.
- RaceIT does not guarantee uninterrupted or error-free streaming or data transmission. The availability and quality of the service may be affected by factors outside the control of the manufacturer, including network coverage, signal strength, interference, telecommunications infrastructure, environmental conditions, or third-party services.
- RaceIT shall not be held responsible for loss, delay, interruption, corruption, or unavailability of streamed content or transmitted data resulting from such external factors.
- To the maximum extent permitted by applicable law, RaceIT shall not be liable for any indirect, incidental, consequential, or special damages arising from the installation, use, misuse, or inability to use the product.
- The User remains responsible for the safe operation of the vehicle and for ensuring that the product does not compromise the safety of the driver, team personnel, spectators, or third parties.
- The information and instructions provided in this manual do not relieve the User or Installer of their responsibility to assess the suitability of the product for the specific vehicle, installation, and operating conditions.