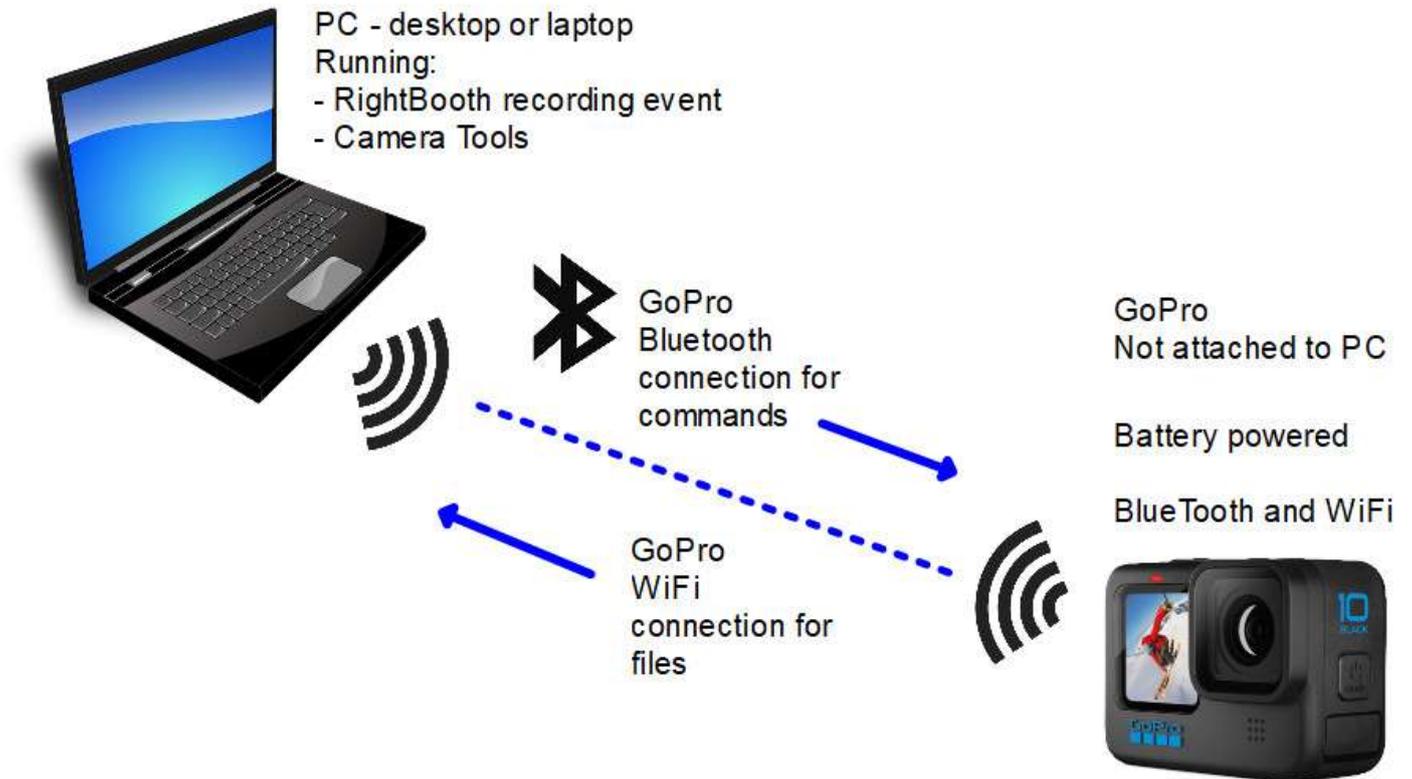


Use A GoPro in RightBooth - GoPro Bluetooth and WiFi Option

Overview

This document explains how to configure a system that uses RightBooth on a desktop, laptop or tablet to record videos and take photos by sending commands to a GoPro camera connected by GoPro Bluetooth and WiFi connections, and receiving the files from the GoPro via the GoPro WiFi connection.



Suitable For

- 360 spinner booth equipment

IMPORTANT: GoPro WiFi can be susceptible to interference from other devices and it might lose connection with the computer in busy environments. This can cause RightBooth to occasionally fail to receive files from the GoPro. To minimise the chances of this happening, please follow ALL the set up instructions in this document and thoroughly test your GoPro/equipment setup before running your events. If your GoPro is unreliable, this is not something that can be resolved with RightBooth.

If you continue to experience GoPro WiFi connection problems, consider using the GoPro with a USB connection.

Supported Cameras

RightBooth can operate the following GoPro cameras by BlueTooth and WiFi (via the Camera Tools app):

Hero 5, 6, 7, 8, 9, 10, 11, Max, Fusion, Mini

Preparing Your GoPro

- Make sure your GoPro is running with the latest firmware. Full instructions on how to do this can be found here: <https://gopro.com/en/us/update/>
- Make sure you are using an SD card that is fully compatible with your GoPro. See here for recommended cards: https://community.gopro.com/s/article/microSD-Card-Considerations?language=en_US
- Remove all files from your GoPro SD card. You can do this by formatting SD card on your GoPro, using the built in SD Format option available on your GoPro Menu. Then power off your GoPro, remove the battery for around 10 seconds, re-insert the battery and power it back on again.
- Set the correct Date and Time on your GoPro.

You should consider reformatting your GoPro SD card each time prior to hosting an event.

Using the Camera Tools App

RightBooth allows you to record videos and take photos using a GoPro camera connected by BlueTooth and WiFi to your PC. This is achieved using the following app that can be purchased and installed separately:

Camera Tools for Heros: <https://www.toolsforgopro.com/cameratools> - In this document it is named the **Camera Tools App**. Cost: 10 Euros (approx).

Note: If you experience problems with the Camera Tools App you can contact the app manufacturer at: <https://www.toolsforgopro.com/contact>

For all other technical enquiries, contact support@rightbooth.com

IMPORTANT: Make sure you are running the latest version of the Camera Tools App (version 1.5.0 or later). You can get the latest version here: <https://toolsforgopro.com/dl/herocameratoolswin.exe>

Make sure you install the full product, including the GoPro webcam utility.

Latest release notes for Camera Tools is available here:

https://www.toolsforgopro.com/dl/changelog_cameratools.txt

The Camera Tools App lets RightBooth control your GoPro directly to record videos and take photos on the GoPro's SD card. RightBooth can then download the video and photo files onto the PC for inclusion in your event as part of the ongoing event flow.

Advantages: You can record videos and photos at the resolution provided by your GoPro's camera (e.g. HD, or 4K). You can use many of RightBooth's video and photo processing features, including overlays, resizing, cropping, rotation, mirroring and video enhancements.

Disadvantages: There will be no GoPro live camera feed available for inclusion on your RightBooth event screens. You cannot use stamps, props, face recognition or greenscreen features.

We will now explain how you can set up everything. Note: In this document we are using a GoPro Hero 5 Black.

Note: Before continuing with the rest of this document we recommend that you perform a one time reset of any previously used GoPro connections on your camera. This is available on the camera's **Connect** menu, and (on the GoPro 5) it is entitled '**Reset connections**'. It may be slightly different on other models.

Connect your GoPro to your PC

You must first ensure that your PC is connected to your GoPro via BlueTooth.

Note: Connecting via Bluetooth is usually a **one time set up process** and will only need to be repeated if you ever reset your GoPro connections or reset it to factory defaults.

To connect your GoPro to your PC via BlueTooth, please watch this YouTube video, and follow the steps shown in the section '**Camera setup**' starting at 1min 8secs:

<https://www.youtube.com/watch?v=2C7b1kz2eu8>

After following the video, also make sure you click the '**Connect to WiFi**' button in the



Camera Tools app:

There is also a detailed training video on how to connect your GoPro here:

<https://youtu.be/YvG77-yIxQ8>

Note that this video covers many of the steps described in this document.

IMPORTANT:

- Make sure your computer is always connected to your GoPro WiFi network before following the rest of this guide.
- Make sure your computer is not configured to automatically connect to any other WiFi network. If your computer automatically connects to another WiFi network, RightBooth will not be able to use the GoPro.
- Make sure no other computer or device running nearby is configured to automatically connect to your GoPro WiFi network for the duration of using your PC and GoPro connection.
- If you want to also connect to another WiFi network while using your GoPro WiFi you can use a secondary USB WiFi adapter attached to your PC and set up your second WiFi via the adapter. This might be useful if you want to let RightBooth email or upload the GoPro videos/photos during your events.
- If you prefer, in addition to using the GoPro WiFi connection, you can also connect to another network via an Ethernet cable connected to a router.

Configuring The Camera Tools App and RightBooth

Note: Ensure your PC is connected to the GoPro Bluetooth and GoPro WiFi (see earlier sections).

IMPORTANT: Before using the Camera Tools app, with some models of GoPro you might need to manually connect your computer to your GoPro WiFi network in Windows as follows:

- 1) On your PC, in the Windows network panel (available from the System Tray icon), connect your PC to the GoPro's WiFi network using your GoPro password (security key) obtained from your GoPro connection settings, making sure you tick 'Connect automatically'...



- 2) Wait for the connection to be made...



Note 1: With some GoPro models you might not see the GoPro WiFi network listed in the Windows Network list. If you cannot see your GoPro listed, just run the Camera Tools app and continue following the rest of this document.

Note 2: On some systems you might not see that the WiFi network connection has been made until you close and re-open the Windows network list. This is not an error. The connection is usually made immediately, but the Network list might not always refresh immediately.

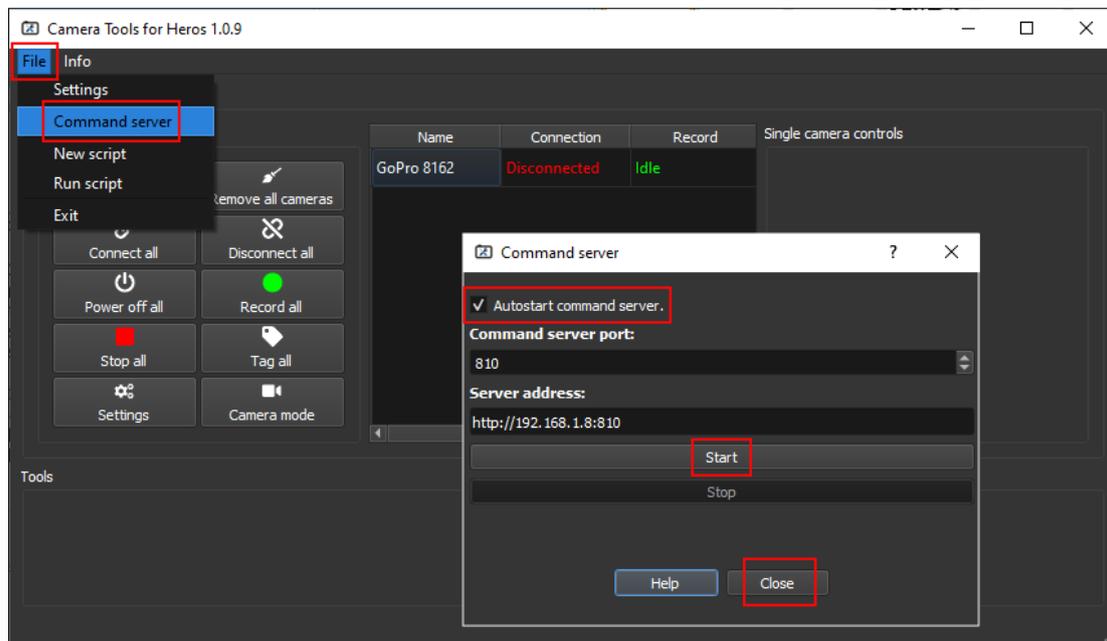
Set the Camera Tools App Command Server to Run Automatically

Now run the Camera Tools app. After following the video tutorials (above) you will see your GoPro in the camera list.

The Command Server is part of the Camera Tools App and it is the feature that RightBooth will use to control your GoPro.

Note: This step is usually a one time setup process.

- 1) In the Camera Tools app, click the **File** menu option.
- 2) Click the '**Command Server**' menu option.
- 3) On the Command server panel, tick '**Autostart command server**'. Doing this will ensure that the Command Server will be automatically started each time you run the Camera Tools App, so you won't need to perform this step again.
- 4) Click the **Start** button to start the Command Server running...

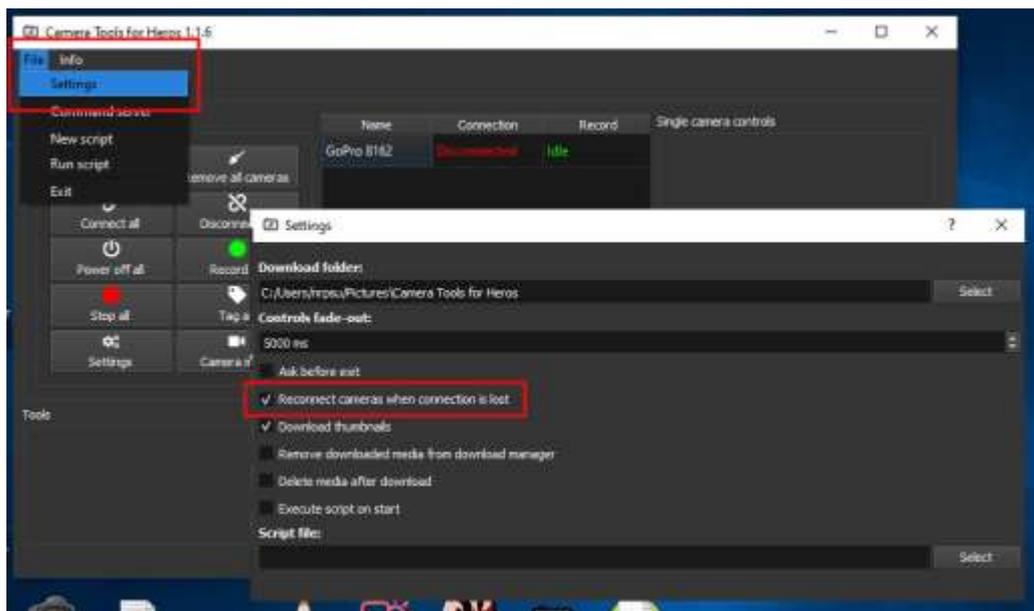


- 5) On the Command server panel, make a note of the **Command server port** number and **Server address**. This information will be required when setting up RightBooth (see later).
- 6) Click the **Close** button on the Command Server window.

Remember, you have configured the Command Server to start automatically when you run the Camera Tools app, so you will not need to repeat this step.

Set the Camera Tools App To Reconnect When Connection is Lost

- 1) Click the **File** menu option.
- 2) Click the **'Settings'** menu option.
- 3) In Settings, tick, **Reconnect cameras when connection is lost** and save your changes...



This action will help to prevent the GoPro Bluetooth connection being lost.

You will not need to repeat this step.

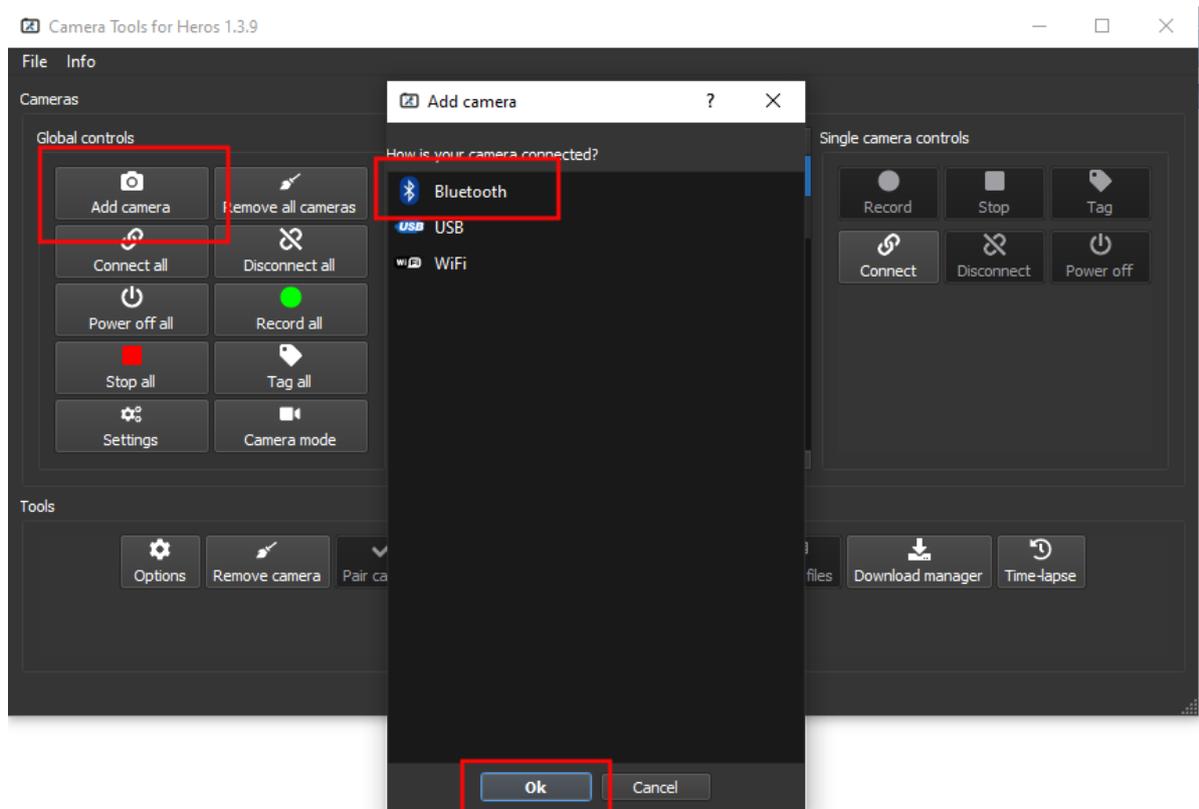
Add your GoPro Camera to the Camera Tools App

If you have not already performed this step, you now need to add your GoPro into the Camera Tools app. This is usually a one time process which will not need to be repeated.

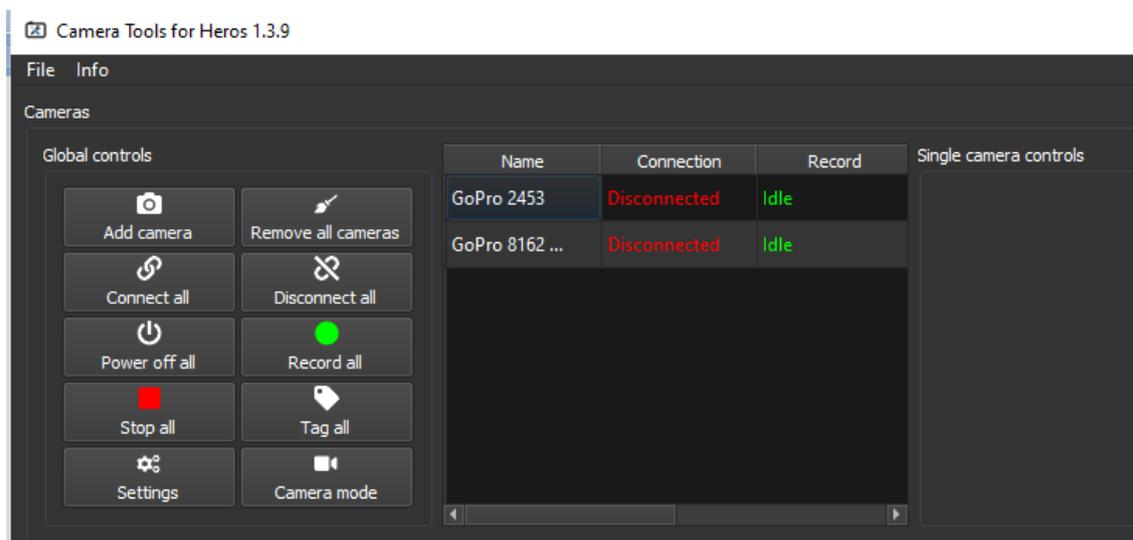
- 1) On the GoPro camera, select **Connect** -> **Connect New Device** -> **GoPro App**



- 2) Run the Camera Tools App.
- 3) Click the 'Add camera' button, choose 'Bluetooth' from the connection list and click OK:



- 4) Then choose your GoPro camera model from the selection panel and it will be added into the Camera Tools main list. Here you can see I have added two GoPro cameras:



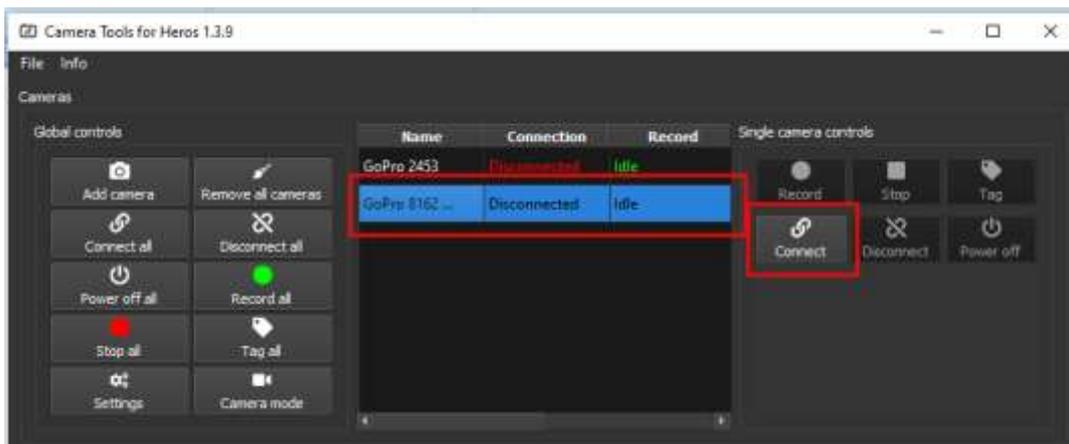
Connect your GoPro to the Camera Tools App

Note: You MUST perform this step EVERY TIME you turn on your camera and BEFORE starting to use RightBooth.

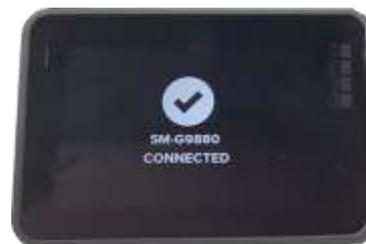
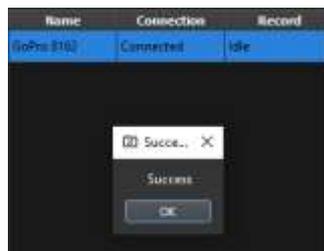
- 1) On the GoPro camera, select **Connect** -> **Connect New Device** -> **GoPro App**



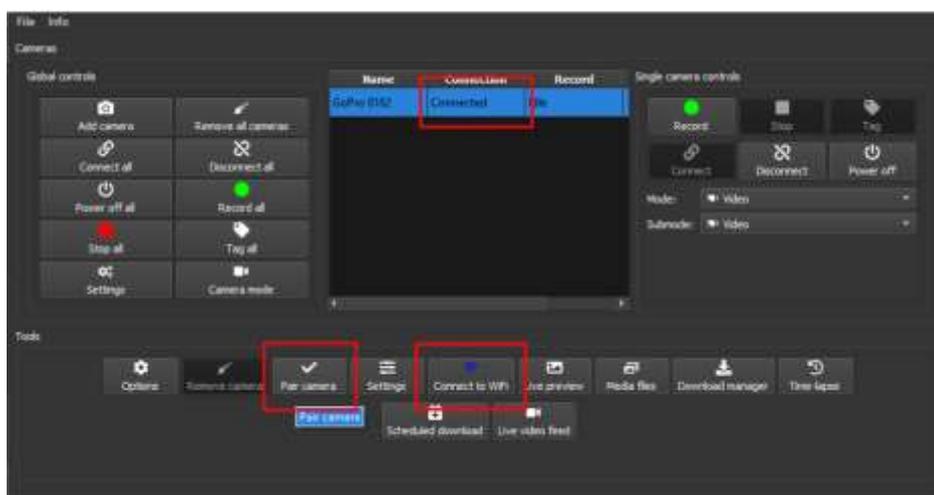
- 2) Run the Camera Tools App.
- 3) Click on your camera name in the list to select and highlight it, then click the **Connect** button:



- 4) After a short time, the camera will show as '**Connected**' in the list (see image below).
- 5) In Camera Tools, click the **Pair camera** button to complete the connection. If everything is OK you will see a **Success** message in the app and a '**CONNECTED**' message on your GoPro:



- 6) Click the **OK** button to close the message box in the Camera Tools App. In this screenshot you can see that we have successfully connected to the camera: **GoPro 8162...**



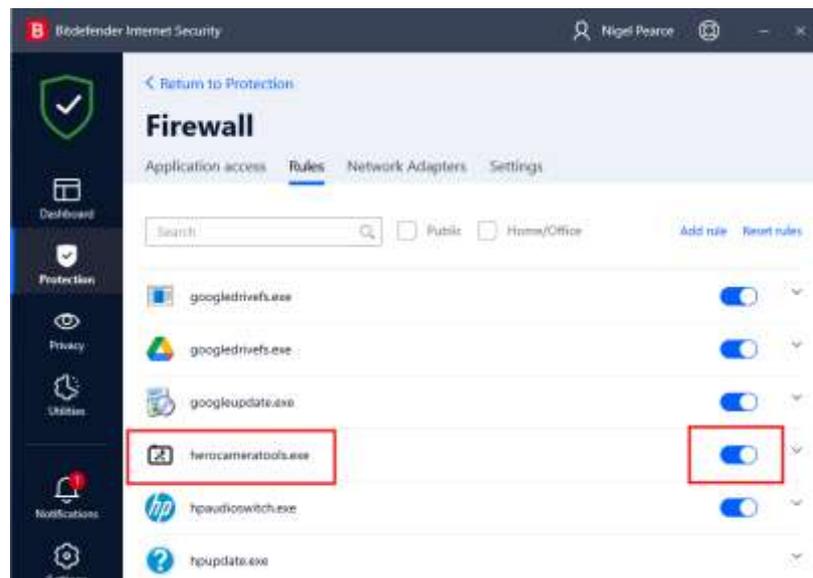
- 7) Click the '**Connect to WiFi**' button to fully ensure that the Camera Tools app is connected to the GoPro WiFi network.
- 8) Then click the '**Media files**' button to make sure that the Camera Tools App can access the files on the GoPro.
- 9) You must now keep the Camera Tools app running to allow RightBooth to control your GoPro, so we suggest you minimise the app to the Windows Task Bar.

If the Camera Tools App fails to connect to your camera, try turning your camera off, take the battery out, wait a while, reinsert the battery, turn the camera back on, then close and restart the Camera Tools App and repeat this section.

Problems caused by your PC Firewall

In some circumstances you might find that the Camera Tools app is unable to access the files on the GoPro when you click the '**Media files**' button. This is usually an indication that your PC's firewall is blocking access to Ports 80 and 8080, these are the ports that Camera Tools uses to access the GoPro wirelessly. If you fail to obtain files off the GoPro, try one of the following options:

- 1) **Disable the Firewall on your PC.** If you are running a virus checker app (such as Bitdefender) you can turn off the firewall in the app itself. Remember: if you turn off the firewall in your virus checker app, the Windows Defender Firewall may automatically activate, in which case you should also turn off the Windows Defender Firewall. Alternatively...
- 2) **Allow the HeroCameraTools.exe full access and exemption from the Firewall** checks in your virus checker app. Here you can see we have added HeroCameraTools.exe to the exemption list in Bitdefender:



Note: The HeroCameraTools.exe is located in the following folder:

C:\Program Files\Camera Tools for Heros

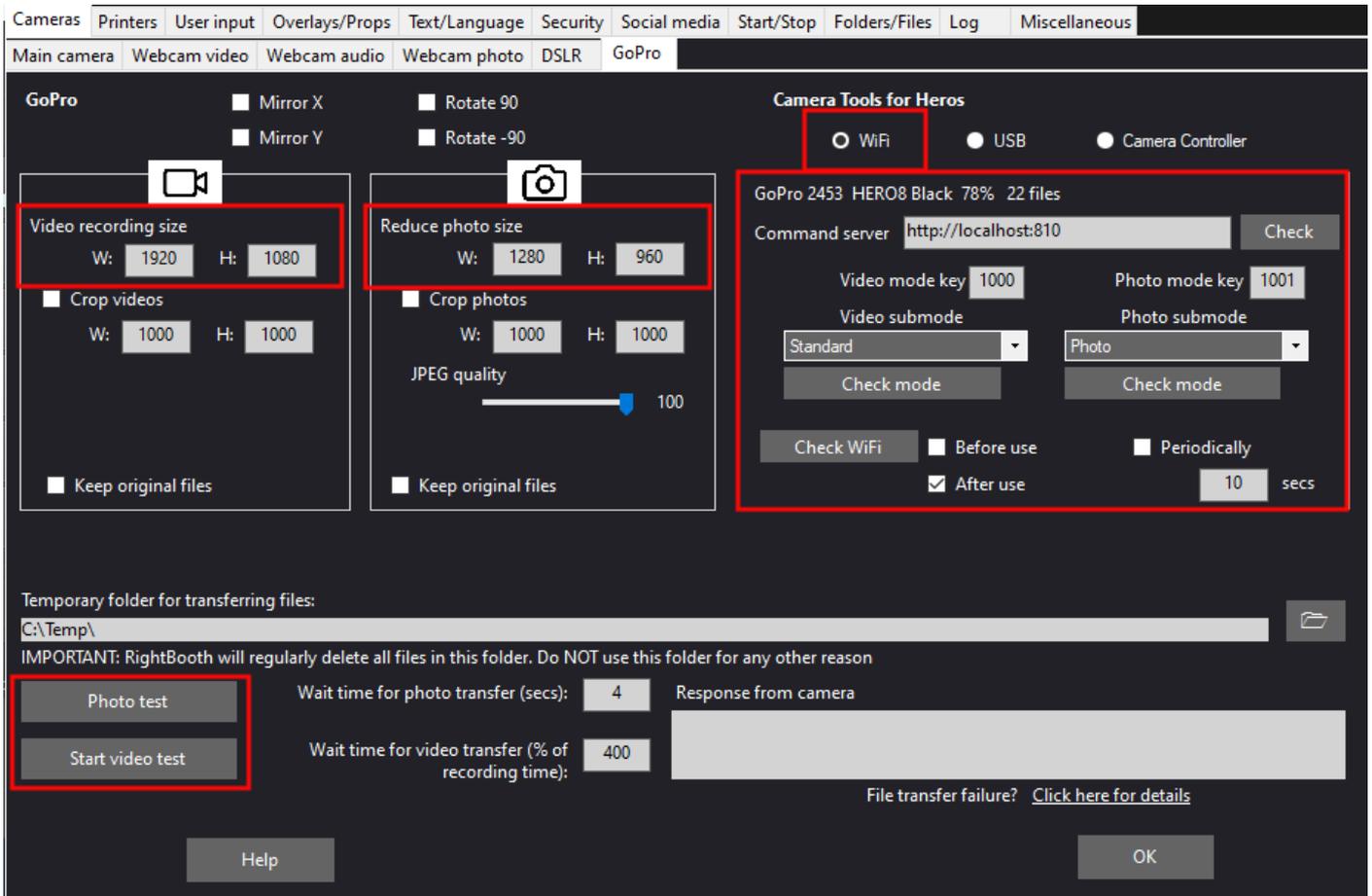
Set Up RightBooth to Control Your GoPro

Make sure you are running RightBooth version 7.11.0 or later. Make sure all the previous steps have been completed.

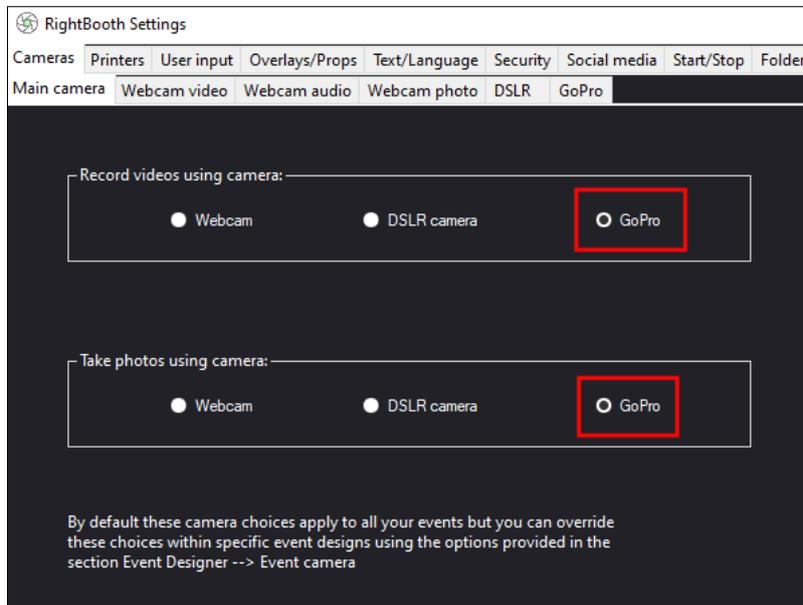
IMPORTANT: RightBooth will be controlling the GoPro by sending commands to the Command Server in the Camera Tools App. By default, these commands are sent through Port 810 on your computer. These commands might get blocked by your Windows Defender Firewall or Virus Protection software. If you find that RightBooth is not controlling your GoPro, try turning off your Windows Defender Firewall and/or stopping your Virus Protection software or making Port 810 available for use within these packages OR add RightBooth.exe to the exemptions list in your firewall app (as described earlier). For details on how to do this, refer to your Windows Firewall/Virus Protection documentation.

Note: This next step is normally a 'one time' set up process...

- 1) Run RightBooth.
- 2) Go to RightBooth **Settings -> Cameras -> GoPro**
- 3) In the Camera Tools for Heros section, select the option: '**WiFi**'
- 4) If RightBooth has successfully connected to your GoPro you will see the Camera name, Battery level and file count showing in the 'Camera Tools for Heros' panel (See screenshot below).
- 5) Ensure the Command Server address is set to: **http://localhost:810**
- 6) Click the **Get status** button to check that RightBooth has correctly set some values into the **Video mode key** and **Photo mode key** text boxes. You should not modify these values. With earlier models these values will be 0 and 1 respectively. Note: these value may be different on other models, e.g. 1000 and 1001.
- 7) Select a **video sub mode** and a **photo sub mode** option from the combo boxes provided. GoPro cameras provide a number of operating submodes for both the video recording and the photo capture modes, and these sub modes vary from model to model. We recommend you choose the standard **video submode** and **photo submode** options, as this will reduce the amount of recording that the GoPro will be required to perform. When you have chosen your submodes you can use both '**Check mode**' buttons to verify that RightBooth correctly switches your GoPro between your chosen submodes.
- 8) Set the **Video recording size W** and **H** values to match the GoPro video recording size. We recommend you set your GoPro to record 1920x1080 HD videos in HEVC format (if available), so enter W=1920 and H=1080 in these text boxes.
- 9) Set the **Reduce photo size in RightBooth W** and **H** values to match your GoPro photo capture size **OR LESS**. GoPro cameras usually capture photos at 4000x3000 pixels but we recommend you set **W** and **H** to values that are less than this, as it will help to prevent potential memory problems when running RightBooth. Additionally, the W and H values you choose should match the aspect ratio of the GoPro photo size. In our example screenshot (below), W=1280 and H=960, which is the same aspect ratio of 4000 x 3000, i.e. 1.333 to 1.
- 10) Select a temporary folder for transferring files from the camera. This must be a folder that exists on your computer, one that is empty of files and one that you have permission to write to. If you are an Admin user I would suggest you create a new folder off the route of Drive C: such as '**c:\rbtemp**' and select that folder in RightBooth. If you have restricted login rights, you may need to create a sub folder in My Pictures. Whichever folder you choose, make sure it is empty of files and note that RightBooth will regularly delete files from it when transferring files from the GoPro. Please note that this temporary folder is used purely for transferring a single video (or photo) file from the GoPro. The video (or photo) file will not remain in this folder and RightBooth will move it to your designated event folder after it has been processed.
- 11) Use the **Photo test** button and **Video test** button to check that RightBooth correctly controls your GoPro and also receives the recorded files from the camera.



Finally, go to the RightBooth Settings section: **Cameras** -> **Main camera** and select the **GoPro** option for both video recording and photo capture:



RightBooth is now configured to control your GoPro via the Camera Tools App, and your RightBooth events will now receive videos and photos directly from your GoPro.

Remember – After everything has been set up correctly

Each time you switch on your computer and you want to use your GoPro at one of your RightBooth events:

- Turn on your GoPro.
- Ideally, reformat the SD card, then Power the GoPro Off and Back On again.
- Ensure your GoPro Voice control option is turned OFF. Leaving this on can cause unexpected camera behaviour when talking in close proximity to the GoPro.
- Connect the PC to the GoPro WiFi network (from the Network list in the windows System Tray). Note that this step might not be possible with newer Hero models. If your GoPro does not appear in the Network list, simply move on to the Camera Tools app (below).
- Make sure your PC is not set to automatically connect to any other WiFi network.
- Run the Camera Tools App.
- Perform the step: 'Connect your GoPro to the Camera Tools App' (described above).
- Run RightBooth. Before playing your event, check that RightBooth is connected to the Camera Tools App by looking in Settings -> Cameras -> GoPro.

IMPORTANT: Make sure you run RightBooth within a few minutes of connecting your GoPro to the Camera Tools app. The reason for this is that in order to save power, GoPro cameras can turn off their WiFi network after a few minutes of WiFi inactivity. There is nothing on the camera itself that allows you to override this behaviour. However, by running a RightBooth event that has been designed to use a GoPro camera, RightBooth will send a command to the Camera Tools app that will force the GoPro WiFi to remain active until the camera is physically turned off.

Problems Connecting to the GoPro or Transferring Files from the GoPro to RightBooth?

Try the following:

- Make sure your GoPro is running with the **latest firmware**. See Preparing your GoPro (earlier).
- Make sure you have a **well charged battery**.
- Make sure you are using a **compatible SD card** in the GoPro.
- **Reformat the GoPro SD card** so that it does not contain any files.
- Power the camera down, remove the battery, wait a while, re-insert the battery and power it back on.
- Set the **correct Date and Time** on your GoPro (see below).
- If you cannot make a Bluetooth connection to the camera in Windows, remove any previous BlueTooth pairing in Windows Bluetooth settings and make the pairing again (see earlier).
- If you cannot see the Camera WiFi network in your Windows Available Networks list, try turning the WiFi off and back on again on your camera menu. Or try turning the camera off and back on again. Note: The GoPro WiFi name might not appear in the Windows Networks list until you connect to it using Camera Tools.
- Make sure your GoPro, PC, laptop or tablet is **NOT** set to power down or go into Sleep mode, as this will cause connections to be dropped.
- Make sure the **Firewall on your PC is not enabled** OR alternatively add the HeroCameraTools.exe and the RightBooth.exe into your Firewall app's exemption list.
- Make sure there are **no other applications running** that are automatically **trying to switch to a different WiFi network**. For example if you have a web browser running (such as Google Chrome) and you have a Gmail account open in a browser tab, Gmail will try and switch your PC to use a network that has Internet access, which will then cause problems with your GoPro WiFi connection.
- Make sure **Camera Tools is running** and that you have connected the GoPro and checked that **'Media Files'** can be obtained.
- In Camera Tools, make sure you have ticked **'Autostart command server'**
- In RightBooth GoPro Settings, make sure it is possible to write files to the **'Temporary folder for transferring files from camera'**
- In RightBooth GoPro Settings, increase the **Wait time for photos to 8 seconds** and increase **the Wait time for videos to 400**.

IMPORTANT: After replacing the GoPro battery, always check that the GoPro date/time is set to the current date/time. Normally this will not need altering after a battery replacement, but in some situations you may find that the GoPro date/time has been reset back to an earlier default. If the GoPro SD card contains files recorded at a later date/time than the current GoPro date/time setting, RightBooth will receive the wrong file from the GoPro after taking a new photo or video.

GoPro WiFi Reliability

If the GoPro WiFi connection is lost between the camera and the computer, RightBooth will continue to operate the camera in terms of starting and stopping the video recordings and photo capture, but it will no longer be able to transfer the files from the GoPro to the PC. In this situation, RightBooth will show **0 files** in the RightBooth Settings -> GoPro panel.

GoPro WiFi reliability can be affected by the environment in terms of the amount of interference coming from other WiFi enabled devices and signals in the vicinity of the GoPro.

When using your GoPro in RightBooth, it may be beneficial if you try to minimise the amount of other WiFi enabled devices and/or WiFi signals in the vicinity of your GoPro. Try the following:

- Try removing the internal battery and use an external battery pack to power your GoPro. This prevents the GoPro from potentially overheating, which in turn can affect its WiFi capabilities.
- place your GoPro as close as possible to your WiFi adapter, certainly within the maximum distance of its recommended WiFi range.
- Alternatively, connect the GoPro WiFi to a second USB WiFi network adapter placed close to the GoPro on a USB extender cable connected to your PC. Choosing a modern USB Wifi adapter with strong signal capabilities , preferably one with beamforming technology will be beneficial.
- enable one of the RightBooth GoPro WiFi watchdog options. See RightBooth Settings -> Cameras -> GoPro
- it might help to use Faraday Fabric panels placed strategically around the GoPro to block WiFi signals from surrounding WiFi emitting devices.

If you are using a private router in the vicinity of the GoPro to provide a Sharing Station for your guests, also try the following suggestions:

- a beamforming router can direct its WiFi network signal in a specific direction and away from the GoPro camera.
- block the direct path between the router and the GoPro using Faraday Fabric panels.
- place the router WiFi on a different channel and/or band to the GoPro WiFi channel/band. For example, set your GoPro to broadcast on 2.4Ghz and your router on 5Ghz.

If you continue to experience problems with GoPro WiFi connectivity, try using good quality, modern, external Bluetooth adapters and Wifi adapters for connecting to your GoPro. Adapters built into PC's and laptops can be lower quality/lower spec and can be less reliable.

Finally

If you fail to obtain reliable GoPro WiFi connectivity, consider the using one of the other configuration options described on the RightBooth website here:

<https://www.rightbooth.com/gopro-options.html>