



# Clip and Go

For the latest user guide, please visit:

[www.timecodesystems.com/support/product-manuals](http://www.timecodesystems.com/support/product-manuals)



SyncBac PRO

User Guide

## Copyright Notice - Timecode Systems Limited

All rights reserved. No part of this publication may be reproduced without the expressed written permission of Timecode Systems Ltd.

Timecode Systems Ltd shall not be liable to the purchaser of this product or third parties for damages, losses, costs, or expenses incurred by the purchaser or third parties as a result of accident, misuse or abuse of this product or unauthorised modifications, repairs, or alterations to this product, or failure to strictly comply with Timecode Systems Ltd operating and installation instructions.

## Contents

Welcome to SyncBac PRO .....	7
Display and Controls .....	8
OLED Display .....	8
LED .....	9
Up and Down .....	10
Select .....	10
Ports .....	11
Charging your SyncBac PRO .....	12
Technical Specification .....	13
Quick Setup: SyncBac PRO .....	14
Quick Setup: SyncBac PRO as Slave .....	14
Quick Setup: SyncBac PRO as Master .....	15
Connect SyncBac PRO to a GoPro HERO4™ .....	16
Switch SyncBac PRO On and Off .....	17
Set the RF Country/Area .....	19
Set the Timecode Mode .....	20
Master and Slave Relationship .....	22
Clock Synchronisation - Master and Slaves .....	23
How Can I Tell if a Slave is Communicating with a Master? .....	24
What if a Slave Can't Find a Master? .....	25
What if there are Multiple Masters in the Same BLINK Network? ..	26
Remote Control with :pulse and BLINK Hub .....	27
Set the RF Channel .....	28
Set the Timecode for the Master .....	32
Set the Frame Rate Per Second for the Master .....	33

Change the LED Brightness .....	34
Change the Screen Brightness .....	35
Change the Screen Light Time .....	36
Flip the Display .....	37
Button Lock .....	38
Status Information .....	39
Main Screen .....	39
Version Number and Serial Number .....	40
Power and Battery .....	40
GoPro Status .....	41
Synchronisation Status .....	42
Remote Control and Monitoring with :pulse .....	44
Troubleshooting .....	45
SyncBac PRO Slave not Connecting to Master .....	46
SyncBac PRO Slave is Connecting to Wrong Master .....	46
GoPro HERO4™ Not Detected by Slave SyncBac PRO .....	47
SyncBac PRO not Responding to Select button .....	47
SyncBac PRO Battery not Charging .....	47
Restore Factory Settings .....	48
Hard Reset .....	49
FAQs .....	50

Can you Genlock the GoPros? .....	50
Is the SyncBac PRO the Right Solution for my VR Rig? .....	50
Can SyncBac PRO be used as a Master Unit? .....	51
Can a Master Device use Drop-Frame Timecode? .....	51
Do I Need a SyncBac PRO on Each GoPro?/Do I need a TCS Unit on Each Device? .....	51
How Long Does it Take for SyncBac PRO to Re-Sync? .....	51
Does SyncBac PRO Record Timecode on the Audio Track? .....	52
Will using SyncBac PROs Affect How I Mount my GoPros? .....	52
Does using SyncBac PRO Affect the GoPro HERO4™ Battery Life? ..	52
Warranty .....	53
Quality Declarations .....	54
Use of External Antenna(s) .....	54
RF Exposure Warning Statement: .....	54
FCC Warning Statement: .....	54
Industry Canada Statements: .....	55
EC Declaration of Conformity .....	56
Index .....	59



## Welcome to SyncBac PRO

Thank you for choosing Timecode Systems' SyncBac PRO as your embedded timecode solution for GoPro™ HERO4™ Silver and Black.

In this user guide, you will find everything you need to know about using your SyncBac PRO.

## SyncBac PRO for Synchronisation



SyncBac PRO is a highly accurate timecode generator and multichannel digital timecode transceiver. It can be used:

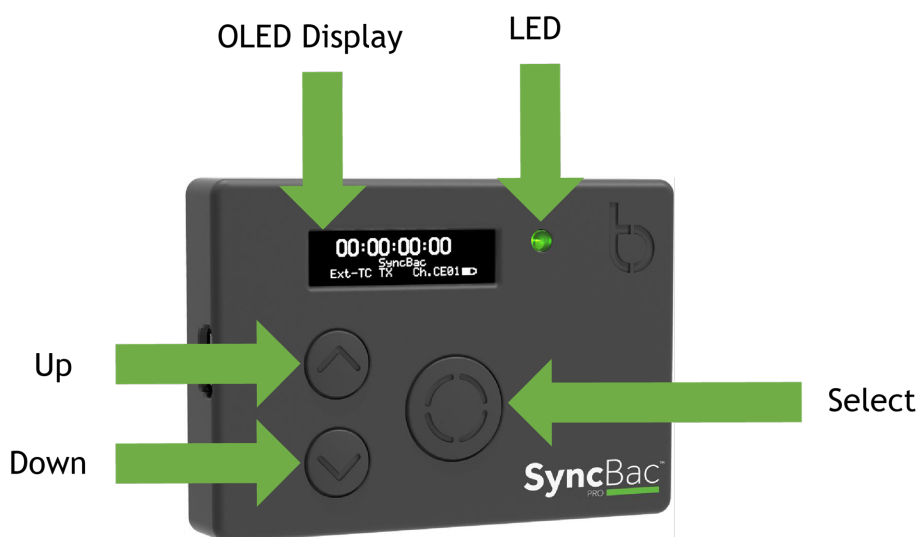
- With other SyncBac PROs for **multi camera synchronisation**.
- With **Timecode Systems :pulse mini-base stations**, as a complete 'on-set' solution for synchronising GoPro HERO4™ cameras with other professional cameras and audio recorders.



**Tip:** If you use SyncBac PRO with a :pulse, you have free access to BLINK Hub app, which provides **remote control** and **remote monitoring** of your SyncBac PRO and HERO4™. For more details, see Remote Control and Monitoring with :pulse on page 44.

**Your Timecode Revolution Starts Here...**

## Display and Controls



### OLED Display

The OLED display is a blue 128 × 32 pixels screen. When you switch on the SyncBac PRO, all status information, messages, and menus and options are shown on this screen.



To learn about the various status displays, including the 'Main' screen shown above, see Status Information on page 39.



## LED

The LED to the right of the OLED display acts as a colour-coded status indicator.

Colour	Description
Green	<p>If the SyncBac PRO is switched on and set to run as an RF slave, a green light indicates that the SyncBac PRO is communicating with a master device. Its clock is <b>synchronised</b> with the clock in a master device.</p> <p>If the SyncBac PRO is switched off, the green light indicates that the battery is fully charged.</p>
Blue	<p>A blue light indicates that the SyncBac PRO has been synchronised with a master device but is currently 'free running'. It has lost its connection with the master and is using its own highly accurate internal clock. When the master is back in range, the SyncBac PRO will attempt to reconnect and re-synchronise.</p> <p>A flashing blue light means that the SyncBac PRO is in the process of synchronising with a master.</p>
Red	<p>If the SyncBac PRO is switched on, a red light indicates a warning message is displayed on screen or that the battery power is low.</p>

If you are unfamiliar with master and slave devices, you can learn more in the following sections:

- Set the Timecode Mode on page 20
- Master and Slave Relationship on page 22

## Up and Down

Use the **Up** and **Down** buttons to scroll through the menus and menu options, and also to scroll through the status displays.



## Select

Use the **Select** button to choose a menu or option. You will also use **Select** to switch your SyncBac PRO on and off.



To make a selection, use the **Up** and **Down** buttons to scroll to a menu or option and then press the **Select** button once.

To switch your SyncBac PRO on or off, press and hold the **Select** button (see Switch SyncBac PRO On and Off on page 17, for more details).

## Ports

Your SyncBac PRO has a variety of ports for connecting with other devices and chargers.



On the left edge of the SyncBac PRO, you will see the mini USB 2.0 port, which is used for:

- Charging the SyncBac PRO (and HERO4™ when attached). The port is 5v power IN.
- Connecting the SyncBac PRO to a PC or Mac for downloading firmware updates.

The HEROBUS connector that protrudes from the rear of the SyncBac PRO is for connecting the SyncBac PRO to the Go Pro HERO4™. It fits into the battery pack slot on the back of the HERO4™.

On the right edge of the SyncBac PRO is an MMCX connector, which is for connecting an external aerial.

By using an external aerial, you can increase the range of the SyncBac PRO (see Technical Specification on page 13).



## Charging your SyncBac PRO

SyncBac PRO has a built-in Li-Polymer 3.7V battery and it should last around 10-12 hours from a full charge.



**Note:** Battery life may be reduced if your SyncBac PRO is used in extreme temperatures. Both very hot and very cold conditions can affect battery performance.

If the battery in your SyncBac PRO is running out of power, the LED flashes red and the following message is displayed on screen:



Battery Power Critical

The low battery power is also indicated on the battery icon in the bottom-right of the main screen, next to the channel number. The amount of white in the inner of the battery icon represents the amount of charge left in the battery. In the image below, the inner of the battery icon is black, which means there is no charge in the battery.



00:18:13:19  
GoPro  
GP Master Ch. CE09 

It is also shown on the battery status screen (see Status Information on page 39).

To recharge the battery, you will need the mini USB cable that is supplied with your SyncBac PRO and a mini USB compatible charger socket (not supplied). The mini USB cable connects to the SyncBac PRO via the mini USB port on the left-hand edge (see Ports on page 11).



**Note:** You do not have to disconnect your SyncBac PRO from the HERO4™ when charging.

## Technical Specification

Category	Specification
OLED Display	Blue 128 × 32 Pixels
Timecode Generator Accuracy	TCX0 0.5ppm when free running. In practice, approximately 1 frame drift in 24 hours. Zero ppm when RF locked to a master.
Supported FPS Modes	23.976 25 29.97
External Power	Mini USB (5V DC)
Internal Power	Built-in Li-Polymer (3.7V battery)
T/C Input	Provided via a GoPro Master SyncBac PRO or Timecode Systems :pulse base station.
T/C Outputs	HEROBus connector  Embedded timecode metadata in MP4 camera media
Multi-Channel Digital Receiver	865.050MHz to 923.200MHz
Range*	If your SyncBac PRO is using its <b>internal aerial</b> only, the typical range for synchronisation with a master is approximately 200m (256 feet, 219 yards).  If your SyncBac PRO has an <b>external aerial</b> attached, the typical range is 500-600m (1640-1968 feet, 546-656 yards).

\*Typical range. The range can vary.

## Quick Setup: SyncBac PRO

If you are familiar with SyncBac PRO settings, you can quickly set up your SyncBac PRO by following the procedures below.

- Quick Setup: SyncBac PRO as Slave (see page 14)
- Quick Setup: SyncBac PRO as Master (see page 15) .

If you are new to SyncBac PRO, you should follow the same steps, but refer to the more detailed sections for more information.

## Quick Setup: SyncBac PRO as Slave

If you want your SyncBac PRO to have its clock set by another device, such as another SyncBac PRO or a :pulse, set it to run as an RF Slave.

1. Connect SyncBac PRO to a GoPro HERO4™ (see page 16) .
2. Switch your SyncBac PRO on (see Switch SyncBac PRO On and Off on page 17).
3. Set the RF Country/Area (see page 19) .

This is important as your SyncBac PRO has to be set to use the appropriate frequency range for your country.

4. Set the **Timecode Mode** to **RF Slave** (see Set the Timecode Mode on page 20).

This is important as it defines how your SyncBac PRO synchronises with other devices.

Timecode devices use a master-slave relationship for synchronisation. If this concept is new to you, you can find explanations in Master and Slave Relationship (see page 22) .

5. Set the RF Channel (see page 28) .

The **RF Channel** defines which BLINK network your SyncBac PRO will be a member of, and therefore, which master or slaves it can communicate with.

When you have completed these steps, you have applied the minimum required settings for your SyncBac PRO in RF Slave mode. But to work with its attached GoPro HERO4™, the SyncBac PRO must first synchronise with a master device. If there is no master device in your BLINK network, you will need to set one up and make sure your SyncBac PRO is in range so that it can synchronise for the first time.

## Quick Setup: SyncBac PRO as Master

If you want your SyncBac PRO to be the master clock, set it to run as a GP Master TX. As the master, the SyncBac PRO will send its clock settings to slave SyncBac PROs in the same BLINK network and the slaves will synchronise with the master SyncBac PRO.

1. Connect SyncBac PRO to a GoPro HERO4™ (see page 16) .
2. Switch your SyncBac PRO on (see Switch SyncBac PRO On and Off on page 17).
3. Set the RF Country/Area (see page 19) .

This is important as your SyncBac PRO has to be set to use the appropriate frequency range for your country.

4. Set the **Timecode Mode** to **GP Master TX** (see Set the Timecode Mode on page 20).

This is important as it defines how your SyncBac PRO synchronises with other devices.

Timecode devices use a master-slave relationship for synchronisation. If this concept is new to you, you can find explanations in Master and Slave Relationship (see page 22) .

5. Set the RF Channel (see page 28) .

The **RF Channel** defines which BLINK network your SyncBac PRO will be a member of, and therefore, which master or slaves it can communicate with.

6. Set the SyncBac PRO's **FPS** rate to the appropriate value (see Set the Frame Rate Per Second for the Master on page 33).



**Note:** The FPS for the SyncBac PRO is not an exact match of the HERO4™'s FPS setting. The SyncBac PRO uses more precise values than the HERO4™.

7. Set the SyncBac PRO's timecode or 'T/C' (see Set the Timecode for the Master on page 32). This sets the SyncBac PRO master's clock. The clock settings will be sent to any slaves in the same BLINK network.

When you have completed these steps, you have applied the minimum required settings for your SyncBac PRO in GPS Master TX mode. It should now be able to time stamp your HERO4™ recordings and use appropriate clock settings (it will use its own clock settings and these settings will also be used by slave SyncBac PROs in the same BLINK network).

## Connect SyncBac PRO to a GoPro HERO4™

Your SyncBac PRO connects to the battery pack connection on the rear of the Go Pro HERO4™:

1. Hold the SyncBac PRO so that its screen is facing you. At the back of the SyncBac PRO, on the right-hand edge, you will see the curved hinge.
2. Slide the curved hinge of the SyncBac PRO into the grooved edge on the rear-right of the HERO4™.
3. Gently press the rear of the SyncBac PRO so that its HEROBus connector slots into the connection slot on the rear of the HERO4™.



You have now physically connected your GoPro HERO4™ to your SyncBac PRO. But the two will not work together until you have set up your SyncBac PRO.



## Switch SyncBac PRO On and Off

To switch your SyncBac PRO on:

1. Press and hold the **Select** button. Keep the button pressed down.



The SyncBac PRO screen lights up and displays the message:

**Push Up/Dn twice to switch on**

2. Press the **up** or **down** button twice to turn on the SyncBac PRO. This extra step is designed to prevent you from accidentally turning the SyncBac PRO on. If you do not press the up or down button twice within a 5 second period, the SyncBac PRO stays off.

When the SyncBac PRO comes on, it shows the main screen by default (see Display and Controls on page 8).



**Note:** If your SyncBac PRO does not come on when you press and hold the **Select** button, the battery may need to be charged (see Charging your SyncBac PRO on page 12). The LED lights red when the battery charge is running out.

To switch your SyncBac PRO off:

1. Press and hold the **Select** button. Keep the button pressed down. A countdown appears on the screen:

**Shutting down in 3**

2. Keep the button pressed down until the countdown is finished and the following message is displayed:

**Push Up/Dn twice to switch off**

3. Press the **Up** or **Down** button twice to turn off the SyncBac PRO. This extra step is designed to prevent you from accidentally turning the SyncBac PRO off. If you do not press the up or down button twice within a 5 second period, the SyncBac PRO stays on and the screen reverts to showing the main display.



**Tip:** If your SyncBac PRO is connected to a HERO4™ and is a slave of a :pulse, you can use the BLINK Hub app to turn the HERO4™ on and off remotely. This is a great way to save battery power.

## Set the RF Country/Area

Your SyncBac PRO can communicate with other devices via radio. Before you use your SyncBac PRO, you need to set it to use the correct radio frequencies for the country you are in. This is because the regulations for the use of radio frequencies vary in different countries.



**Note:** The **RF Country/Area** setting does not apply to SyncBac PRO units sold in North America and Canada. If you purchased your SyncBac PRO in the US or Canada and wish to use it in another country, please contact Timecode Systems. We can provide you with a **free updater** application that will allow you to set the country/area.

To set the RF country/area:

1. If your SyncBac PRO is currently off, switch it on (see Switch SyncBac PRO On and Off on page 17).
2. Press the **Select** button.
3. Use the **Up** and **Down** buttons to scroll to the **System Settings** option.
4. Press the **Select** button.
5. Use the **Up** and **Down** buttons to scroll to the **Set RF Country/Area** option.
6. Press the **Select** button.
7. Use the **Up** and **Down** buttons to select the appropriate area:
  - **Europe/UK**
  - **Japan/China**
  - **US/CA/AU/NZ** (for USA, Canada, Australia, or New Zealand).



**Note:** If you want to use your SyncBac PRO in another region, please contact Timecode Systems for advice.

8. Press the **Select** button to confirm. Your SyncBac PRO will now communicate using radio frequencies that are appropriate for the region you selected.

## Set the Timecode Mode

SyncBac PRO has two different Timecode modes: **RF Slave** and **GP Master TX**. These modes define how your SyncBac PRO's clock is synchronised with other devices, and so it is important that you choose the appropriate setting.



**Note:** If you are unfamiliar with the concept of master and slave devices, please read *Master and Slave Relationship* on page 22.

To set the **Timecode Mode**:

1. Connect your SyncBac PRO to a HERO4™ (if it is not connected already). For further details, see *Connect SyncBac PRO to a GoPro HERO4™* on page 16.
2. If your SyncBac PRO is currently off, switch it on (see *Switch SyncBac PRO On and Off* on page 17).
3. Press the **Select** button.
4. Use the **Up** and **Down** buttons to scroll to the **Timecode Mode** option.
5. Press the **Select** button.
6. Use the **Up** and **Down** buttons to scroll to the appropriate mode:

Operation	Timecode Mode
SyncBac PRO is master and sets the clock of: <ul style="list-style-type: none"> <li>• Its own HERO4™ camera (the HERO4™ camera that is connected to the master SyncBac PRO)</li> <li>• Other SyncBac PROs in the same BLINK network.</li> </ul>	GP Master TX
SyncBac PRO is slave and has its clock set by another device in the same BLINK network	RF Slave

\*When a SyncBac PRO is free running and in RF Slave mode, it uses its own clock settings but continues to search for a master on the same BLINK network. If it finds a master, the master will set the clock.



**Note:** A SyncBac PRO can only be the master to SyncBac PRO slaves - it cannot be a master to :wave, :pulse, or minitrx+.

7. Press the **Select** button.
8. Use the **Up** and **Down** buttons to set the RF Channel that the SyncBac PRO will use to communicate with the master device. The master device can only communicate with slave devices that use the same RF Channel as the master.
9. Press the **Select** button.

The following table shows how you should set your SyncBac PRO when there are other Timecode Systems devices in the same BLINK network.

Devices in same BLINK Network	SyncBac PRO Mode
SyncBac PRO with other SyncBac PROs	1 GP Master TX SyncBac PRO, all others set to RF Slave.  or: All SyncBac PROs set to RF Slave.
SyncBac PRO with :pulse	RF Slave, :pulse as BLINK Master
SyncBac PRO with :wave	RF Slave, :wave as a timecode-only Master  or: RF Slave, :wave not set as Master
SyncBac PRO with minitrx+	RF Slave, minitrx+ as a timecode-only Master  or: RF Slave, minitrx+ not set as Master

## Master and Slave Relationship

Timecode Systems products, including your SyncBac PRO unit, use a relationship to maintain highly accurate clock settings. It is important that you understand how the master-slave relationship works, as you will need to set each SyncBac PRO in your BLINK network to run in either master mode (**GP Master TX**) or slave mode (**RF Slave**).



**Tip:** If you use a Timecode Systems :pulse as the master, you can do much more than synchronise the clocks. With the free BLINK Hub app, you can remotely control and monitor your SyncBac PRO units and the HERO4™ cameras they are attached to (see Remote Control and Monitoring with :pulse on page 44).

In the following sections, we explain how the master-slave relationship works and provide answers to some commonly asked questions:

- Clock Synchronisation - Master and Slaves (see page 23)
- How Can I Tell if a Slave is Communicating with a Master? (see page 24)
- What if a Slave Can't Find a Master? (see page 25)
- What if there are Multiple Masters in the Same BLINK Network? (see page 26)
- Remote Control with :pulse and BLINK Hub (see page 27)

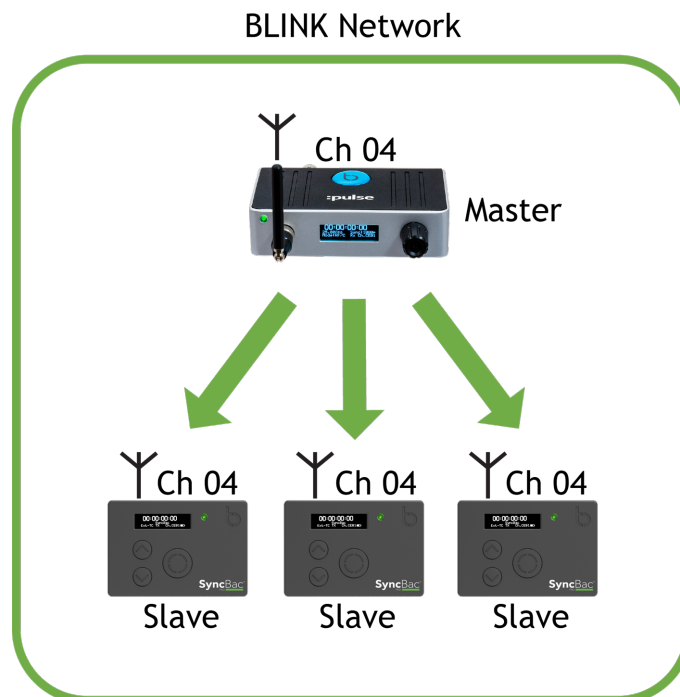
When you understand the master-slave relationship, you can set your SyncBac PRO units to run in RF Slave mode or GP Master TX mode (see Set the Timecode Mode on page 20).

## Clock Synchronisation - Master and Slaves

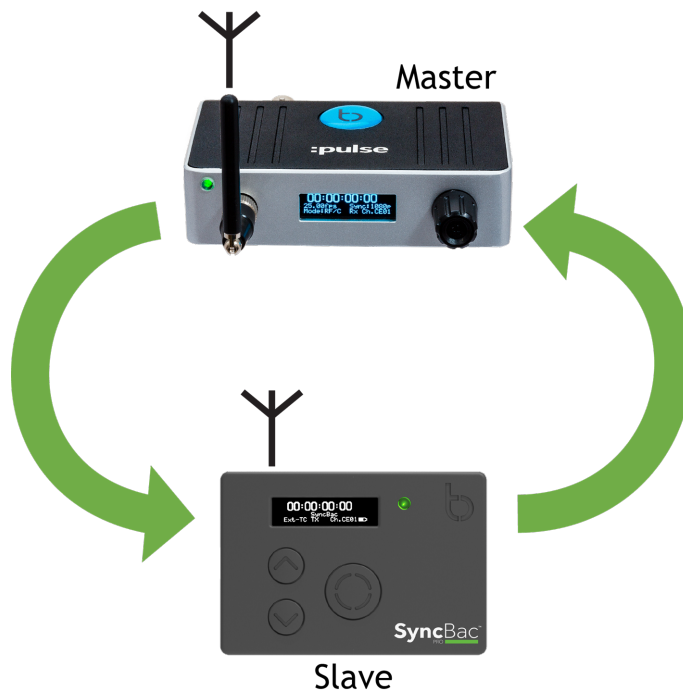
To synchronise the clocks of multiple Timecode Systems devices, you need to set up a BLINK network. A BLINK network is a group of devices that are all set to the same country/area and the same RF Channel.

In the BLINK network, you need to have one 'master' device (a Timecode Systems device set to run in **Master TX** mode). The master device has the clock settings that you want all of the devices to use. All of the other devices in the BLINK network should be set to run as 'slaves'.

When a slave device is on, it transmits a signal (via the set RF Channel). If there is a master device within range and using the same RF Channel, the master detects the slave. It then sends its clock settings to the slave. The slave sets its own clock to match the clock of the master.



The master and slave communicate with each other regularly to make sure that their clocks are synchronised.



**Note:** There should be no more than one master per BLINK network. For more details, see What if there are Multiple Masters in the Same BLINK Network? on page 26.

### How Can I Tell if a Slave is Communicating with a Master?

You can tell when a slave is connected with a master by looking at its main screen display. An antennae icon flashes in the top-right corner when the slave and master are communicating. The number shown to the right of the antennae icon shows the signal strength (0-7 where 7 is the maximum signal strength).



**Note:** The LED flashes blue if your SyncBac PRO has lost its connection to its master.



## What if a Slave Can't Find a Master?

If your SyncBac PRO cannot connect to a master device, it will use its own clock settings instead. The most likely reasons for a slave being unable to connect to a master are that the master is out of range or the devices in the BLINK network are all set to run as slaves (so there is no master). A SyncBac PRO slave that runs using its own clock is often described as 'free running'.

When a SyncBac PRO slave is 'free running', it will continue to try and find a master device. As soon as it finds a master device within range and on the same BLINK network, it will try to connect and synchronise with the master.

### Example:

Let's say you want to film two riders in a mountain bike event. Both of the riders are wearing HERO4™ cameras that have SyncBac PROs attached. The first rider, Paul, has his SyncBac PROs set to run in GP Master TX mode and use RF Channel 4. The second rider, Susan, has her SyncBac PRO set to run in RF Slave mode and use RF Channel 4. At the start, Paul and Susan's SyncBac PROs are within range of each other and so they synchronise their clocks.

During the event, Paul has a puncture and has to stop to repair it. During this time, Susan continues ahead and goes out of range of Paul. At this point, Susan's SyncBac PRO loses communication with Paul's master SyncBac PRO, and so it carries on using the clock settings that it has in place.

Paul fixes his puncture and catches up with Susan. His master SyncBac PRO is back in range of Susan's slave SyncBac PRO and so they connect and re-synchronise.

## What if there are Multiple Masters in the Same BLINK Network?

You should set up your Timecode devices so that there is **one master device per BLINK network**. This ensures that all of the slave devices synchronise with the same clock (the clock of the master device).

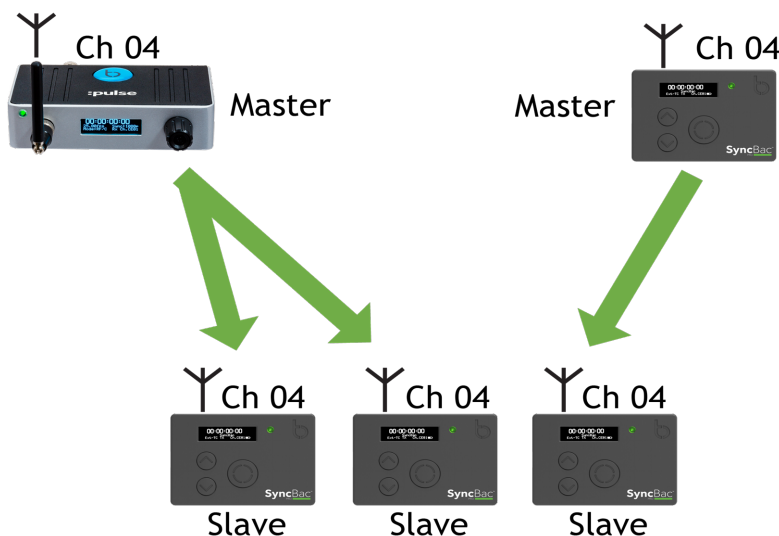
If you have multiple masters in the same BLINK network, each slave will connect to the first master that detects it. There is no guarantee that all of the slaves will connect to the same master, and so this can lead to differences in the clocks.

### Example:

Let's say you have a BLINK network where all of the devices are set to use RF Channel 4. There is one master, which is a :pulse, and three SyncBac PRO slaves.

The devices in the network are all turned off and you add a new SyncBac PRO to the BLINK network. The new SyncBac PRO is set to run in GP Master TX mode, so when the devices are all turned back on, there are two masters in the BLINK network - the :pulse and the new SyncBac PRO.

The slave SyncBac PROs will attempt to connect to the first master they find. Two of the SyncBac PRO slaves connect to the :pulse master first, and so synchronise with that clock. The other SyncBac PRO connects with the new SyncBac PRO first and so synchronises with that clock. As a result, the devices in the BLINK network are not synchronised to the same clock.



For this reason, always make sure that there is one master device per BLINK network.

### Remote Control with :pulse and BLINK Hub

If you use a Timecode Systems :pulse as a master device, you can do much more than just synchronise the clocks. The :pulse and the free BLINK Hub app allow you to:

- Control your SyncBac PRO slaves and the HERO4™s remotely
- View the status of SyncBac PRO slaves in BLINK Hub
- View the status of the HERO4™ cameras that are connected to your SyncBac PRO slaves.

To learn about monitoring and controlling your SyncBac PRO units remotely, please refer to the :pulse user guide.



**Note:** When :pulse masters communicate with slave devices, they can set the clocks, receive status information, and send controls. Remote monitoring and control is only available with :pulse. SyncBac PRO and :wave masters can only set the clocks of slave devices - they do not support remote controls.

## Set the RF Channel

SyncBac PRO is designed to synchronise with other devices in a BLINK network, so that all of the devices have the same, highly accurate clock settings. A BLINK network is a group of devices that are all set to communicate on the same RF channel.

To get your SyncBac PRO to join a BLINK network, you simply set it to use the same RF channel as the other devices in that BLINK network.

You need to set the RF Channel when:

- You first set up your SyncBac PRO to join a BLINK network
- Your SyncBac PRO is in a BLINK network but you want it to join a different BLINK network instead
- You are changing the master device in the BLINK network. Your SyncBac PRO needs to have its RF Channel reset if you introduce a different master device, even if the same channel is going to be used.



**Note:** SyncBac PROs can only be part of one BLINK network. If you need to remove a SyncBac PRO from a BLINK network and set it to join another one, simply change the SyncBac PRO's RF Channel.

To set your SyncBac PRO to join a BLINK network:

1. Connect your SyncBac PRO to a HERO4™ (if it is not connected already). For further details, see [Connect SyncBac PRO to a GoPro HERO4™](#) on page 16.
2. If your SyncBac PRO is currently off, switch it on (see [Switch SyncBac PRO On and Off](#) on page 17).
3. Press the **Select** button.
4. Use the **Up** and **Down** buttons to scroll to the **Set RF Channel No.** option.
5. Press the **Select** button.
6. Use the **Up** and **Down** buttons to change the channel number. You need to set the SyncBac PRO to use the same channel number as the other devices in the same BLINK network.
7. Press the **Select** button to confirm.

Look at the main screen to find out which channel a SyncBac PRO is set to use. The channel is shown in the bottom-right corner, next to the battery indicator.



In the image above, Ch.CE09 indicates that the SyncBac PRO is set to use RF Channel 09.

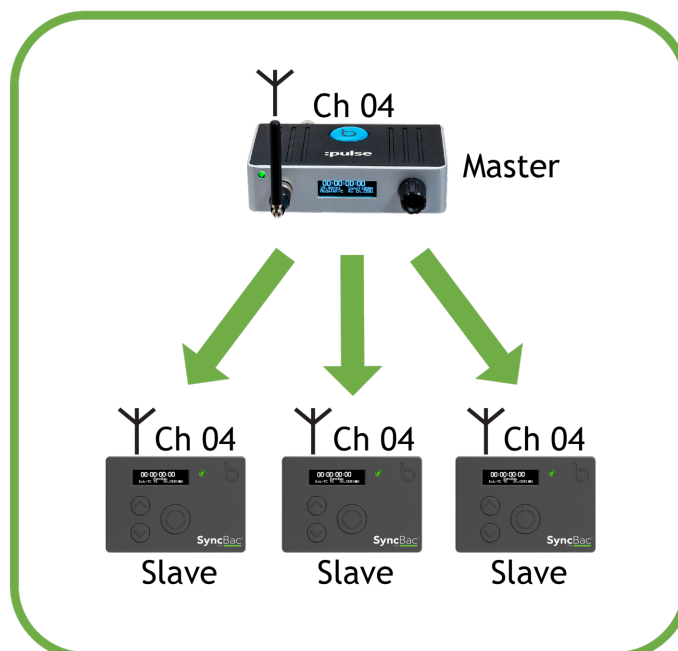
### Example 1: Join a BLINK network

Let's say you have three SyncBac PRO units and a :pulse unit. The :pulse unit is set to be the 'master' and uses **RF Channel 4**.

To get the SyncBac PRO units to synchronise with the :pulse unit, you need to set all three of the SyncBac PROs to use **RF Channel 4**. They also need to be set to the correct **country/area** and to run in **RF Slave** mode.

With these settings in place, the master :pulse unit will connect to the slave SyncBac PROs and set their clocks (as long as the slave SyncBac PROs are within range of the master).

### BLINK Network

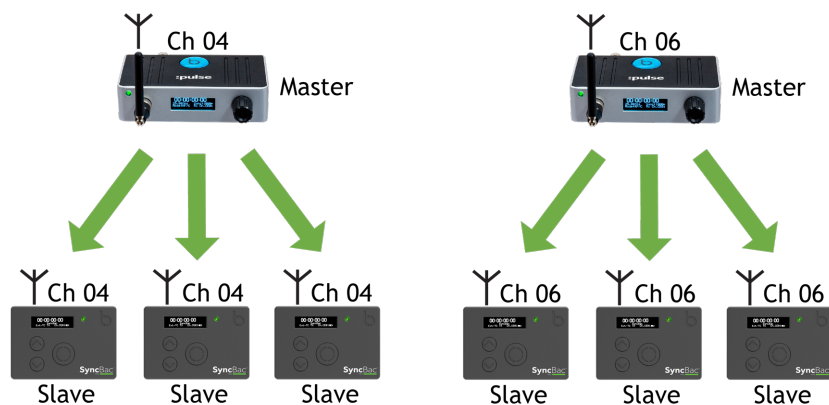


## Example 2: Multiple BLINK networks in range

Let's say you have six SyncBac PROs and two :pulse units and you want to arrange them in separate BLINK networks. For the purpose of this example, we will assume you want three SyncBac PROs in each network, but you could allocate them differently if you wanted.

For the first network, you set the :pulse and the three SyncBac PROs to have the correct country/area setting and to use RF Channel 4. You set the :pulse to run as the master and the SyncBac PROs to run in RF Slave mode. The :pulse and the three SyncBac PROs are all in the RF Channel 4 BLINK network.

For the second network, you set the :pulse and the three SyncBac PROs to have the correct country/area setting and to use RF Channel 6. You set the :pulse to run as the master and the SyncBac PROs to run in RF Slave mode. The :pulse and the three SyncBac PROs are all in the RF Channel 6 BLINK network.



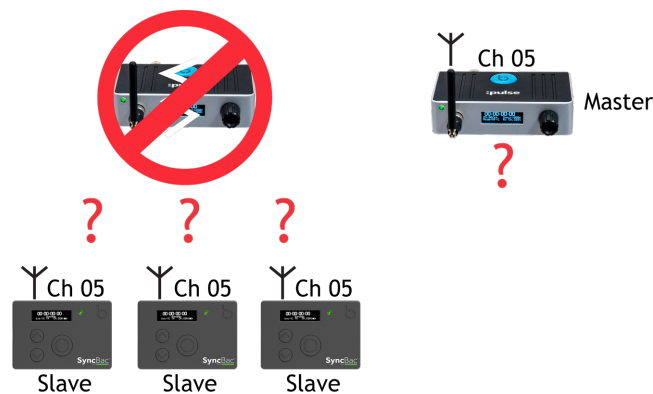
The two networks are completely separate and the devices in one network will not communicate with devices in another network.

### Example 3: Replacing a Master in a BLINK Network

If you need to change the master device in a BLINK network, you may need to set the RF channels again. This is because the slaves store the master and channel details in memory, and need to be refreshed if a different master is used.

Let's say you have a :pulse as master and three slave SyncBac PROs. They are all set to use RF Channel 05. The SyncBac PROs and their connected HERO4™ cameras all synchronise with the master correctly and filming begins.

Unfortunately, there is an accident and the :pulse gets damaged. You have another :pulse unit available, and so you swap it for the damaged one. You set the new :pulse to use RF Channel 05, but the slave SyncBac PROs do not connect with it. This is because they are 'locked' to the :pulse that was damaged.



To get them to connect to the replacement :pulse, you can either turn the SyncBac PRO slaves off and then on again to refresh their memory. Alternatively, you can set them to use RF Channel 5 again (re-applying the RF Channel also refreshes the SyncBac PRO's memory).

For details on country/area, see [Set the RF Country/Area](#) on page 19.

For details on RF Slave mode, see [Set the Timecode Mode](#) on page 20.

To learn more about master and slave relationships, see [Master and Slave Relationship](#) on page 22

## Set the Timecode for the Master



**Note:** This section only applies if you have set your SyncBac PRO to run in GP Master TX mode (see Set the Timecode Mode on page 20).

You need to set the timecode for the master SyncBac PRO, so that it has the clock settings you require. These clock settings will then be sent to the slave SyncBac PROs that are in the same BLINK network as the master SyncBac PRO.

To set your SyncBac PRO's timecode:

1. Connect your SyncBac PRO to a HERO4™ (if it is not connected already). For further details, see Connect SyncBac PRO to a GoPro HERO4™ on page 16.
2. If your SyncBac PRO is currently off, switch it on (see Switch SyncBac PRO On and Off on page 17).
3. Press the **Select** button.
4. Use the **Up** and **Down** buttons to scroll to the **Set TimeCode** option. This option is only available if the SyncBac PRO is in **GP Master TX** mode (see Set the Timecode Mode on page 20).
5. Press the **Select** button.
6. Use the **Up**, **Down**, and **Select** buttons to set the SyncBac PRO's time. Press **Up** or **Down** to change the value of a character, and then press **Select** to confirm that value and move to the next character (from left to right). When you have set the last value, pressing **Select** will confirm the time entry.

If you are setting up a SyncBac PRO to run as a master, you also need to Set the Frame Rate Per Second for the Master (see page 33) .



## Set the Frame Rate Per Second for the Master



**Note:** This section only applies if you have set your SyncBac PRO to run in GP Master TX mode (see Set the Timecode Mode on page 20).

Your SyncBac PRO can add accurate time stamps to each frame that is recorded by a GoPro HERO4™ (attached to the SyncBac PRO). To make these time stamps, the SyncBac PRO needs to be set to have a frame rate per second (FPS) that matches the FPS of the HERO4™. But it is not an exact match - the HERO4™ uses FPS values that are rounded up, whereas the SyncBac PRO FPS is very precise and accurate.

1. Connect your SyncBac PRO to a HERO4™ (if it is not connected already). For further details, see Connect SyncBac PRO to a GoPro HERO4™ on page 16.
2. If your SyncBac PRO is currently off, switch it on (see Switch SyncBac PRO On and Off on page 17).
3. Press the **Select** button.
4. Use the **Up** and **Down** buttons to scroll to the **Set FPS Rate** option.
5. Press the **Select** button.
6. Use the **Up** and **Down** buttons to set the SyncBac PRO's FPS to the appropriate value.

GoPro HERO4™ FPS	SyncBac PRO FPS
24	23.98 =GoPro:24
25	25:00 =GoPro:25
30	29.97 =GoPro:30
50	25:00 =GoPro:25
60	29.97 =GoPro:30

7. Press the **Select** button to confirm.



**Note:** Your HERO4™ must be set to either NTSC for 30 fps and its multiples or PAL for 25 fps and its multiples. Please refer to your HERO4™ documentation for details on how to set the camera FPS.

## Change the LED Brightness

You can set your SyncBac PRO so that its LED is more/less bright, depending on your requirements.

To change the LED brightness:

1. If your SyncBac PRO is currently off, switch it on (see Switch SyncBac PRO On and Off on page 17).
2. Press the **Select** button.
3. Use the **Up** and **Down** buttons to scroll to the **System Settings** option.
4. Press the **Select** button.
5. Use the **Up** and **Down** buttons to scroll to the Set LED Brightness option.
6. Press the **Select** button.
7. Use the **Up** and **Down** buttons to change the value. The brightness range is 1 to 5, where 1 is the dimmest and 5 is the brightest.
8. Press the **Select** button to confirm.

## Change the Screen Brightness

In certain conditions, you may need to change the brightness of the screen. For example, if you are filming in dark conditions, you may want to increase the screen brightness to make it easier to see the settings. When you have finished setting up, you might want to reduce the screen brightness back down.

To change the brightness of the screen:

1. Connect your SyncBac PRO to a HERO4™ (if it is not connected already). For further details, see [Connect SyncBac PRO to a GoPro HERO4™](#) on page 16.
2. If your SyncBac PRO is currently off, switch it on (see [Switch SyncBac PRO On and Off](#) on page 17).
3. Press the **Select** button.
4. Use the **Up** and **Down** buttons to scroll to the **Display Settings** option.
5. Press the **Select** button.
6. Use the **Up** and **Down** buttons to scroll to the **Set Brightness** option.
7. Press the **Select** button.
8. Use the **Up** and **Down** buttons to set the brightness value (1 is dimmest, 5 is brightest).
9. Press the **Select** button to confirm.

## Change the Screen Light Time

By default, the SyncBac PRO's screen is lit at the set brightness level all of the time. This makes it easier to read the display, but uses up more battery power. If you want to reduce the use of battery power, or just prefer the screen to dim after a short amount of time, you should change the **Display Settings**.

1. Connect your SyncBac PRO to a HERO4™ (if it is not connected already). For further details, see [Connect SyncBac PRO to a GoPro HERO4™](#) on page 16.
2. If your SyncBac PRO is currently off, switch it on (see [Switch SyncBac PRO On and Off](#) on page 17).
3. Press the **Select** button.
4. Use the **Up** and **Down** buttons to scroll to **Display Settings**.
5. Press the **Select** button.
6. Use the **Up** and **Down** buttons to scroll to your preferred screen light display time:
  - **Always on** to have the screen lit all of the time.
  - **Short timed on** to have the screen lit for approximately 10 seconds after the last press of the **Up**, **Down**, or **Select** button. The screen will dim as long as you don't press any of the buttons.
  - **Long timed on** to have the screen lit for approximately 20 seconds after the last press of the **Up**, **Down**, or **Select** button. The screen will dim as long as you don't press any of the buttons.

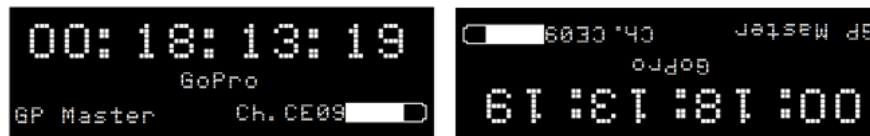


**Note:** As soon as you press the **Up**, **Down**, or **Select** button, the dim timer is reset.

7. Press the **Select** button to confirm.

## Flip the Display

In some locations, you may need to mount the HERO4™ so that it hangs upside-down. But this doesn't mean you have to look at the SyncBac PRO display upside-down too - by using the **Flip Display** option, you can rotate the screen display by 180°.



To flip the display:

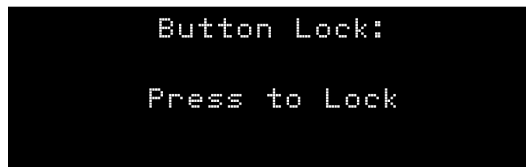
1. Connect your SyncBac PRO to a HERO4™ (if it is not connected already). For further details, see [Connect SyncBac PRO to a GoPro HERO4™](#) on page 16.
2. If your SyncBac PRO is currently off, switch it on (see [Switch SyncBac PRO On and Off](#) on page 17).
3. Press the **Select** button.
4. Use the **Up** and **Down** buttons to scroll to the **Display Settings** option.
5. Press the **Select** button.
6. Use the **Up** and **Down** buttons to scroll to the **Flip Display** option.
7. Press the **Select** button to confirm.
8. Repeat steps 3-7 inclusive to rotate the screen display to its previous orientation.

## Button Lock

In some situations, you may find that your SyncBac PRO's control buttons are pressed accidentally, which can affect the settings. For example, if you are a skier and you are wearing your SyncBac PRO and HERO4™, you may find that your clothing or body knocks into the controls as you move. To prevent these accidental button presses from affecting your SyncBac PRO, you can turn on the Button Lock.

With the Button Lock enabled, any accidental presses of the Select button will have no effect. To get into the menus when Button Lock is enabled, you first have to manually deactivate the lock.

1. Display the Main Screen (see page 1).
2. Use the **Up** and **Down** buttons to scroll to the screen that shows **Button Lock:** at the top.



The Button Lock screen will present you with one of two messages:

- **Press to Lock** - This message is shown if Button Lock is currently disabled. If you press the Select button, Button Lock will be enabled. SyncBac PRO will not allow you to access the menu options again until the Button Lock has been disabled.
  - **Press to Un-Lock** - This message is only shown if Button Lock is currently enabled. If you press the Select button, Button Lock will be disabled. You will be able to access the menus again by pressing the Select button.
3. Press the **Select** button to confirm.

## Status Information

Your SyncBac PRO has a collection of status displays that you can use to view the status of your SyncBac PRO and the GoPro HERO4™. To see HERO4™ information, the SyncBac PRO needs to be connected to the HERO4™.

The status displays include:

- Main Screen (see page 39)
- Version Number and Serial Number (see page 40)
- Power and Battery (see page 40)
- GoPro Status (see page 41)
- Synchronisation Status (see page 42) .

## Main Screen

The Main screen is displayed when you are not using the SyncBac PRO to view other status displays or to access menu options.



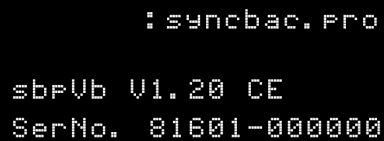
You can use the Main screen to view:

- The current timecode that is used by the SyncBac PRO
- The mode of the SyncBac PRO (GP Master or RF Slave)
- The RF channel that is used by the SyncBac PRO
- A battery icon that shows the amount of battery charge remaining.

## Version Number and Serial Number

If you contact Timecode Systems technical support, you may be asked to provide the serial number of your SyncBac PRO. You may also be asked what version of the firmware your SyncBac PRO is running. To find this information:

1. Display the Main Screen (see page 39)
2. Use the **Up** and **Down** buttons to scroll to the screen that shows **:syncbac.pro** at the top.



```
      :syncbac.pro  
  
sbpVb V1.20 CE  
SerNo. 81601-000000
```

The **sbpVb** value is the version number of the firmware that is installed on your SyncBac PRO.

The **Ser.No** value is the serial number of your SyncBac PRO unit.

## Power and Battery

You can view the amount of charge remaining in the battery on the Main screen or on the dedicated Power and Battery screen. The Power and Battery screen also provides information about any external power source, such as a mains charger.

1. Display the Main Screen (see page 39)
2. Use the **Up** and **Down** buttons to scroll to the screen that shows **Power** at the top.



```
Power: EXT - OFF  
Battery-[|||||]
```

The **Power** value shows the status of the external power supply (EXT-OFF means there is no external power supply, EXT-OK means there is an external power supply).

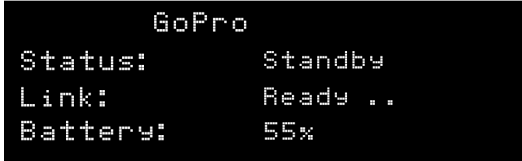
The **Battery** value is a 5 bar icon that shows the battery charge (1 bar being low, 5 bars being maximum charge).



## GoPro Status

You can use your SyncBac PRO to view the status of a GoPro HERO4™ (the HERO4™ needs to be connected to the SyncBac PRO).

1. Display the Main Screen (see page 39)
2. Use the **Up** and **Down** buttons to scroll to the screen that shows **GoPro** at the top.



```
GoPro
Status: Standby
Link: Ready ..
Battery: 55%
```

The Status shows what the GoPro is currently doing - **Standby** means it is connected but is not being used, **Recording** means it is filming, and **Not Ready** means the GoPro is disconnected or off.

The Link shows whether the GoPro is connected to the SyncBac PRO and turned on. **Wait Cam On** means the SyncBac PRO is either not connected to a GoPro, or the GoPro is turned off. **Ready** means the GoPro is connected, has power, and is synchronised. After the Ready value, you should see a sequence of one dot followed by two dots. This sequence shows that the SyncBac PRO is communicating with the HERO4™ camera.

The Battery status shows the amount of power remaining in the GoPro's battery (as a percentage of its maximum charge).

## Synchronisation Status

When you add or change devices in a BLINK network, you should check that they are synchronising correctly and using the correct frame-per-second settings. An easy way to do this is to look at the Synchronisation Status screen.

```
TCR  00:14:13:15:12
FPS: 23.98 =GoPro:24
Master: Unit 1
```

1. Display the Main Screen (see page 39)
2. Use the **Up** and **Down** buttons to scroll to the screen that shows **TCR** or **TCG** at the top.

Status	Description
<b>TCR or TCG</b>	<p><b>TCR</b> (timecode receiving) is shown if your SyncBac PRO is a slave. The timecode shown is the clock setting that your SyncBac PRO is using and is received from the master device.</p> <p><b>TCG</b> (timecode generated) is shown if your SyncBac PRO is a master. The timecode shown is the clock setting of your SyncBac PRO's internal clock. This setting is used by your SyncBac PRO and is also sent to the slave SyncBac PROs in the BLINK network.</p> <p>For more details, see <i>Master and Slave Relationship</i> on page 22.</p>
<b>FPS</b>	<p>The frames-per-second setting that is currently used by your SyncBac PRO. The first part of the value shows the actual FPS and the =GoPro part shows the equivalent setting in the GoPro HERO4™ camera. The SyncBac PRO and HERO4™ need to have compatible FPS settings, so if your SyncBac PRO is set to 23.98 =GoPro:24, your GoPro camera should be set to 24 FPS.</p> <p>For more details, see <i>Set the Frame Rate Per Second for the Master</i> on page 33.</p>

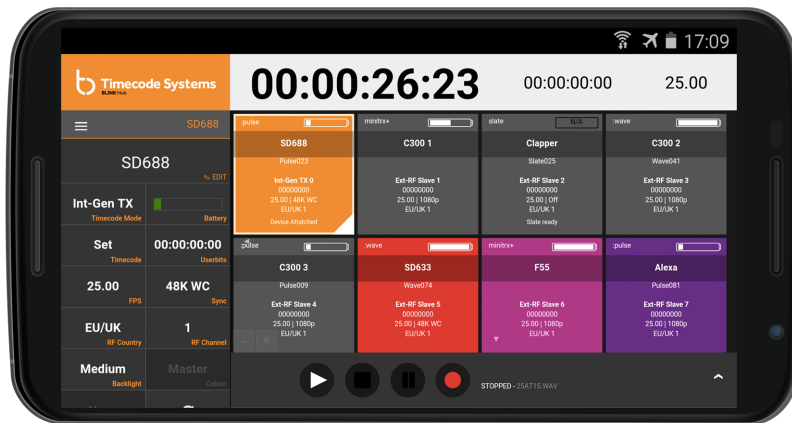
Status	Description
<b>Master</b>	<p>This status is only shown if your SyncBac PRO is running in RF Slave mode. It shows one of two possible values:</p> <ul style="list-style-type: none"> <li>• <b>The 'friendly' name of a :pulse master.</b> This is a user-defined name, and should make it easy for you to identify which :pulse is the master. The default 'friendly' name is Unit 1.</li> <li>• <b>UnConnected.</b> This means the SyncBac PRO is only receiving timecode data. You will see this when the SyncBac PRO is a slave to a SyncBac PRO master or a :wave master.</li> </ul>



**Note:** If you can see a 'friendly' master name and the LED is flashing blue, it means that your SyncBac PRO has lost its connection with the :pulse master. This could be due to the master being out of range or having no power.

## Remote Control and Monitoring with :pulse

Did you know that you can monitor and control your SyncBac PRO and HERO4™ remotely, via a tablet or desktop PC or Mac? All you need is a Timecode Systems :pulse in your BLINK network and the free BLINK Hub application.



In BLINK Hub, each device in the BLINK network has its own status panel. The status panel shows a variety of status information about the device and its attachments. So you can view the status of your SyncBac PROs and the HERO4™s to which they are connected.

Even better, you can use BLINK Hub for remote control. With a :pulse as the master, you can switch slaves on and off and start and stop recordings from your desktop, tablet or smartphone. To control a SyncBac PRO remotely, it must be set to run in RF Slave mode, and a :pulse must be set as the master (see Set the Timecode Mode on page 20).

For instructions on how to use BLINK Hub, please refer to the BLINK Hub documentation, which is provided with :pulse mini-base stations.



**Tip:** Visit [www.timecodesystems.com](http://www.timecodesystems.com) or contact your local stockist for more information on :pulse mini base stations.

## Troubleshooting

If you are having difficulty setting up your SyncBac PRO, the following troubleshooting sections may help:

- SyncBac PRO Slave not Connecting to Master (see page 46)
- SyncBac PRO Slave is Connecting to Wrong Master (see page 46)
- GoPro HERO4™ Not Detected by Slave SyncBac PRO (see page 47)
- SyncBac PRO not Responding to Select button (see page 47)
- SyncBac PRO Battery not Charging (see page 47) .

If you are experiencing problems that are not covered here, please contact Timecode Systems technical support for assistance.

### SyncBac PRO Slave not Connecting to Master

If your SyncBac PRO is not receiving clock settings from a master device, it could be due to:

- The master device being switched off. Make sure the master device is on and has sufficient battery power.
- SyncBac PRO is set to GP Master TX mode. The SyncBac PRO can only connect with a master device if the SyncBac PRO is running in RF Slave mode. For more information, see Set the Timecode Mode on page 20 and Master and Slave Relationship on page 22
- The master is out of range. The SyncBac PRO will use its own clock settings until the master is back in range. If you are only using the internal aerial, you could increase the range by attaching an external aerial - contact Timecode Systems for advice.
- The SyncBac PRO is not set to use the same RF Channel as the master. SyncBac PRO slave - master communications can only take place between devices that are in the same BLINK network (are set to use the same RF Channel). For more information, see Set the RF Channel on page 28.
- The SyncBac PRO and/or the master are not set to the correct country/area. You need to set the SyncBac PRO and master to the country/area in which they are being used (see Set the RF Country/Area on page 19).

### SyncBac PRO Slave is Connecting to Wrong Master

If your SyncBac PRO is running in slave mode and connects to the wrong master device, it is likely that there are multiple masters in the same BLINK network. A BLINK network should only have one master device, see Set the Timecode Mode on page 20.

## GoPro HERO4™ Not Detected by Slave SyncBac PRO

If you have a SyncBac PRO set to run as a slave, it needs to synchronise with a master device before it can be used with a HERO4™. This is because when you set a SyncBac PRO to run as a slave, it expects to get its timecode from a master device at least once.

1. Display the Main Screen on your SyncBac PRO (see Main Screen on page 39)
2. Use the **Up** and **Down** buttons to scroll to the GoPro status screen.
3. Look at the Status and Link entries. If the Status is Not Ready and Link is Wait RF Lock, it means that the SyncBac PRO slave has not synchronised with a master (it is waiting for an RF lock with a master, which is when the clock is set).

To resolve this issue, make sure the SyncBac PRO slave uses the correct channel for the BLINK network and is in range of the master device. You will also need to make sure the master device is set up correctly and connected to the BLINK network.

## SyncBac PRO not Responding to Select button

In the unlikely event that your SyncBac PRO does not display the menu when you press the Select button, try a Hard Reset (see page 49) .

## SyncBac PRO Battery not Charging

If the SyncBac PRO battery is not re-charging when you use a mini USB charger:

1. Switch your SyncBac PRO off (see Switch SyncBac PRO On and Off on page 17).
2. Check that the mini USB port on the SyncBac PRO is clear. Mini USB ports can get clogged with lint from pockets or dirt and dust from the environment.
3. Try using a different mini USB charger.
4. Try using a different mini USB cable.

If the problem persists, contact Timecode Systems for advice.

## Restore Factory Settings

You can reset your SyncBac PRO to its original state by selecting **Set Factory Defaults**. This can be useful if you want to use your SyncBac PRO in a different BLINK network or for a different purpose and you want to start with a completely fresh SyncBac PRO.



**Note:** If you want to reset the SyncBac PRO without losing the existing settings, see Hard Reset on page 49.

To reset a SyncBac PRO:

1. If your SyncBac PRO is currently off, switch it on (see Switch SyncBac PRO On and Off on page 17).
2. Press the **Select** button.
3. Use the **Up** and **Down** buttons to scroll to the **System Settings** option.
4. Press the **Select** button.
5. Use the **Up** and **Down** buttons to scroll to **Set Factory Defaults**.
6. Press the **Select** button. The SyncBac PRO is reset to have all the default settings in place and the main screen is displayed.



## Hard Reset

In the highly unlikely event that your SyncBac PRO becomes unresponsive and you cannot access the menus, you can perform a 'hard reset'. A hard reset reboots the SyncBac PRO. It is similar to turning the SyncBac PRO off and back on again - the settings that were in place before the hard reset are kept. This is different to a factory reset, where the existing settings are lost (see Restore Factory Settings on page 48).

To perform a hard reset:

1. Press and hold both the **Up** and the **Down** buttons at the same time. Don't worry if the screen flickers a little as you hold the buttons down - this is normal.
2. Keep the **Up** and **Down** buttons pressed down until the SyncBac PRO appears to switch off.
3. Release the **Up** and **Down** buttons. The SyncBac PRO restarts.

## FAQs

In this section, you can find some of the most frequently asked questions about SyncBac PRO, and our answers to these problems. If you have a question, you may find that the answer is right here. If your question is not covered, please contact Timecode Systems for assistance.

### Can you Genlock the GoPros?

The SyncBac PRO is a timecode solution for GoPro HERO4™, and it embeds the timecode as metadata into the mp4 file. Unfortunately, we are unable to offer genlock/sensor sync as HERO4™ cameras do not have the architecture to support an external genlock.

### Is the SyncBac PRO the Right Solution for my VR Rig?

It depends on your requirements. SyncBac PRO is a timecode-only solution and does not provide genlock or sensor synchronisation.

Using SyncBac PRO for timecode synchronisation does have advantages over using visual/audible markers. With SyncBac PRO, you simply attach a SyncBac PRO to each GoPro HERO4™ in the rig and then begin filming. You then create a multi clip using timecode for the synchronisation in your NLE and trim off the front of the recording, before putting it through your stitching software.

If you use SyncBac PROs with a :pulse master, you also have the option of remote control for start/stop recording and switching the HERO4™s on/off. Remote control can be very useful when your cameras are set up in a rig.

The remote control features are provided by our free BLINK Hub app.

### Can SyncBac PRO be used as a Master Unit?

Yes. SyncBac PRO, like all of our devices, is a timecode over RF transceiver, and so can be set as either a master transmitting unit or a slave receiving unit. If you are only using GoPro HERO4™ cameras in your workflow, you can use one SyncBac PRO as the master unit and set all of the other SyncBac PROs to run as receivers (slaves).

However, if you are in a multi camera/sound workflow you need to use the :pulse as the master unit as it is our mini base station. With :pulse, you have access to our BLINK Hub app, which allows you to monitor your devices remotely. BLINK Hub also provides remote control features for GoPro HERO4™ cameras.

### Can a Master Device use Drop-Frame Timecode?

No. The master device has to run non-drop-frame timecode to work with SyncBac PRO.

### Do I Need a SyncBac PRO on Each GoPro?/Do I need a TCS Unit on Each Device?

To make sure that all devices in your workflow stay synchronised, you need to attach one of our devices to each of your cameras/sound recorders on set. All of our devices are compatible with one another, so just pick one as the master and set the others as slaves (receivers).

### How Long Does it Take for SyncBac PRO to Re-Sync?

If your SyncBac PRO moves out of range of the master, it will no longer be synchronising with the master. It will re-synchronise with the master when it is back in range of the master, but the amount of time the re-sync takes can vary:

SyncBac PRO Out of Range for	Approx. Time to Resync
Less than 10 seconds	Almost instantaneous
More than 10 seconds	Several seconds



**Note:** If there are other masters in range, the re-synchronisation may take considerably longer. This applies even if the other masters use different RF channels.

### Does SyncBac PRO Record Timecode on the Audio Track?

No - the SyncBac PRO is not a work-around. It is a full timecode solution for GoPro. With a SyncBac PRO attached, timecode is generated at source and stamped directly onto the camera's media file. At the end of a shoot, the camera's SD card contains a single MP4 file with embedded, frame-accurate timecode. You can upload the MP4 directly into AVID Media Composer, Apple Final Cut Pro X or Adobe Premiere PRO.

### Will using SyncBac PROs Affect How I Mount my GoPros?

The SyncBac PRO is the same size as all standard GoPro HERO4™ BacPac Accessories. It is fully compatible with HERO4™ standard BacPac backdoor housings.

### Does using SyncBac PRO Affect the GoPro HERO4™ Battery Life?

The SyncBac PRO has its own 12 hour internal battery and so will not drain the HERO4™'s power. Although the SyncBac PRO cannot be used to power the camera, if you connect the SyncBac PRO to a power source while attached to a GoPro HERO4™, both units will charge simultaneously.

**SyncBac PRO can help to conserve the GoPro's battery life.** If you use a :pulse as the master unit, you can use the BLINK Hub app to toggle your HERO4™'s on and off from your smartphone or tablet. (The HERO4™s can only be turned on and off and controlled remotely if they are connected to SyncBac PROs).

## Warranty

All products sold by Timecode Systems Limited are warranted to the original purchaser against defects in materials and workmanship for (one) year from the date of original purchase.

However, this warranty excludes accessories, batteries and cables. Also, this warranty does not apply to any instrument determined by Timecode Systems Limited to have been subjected to customer alteration, modification, negligence or misuse.

In the event of any defects determined to be covered by this warranty, Timecode Systems Limited will, at its sole option, repair or replace the defective instrument without charge. To obtain warranty service the defective instrument must be returned within one year from purchase to:

TIMECODE SYSTEMS LIMITED

ATTN: Repair Department

Unit 6, Elgar Business Centre

Moseley Road, Hallow

Worcester, WR2 6NJ, UK

Telephone +44 (0) 1700 808 600

All transportation and shipping costs are the responsibility of the purchaser.

## Quality Declarations

### Use of External Antenna(s)

This device has been approved by Industry Canada & FCC to operate with the antenna types listed below with the maximum permissible gain of 5.4 dBi and required antenna impedance of 50 Ohms for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Name: Linx Model ANT-916-MHW-RPS-S (with adapter Amphenol model 242141RP or equiv).

### RF Exposure Warning Statement:

To comply with FCC/IC RF exposure limits for general population / uncontrolled exposure, the external antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

### FCC Warning Statement:

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### Industry Canada Statements:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Industry Canada - Class B This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of Industry Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par l'Industrie.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

## EC Declaration of Conformity

We,

Timecode Systems Ltd.

Unit 6, Elgar Business Centre

Moseley Road, Hallow, Worcester WR2 6NJ UK

declare that the Declaration of Conformity is issued under our sole responsibility and belongs to the following product(s):

Type of Product	Wireless GoPro timecode sync accessory
Model	SyncBac PRO SPR01

Object of the declaration:



The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

EMC Directive 2014/30/EU

Low Voltage Directive (LVD) 2014/35/EU

R&TTE Directive 1999/5/EC



The following harmonized standards and technical specifications have been applied:

EN 300 220-2	V2.4.1:2012
EN 301 489-3	V1.6.1:2013
EN 55024	2010
EN 55032	2012

Paul Scurrall

Timecode Systems



## Index

### A

Accuracy [13](#)  
Always On [36](#)  
Antennae icon [24](#)  
Area [19](#)  
Audio track [52](#)  
Australia [19](#)

### B

Battery [12, 40](#)  
    Charging [12](#)  
    Cold conditions [12](#)  
    Hot conditions [12](#)  
    Hours per Charge [12](#)  
    Icon [12](#)  
    LED [12](#)  
    Life [12, 52](#)  
    Power Critical [12](#)  
BLINK Hub [44](#)  
BLINK network [28](#)  
Blue LED [9](#)  
Brightness  
    LED [34](#)  
    Screen [35](#)

### C

Canada [19](#)

Charging [12](#)

China [19](#)

Cold conditions - battery [12](#)

Connect SyncBac PRO to HERO4 [16](#)

Controls [8](#)

Country [19](#)

### D

Digital receiver [13](#)  
Display [8](#)  
Display Settings [35, 37](#)  
Down [10](#)  
Drift [13](#)  
Drop-frame timecode [51](#)

### E

EC Declaration of Conformity [56](#)  
Europe [19](#)  
Europe/UK [19](#)  
External Antenna [54](#)  
External digital aerial [11](#)  
Extreme temperatures [12](#)

### F

Factory Settings [48](#)  
FAQs [50](#)  
FCC Warning [54](#)  
Flip Display [37](#)  
FPS master [33](#)  
FPS Modes [13](#)

Frame Drift [13](#)

Frame rate per second [33](#)

Free running [20](#)

## G

Genlock [50](#)

GoPro Status [41](#)

GP Master TX [15](#), [22](#)

GP Master TX. [20](#)

Green LED [9](#)

## H

Hard Reset [49](#)

HEROBus [11](#)

Hot conditions - battery [12](#)

Housings [52](#)

## I

Industry Canada Statements [55](#)

International Use [19](#)

## J

Japan [19](#)

Japan/China [19](#)

## L

LED [9](#)

Blue [9](#)

Brightness [34](#)

Green [9](#)

Red [12](#)

Long Timed On [36](#)

## M

Main Screen [39](#)

Master [20](#), [22](#)

Master FPS [33](#)

Master frame rate per second [33](#)

Master Timecode [32](#)

Metadata [13](#)

Mini USB 2.0 [11](#)

MMCX [11](#)

Mounting [52](#)

Multi-channel digital receiver [13](#)

## N

New Zealand [19](#)

## O

Off [18](#)

OLED [8](#), [13](#)

On [17](#)

Out of range [51](#)

## P

Pixels on screen [8](#)

Ports [11](#)

Power [12-13](#), [40](#)

Down [18](#)

External [13](#)

Internal 13  
Off 18  
On 17  
Up 17  
Power Charging 12

## Q

Quality Declarations 54

## R

Radio Frequencies 19  
Range 13  
Re-sync 51  
Recharging 12  
Red LED 9  
Remote Control 44  
Remote Monitoring 44  
RF Channel 28  
RF Country/Area 19  
RF Exposure 54  
RF Slave 14, 20, 22

## S

Screen Brightness 35  
Screen Light Time 36  
Screen pixels 8  
Select 10  
Serial Number 40  
Set Brightness 35  
Set Factory Defaults 48

Set TimeCode 32  
Setup 14  
Short Timed On 36  
Signal Strength 24  
Slave 20, 22  
Specification 13  
Status Information 39  
Switch Off 18  
Switch On 17  
Synchronisation 23  
System Settings 34

## T

T/C Input 13  
T/C Outputs 13  
Technical Specification 13  
Timecode 32  
Timecode for Master 32  
Timecode Input 13  
Timecode Metadata 13  
Timecode Mode 20  
Timecode Outputs 13  
Timecode Systems Address 53  
Troubleshooting 45  
Turn Off 17-18  
Turn On 17

## U

UK 19  
United States of America 19

Up [10](#)

US/CA/AU/NZ [19](#)

USB [11](#)

Using SyncBac PRO in Other  
Countries [19](#)

## V

Version Number [40](#)

VR Rig [50](#)

## W

Warranty [53](#)

Workflow [51](#)





Timecode Systems  
Unit 6, Elgar Business Centre, Hallow  
Worcester, WR2 6NJ, UK  
+44 (0) 1700 808 600  
[contact@timecodesystems.com](mailto:contact@timecodesystems.com)

<http://www.timecodesystems.com>