



# Timecode Systems

GENERATE. SYNC. SHARE



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SyncBac PRO

quick start guide



Here we give you a quick tour of your new Timecode Systems SyncBac PRO, guiding you through its key features so you can get up and running straight away.

### What's covered?

The basics to getting started with:

- Timecode Systems: [SyncBac PRO](#)
- overview of the [BLINK network](#) protocol

Your Timecode revolution starts here...

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This is a guided tour of the **SyncBac PRO**. Your highly accurate wireless embedded timecode solution for GoPro HERO 4 silver and black.

It is a highly accurate timecode generator and multi-channel digital timecode transceiver.

It can be used standalone with other SyncBac PRO units for accurate multicam sync between GoPro's or along with the :pulse mini base station as a complete 'on-set' solution for syncing GoPros with other PRO cameras and PRO audio recorders.

Using the :pulse enables the powerful BLINK wireless protocol for remote control and status via the BLINK Hub apps.

## Control

The Timecode Systems SyncBac PRO settings are accessed and controlled from the top panel.



### 1. Internal Diversity Antennas and optional External Antenna

For the digital transceiver module operating in the ISM band 915.050MHz to 922.200MHz.

### 2. LED

Glows either blue, green or red.

- Blue flash - RF lock sync with master
- Green flash - unit Free 'running' without RF lock. Battery FULL (when OFF)
- Red flash - Warning messages. Battery charging (when OFF)

### 3. OLED display

Shows the unit's status and settings.

### 4. Control knobs, UP/DOWN/SELECT

Allows one finger navigation through menus.

## Ports

1. Mini USB 2.0 Socket, 5V power IN. Firmware Updates via the Timecode Systems PC and Mac USB Updater Applications. Also charges the HERO 4 camera (when attached)

Please visit [www.timecodesystems.com/support/firmware](http://www.timecodesystems.com/support/firmware) for instructions on how to update the firmware of your SyncBac PRO product.



## Mounting Solutions

The SyncBac PRO is a fully integrated solution that simply clips onto the rear of a HERO 4 silver or black. Attaching to the HEROBus connector, as a BacPac solution.

It is the same physical size as the GoPro Battery BacPac, therefore it fits into all the standard BacPac backdoor housings.



## Customise

On-screen menus allow you to easily customise the settings of the Timecode Systems SyncBac PRO to meet the exact needs of your shoot.

The default display shows (on time-out also):

TC + Unit Name + MODE + BLINK ID + RF CHANNEL+ SIGNAL STRENGTH + BATTERY STATUS

Pressing the UP or DOWN buttons on the front panel takes you to the following information screens:

1. TC, Unit Name, Mode, BLINK ID, RF Channel, Signal strength, Battery status
2. TC, User Bits, FPS
3. Button Lock
4. Power Status and Battery Status
5. Product name, FW version, Serial number

## Button basics

Press the large select knob to enter the menu for:

1. Set RF Channel number
2. Timecode Mode
3. System Settings
3. Display Settings

## More on menus

Each menu allows further customisation of your Timecode Systems SyncBac PRO

**Timecode Mode.** Choose from five settings:

- GP Master TX. This is a mode where the unit is the 'master clock', transmitting T/C to all SyncBac PRO 'RF slave' devices.
- RF Slave. This is a mode where the unit acts as a 'slave' receiving unit, constantly locking to the incoming RF timecode from a :pulse mini base station & sync data, soft jamming & chasing the incoming T/C from an RF master unit. The SyncBac unit acts as a BLINK slave unit, sending its status and settings back to the BLINK master unit. It also sends back the status of the connected GoPro HERO4 camera (if attached). When the camera is attached it can also be remotely controlled from the BLINK master unit via the applications.

**TC Generator.** Choose from:

- Set T/C. Turn to set flashing digits, press to enter. Repeat for each pair.
- Set FPS. Set to 23.976, 25 or 29.97

**Set RF Channel Number.** Select the RF channel group for Transmit or Receive (depending on the timecode mode selected from the menu).

**System Settings.**

- Set RF country/area. Locked to FCC/IC Band
  - Set LED brightness. Sets the brightness of the Tri-colour LED
- Set factory defaults. To remove any customisation.

**Display Settings.**

- Set Brightness. Allows you to change the level of brightness from 1 through to 100. (100 being the brightest)
- Flip Display. Flip the display 180 degrees
- Short Timed ON. Stays bright for a short duration, then dims
- Long Timed ON. Stays bright for a longer duration, then dims
- Always ON. Stays bright at the Set Brightness level.

## BLINK Network Feature

The BLINK network augments the existing wirelessly shared timecode data. The proprietary BLINK RF network keeps the same incredibly accurate wireless sync over the robust sub GHz ISM band, but adds enhanced two-way multiplexed status/control and metadata.

This allows for complete monitoring and control of all connected “BLINK enabled” Timecode Systems’ devices and is built to allow for long-range remote control and status of any supported & connected third-party accessories, such as SyncBac PRO and HERO 4 silver and black cameras.

The pulse and wave can be configured either as a BLINK master or slave, whereas the :minitrx+ and SyncBac PRO can only be configured as BLINK slave devices.

### More on BLINK

The BLINK slave devices are continually feeding back their status and settings to the BLINK master unit. The BLINK master unit then allows the Timecode Systems BLINK Hub app; to not only display all of this information, but allow the user to remote control certain features.

Additionally, with the SyncBac PRO, the attached camera can also be remotely controlled using the BLINK master pulse unit’s WiFi or Ethernet interface to our BLINK Hub application running on a PC or Mac.

The huge advantage of the BLINK protocol is that it the Timecode Systems RF transceiver is very long range and robust, with up to 200 metres line of sight range. It is a very uncongested frequency band on set and in heavy RF environments.

This then allows the Wi-Fi network of the BLINK master to be used as a short wireless hop into the apps or a solid cabled Ethernet connection between the PC or Mac, with the long range communications to slave units being looked after by the BLINK network.



## Technical specification

- **OLED Display:** Blue 128 x 32 pixels
- **Timecode generator accuracy:** TCXO 0.5ppm when free running, in practice around 1 frame drift in 24 hours. Zero ppm when RF locked to a master.
- **Supported FPS Modes:** 23.976, 25 and 29.97
- **External power:** Mini USB (5V DC).
- **Internal power:** Built in Li-Polymer (3.7V battery)
- **T/C input:** via a 'GP Master' SyncBac PRO or Timecode Systems: pulse base station
- **T/C outputs:** HERoBus connector, embedded timecode metadata in mp4 camera media.
- **Multi-channel digital transceiver:** 915.050-922.200 MHz

## 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.

## Warranty and technical support

All products sold by TIMECODE SYSTEMS LIMITED. are warranted to the original purchaser against defects in materials and workmanship for (1) 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 (1) 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.

# SyncBac™

PRO



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