Timecode Systems
GENERATE. SYNC. SHARE

Manual Issue 1.1

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Contents

Welcome to UltraSync ONE

Thank you for choosing Timecode Systems' UltraSync ONE as your timecode synchronisation solution. You have made a great choice. With its compact and lightweight design, long battery life (at least 25 hours) and ability to run as a timecode master or slave, UltraSync ONE is one of the most advanced timecode and synchronisation options on the market.

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

Your Timecode Revolution Starts Here...

Chapter 1
UltraSync ONE Overview

In this chapter, you can learn about the screen, buttons, and ports of your UltraSync ONE, and its technical specifications.

Overview

UltraSync ONE for Synchronisation

UltraSync ONE is a highly accurate timecode generator and multichannel digital timecode transceiver.

You can use your UltraSync ONE as:

- a stand-alone device to provide timecode, genlock, and word clock to your camera or sound mixer/recorder
- a timecode master, where it provides timecode to other **Timecode Systems** products for synchronisation
- a timecode slave, where it receives timecode from a 'master' device and then provides this timecode to your camera or sound mixer/recorder.

You can learn more about these modes in Networks and Modes on page 23.

> **Tip:** If you use UltraSync ONE with a :pulse, you have free access to the BLINK Hub app. You can use the app to configure and monitor your UltraSync ONE. For more details, see Remote Settings using BLINK Hub on page 94.

Switch UltraSync ONE On and Off

To switch your UltraSync ONE **on**:

1. Press and hold the **Select** button.

The UltraSync ONE 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 UltraSync ONE. This extra step is designed to prevent you from accidentally turning the UltraSync ONE on. If you do not press the up or down button twice within a 5 second period, the UltraSync ONE stays off.

When the UltraSync ONE comes on, it shows the main screen by default (see Display and Controls on page 13).

> **Note:** If your UltraSync ONE does not come on when you press and hold the **Select** button, the battery may need to be charged (see Charging your UltraSync ONE on page 18). If your UltraSync ONE is on and the battery charge is running low, the LED light turns red.

To switch your UltraSync ONE **off**:

1. Press and hold the Select button until the following message is displayed:

   Push Up/Dn twice to switch off

2. Press the **Up** or **Down** button twice to turn off the UltraSync ONE.

> **Note:** If you do not press the up or down button twice within a 5 second period, the UltraSync ONE stays on and the screen reverts to showing the main display.

Display and Controls

Your UltraSync ONE is easy to set up and use. It has a simple menu system for applying the device's settings.
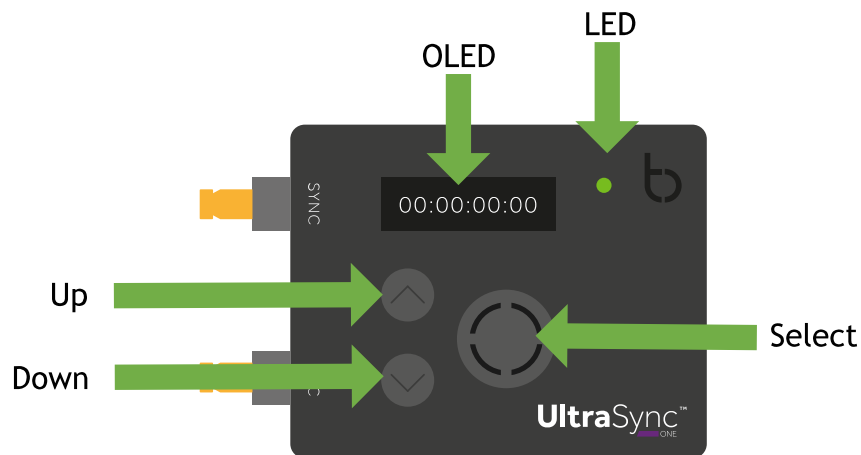
- OLED (see page 13)
- Status Indicator LED (see page 14)
- Up and Down (see page 15)
- Select (see page 15)

To learn about connecting other devices to your UltraSync ONE, see Ports on page 16.

OLED

When you switch on your UltraSync ONE, the OLED lights up and presents you with status information. The OLED is also where you will get to see messages, other status information, and the menus and options you will use to set up your UltraSync ONE.

To learn about the various status displays, including the 'Main' screen shown above, see Main Screen on page 86.

Status Indicator LED

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

Colour	Description
Green	The LED will flash green if:
	UltraSync ONE is in Free Run/Jam-EXT mode and has successfully jammed to a 'master' timecode signal.
	UltraSync ONE is in RF Slave mode or EXT LTC Int mode and is synchronised with the master.
	UltraSync ONE is the master device in an RF network.
	The LED shows a solid green light if the UltraSync ONE is switched off and the battery is fully charged.
Blue	The LED will flash blue if:
	UltraSync ONE is in Free Run/Jam-EXT mode and is waiting for a jam signal from a 'master' timecode source.
	UltraSync ONE is in RF Slave mode or EXT LTC Int mode and is not synchronised with the master.
Red	The LED will flash red if:
	UltraSync ONE is powered down and charging. (The LED does not show red if the UltraSync ONE is charging while it is switched on).
	UltraSync ONE has a low battery.
	UltraSync ONE is resynchronising with a master device (LED flashes red twice, very quickly).

If you are unfamiliar with master and slave devices, you can learn more in Master and Slaves on page 24.

Up and Down

Use the **Up** and **Down** buttons to scroll through the menu options and top-level status display screens.
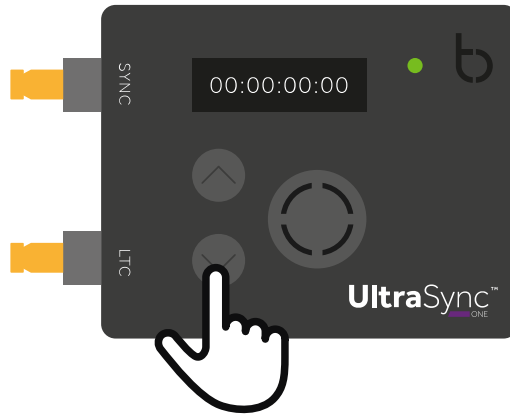
Select

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

To make a selection or change a setting, use the **Up** and **Down** buttons to scroll to a menu or option. Press the **Select** button once to confirm.

To switch your UltraSync ONE on or off, press and hold the **Select** button (see Switch UltraSync ONE On and Off on page 11, for more details).

Ports

Your UltraSync ONE has three ports, which you can use to connect to an external device (LTC or SYNC output) and a USB-C charger.

Port	Description
SYNC	Use to output genlock to a camera, word clock to a sound mixer/recorder, or Linear Time Code (LTC) to any compatible device.
LTC	Use to send or receive Linear Time Code (LTC).
USB-C	Use to charge your UltraSync ONE, by connecting it to a power source. For more details, see Charging your UltraSync ONE on page 18. You can also use the USB-C port to connect to a computer for downloading updates. Please visit **www.timecodesystems.com/support/firmware** for instructions on how to update the firmware of your UltraSync ONE.

Note: For best operation and access to the latest features, keep your UltraSync ONE up-to-date with the latest firmware.

DIN 1.0/2.3 to BNC Cables

The SYNC and LTC ports have DIN 1.0/2.3 connectors. To connect other devices to these ports, use the DIN 1.0/2.3 to right-angled BNC cables that are supplied with your UltraSync ONE.

The cables are colour-coded for ease of use.

Cable	Port
Blue	LTC
Red	SYNC

Charging your UltraSync ONE

UltraSync ONE has a built-in battery and it should provide a **minimum** of 25 hours life from a single charge. We calculated the 25 hour life based on your UltraSync ONE being used with RF, genlock/word clock, and the OLED screen all being used at full capacity. You can make the battery charge last even longer by not using these features or by dimming the OLED brightness.
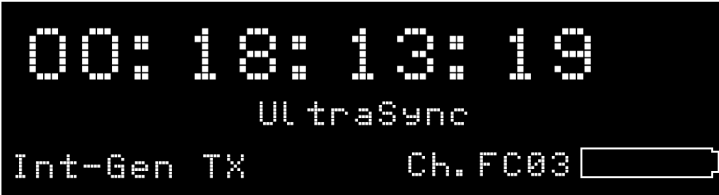
> **Note:** Battery life may be reduced if your UltraSync ONE is used in extreme temperatures. Very hot and very cold conditions can affect battery performance.

If the battery in your UltraSync ONE 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 very little power left in the battery.

```
00:18:13:19
        UltraSync
Int-Gen TX       Ch.FC03 [      ]
```

It is also shown on the battery status screen (see Power and Battery Status on page 88).

To recharge the battery, you will need the USB-C to USB cable that is supplied with your UltraSync ONE and a compatible charger socket (not supplied). Connect the USB-C to USB cable to the power source and to the USB-C port on the left-hand edge of the UltraSync ONE (see Ports on page 16).

Mounting your UltraSync ONE

To mount your UltraSync ONE, fix a hook-fastening Velcro strap to the middle of the rear side of the unit. You can then attach the UltraSync ONE to other equipment.

Note: Alternative mounting pouches will be available soon.

Technical Specification

Category	Specification
Dimensions	55mm × 44mm × 17mm (width × height × depth)
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	23.98 24.00 25.00 30.0D (drop frame) 30.00 29.97D (drop frame) 29.97
External Power	USB-C (5V DC)
Internal Power	Built-in Li-Polymer (3.7V battery 800mAh 2.96Wh). The battery cannot be replaced by users.
Expected Battery Life	At least 24 hours when all features are in use.
Charging Time	3 hours
LTC Input/Output	DIN 1.0/2.3 connector. Input or output, depending on the mode selected.
SYNC Output	DIN 1.0/2.3 connector. Can be set to output either Genlock, word clock, or timecode (LTC).

Category	Specification
Multi Channel Digital Transceiver	865.050MHz to 923.200MHz
Antenna	Internal antennas with diversity reception capability.
Range*	The typical range for synchronisation with a master is approximately 200m (656 feet, 219 yards). This range is based on an uninterrupted line of sight. If there are obstacles between a slave and master, the range can be reduced.

*Typical range. The range can vary.

Chapter 2 Networks and Modes

Timecode Systems devices, including your UltraSync ONE, can synchronise wirelessly over a distance of approximately 200m*. To synchronise, they use our proprietary radio protocol, and have to be set up to operate in a network.

*based on an uninterrupted line of sight.

In the following sections, you will learn about the different types of network, the master and slave relationships that are used for synchronisation, and the different timecode modes that your UltraSync ONE supports:

Networks and Modes

Master and Slaves

To synchronise two or more Timecode Systems products, they need to be in the same network. In the network, one device has to be set to run as the master, and the other devices have to be set to run as slaves.

The master is the dominant device, and it can either:

- Generate the timecode and pass it to all other connected devices

- Receive and retransmit the timecode.

The master sends its timecode data to the slaves (via radio). When the slaves receive the timecode, they change their own timecode settings to match.

The slaves communicate with the master regularly, to make sure they remain synchronised.
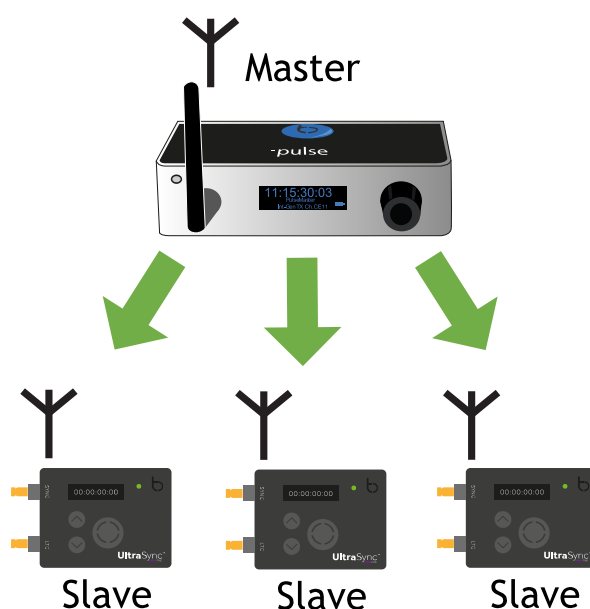
In the image shown, the UltraSync ONE units are set to run as slaves and the master is a Timecode Systems:pulse. In an RF network, your UltraSync ONE can run as a slave or as a master, but in a BLINK network, it can only be used as a slave.

If a slave is out of range of the master, it will free-run (see What if a Slave Cannot Find a Master? on page 26).

The master and slave relationship is used in both the RF Network (see page 29) and the BLINK Network (see page 31).

See also:

- What if a Slave Cannot Find a Master? (see page 26)
- How Can I Tell if a Slave is Communicating with a Master? (see page 25)
- Multiple Masters in the Same Network (see page 28)
- RF Slave (see page 35).

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 antenna icon flashes in the top-right corner when the slave and master are communicating. The number shown to the right of the antenna icon shows the signal strength (0-7 where 7 is the maximum signal strength).
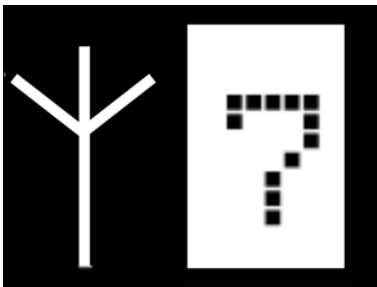
> **Note:** The LED flashes green in time with the master when a connection is established and maintained.

What if a Slave Cannot Find a Master?

Sometimes, your UltraSync ONE may be out of range of its master. In this situation, your UltraSync ONE cannot receive timecode from the master and so uses its own internal timecode instead. This is called 'free running'.

Typically, an UltraSync ONE will free run because the master is out of range.

With master-slave connection failures, there are several different scenarios to consider:

Slave Connection to Master	Result
Slave is trying to connect to a master for the first time, but cannot establish a connection.	Slave free-runs using its own timecode.
Slave was connected to an RF master, but has lost the connection. The RF master is an UltraSync ONE, SyncBac PRO, or minitrx+.	Slave free-runs using its own timecode. It will continue to be synchronised with the master's timecode for approximately one day. The slave will connect with the first master device that comes into range and is using the same RF channel (as the slave).
Slave turned on, connected to BLINK master, but lost connection. The BLINK master is a :pulse or :wave.	Slave free-runs using its own timecode. It will continue to be synchronised with the master's timecode for approximately one day. The slave will only re-connect with its previous BLINK master. It will ignore any other masters that come into range. If you want the slave to connect to a different master, you will need to restart the slave.

Example:UltraSync ONE Out or Range of Master

Let's say you want to film a car chase scene involving two cars, Car A and Car B. The cars will take different routes through a city area and you will film the action using car-mounted cameras that are connected to UltraSync ONE units.

Car A has its UltraSync ONE set to run in Master TX mode and use RF Channel 4.

Car B has its UltraSync ONE set to run in RF Slave mode and use RF Channel 4.

At the start, Car A and Car B are UltraSync ONEs are within range and so they synchronise.

The chase begins and Car A speeds ahead. Car B is in pursuit and then veers off down a different street, as planned. At this point, the UltraSync ONE slave is out of range of the UltraSync ONE master.

Unable to connect to the master, Car B's UltraSync ONE uses its own timecode. As it was recently synchronised with the master UltraSync ONE, the slave UltraSync ONE's timecode still matches the master's timecode.

Towards the end of the scene, Car A and Car B come back together again, so the UltraSync ONEs are within range. The slave UltraSync ONE and master UltraSync ONE reconnect and are synchronised again.

Multiple Masters in the Same Network

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

If you have multiple masters in the same 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 you could have slaves using the wrong timecode. To avoid this mistake, set the devices in your network to use the same unique channel.

Example: Bad Network Configuration

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

The devices in the network are all turned off and you add a new UltraSync ONE to the network. It is set to run in Master TX mode. When the devices are turned back on, there are two masters in the network - the :pulse and the new UltraSync ONE.

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

Master Ch.04　　　　　　　　　Master Ch.04

Ch.04　　Ch.04　　Ch.04　　　　Ch.04

Slave　　Slave　　Slave　　　　Slave
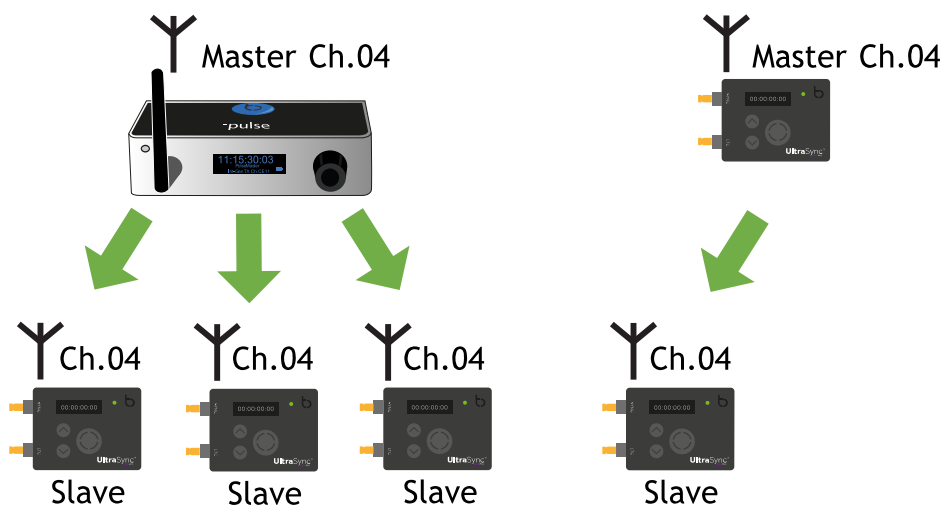
RF Network

To synchronise two or more Timecode Systems products, you need to set them to operate in a network. There are two different types of network:

- RF network
- BLINK network.

In this section, we are going to look at the RF Network. To learn about the BLINK network, see BLINK Network on page 31.

What is an RF Network?

An RF network is a group of Timecode Systems devices that are all set to communicate on the same radio frequency (RF channel). The devices in an RF network can synchronise with each other over distances of 200m* (with internal antenna), and they communicate using our proprietary RF protocol.

*200m clear line of sight.
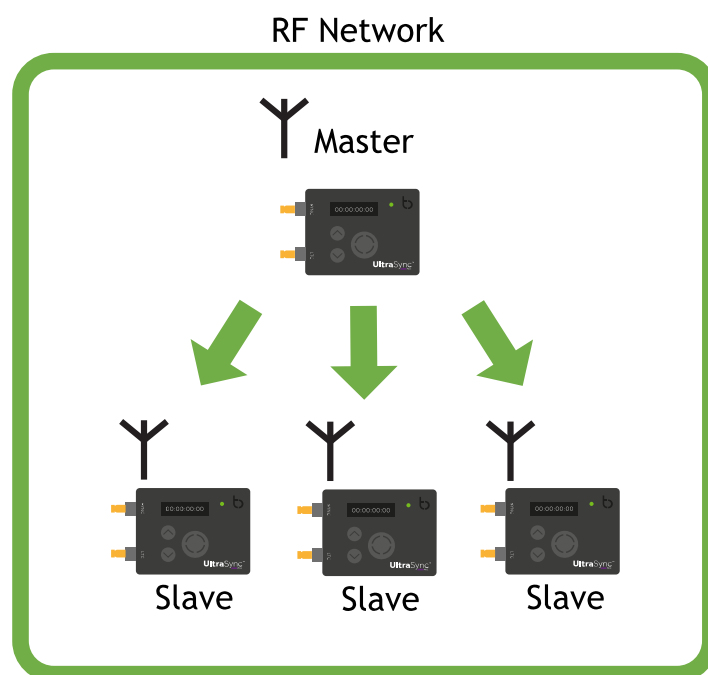
In the network, one of the devices has to be set as a TX Master, and the others have to be set as RF slaves.

The master sends the following data to the slaves via RF:

- Timecode
- Frames-Per-Second
- User bits (metadata).

When a slave receives this data, it updates its own internal settings to match, so that it is synchronised with the master.

To learn more about the relationships between devices in an RF network, see Master and Slaves on page 24.

BLINK Network

To synchronise two or more Timecode Systems products, you need to set them to operate in a network. There are two different types of network:

- RF network
- BLINK network.

In this section, we are going to look at the BLINK Network. To learn about the RF network, see RF Network on page 29.

What is a BLINK Network?

A BLINK network is an RF network with added remote control and remote monitoring functionality. The extra functionality is provided by the free BLINK Hub app.

In a BLINK network, the master device has to be a :pulse or a :wave. In the following image, a :pulse is the master and it connects to BLINK Hub via wi-fi.

BLINK Network
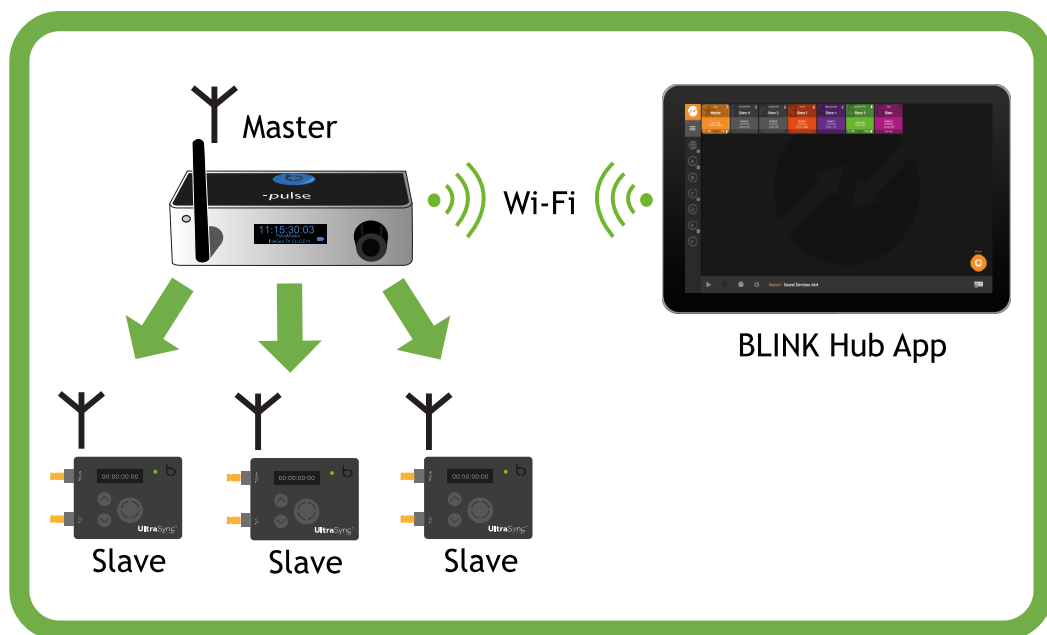
Notice that the :pulse is the master and it communicates with the slaves via RF. The communications between the :pulse and the slaves is the same as a regular RF network, so the :pulse is acting as an RF master and BLINK network master.

The BLINK Hub app communicates with the :pulse via wi-fi (it can communicate with :pulse units via wi-fi or Ethernet, and :wave units are wi-fi-only).

The BLINK network master is a 'middle man' between the slave devices and the BLINK Hub app.
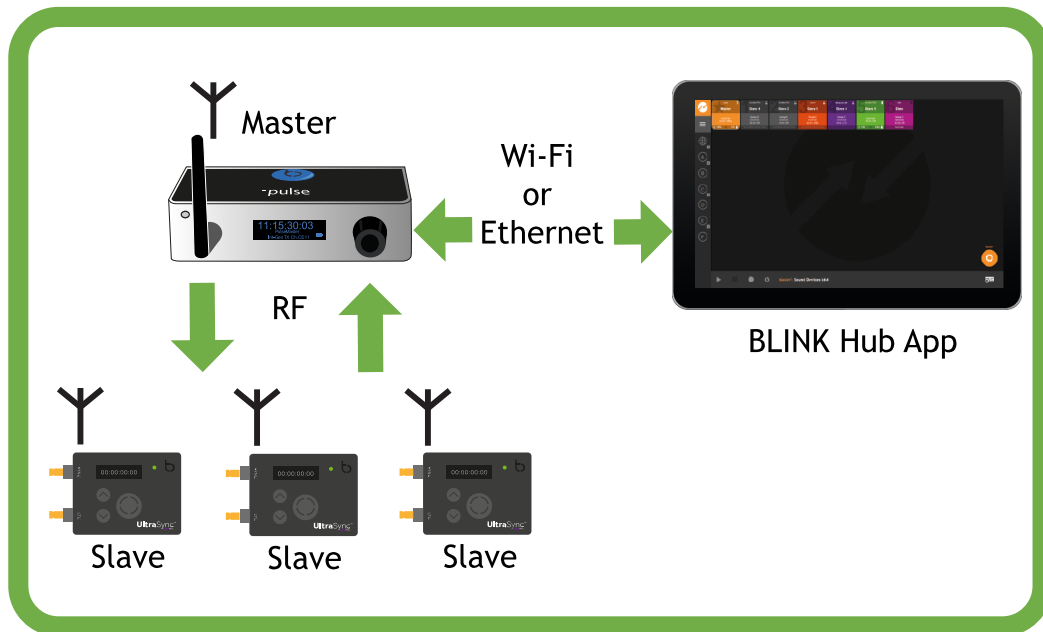
You can install the BLINK hub app on a computer, tablet, or smartphone and use it for remote monitoring and control of some Timecode Systems products.

To learn more about BLINK Hub, see Remote Settings using BLINK Hub on page 94.

Master TX

You can set your UltraSync ONE to run in Master TX mode, where it acts as a master in an What is an RF Network? (see page 29). You should use the Master TX mode if:

- You want to use your UltraSync ONE independently. Your UltraSync ONE will provide timecode to a connected device, but will not synchronise with other Timecode Systems products.

- You have multiple Timecode Systems devices and you want them to synchronise with an UltraSync ONE.

As the master, your UltraSync ONE will send its timecode, frames-per-second, and user bits to all of the slave devices (that are in range and communicating on the same RF channel).
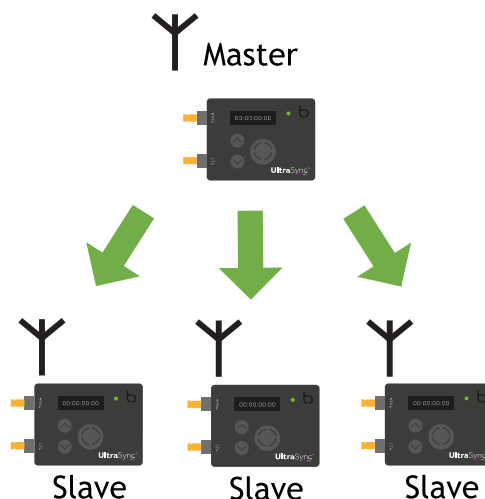
Note: If you want your UltraSync ONE to receive timecode from a device that is connected to the LTC port, use **EXT LTC Input** mode instead (see EXT LTC Input on page 36).

The master UltraSync ONE also sends timecode data to any device that is connected to the **LTC** port.
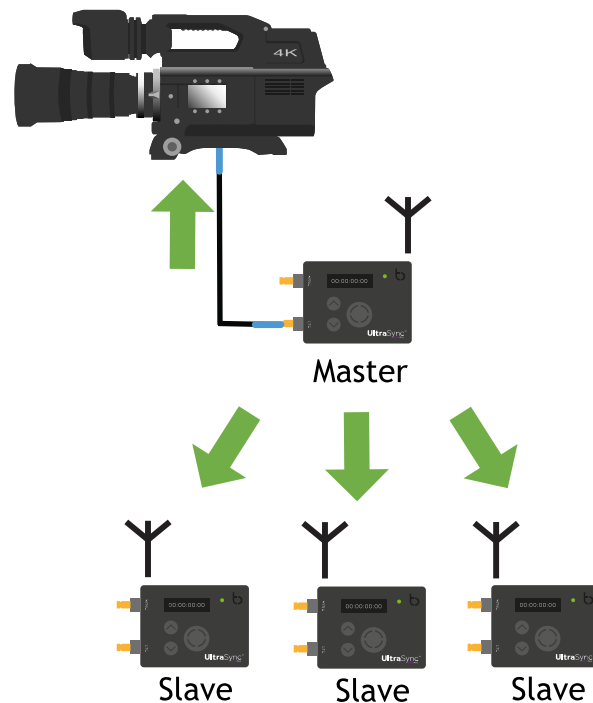
To set your UltraSync ONE to be a master in an RF network, see Set UltraSync ONE to Run as Master TX on page 1.

If you are unfamiliar with the concept of master and slaves, see Master and Slaves on page 24.

RF Slave

If you want your UltraSync ONE to receive its timecode from another Timecode Systems device, set it to run in **RF Slave** mode. It will then try to connect with the master device in the network. If it is in range of the master, it will synchronise with the master's timecode (see RF Network on page 29).
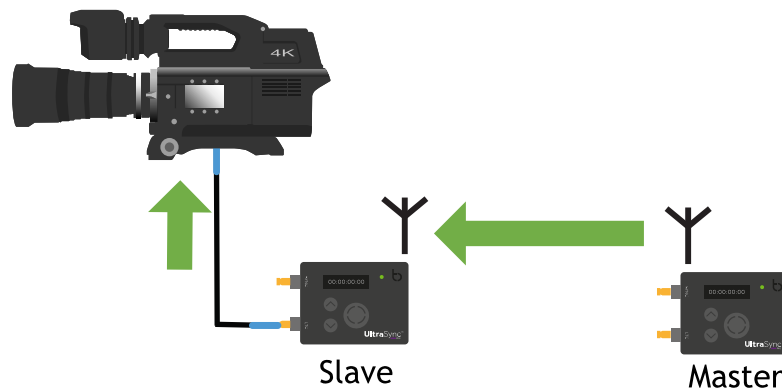
You should use the RF Slave mode if you want your UltraSync ONEs to synchronise with the timecode of the master device in the network.

As a slave, your UltraSync ONE will receive its timecode from the master device, as long as the master is in range and is communicating on the same RF channel as your UltraSync ONE.

The master sends the following data to the slaves via RF:

- Timecode
- Frames-Per-Second
- User bits (metadata).

When a slave receives this data, it updates its own internal settings to match, so that it is synchronised with the master.

> **Note:** If your slave cannot connect to a master, it runs in free mode (see Master and Slaves on page 24).

To set your UltraSync ONE to be a master in an RF network, see Run UltraSync ONE as an RF Slave on page 52.

EXT LTC Input

You can set your UltraSync ONE to receive timecode from a device that is connected to the LTC port. The timecode can then be used by your UltraSync ONE, and passed on to other devices, including any slave UltraSync ONEs in the network.
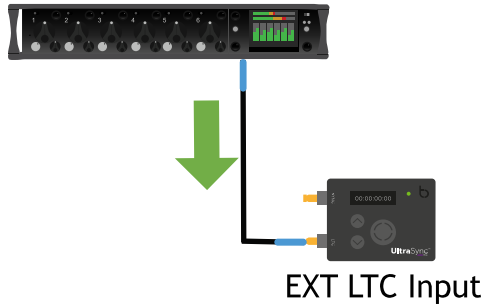
EXT LTC Input

> **Note:** EXT LTC Input mode is a master mode. If you are unfamiliar with the concept of master and slaves, see Master and Slaves on page 24.

There are two ways to use EXT LTC Input mode:

- EXT LTC Input, Output to RF Slaves (see page 37)
- EXT LTC Input, Output to Wired Devices (see page 38).

EXT LTC Input, Output to RF Slaves

The most common way to using EXT LTC Input mode is to set your UltraSync ONE to receive timecode from an external device, and then send it to slaves via RF.
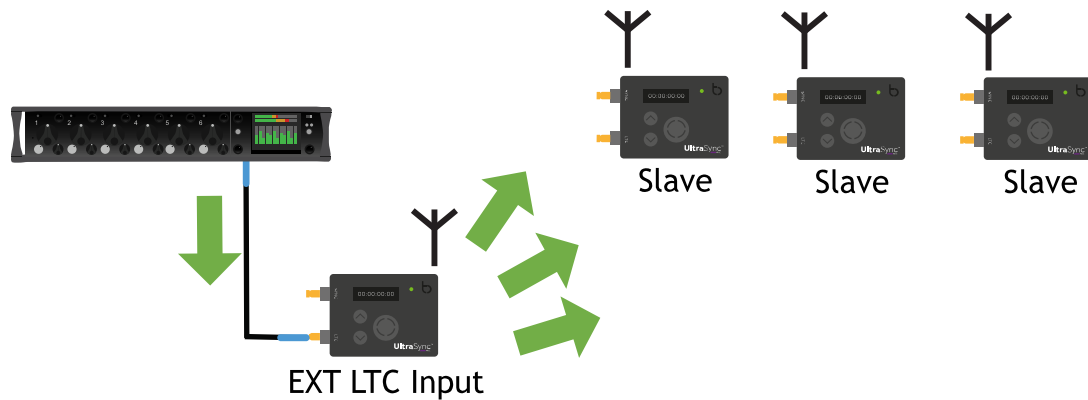
EXT LTC Input

In EXT LTC Input mode, your UltraSync ONE receives timecode, FPS, and user bits data from an external device that is connected to the LTC port. It also acts as a master in an RF network, and so sends the timecode, FPS, and user bits to any slave devices that are in range, using the same RF channel as the master.

When a slave receives the data, it updates its own timecode and FPS settings to match. It may also update its user bits settings to match, but this depends on whether the slave is configured to use local user bits or can accept external user bits.

To learn how to set up your UltraSync ONE to use EXT LTC Input mode in this way, see Set UltraSync ONE to use LTC as an Input on page 56.

EXT LTC Input, Output to Wired Devices

You can set your UltraSync ONE to use EXT LTC Input mode without using an RF network. This is useful if you cannot use radio communications, perhaps because of interference or restrictions on the use of radio in your filming environment.

In this arrangement, you connect a UltraSync ONE to the external device, and manually jam it to the timecode signal (see Free Running and Jamming on page 39).

EXT LTC Input

Free Running and Jamming (see page 39)

Master
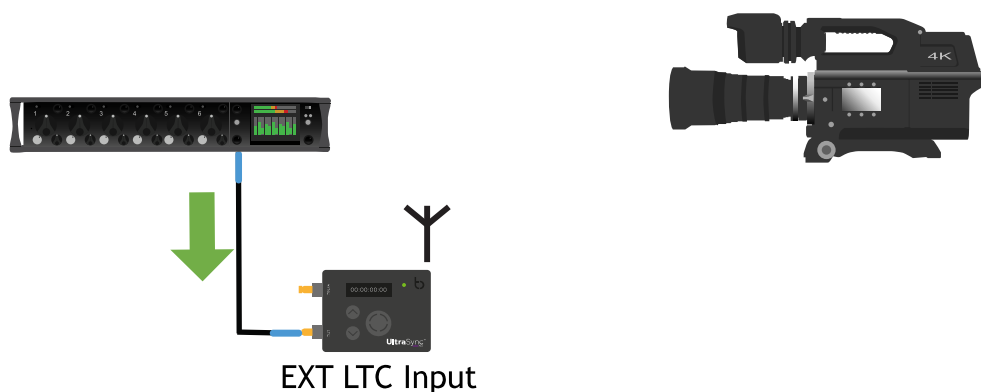
To learn how to set your UltraSync ONE to use EXT LTC Input mode to work independently, with no RF network, see Set UltraSync ONE to use LTC as an Input on page 56 and Send Timecode from a Standalone UltraSync ONE (see page 59).

Free Running and Jamming

Your UltraSync ONE has a **Free Run/Jam-Ext** mode, which has two different purposes. You should use this mode if you want to use your UltraSync ONE to:

- Run as a standalone unit and provide its timecode to an external device (see Free Running - UltraSync ONE as a Standalone Device on page 39).

- Synchronise with external devices in a third-party system rather than a Timecode Systems network (see Jamming to an External Timecode Source on page 40).

> **Note:** To preserve battery life, RF is automatically disabled in **Free Run/Jam-Ext** mode, as it is not needed in a free running or external jamming workflow.

Free Running - UltraSync ONE as a Standalone Device

UltraSync ONEs are most commonly used in a network, where they will synchronise with a master device. But you do not have to use your UltraSync ONE in a network - if you prefer, you can use it as a standalone device.

When a UltraSync ONE is used as standalone device, it is 'free running'. This means that the UltraSync ONE uses its own internal timecode settings and does not receive timecode from other devices. It can output its timecode to other devices via the SYNC or LTC ports, so that the other devices synchronise with the UltraSync ONE.
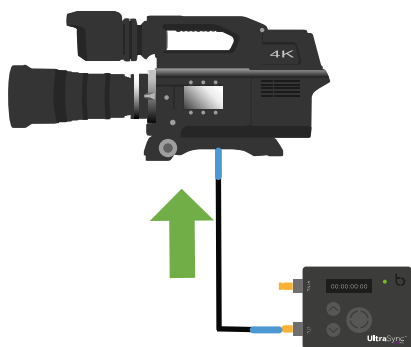
Free Run/Jam-EXT

To run your UltraSync ONE as a standalone device, you need to set it to run in **Free Run/Jam-Ext** mode (see Jam UltraSync ONE to a Signal on page 61).

Jamming to an External Timecode Source

If you want to use your UltraSync ONE in a third-party system instead of a Timecode Systems network, you will need to use jamming. This is because third-party systems do not recognise our proprietary RF protocol. Jamming uses a wired connection, and so our RF protocol is not used.

The jamming workflow is:

1. Connect the external device to your UltraSync ONE's **LTC** port.

2. Set your UltraSync ONE to run in **Free Run/Jam-Ext** mode.

3. Set your UltraSync ONE to jam to the external device's timecode signal.

4. Disconnect your UltraSync ONE and the external device.

5. Output the timecode to another device, if required.

6. Re-jam at regular intervals (at least twice per day) to maintain synchronisation.

So the first part of the workflow is to connect your UltraSync ONE to the timecode source, and then jam to its signal.

Free Run/Jam-EXT
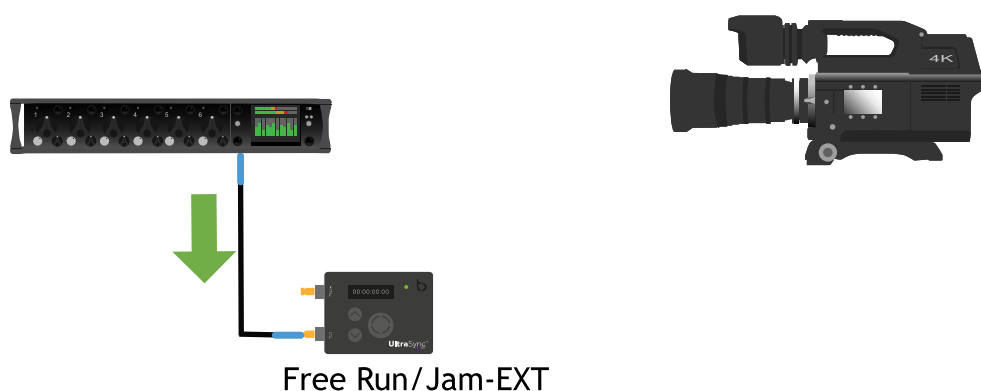
When your UltraSync ONE is jammed to the timecode signal, you can disconnect the UltraSync ONE and the external device.

(For details on this part of the workflow, see Jam UltraSync ONE to a Signal on page 61).

You can then use your UltraSync ONE to output the timecode to another device.

Master

To output the timecode that originally came from the external device, you need to:

1. Connect the UltraSync ONE to the device that will receive the timecode from your UltraSync ONE.

2. Set your UltraSync ONE to run as a **Master TX**. It can then output the timecode via its LTC port or via its SYNC port (SYNC output has to be set to LTC for this).

For more details, see Master TX UltraSync ONE - Set Up on page 1.

To learn about using the SYNC port to output timecode, word clock, or genlock, see Set the SYNC Output on page 76.

Output via SYNC

You can set your UltraSync ONE to output via its SYNC port.
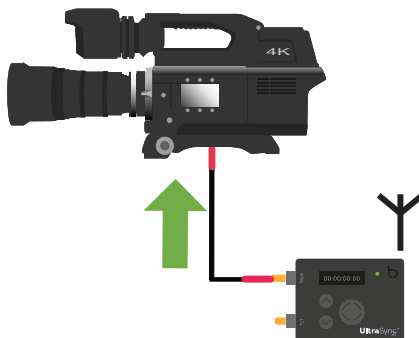
It can output the following signals:

- Genlock
- Word clock
- Timecode (LTC)

The SYNC output can be used in all of the UltraSync ONE's modes. But to use it, you need to set the Sync O/P Mode. You may also need to set the Sync O/P Level.

To learn how to configure your UltraSync ONE for SYNC output, see Set the SYNC Output on page 76.

Chapter 3 Quick Set Up

If you know how to access your UltraSync ONE's settings and understand the different modes, you can use the quick set up instructions to get started.

Quick Set Up

Preparation - Before you Set Up your UltraSync ONE

The 'quick set up' instructions are designed to help you get your UltraSync ONE up and running as soon as possible. They assume that you are familiar with the master-slave relationship, the RF network, and know how to navigate through the UltraSync ONE menu. If you need more detailed step-by-step instructions, or extra information about a setting, please refer to the section about that setting.

To get started:

1. Make sure you understand the various modes and network types. To learn about these subjects, see:

   - Master and Slaves (see page 24)

   - Master TX (see page 33)

   - RF Network (see page 29)

   - RF Slave (see page 35)

   - EXT LTC Input (see page 36).

   When you understand the modes and relationships, you are ready to set up your UltraSync ONE.

2. Refer to the Getting Started section for the mode you want your UltraSync ONE to use. The Getting Started section refers you to the quick set up instructions that relate to your intended use of your UltraSync ONE.

   - Getting Started - Master TX Mode (see page 45)

   - Getting Started - RF Slave Mode (see page 45)

   - Getting Started - EXT LTC Input (see page 46)

> **Note:** If you want to jam your UltraSync ONE to an external device, see Jam UltraSync ONE to a Signal (see page 61).

Getting Started - Master TX Mode

There are two different ways to set your UltraSync ONE to run as a master:

- Master to RF Slaves and Wired Devices (see page 47)
- Master to Wired Device Only, No RF Slaves (see page 50).

Please follow the instructions for the setup that meets your requirements.

> **Note:** Your UltraSync ONE cannot be used as a master in a BLINK network, as it has no wi-fi or ethernet capabilities. In a BLINK network, a :pulse or :wave has to be the master.

Getting Started - RF Slave Mode

You can set your UltraSync ONE so that it runs as an **RF Slave** and synchronises with the timecode of a 'master' Timecode Systems device. The master can be any Timecode Systems product with a master mode, including another UltraSync ONE. However, if you want to be able to view your UltraSync ONE via BLINK Hub, its master must be a :pulse or :wave.

To set your UltraSync ONE to run as an RF Slave, follow the instructions in:

- Run UltraSync ONE as an RF Slave (see page 52).

To learn about the master-slave synchronisation that occurs when you set your UltraSync ONE up as an RF slave, see:

- How does an RF Slave Synchronise with a Master? (see page 54).

Getting Started - EXT LTC Input

Your UltraSync ONE can receive timecode, FPS, and user bits data from an external device and then pass this on to other devices. To work in this way, your UltraSync ONE needs to run in **EXT LTC Input** mode.

There are two different ways of using EXT LTC Input mode. You can set your UltraSync ONE to:

- Receive timecode via the LTC port and then transmit timecode to slaves via radio. Follow the steps in Set UltraSync ONE to use LTC as an Input on page 56.

- Receive timecode via the LTC port and then transmit timecode via a wired connection. Follow the steps in Set UltraSync ONE to use LTC as an Input on page 56 and Send Timecode from a Standalone UltraSync ONE on page 59.

Master to RF Slaves and Wired Devices

You can set your UltraSync ONE up so that it provides timecode to a device that is wired to the UltraSync ONE, and also to RF slaves. To act as the master and the timecode source, the UltraSync ONE has to be set to run in **Master TX** mode.
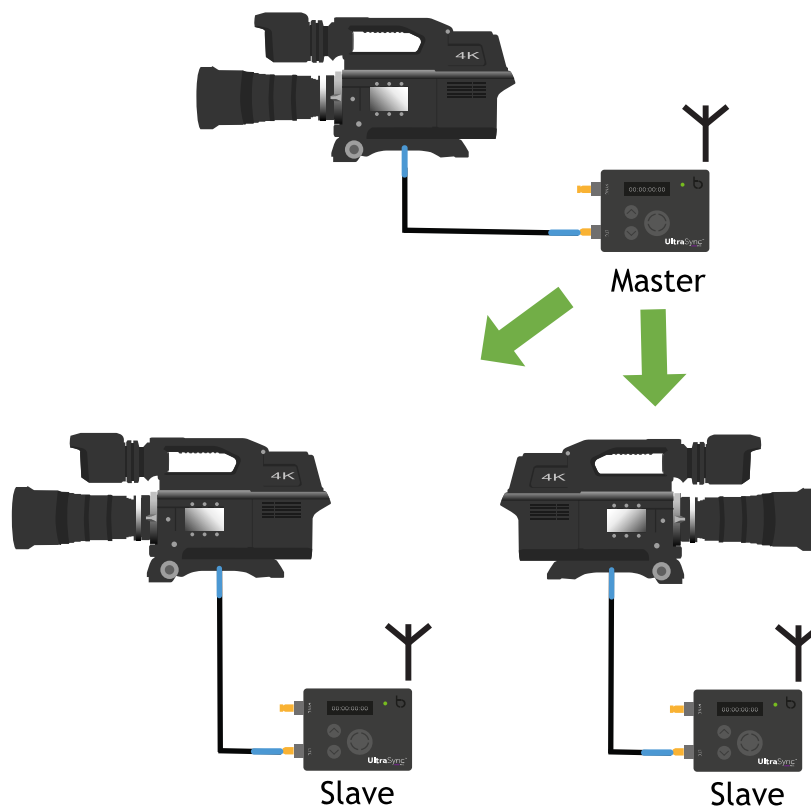
Master

Slave   Slave

> **Note:** If you want your UltraSync ONE to receive timecode from an external device, and then pass that timecode on to RF slave devices, see Set UltraSync ONE to use LTC as an Input on page 56.

To set up your UltraSync ONE as a Master TX:

1. Connect your camera or sound mixer/recorder to your UltraSync ONE.

   If you want your UltraSync ONE to provide timecode via the LTC port, connect your device to the LTC port. Use the blue DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

   If you want your UltraSync ONE to provide timecode, genlock, or word clock via the SYNC port, connect your device to the SYNC output port. Use the red DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

2. Configure the device that is connected to your UltraSync ONE so that it can receive timecode. See the device manufacturer's instructions for more details.

3. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

4. Press the **Select** button.

5. Set the RF Country/Area (see page 64). You only need to do this step if you are setting up your UltraSync ONE for the first time or are using it in a different area of the world.

6. Set the **Timecode Mode** to **Master TX**.

7. Set the RF Channel (see page 68).

   The **RF Channel** defines which RF network your UltraSync ONE master will create. To join this network, slave devices will need to use the same channel.

8. If you want your UltraSync ONE to output genlock, word clock, or timecode via the SYNC port, set the appropriate **SYNC O/P Mode** (see Set the SYNC Output on page 76). If you are not using the SYNC output, ignore this step.

9. Use the **Set Timecode** option to set the clock for your master UltraSync ONE Set the Timecode for the Master on page 72.

10. Use the **Set FPS Rate** option to set the frames-per-second rate to match the FPS of the connected device (see Set the Frame Rate Per Second on page 73).

11. Use the **Local or EXT U/B** option to set your UltraSync ONE to use either local user bits or external user bits (see Set the User Bits on page 74). If you choose local user bits, you will also need to set the user bits.

12. Set the output level for the port that is used for the wired connection to your external device. You need to set the level so that the voltage of the signal is appropriate for your device. For more details, see:

- Set the SYNC Output (see page 76)

- Set the LTC Level (see page 78).

Your UltraSync ONE will send timecode, FPS, and user bits data (and possibly word clock or genlock, depending on your selections) to the wired devices. The wired devices receive the data and synchronise with your master UltraSync ONE.

Your UltraSync ONE will also detect any slave devices that are within range and using the same RF channel (as your UltraSync ONE). If a slave is detected, and it is searching for a new master, your UltraSync ONE will connect with it. Your UltraSync ONE will then transmit timecode, FPS, and userbits data to the slaves, so that they can synchronise with your UltraSync ONE (which is the RF network master).

See also:

- Master and Slaves (see page 24)

- Master TX (see page 33)

Master to Wired Device Only, No RF Slaves

Master

Master
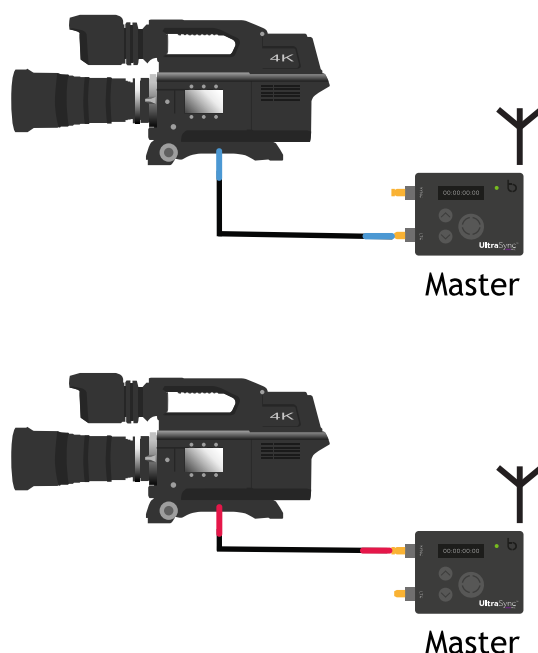
If you want your UltraSync ONE to only provide timecode to devices that are wired to the UltraSync ONE:

1. Connect your camera or sound mixer/recorder to your UltraSync ONE.

    If you want your UltraSync ONE to provide timecode via the LTC port, connect your device to the LTC port. Use the blue DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

    If you want your UltraSync ONE to provide timecode via the SYNC port, connect your device to the SYNC output port. Use the red DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

    If you want your UltraSync ONE to provide genlock or word clock signals to your device, connect your device to the SYNC output port. Use the red DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

2. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

3. Press the **Select** button.

4. Set the **Timecode Mode** to **Master TX**.

5. If you want your UltraSync ONE to output genlock, word clock, or timecode via the SYNC port, set the appropriate **SYNC O/P Mode** (see Set the SYNC Output on page 76). If you are not using the SYNC output, ignore this step.

6. Use the **Set Timecode** option to set the clock for your master UltraSync ONE Set the Timecode for the Master on page 72.

7. Use the **Set FPS Rate** option to set the frames-per-second rate to match the FPS of the connected device (see Set the Frame Rate Per Second on page 73).

8. Use the **Local or EXT U/B** option to set your UltraSync ONE to use either local user bits or external user bits (see Set the User Bits on page 74). If you choose local user bits, you will also need to set the user bits.

9. Set the output level for the port that is used for the wired connection to your external device. You need to set the level so that the voltage of the signal is appropriate for your device. For more details, see:

   - Set the SYNC Output (see page 76)
   - Set the LTC Level (see page 78).

Your UltraSync ONE will send timecode, FPS, and user bits data (and possibly word clock or genlock, depending on your selections) to the wired devices. The wired devices receive the data and synchronise with your master UltraSync ONE.

See also:

- Master and Slaves (see page 24)
- Master TX (see page 33)

Run UltraSync ONE as an RF Slave
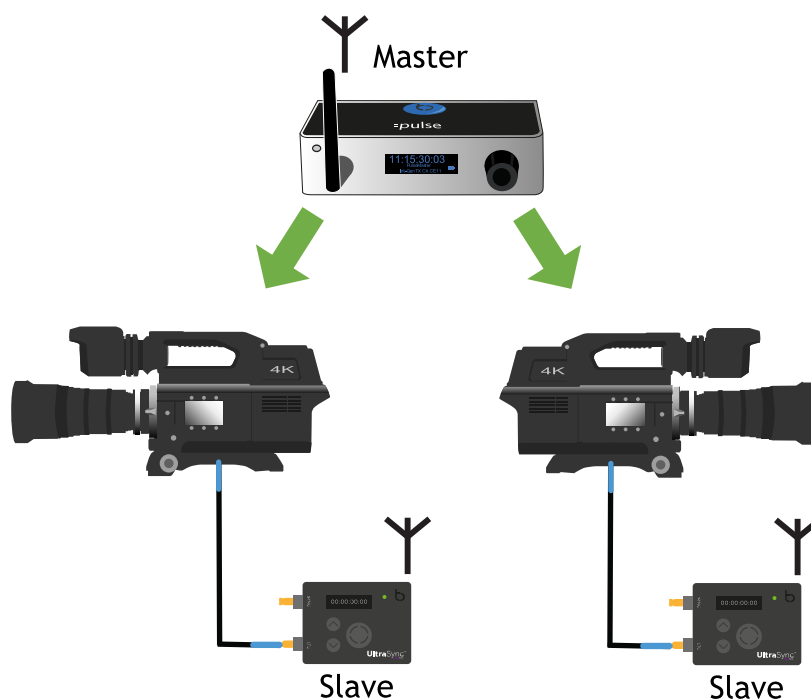
To set your UltraSync ONE to run as an RF slave:

1. Connect your camera or sound mixer/recorder to your UltraSync ONE.

   If you want your UltraSync ONE to provide timecode via the LTC port, connect your device to the LTC port. Use the blue DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

   If you want your UltraSync ONE to provide timecode, genlock, or word clock via the SYNC port, connect your device to the SYNC output port. Use the red DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

2. Position your UltraSync ONE so that it is within range of the master device in your RF network. It is easier to confirm that synchronisation has taken place if you can see the clocks and LEDs of your slave and the master at the same time.

3. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

4. Press the **Select** button.

5. Set the RF Country/Area (see page 64). You only need to do this step if you are setting up your UltraSync ONE for the first time or are using it in a different area of the world.

6. Set the **Timecode Mode** to **RF Slave**.

7. Set the RF Channel (see page 68).

8. Use the **Local or EXT U/B** option to set your UltraSync ONE to use either local user bits or external user bits (see Set the User Bits on page 74). If you choose local user bits, you will also need to set the user bits.

9. If you want your UltraSync ONE to output genlock, word clock, or timecode via the SYNC port, set the appropriate **SYNC O/P Mode** (see Set the SYNC Output on page 76). If you are not using the SYNC output, ignore this step.

10. Set the output level for the port that is used for the wired connection to your external device. You need to set the level so that the voltage of the signal is appropriate for your device. For more details, see:

    - Set the SYNC Output (see page 76)

    - Set the LTC Level (see page 78).

11. Turn the master and all of the slaves in your network off.

12. Turn the master unit back on.

13. Turn on the slave units, including the slave UltraSync ONE you have set up in this procedure. The slave units will connect to the master.

> **Note:** At the start of a shoot, make sure the master is switched on first and then turn on the slave units. The master needs to be turned on first so that the master and slaves can establish an accurate lock.

To learn about how the master finds your RF slave and synchronises with it, see How does an RF Slave Synchronise with a Master? on page 54.

How does an RF Slave Synchronise with a Master?

When you set up an UltraSync ONE to run as an RF Slave, it will 'announce' itself on the network, so that it can be detected by a master (see Run UltraSync ONE as an RF Slave on page 52).

If a master is in range of your RF slave, it will detect the slave and will send its timecode, FPS, and user bits data to it. Your slave will synchronise with the master (it may keep its own user bits setting, depending on whether you chose local or external user bits. The slave will stay synchronised with the master until it is powered down or you change its mode or RF channel.
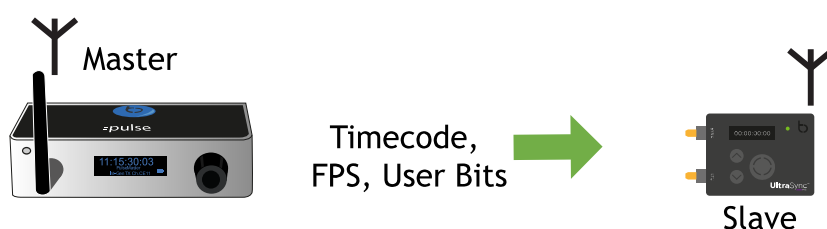
When your slave is synchronised with a master, it can output timecode to an external device. The timecode, FPS, and user bits can be output via the LTC or SYNC port, depending on how you have connected your external device. Your UltraSync ONE can also provide word clock or genlock signals via its SYNC port.
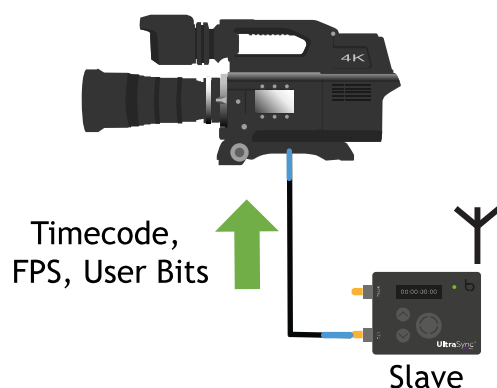
If the master moves out of range, the UltraSync ONE will use its own internal timecode, frames-per-second, and user bits settings until it can receive timecode from a master. This is called 'free running'.

To learn about setting the internal timecode, frames-per-second, and user bits for your UltraSync ONE, see:

- Set the Timecode for the Master (see page 72)

- Set the Frame Rate Per Second (see page 73)

- Set the User Bits (see page 74).

Set UltraSync ONE to use LTC as an Input

The 'quick set up' instructions are designed to help you get your UltraSync ONE up and running as soon as possible. They assume that you are familiar with the master-slave relationship, the RF network, and know how to navigate through the UltraSync ONE menu. If you need more detailed step-by-step instructions, or extra information about a setting, please refer to the section about that setting.

To set your UltraSync ONE to receive timecode via its LTC port:

1. Connect your camera or sound mixer/recorder to your UltraSync ONE.

   If you want your UltraSync ONE to provide timecode via the LTC port, connect your device to the LTC port. Use the blue DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

   If you want your UltraSync ONE to provide timecode, genlock, or word clock via the SYNC port, connect your device to the SYNC output port. Use the red DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

2. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

3. Press the **Select** button.

   If you want your UltraSync ONE to send timecode to slave devices (using radio), continue from step 4.

   If you want to connect your UltraSync ONE to other devices and send timecode via a wired connection, ignore steps 4 and 5 and continue from step 6.

4. Set the RF Country/Area (see page 64)

5. Set the RF Channel (see page 68).

   Your UltraSync ONE needs to use the same radio frequency channel as the slave Timecode Systems devices in your RF network.

6. Set the **Timecode Mode** to **EXT LTC Input**.

7. Choose the **LTC Input** mode:

- **Non-Continuous** - If the external device is disconnected from your UltraSync ONE, the UltraSync ONE will stop.

- **Continuous** - If the external device is disconnected from your UltraSync ONE, the UltraSync ONE will free run until the external device is reconnected.

8. Set the transmission mode:

- Choose **Tx Off (Standalone)** if you want your UltraSync ONE to output timecode via a wired connection only (no radio). **Tx Off (Standalone)** mode turns off the radio transceiver. This helps to extend the battery life, as radio consumes a lot of battery power.

- Choose **Tx On (Master)** to set your UltraSync ONE to output timecode to slaves in an RF network (via radio).

9. Use the **Local or EXT U/B** option to set your UltraSync ONE to use either local user bits or external user bits (see Set the User Bits on page 74). If you choose local user bits, you will also need to set the user bits.

10. If you want your UltraSync ONE to output genlock, word clock, or timecode via the SYNC port, set the appropriate **SYNC O/P Mode** (see Set the SYNC Output on page 76). If you are not using the SYNC output, ignore this step.

11. If you are using the SYNC port to output to a wired device, set the **SYNC Level** (see Set the SYNC Output on page 76). If you are not using the SYNC output, ignore this step.

Your UltraSync ONE will now receive timecode, frames per second, and user bits data from the external device. The UltraSync ONE will then change its internal timecode and frames-per-second settings to match the data from the external device. It may also match the user bits data, but this depends on your choice for the **Local or EXT U/B** setting.

When your UltraSync ONE is synchronised with the external device, a sync icon is shown on the OLED.

If you have set your UltraSync ONE to use **Tx On (Master)** mode, it will detect any slave devices that are in range and using the appropriate RF channel. It will connect to the slaves and send the timecode, FPS, and user bits to them via radio.

If you have set your UltraSync ONE to use the **TX Off (Standalone)** transmission mode, it will not transmit via radio. You will need to set it to output timecode via the LTC port (see Send Timecode from a Standalone UltraSync ONE on page 59).

Send Timecode from a Standalone UltraSync ONE

If you have set your UltraSync ONE to use the **TX Off (Standalone)** transmission mode (see Set UltraSync ONE to use LTC as an Input on page 56), there are some extra steps you need to take.

So far, you have synchronised your UltraSync ONE with an external timecode source.

EXT LTC Input
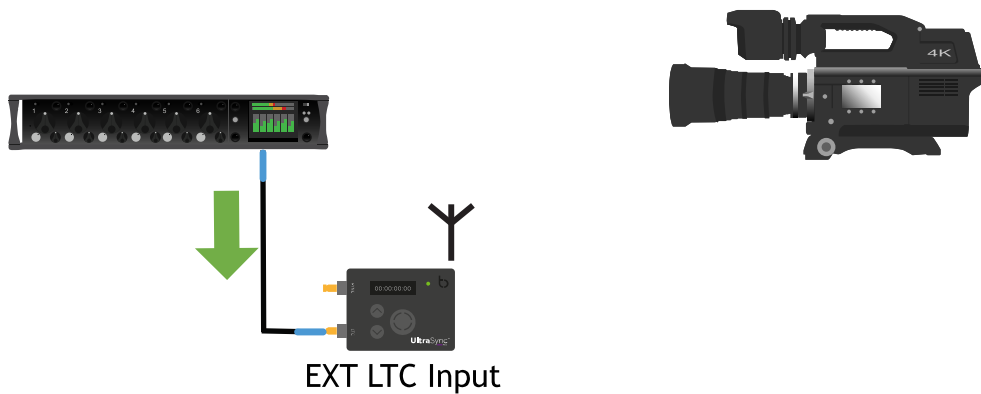
Next, you need to disconnect your UltraSync ONE and use it to send timecode to another device.

Master

To do this, complete the following steps:

1. Disconnect your UltraSync ONE from the device that provided the timecode. Your UltraSync ONE will now free run, using the timecode that was received from the external device.

2. Set your UltraSync ONE to **Master TX** mode.

3. Connect your UltraSync ONE to a different external device.

   You can connect it via the:

   - LTC port. Use the blue DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

   - SYNC port. Use the red DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

4. If you connected via the **SYNC** port, use the **Set Sync O/P Mode** option to set the UltraSync ONE to output **LTC**. Ignore this step if you connected via the LTC port.

5. Configure the device that is connected to your UltraSync ONE so that it can receive timecode. See the device manufacturer's instructions for more details.

Jam UltraSync ONE to a Signal

You can connect your UltraSync ONE to an external device and then 'jam' to the external device's timecode. When it has jammed, you can disconnect your UltraSync ONE and then use it to transmit the timecode to other devices.

> **Note:** For more information on the concept of jamming, see Free Running and Jamming on page 39.

To jam your UltraSync ONE to an external timecode signal:

1. Connect your external device to your UltraSync ONE's LTC port. Use the blue DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE.

2. Make sure your UltraSync ONE unit is switched on (see Switch UltraSync ONE On and Off on page 11).

3. Press the **Select** button.

4. Set the **Timecode Mode** to **Free Run/Jam-Ext** (see Set the Timecode Mode on page 65).

5. Press the **Select** button.

6. Use the **Up** and **Down** buttons to scroll to the **TC Generator** option.

7. Press the **Select** button.

8. Use the **Up** and **Down** buttons to scroll to the **Jam EXT T/C** option.

Your UltraSync ONE will now attempt to synchronise with the timecode source by jamming to the signal. You will see **Jamming T/C** appear on the main screen as the attempt to jam to the signal takes place.

If your UltraSync ONE cannot synchronise to the signal, the message **Jam Failed No Signal** is shown. This usually indicates that the timecode source is not connected properly or is not outputting a timecode. Check the connections and make sure the timecode source device is set up to output its timecode.

When the jamming is successful, the UltraSync ONE is synchronised with the external timecode source. You can now disconnect the external timecode source.

To keep your UltraSync ONE synchronised with the external timecode source, you will need to re-connect and re-jam at regular intervals (typically 1-2 times per day).

Chapter 4
Configuration Settings

In this chapter, you can learn how to perform various configuration tasks. You will have to complete some of the tasks to get your UltraSync ONE up and running, but other tasks are optional.

Configuration

Set the RF Country/Area

Your UltraSync ONE can communicate with other devices via radio (RF). Before you use your UltraSync ONE, you need to set it to use the correct radio frequencies for your region. 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 units sold in North America and Canada. If you purchased your UltraSync ONE 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. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

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).

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

> **Tip:** You can see which country/area your UltraSync ONE is set to use by looking at the main status screen (see Main Screen on page 86). In the bottom-right corner, the country/area is shown next to the channel (**CE** for Europe, **JP** for Japan/Asia, and **FC** for USA, Canada, Australia, and New Zealand).

Set the Timecode Mode

Your UltraSync ONE is a versatile synchronisation device, and can work in many different modes. You can find out about the different modes in the following sections:

- Master TX (see page 33)
- RF Slave (see page 35)
- EXT LTC Input (see page 36)
- Free Running and Jamming (see page 39).

> **Note:** These modes define how your UltraSync ONE synchronises with other devices, so it is important that you understand how they work.

To set your UltraSync ONE to run in a particular mode, you need to use the **Timecode Mode** settings.

To access the Timecode Mode settings:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).
2. Press the **Select** button.
3. Use the **Up** and **Down** buttons to scroll to the **Timecode Mode** option.
4. Press the **Select** button.
5. Use the **Up** and **Down** buttons to scroll to the appropriate mode:

Timecode Mode	Operation
Master TX	UltraSync ONE is a master in an RF network. Its timecode is transmitted to any slaves via radio. It can also send the timecode data to any devices that are connected via the LTC and SYNC ports.

Timecode Mode	Operation
RF Slave	UltraSync ONE receives its timecode data from a master Timecode Systems product*. It can then send this timecode data to any devices that are attached via the LTC and SYNC ports.
EXT LTC Input	UltraSync ONE receives its timecode data from a device that is connected via the LTC port.
Free Run/Jam-Ext	UltraSync ONE has its timecode set by jamming to a signal from a device that is connected via the LTC port. Once jammed, the UltraSync ONE can be disconnected and it will continue to use the timecode. It needs to be re-jammed at regular intervals to remain synchronised.

*When an UltraSync ONE is free running and in RF Slave mode, it uses its own clock settings but continues to search for a master in the same network. If it finds a master, the master will set the timecode.

6. Press the **Select** button.

7. If you are prompted to choose an **RF Channel**, use the **Up** and **Down** buttons to set the RF Channel that the UltraSync ONE will use for radio communications. The master device can only communicate with slave devices that use the same RF Channel as the master.

8. If you are prompted to choose **Non-Continuous** or **Continuous**, select:

   - **Non-Continuous** - If the external device is disconnected from your UltraSync ONE, the UltraSync ONE will stop.

   - **Continuous** - If the external device is disconnected from your UltraSync ONE, the UltraSync ONE will free run until the external device is reconnected.

9. If you are prompted to choose **TX On** or **TX Off**:

   - Choose **Tx On (Master)** to set your UltraSync ONE to output timecode to slaves in an RF network (via radio).

   - Choose **Tx Off (Standalone)** if you want your UltraSync ONE to output timecode via a wired connection only (no radio). **Tx Off (Standalone)** mode turns off the radio transceiver. This helps to extend the battery life, as radio consumes a lot of battery power.

10. Press the **Select** button.

Set the RF Channel

If you are going to use your UltraSync ONE in an RF network, you need to set its RF channel to match the other Timecode Systems devices in the network. (An RF network is a group of Timecode Systems products that all use the same RF channel for radio communications).

You need to set the RF Channel when:

- You first set up your UltraSync ONE to join an RF network

- You want to move your UltraSync ONE from one RF network to another

- You are changing the master device in the RF network. Your UltraSync ONE 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:** UltraSync ONEs can only be part of one RF network. To move an UltraSync ONE between networks, change the UltraSync ONE's RF Channel, and then restart the unit.

To set your UltraSync ONE to join an RF network:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

2. Press the **Select** button.

3. Use the **Up** and **Down** buttons to scroll to the **Set RF Channel No.** option.

4. Press the **Select** button.

5. Use the **Up** and **Down** buttons to set the UltraSync ONE to the same channel number as the other devices in the RF network.

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

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

```
00:18:13:19
        UltraSync
Int-Gen TX        Ch.CE03 ▭▭▭▭
```

In the image above, Ch.CE03 indicates that the UltraSync ONE is set to run in the Europe region (CE) and use RF Channel 03.

Example 1: Join an RF network

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

To get the UltraSync ONE units to synchronise with the :pulse unit, you need to set all three of the UltraSync ONEs 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 UltraSync ONEs and provide them with timecode (as long as the slave UltraSync ONEs are within range of the master).
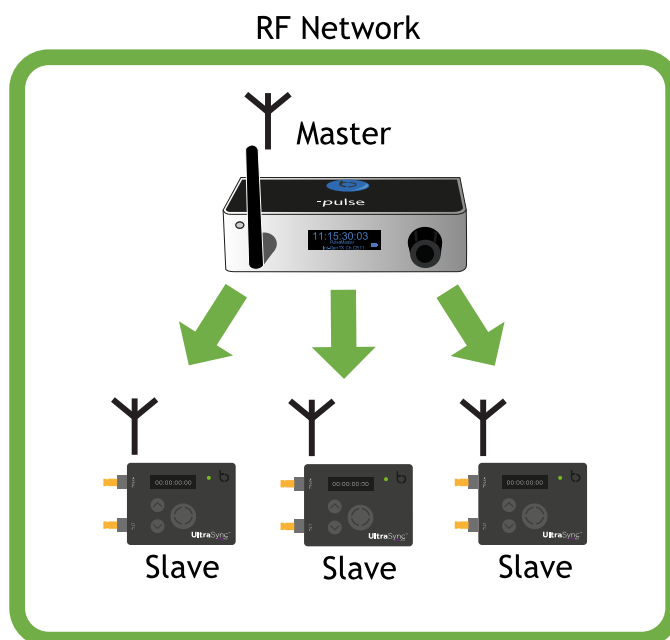

Example 2: Multiple RF networks in range

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

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

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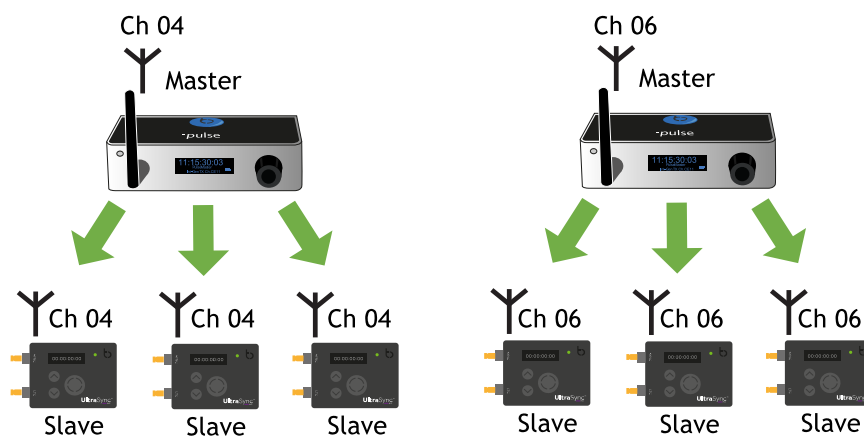

The two networks are completely separate and the devices in one network will not communicate with devices in another network.

Example 3: Replacing a Master in an RF Network

If you need to change the master device in an RF 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 UltraSync ONEs. They are all set to use RF Channel 05. The UltraSync ONEs 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 UltraSync ONEs do not connect with it. This is because they are 'locked' to the :pulse that was damaged.
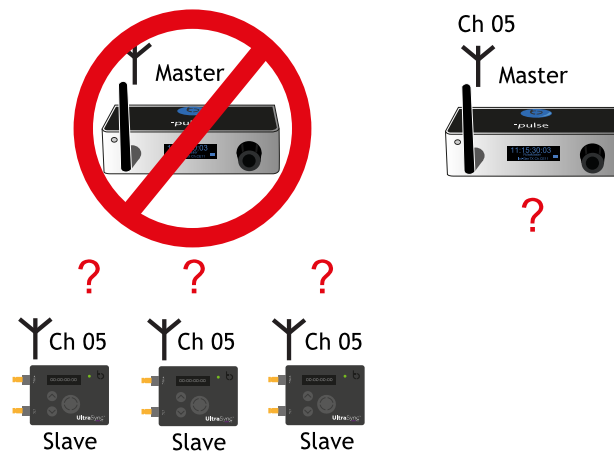
To get them to connect to the replacement :pulse, you can either turn the UltraSync ONE slaves off and then on again to refresh their memory. Alternatively, you can try setting them to use RF Channel 5 again.

For details on country/area, see Set the RF Country/Area on page 64.

For details on RF Slave mode, see Set the Timecode Mode on page 65.

Set the Timecode for the Master

Note: This section only applies if you have set your UltraSync ONE to run in Master TX mode (see Quick Set Up: UltraSync ONE as Master TX on page 1).

If your UltraSync ONE is set to run in Master TX mode, it means it is the master in an RF network. As it is the master, you need to set its timecode. The timecode will then be transmitted to the slaves in the network, so that they can synchronise with the master.

To set your UltraSync ONE's timecode:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

2. Press the **Select** button.

3. Use the **Up** and **Down** buttons to scroll to the **TC Generator** option.

4. Press the **Select** button.

5. Use the **Up**, **Down**, and **Select** buttons to set the UltraSync ONE'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.

You also need to Set the Frame Rate Per Second (see page 73).

Set the Frame Rate Per Second

Note: This section only applies if your UltraSync ONE is running in **Master TX** mode or is free running in **Free Run/Jam-Ext** mode. If your UltraSync ONE is running in **Ext LTC Int** or **RF Slave** mode, it will receive the FPS data from the master or external timecode source.

The FPS (Frames-Per-Second) of your UltraSync ONE has to match the FPS of the cameras and sound mixers/recorders that are being used on the shoot. This is because timecode can only be applied accurately to each recorded frame if the same FPS settings are used.

To set the FPS:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

2. Press the **Select** button.

3. Use the **Up** and **Down** buttons to scroll to the **TC Generator** option.

4. Press the **Select** button.

5. Use the **Up** and **Down** buttons to scroll to the **Set FPS Rate** option.

6. Press the **Select** button.

7. Use the **Up** and **Down** buttons to set the UltraSync ONE's FPS to the appropriate value.

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

You also need to Set the Timecode for the Master (see page 72).

Note: If your UltraSync ONE is running in Master TX mode, it will send the FPS to the slave units in the RF network, so that they also use the same FPS.

Set the User Bits

To make it easier when editing your recordings, you can add metadata to the timecode data. For example, a common use of user bits is to add the date and scene number.

The timecode mode and user bits settings of your UltraSync ONE affect what metadata it uses:

- If your UltraSync ONE is a **Master TX**, it will send its user bits data to the slaves in the network. If you have not set the user bits, it will send the default user bits, which is four sets of 00.

- If your UltraSync ONE is an **RF Slave**, you can choose whether the UltraSync ONE uses the user bits it receives from the master or uses its own user bits settings instead.

- If your UltraSync ONE is running in **EXT LTC Int** or Free **Run/Jam Ext** mode, you can choose whether it uses the user bits it receives from an external source or uses its own user bits settings instead.

> **Note:** The user bits consist of four pairs of hexadecimal characters. The supported characters are in the range 0 to F.
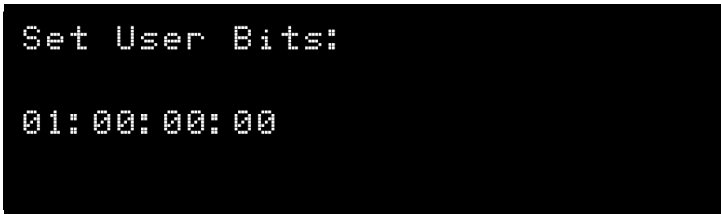
To add metadata to the timecode of a UltraSync ONE, you need to use the **Set User Bits** setting:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

2. Press the **Select** button.

   If your UltraSync ONE is in **Master TX** mode, ignore steps 3 to 6 inclusive and continue from step 8.

   If your UltraSync ONE is in **Ext LTC Int**, **Free Run/Jam Ext,** or **RF Slave** mode, continue from step 3.

3. Use the **Up** and **Down** buttons to scroll to the **Local or EXT U/B** option.

4. Press the **Select** button.

5. Use the **Up** and **Down** buttons to choose from:

- **Use Locally Set U/B** - your UltraSync ONE will use its own user bits settings. It will ignore the user bits settings from the master/external source.

- **Use EXT Source U/B** - your UltraSync ONE will use the user bits settings it receives from the master or external source. It will not use its own user bits settings.

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

7. Press the **Select** button.

8. Use the **Up** and **Down** buttons to scroll to the **TC Generator** option.

9. Press the **Select** button.

10. Use the Up and Down buttons to scroll to the **Set User Bits** option.

11. Press the **Select** button.

12. Set the metadata. You can change the pairs of characters in turn, starting from the left. Use the **Up** and **Down** buttons to change the characters, and press select to confirm. The next pair of characters is selected automatically, and you can change those in the same way.

```
Set User Bits:

01:00:00:00
```

13. Press the **Select** button.

Set the SYNC Output

Your UltraSync ONE has a **SYNC** output port that can output word clock, genlock, or timecode (LTC). You should use the SYNC port if:

- You want to output genlock to a camera for added accuracy
- You want to output word clock to a sound mixer/recorder for added accuracy
- You are using the LTC port as an input port and need to output timecode via a wired connection.
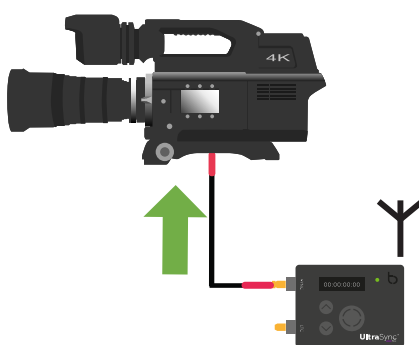
> **Note:** You can use the SYNC output in any of the UltraSync ONE modes.

To use the SYNC port, you need to set the **Sync O/P Mode**. You may also need to set the **Sync O/P Level**.

1. Set your external device (camera, sound mixer/recorder) to receive genlock, word clock, or timecode from an external source. Please refer to the manufacturer's instructions for more details.

2. Connect your camera or sound mixer/recorder to the SYNC port. Use a suitable cable (the red DIN 1.0/2.3 to BNC cable that is supplied with your UltraSync ONE is suitable for some devices).

3. Make sure your UltraSync ONE unit is switched on (see Switch UltraSync ONE On and Off on page 11).

4. Press the **Select** button.

5. Use the **Up** and **Down** buttons to scroll to the **Sync Generator** option.

6. Press the **Select** button.

7. Use the **Up** and **Down** buttons to scroll to the **Set Sync O/P Mode** option.

8. Press the **Select** button.

9. Use the **Up** and **Down** buttons to choose the output signal that is appropriate for your device. The manufacturer's instructions for your device should provide details on the type of genlock or word clock signal that is supported, and also its level.

> **Note:** Most cameras use 1080p genlock, but Sony cameras use 1080p PSF.

> **Note:** You can disable SYNC output by setting the **Sync O/P Mode** to **Off**.

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

12. Press the **Select** button.

13. Use the **Up** and **Down** buttons to scroll to the **Sync Generator** option.

14. Press the **Select** button.

15. Use the **Up** and **Down** buttons to scroll to the **Set Sync O/P Level** option.

16. Press the **Select** button.

17. Use the **Up** and **Down** buttons to scroll to the appropriate level for your device. We recommend that you use Std. O/P Level first, and if there is no connection between your device and the UltraSync ONE, try changing the level to High.

   - **Std.O/P Level**
   - **High O/P Level**

> **Note:** If you are using the SYNC port to output genlock, the Std. O/P Level is a 170mVpp signal and the High O/P Level is a 2.7Vpp signal.

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

Your UltraSync ONE will now output a genlock, word clock, or timecode signal to your device via the **SYNC** port.

Set the LTC Level

If you set your UltraSync ONE up to output LTC (timecode) via the **LTC** port, you need to set the LTC level. This is a voltage for the LTC signal, and it has to match the voltage that is supported by the external device that will receive the LTC signal.

To find out the voltage your external device requires, please refer to the manufacturer's instructions. When you have that information, you can set the LTC level.

> **Note:** If you are using your UltraSync ONE to output LTC via the SYNC port, you will need to set the level for the SYNC port (see Set the SYNC Output on page 76).

To set the LTC Level:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

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 **LTC Output Level** option.

6. Press the **Select** button.

7. Choose the LTC output that matches the LTC input voltage that is required by your external device:

   - **Std Level** - 3Vpp signal

   - **MIC Level** - 70mVpp signal

   - **Low Level** - 600mVpp signal

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

Change the Status Indicator LED Brightness

You can set your UltraSync ONE so that its status indicator LED is more/less bright, depending on your requirements.

To change the LED brightness:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

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 dullest 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 bright conditions, you may want to increase the screen brightness to make it easier to see.

To change the brightness of the screen:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

2. Press the **Select** button.

3. Use the **Up** and **Down** buttons to scroll to the **Display Settings** option.

4. Press the **Select** button.

5. Use the **Up** and **Down** buttons to scroll to the **Set Brightness** option.

6. Press the **Select** button.

7. Use the **Up** and **Down** buttons to set the brightness value (1 is the dullest, 5 is the brightest).

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

Change the Screen Saver Time

By default, the UltraSync ONE'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. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

2. Press the **Select** button.

3. Use the **Up** and **Down** buttons to scroll to **Display Settings**.

4. Press the **Select** button.

5. 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 button press.

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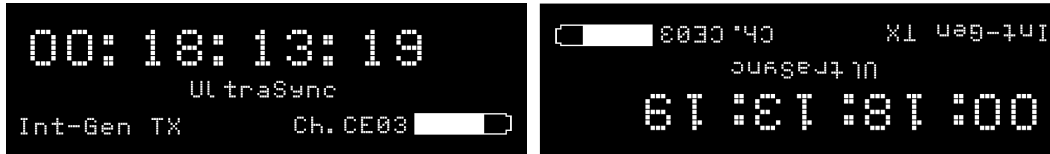
   > **Note:** As soon as you press the **Up**, **Down**, or **Select** button, the dim timer is reset.

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

Flip the Display

In some situations, you may need to mount the UltraSync ONE so that it hangs upside-down. To make it easier to look at the UltraSync ONE display, you can set the screen to flip by 180°.

To flip the display:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

2. Press the **Select** button.

3. Use the **Up** and **Down** buttons to scroll to **Display Settings**.

4. Press the **Select** button.

5. Use the **Up** and **Down** buttons to scroll to the **Flip Display** option.

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

7. Repeat steps 2-6 inclusive to rotate the screen display to its previous orientation.

Button Lock

In some situations, you may find that your UltraSync ONE's control buttons are pressed accidentally, which can affect the settings. To prevent these accidental button presses from affecting your UltraSync ONE, you can turn on the **Button Lock**.

Once button lock is enabled, you cannot get into the menus unless you first deactivate the lock.

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

2. Use the **Up** and **Down** buttons to scroll to the screen that shows **Button Lock:** at the top.

```
Button Lock:

Press to Lock
```
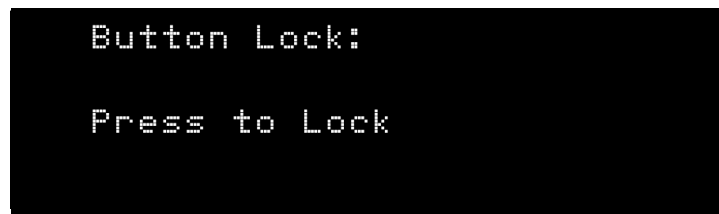
The Button Lock screen presents you with one of two messages:

- **Press to Lock** - This message is shown if button lock is currently disabled. If you press the Select button, button lock is enabled. UltraSync ONE 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 is disabled. You will be able to access the menus again by pressing the Select button.

3. Press the **Select** button to confirm.
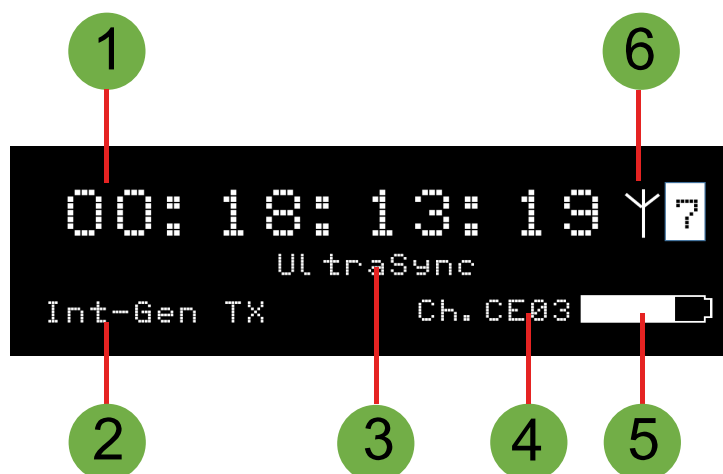
Chapter 5
Status Information

Your UltraSync ONE has a collection of status displays that you can use to view current information about the unit. To learn about the displays, see:

Status

Main Screen

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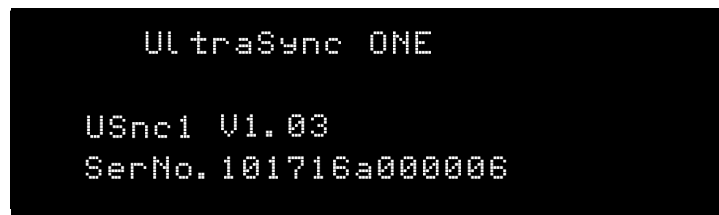

Key	Description
1	The timecode that is being used by the UltraSync ONE.
2	The mode of the UltraSync ONE unit (see Networks and Modes on page 23).
3	Device name. You can use the BLINK Hub application to change the name.
4	The country/area and RF channel that is used by the UltraSync ONE. Ch. is for channel, and the first two letters after Ch. indicate the country /area (CE for Europe, JP for Asia, FC for USA, Canada, Australia, and New Zealand). The two numbers indicate the RF channel.
5	A battery icon that shows an estimate of the remaining battery power, based on the settings that are currently in use.
6	Signal strength and communications indicators. An antenna icon flashes in the top-right corner when the slave and master are communicating. The number shown to the right of the antenna icon shows the signal strength (0-7 where 7 is the maximum signal strength).

Version Number and Serial Number

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

1. Display the Main Screen.

2. Use the **Up** and **Down** buttons to scroll to the screen that shows **UltraSync ONE** at the top.

```
       UltraSync ONE

   USnc1 V1.03
   SerNo.101716a000006
```

Status	Description
Usnc1	The version number of the firmware that is installed on your UltraSync ONE
Ser.No	The serial number of your UltraSync ONE unit.

> **Tip:** For full firmware version details, connect your UltraSync ONE to a computer that is running our updater app.

Power and Battery Status

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. Main Screen on page 86

2. Use the **Up** and **Down** buttons to scroll to the screen that shows **Power** at the top.

```
Power:EXT - OK

Battery-[■■■■■]
```

Status	Description
Power	The status of any external power supply. EXT-OFF means there is no external power supply, EXT-OK means there is an external power supply.
Battery	The battery is a five bar icon that shows an estimate of the remaining battery charge (1 bar is low charge, 5 bar is full charge). This is based on the UltraSync ONE's current settings, and can increase if unused features are turned off.

Synchronisation Status

When you add or change devices in an RF network, you should check that they are synchronising correctly. An easy way to do this is to look at the Synchronisation Status screen.

```
TCG   00:00:31:15
USER 00.00.00.00

Master:  Supp Pulse
```

1. Display the Main Screen.

2. Use the **Up** and **Down** buttons to scroll to the screen that shows **TCR** or **TCG** at the top.

Status	Description
TCR or **TCG**	**TCR** (timecode receiving) is shown if your UltraSync ONE is a slave. **TCG** (timecode generated) is shown if your UltraSync ONE is a master. Next to TCR/TCG is the timecode that your UltraSync ONE is using.
User	Shows the user bits that your UltraSync ONE is using (see Set the User Bits on page 74).
Master	Shows the name of the master device that the UltraSync ONE is synchronised with (only available if your UltraSync ONE is in RF Slave mode). If your UltraSync ONE is in a master mode, the status shows the number of slaves connected to the master.

SYNC Output Status

You can use the SYNC O/P status screen to see what mode and level your UltraSync ONE is using for the SYNC output port.

1. Display the Main Screen on page 86.

2. Use the **Up** and **Down** buttons to scroll to the screen that shows **SYNC O/P** at the top.

```
SYNC O/P:

   Mode:   192K WC
   Level:  Normal
```

Status	Description
Mode	The type of signal that your UltraSync ONE is currently set to output via the SYNC port (see Set the SYNC Output on page 76
Level	The voltage level of the SYNC output (see Set the SYNC Output on page 76).

LTC Output Status

You can use the LTC O/P status screen to see what frames-per-second and level your UltraSync ONE is using for the LTC output port.

1. Display the Main Screen on page 86.

2. Use the **Up** and **Down** buttons to scroll to the screen that shows **LTC O/P** at the top.

```
LTC O/P:

  FPS:  29.97
  Level: MIC
```

Status	Description
FPS	The frames-per-second rate of your UltraSync ONE. This should match the FPS of any attached devices (see Set the Frame Rate Per Second on page 73).
Level	The voltage level of the LTC output (see Set the SYNC Output on page 76).

Chapter 6 BLINK Hub

You can make changes to some of your UltraSync ONE's settings remotely, by using the free BLINK Hub app on a smartphone or tablet. You can also use BLINK Hub to view some status information.

To learn about BLINK Hub, see:

BLINK Hub

Remote Settings using BLINK Hub

Did you know that you can change some of your UltraSync ONE's settings remotely, via a tablet, smartphone, or desktop computer? All you need is:

- A Timecode Systems :pulse or :wave as the master in your network
- The free BLINK Hub application.
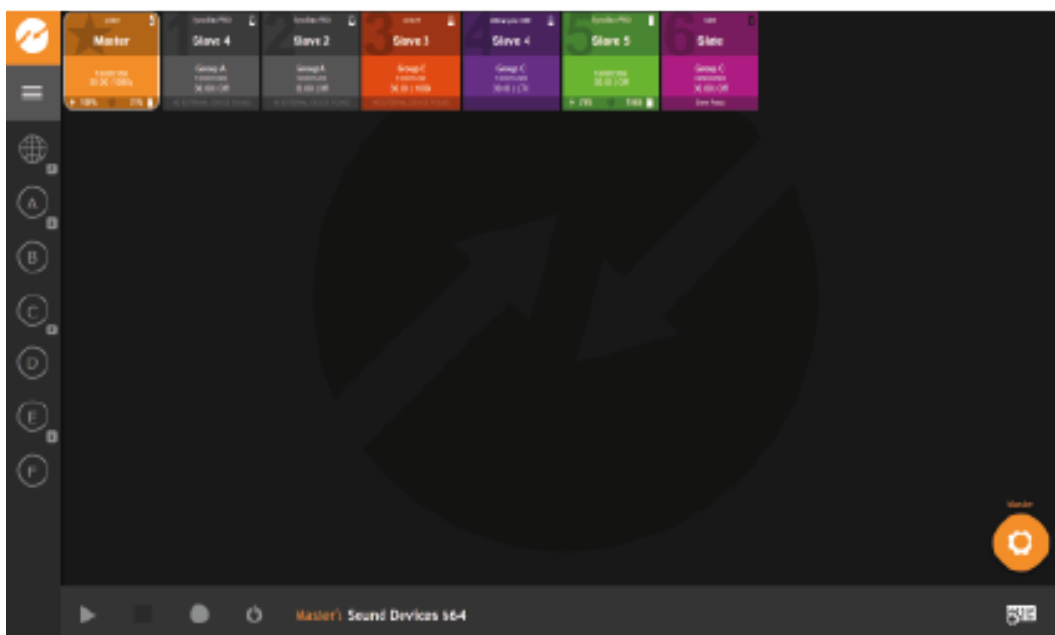
In BLINK Hub, each device in the BLINK network, including your UltraSync ONE, has its own status panel, which provides information about the device.

You can also use BLINK Hub to change some of the UltraSync ONE settings, including:

- Name
- User bits
- Brightness.

> **Tip:** Visit www.timecodesystems.com or contact your local stockist for more information on :pulse and :wave mini base stations.

Chapter 7
Warranty and Conformity

To learn about the warranty and the conformity declarations, see:

Warranty and Conformity

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 timecode sync accessory
Model	UltraSync ONE
FCC ID	AYV- USYN01
IC ID	10427A- USYN01

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 Scurrell

Timecode Systems

Chapter 8
Troubleshooting and FAQs

In this chapter, you can find troubleshooting information, answers to popular questions, and instructions on how to reset your UltraSync ONE. If you are experiencing problems that are not covered here, please visit https://support.timecodesystems.com for up-to-date FAQs and manuals.

Troubleshooting & FAQs

Troubleshooting

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

- UltraSync ONE Slave not Connecting to Master (see page 103)

- UltraSync ONE Slave is Connecting to the Wrong Master (see page 103)

- UltraSync ONE not Responding to Select button (see page 103)

- UltraSync ONE Battery not Charging (see page 104).

If you are experiencing problems that are not covered here, please visit **https://support.timecodesystems.com** for up-to-date FAQs and manuals.

UltraSync ONE Slave not Connecting to Master

If your UltraSync ONE is not receiving timecode 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.

- UltraSync ONE is set to Master TX mode. The UltraSync ONE can only connect with a master device if the UltraSync ONE is running in RF Slave mode. For more information, see Networks and Modes on page 23).

- The master is out of range. The UltraSync ONE will use its own timecode settings until a master is back in range. An UltraSync ONE that is using its own timecode settings is described as 'free running'.

- The UltraSync ONE is not set to use the same RF Channel as the master. UltraSync ONE slave - master communications can only take place between devices that are in the same RF network. For more information, see Set the RF Channel on page 68.

- The UltraSync ONE and/or the master are not set to the correct country/area. You need to set the UltraSync ONE and master to the country/area in which they are being used (see Set the RF Country/Area on page 64).

UltraSync ONE Slave is Connecting to the Wrong Master

If your UltraSync ONE is running in slave mode and connects to the wrong master device, it is likely that there are multiple masters in the same RF network. An RF network should only have one master device (one master using the specific RF channel for the network. For details, see Quick Set Up: UltraSync ONE as Master TX on page 1).

UltraSync ONE not Responding to Select button

In the unlikely event that your UltraSync ONE does not display the menu when you press the Select button, try a Reset (see page 106).

UltraSync ONE Battery not Charging

If the UltraSync ONE battery is not re-charging when you use a USB-C charger:

1. Switch your UltraSync ONE off (see Switch UltraSync ONE On and Off on page 11).

2. Check that the USB-C port on the UltraSync ONE is clear. USB-C ports can get clogged with lint from pockets or dirt and dust from the environment.

3. Try using a different charger.

4. Try using a different cable.

If the problem persists, contact Timecode Systems for advice.

Restore Factory Settings

You can reset your UltraSync ONE to its original state by selecting **Set Factory Defaults**. This can be useful if you want to start with a completely fresh UltraSync ONE, for example, when moving the UltraSync ONE into another network.

> **Note:** If you want to reset the UltraSync ONE without losing the existing settings, see Reset on page 106.

To restore the factory settings of your UltraSync ONE:

1. Make sure your UltraSync ONE is switched on (see Switch UltraSync ONE On and Off on page 11).

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 UltraSync ONE is reset to have all the default settings in place and the main screen is displayed.

Reset

In the highly unlikely event that your UltraSync ONE becomes unresponsive and you cannot access the menus, you should try a reset:

1. Press and hold both the **Up** and the **Down** buttons at the same time. Do not 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 UltraSync ONE appears to switch off.

3. Release the **Up** and **Down** buttons. The UltraSync ONE restarts.

When the UltraSync ONE restarts, it still has all of the settings that were in place before you reset it. If it is still unresponsive, try performing a factory reset. A factory reset will restore your UltraSync ONE's original settings so any existing settings will be lost (see Restore Factory Settings on page 105).

FAQs

In this section, you can find some of the most frequently asked questions about UltraSync ONE, 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 UltraSync ONE be used as a Master Unit?

Yes. UltraSync ONE is a timecode over RF transceiver, and so can be set as either a master transmitting unit or a slave receiving unit in an RF network. It cannot be used as a master in a BLINK network.

Can a Master Device use Drop-Frame Timecode?

Yes. The UltraSync ONE can use drop frame and standard frame rates.

How Long Does it Take for UltraSync ONE to Re-Sync?

If your UltraSync ONE 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:

UltraSync ONE 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.

Chapter 9
Safety and Disposal

Please read the important safety and recycling information regarding your UltraSync ONE and its battery:

Battery Safety and Disposal

UltraSync ONE contains a battery. The battery may contain toxic heavy metals and is subject to hazardous waste regulations.

To make sure you use and dispose of your UltraSync ONE safely and responsibly, please follow these safety and disposal instructions.

Battery Safety

DANGER - Risk of burns, injury, battery damage
Do not attempt to remove or disassemble the battery.
Do not expose the battery to heat or liquid.
Do not use or charge the battery in temperatures above 60°C.
Do not bend, pierce, or crush the battery.
Do not allow the battery to come into contact with metal objects.
Do not weld the battery.
Only use the product and charge the battery as described in the user guide. Incorrect use could result in fire, explosion, smoke, heat, and battery leakage.
Do not use a damaged battery.
Do not put product or battery into a microwave over, dryer, or high-pressure container.
If the battery does not charge in the expected time, stop charging and contact Timecode Systems for advice.
Stop using the product if there is abnormal heat, odour, discoloration, or deformation when in use, charging or in storage.
If the battery leaks on to your skin or clothes, wash with fresh water immediately.
If liquid from the battery gets into your eyes, do not rub them. Wash your eyes with fresh water and seek medical attention immediately.

Disposal and Recycling

Please **do not** dispose of your UltraSync ONE, its battery, or accessories such as chargers, with your household waste. Make sure you follow the local legal

requirements for battery disposal and recycling.
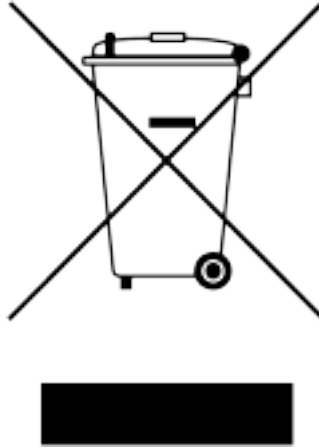
By disposing of the battery in the proper manner, you help to avoid possible hazards to the environment and public health that could otherwise be caused by improper treatment of batteries. The recycling of materials contributes to the conservation of natural resources.

For further information on disposal and recycling, please contact Timecode Systems.

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