

# Clockit Timecode ACN-TL TinyLockit



**Rev. 3.00**

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## 1. Introduction

As all Ambient Clockit devices the TinyLockit provides a rock solid, highly accurate, temperature compensated time code generator.

Except for the sync signal output, it comprises the full functionality of its big brother, including ACN (Ambient Clockit Network) support, metadata transfer and logging. These network capabilities also allow the TinyLockit to be a fully functional, generator buffered time code transceiver. This provides the stability of an Ambient Lockit Generator with the flexibility of a wireless TC system but without the fear of dropouts.

In addition, it also offers most features of the former ALL601, such as variable time code output level for recording TC on audio track and time code conversion between LTC / MTC. The second Lemo connector is used for TC or communications and can be configured as USB, RS232, or GP I/O.

As known from the ACN-TL, the user interface is easy and intuitive to use. Due to its smaller form factor the ACN-TL is especially suitable for applications on small cameras, but also on cameras or in setups where a sync signal is not required, it is a handy solution. Thanks to the machined, pearl blasted and anodized aluminum body the TinyLockit can easily withstand the roughest production conditions.

## **2. Package Contents**

- ACN-TL synchronizer
- Manual

## **3. Safety instructions**

For your own safety and trouble-free use of your TinyLockit ACN-TL please carefully read through the instructions below. Always keep a copy of these instructions and hand them out with the unit to other users.

This unit is exclusively intended for indoor use. Keep it safe and away from water, rain and humidity and dry under all circumstances even when powered off. Clean gently with a slightly moistened cloth and never let water, detergents or liquids of any kind get into the unit as this will imply the risk of short circuits and electrical hazard.

Keep distant from sources of heat and never expose to direct sunlight. Admissible ambience temperature is from +5° to +50° Celsius.

Do not throw or expose to mechanical impact and keep it safe from hard vibrations.

Only use genuine accessories such as cables antennae etc. which have been supplied by an authorized dealer. Always observe integrity and the pertinent compatibility with all units connected to.

Do not perform software updates in situations the integrity of mains supply can not be granted such as thunderstorms and remove connections from and to all devices directly or in directly connected to mains.

Only use intended batteries type Micro AAA with 1.5V. Watch correct polarity when inserting the batteries, instructions can be found in the manual and on the device itself. Disregard of handling may cause battery leakage or even risk of explosion.

To maintain secure electrical contact the batteries are loaded with high spring tension and can shoot out of the compartment if opened without attention. Always secure the outer battery contact and release slowly when accessing the compartment.

Proper recycling of used batteries might mandatory be instructed by local law. Please check for requirements and dispose at foreseen institutions. With regard to environment only dispose completely discharged batteries.

When powering from external sources remove the batteries. Pay attention to the use of LPS sources in compliance to part 2.5 of EN 60950-1.

When using the wireless connection of the TinyLockit ACN-TL place it centrally and keep it distant from sources of possible interference such as microwaves or electrical devices with large metal surfaces.

If possible always use the integrated antenna. If the application of an external antenna seems mandatory only use the original part directly attached to the socket. Extension or use of 3rd party accessories is not licit.

Never open the unit. Inappropriate and unauthorized access will void the warranty and imply possible risk of harm to the user.

When disposing the unit follow the legal requirements for recycling electronic equipment.

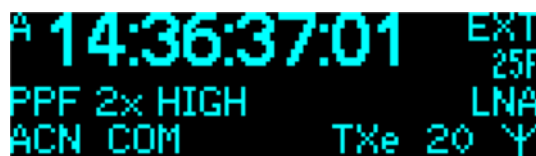
#### 4. Powering

The ACN-TL can be powered:

- by 2 pcs. Type Micro AAA batteries (Alkaline, NiMH rechargeable or Li-Ion). Set correct battery type in configuration for reliable low voltage warning.  
No charging function for rechargeable batteries when powered from external.  
Pay attention to insert with correct polarity as shown on label, insert outer with “+” first, inner with “-“ first. Push down battery hinge and close slider.  
Or:
- 5 to 18 Volts DC via pin 4 of Lemo/TC socket  
Or:
- 5 Volts DC via the USB socket.



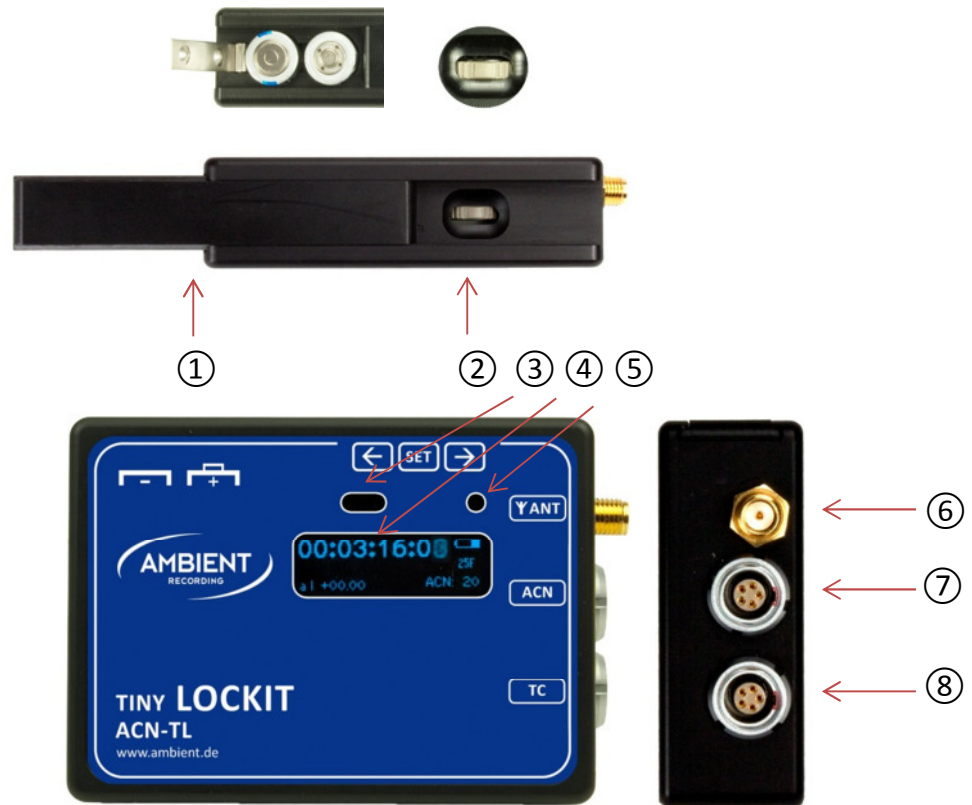
If powered from USB, USB is displayed in the upper right corner of the display instead of the battery symbol.



If powered from external on Lemo/TC pin 4, EXT is displayed in the upper right corner of the display instead of the battery symbol.

Note: current time code is lost when power is removed. The settings are stored, the unit will power up with the last configuration used.

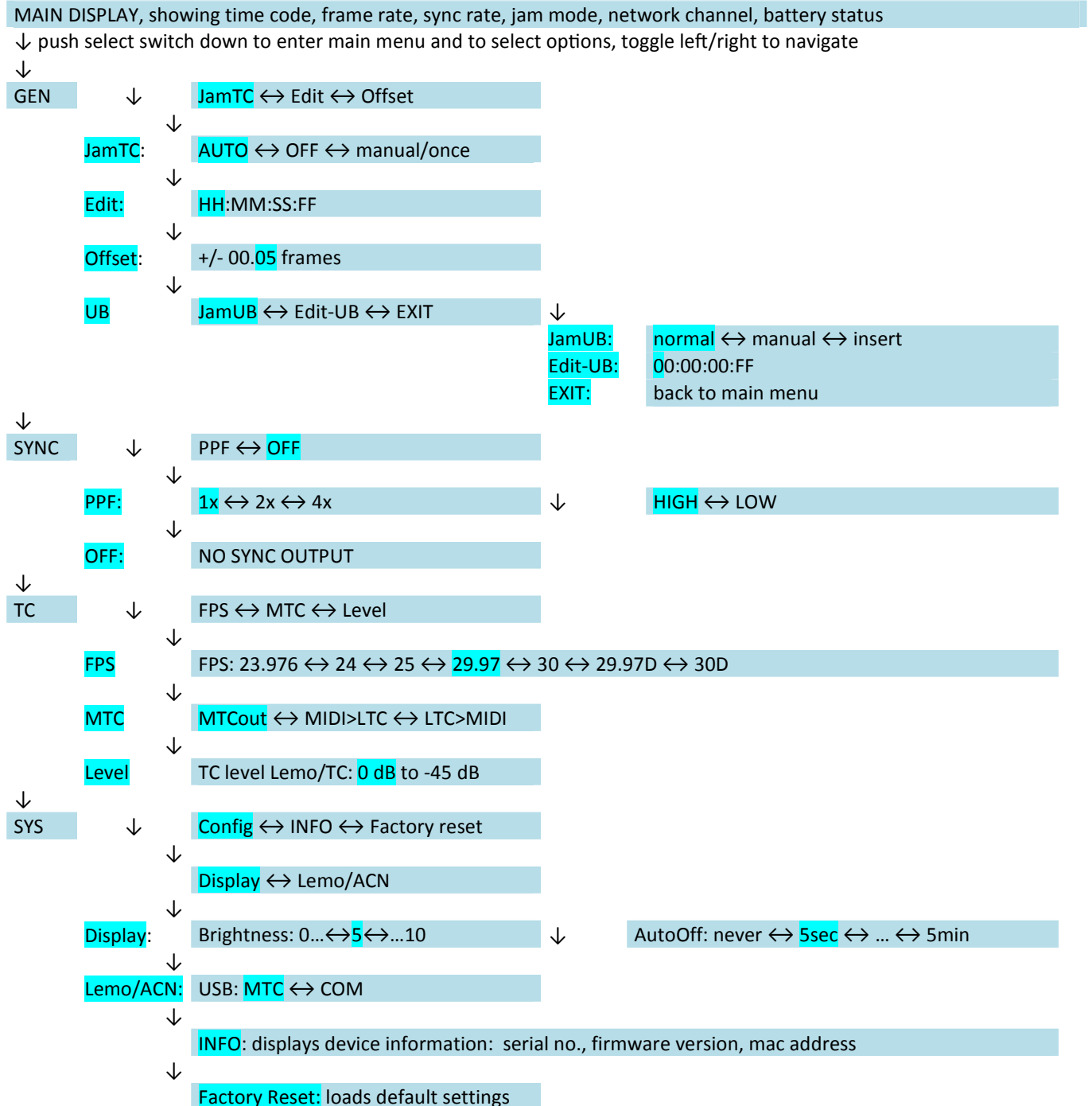
## 5. Description

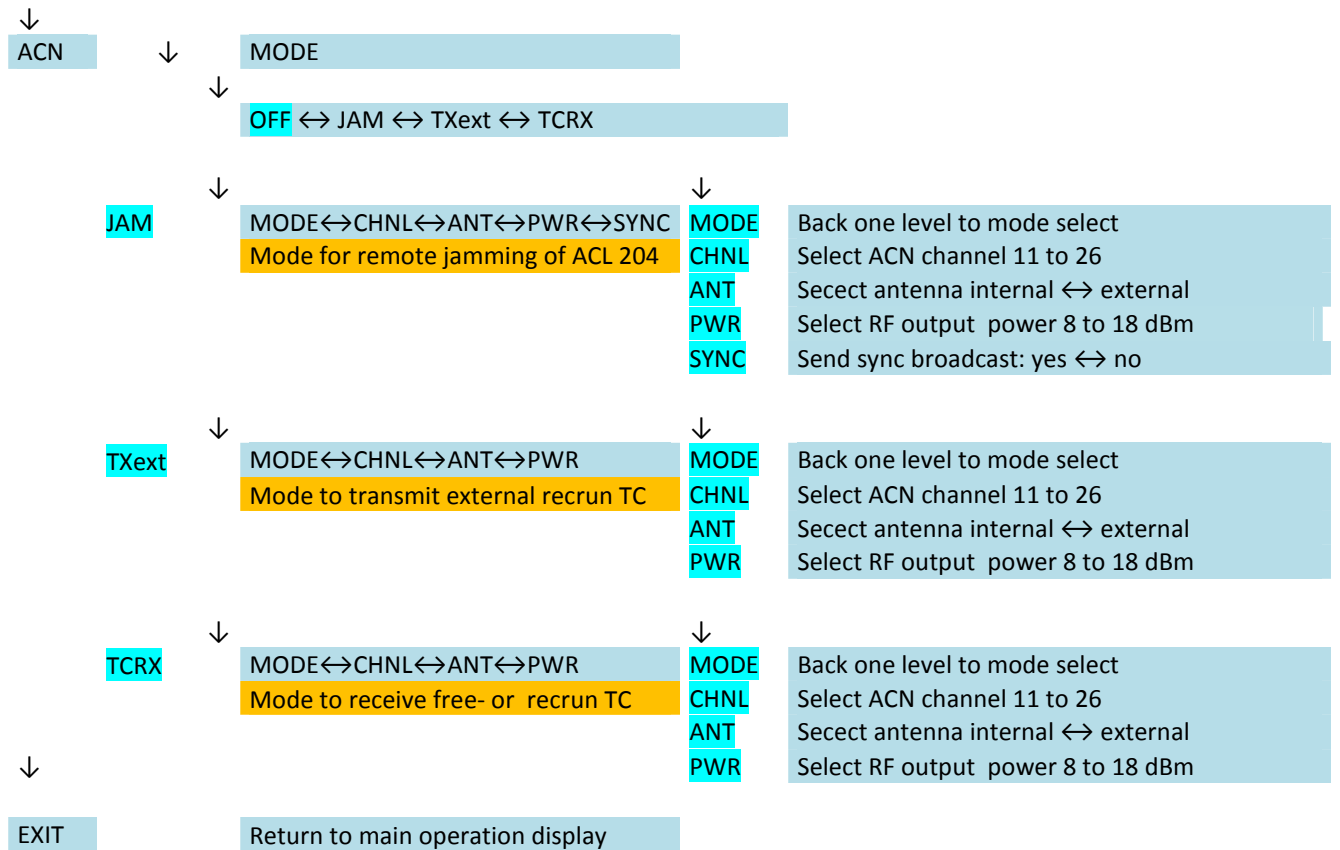


- ① Battery compartment slider to be pushed left/right for access to switch or batteries
- ② Configuration switch (further “config switch”, ↓ for pushing in, ↔ for toggle left/right)
- ③ IR transceiver, used to set and check the ACN-TL from the ACC501 controller
- ④ Display
- ⑤ Signal LEDs
- ⑥ External antenna connector
- ⑦ Lemo 5-pin socket Lemo/ACN: time code in, out / RS232 serial port tx-rx / USB / GPI/O / Switch function / DC-out
- ⑧ Lemo 5-pin socket Lemo/TC: time code in, out / ascii / tune signal / PPF / DC-in

## 6. Setup Menu Diagram

When entering a menu, the active parameter setting is highlighted.







## 7. Menu Description

### POWER ON / OFF

To turn on the ACN-TL, press and hold the config switch for 4 seconds.

To turn off, press and hold the switch for 4 seconds. The display will show:



Press switch again to power down.

### MAIN DISPLAY



The main display is the normal operation mode. It displays the most important status information.

These are the time code momentarily running, sync signal type and rate, time code frame rate,

and various additional information:

“a” down left indicates the jam mode “auto”, “-” indicates “off” – no external jamming available, “m” indicates manual / once

“I” indicates external TC port open for jamming, disappears while port is closed.

“+00:00” indicates the time code offset

Information related to ACN will be displayed once it is activated.

If the display is switched off (power save), pushing the config switch once will turn it on again without doing any changes. Also, a time code jam activates the display.

## MAIN MENU



Pushing the config switch once enters the main menu screen. The main operation parameters are further displayed. In this screen, you can select the different settings by pushing the config switch.

Navigate by toggling the config switch left or right.

Pushing the config switch when EXIT is highlighted exits to the main screen.

If no action is done, the unit will return to the main screen as well.

## GEN MENU



In the **GEN**enerator menu, you can edit the jam mode, edit the time and set an offset of the time code output against the jammed time.

Under UB, you can display and manage user bits.

### GEN > JamTC



In the JamTC settings, you can select from different jam behaviors:

Navigate toggling left/right, push to select.

**"AUTO"** – the ACN-TL will behave as used to from the former Lockit boxes. It will jam once time code is detected, but not re-jam while time code is continuously present. As long as time code is present, the "I" mark disappears to indicate that the unit is not ready to re-jam. If the time code is disconnected for 3 or more seconds, the "I" reappears to indicate that the unit will jam again once time code is received.

**"OFF"** – the ACN-TL does not jam to external time code. This setting is useful if you set the unit manually and want to transmit an incoming time code value (for instance from a device in record-run mode) at record start to the ACN Master unit.

**"manual/once"** – the ACN-TL jams once to external time code, but then will not jam again but close the jam port. Once jammed, the "I" indicator disappears, signaling that the unit can not be jammed from outside. This setting is useful if you want the unit to be jammed from external time code but then not to be changed by incoming signal anymore, to transmit an incoming time code value (for instance from a device in record-run mode) at record start to the ACN Master unit. Also can be used should a TinyLockit box be used to re-jam cameras in intervals and using a bi-directional time code cable, which would, with some cameras that put out time code permanently even in "ext. TC" mode like the Alexa, lead to resetting the

ACN-TL in “AUTO” mode. To reactivate the jam port, just push the config switch repeatedly going >GEN>JamTC>manual/once> and exit. The “I” indicator appears again, the unit is ready to be jammed once again.

**CAUTION! Resetting the generator will restart the sync signal, doing this while recording will result in a corrupted file.**

**GEN>EDIT**



In this screen, you can edit a time code value manually.  
Decrease or increase by toggling left/right.  
Holding left/right is fast backward/ forward. Push to select.

Pushing the config switch while on the frames position sets the time. To avoid inadvertently changing the time code, you will be asked:



Pushing the config switch while “old” is highlighted discards the changes and returns to the main menu.

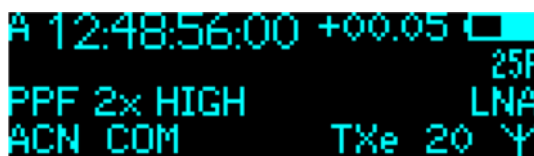
Pushing the config switch while “new” is highlighted will set the generator to the selected value.

**CAUTION! Resetting the generator will restart the sync signal, doing this while recording will result in a corrupted file.**

**GEN>OFFSET**



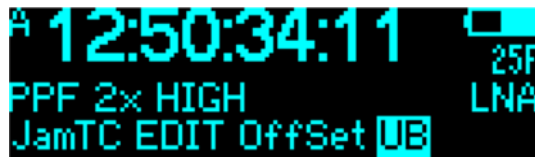
An offset can be entered between the jammed time code and the time code on the output of the ACN-TL. Use this to compensate the processing delay that some file base cameras produce.



If offset is enabled, it will be displayed in the main screen. This shifts only the time code, the sync signal stays locked to the frame start of the jammed time code running in background.

The offset has a range of +/- 10 frames in 0.05 frames steps (equals 2 ms at 25 fps).

## GEN > UB



In the GEN > user bit menu, the user bits are being displayed. The user bits can be edited manually, and the jam behavior managed.

## JamUB



Under JamUB, the jamming behavior is managed:  
**normal**: the user bits are being taken from external time code



**manual**: the user bits are not being overwritten by external time code. This mode is to be used if you want a custom entry, like date and camera Id for instance.

**insert**: user bits can be inserted “on the fly”. Note:

if the source time code was unplugged for more than 3 seconds and reconnected, the ACN-TL will re-jam. For just inserting changed user bits after interrupted time code, you must also set the ACN-TL to “jam once” or “off” in the jamTC menu.

## Edit-UB

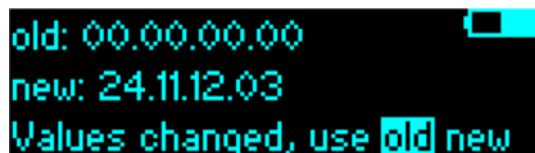


In Edit-UB, the user bits can be edited manually.

Decrease or increase by toggling left/right. Holding left/right is fast backward/ forward. Push to select value, curser jumps to next digit.



After finishing, selecting the new value needs to be confirmed – “use new”, or the menu can be left by cancelling – “use old”.



## EXIT



As the user bits are only displayed in this menu, we added a way to exit without any changes quickly.

## SYNC MENU



12:59:39:21  
PPF 2x HIGH  
GEN SYNC TC SYS ACN EXIT

The **SYNC** menu lets you set the sync signal format, type and rate. Select the different settings by pushing the config switch. Navigate by toggling the config switch left or right.



12:58:51:00  
PPF 2x HIGH  
PPF OFF

“**PPF**” – selects a “pulse per frame” signal. Used to trigger certain video cameras.



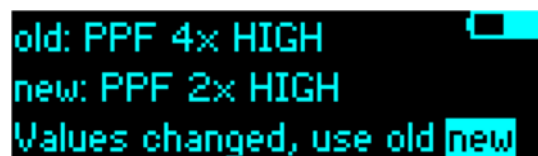
13:01:34:06  
PPF 2x HIGH  
PPF: 2x HIGH

The PPF signal is put out on pin 3 of the Lemo/TC socket and on pin 3 of the Lemo/ACN socket. Only the output on the Lemo/ACN socket is a “timer” output, on Lemo/TC there is a jitter of up to 2 ms. For the PPF signal, rate (single, double, quad) can be selected, and whether it shall be a “high-low” or low-high transition.



13:05:07:23  
PPF 2x HIGH  
PPF: 2x HIGH

Pushing the config switch selects. If any changes have been selected, you will be asked to confirm.



old: PPF 4x HIGH  
new: PPF 2x HIGH  
Values changed, use old new

Pushing the config switch while “**old**” is highlighted discards the changes and returns to the main menu.

Pushing the config switch while “**new**” is highlighted will set the sync signal to the selected format.

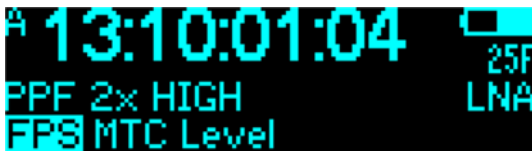
“**OFF**” – deactivates any sync signal. Use this if time code only is required.

## TC MENU



Enter the **TC** menu to adjust the time code frame rate, MIDI time code (MTC) functions and time code output level for pin 5 Lemo/TC.

### TC > FPS

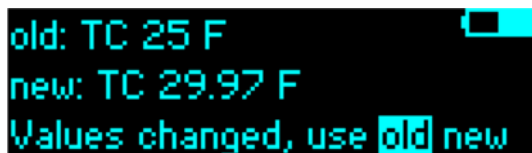


Select **TC** for adjusting the frame rate. Adjust by toggling the config switch left/right, push in to select new frame rate:

Rates: **23.976, 24, 25, 29.97, 30, 29.97D, 30D fps (D = drop frame)**



If settings are changed, confirmation is required: Pushing the config switch while “**old**” is highlighted, discards the changes and returns to the main menu. Pushing the config switch while “**new**” is highlighted will set the time code signal to the selected rate.



### TC > MTC



Select MTC to control the Midi Time Code options:

**MTCout**: this is the default mode. The ACN-TL always puts out MTC, unless the USB port is set too COM (see SYS > Config > Lemo/ACN > USB)



The Lemo/ACN Socket switches to USB whenever a 5 Volt USB power is recognized.



**MIDI>LTC**: MTC received through USB will be converted into LTC and put out on both Lemo sockets, pin 5.



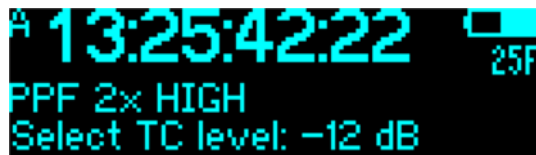
**LTC>MIDI**: LTC received on Lemo/TC pin 2 will be converted and put out as MTC via USB.

## TC > Level



Select **Level** to adjust output level on Lemo/TC.

The adjustable range is from -45 dB to 0 dB. Default level is 0 dB. This equals 3 Vpp without load or 1,5 Vpp or 0 dBu into 1 K Ohm.



Select by toggling left / right, select by pushing in the config switch.

## SYS MENU



The **SYS** menu serves to configure various parameters, in this release version the display behavior and the BNC sync signal impedance are set. Push the config switch to enter.

### SYS>CONFIG



Enter the configuration by pushing in the config switch

Navigate to **DISPLAY** or **Lemo/ACN**, push the config switch to select.



### SYS>CONFIG>DISPLAY



Adjust display **brightness** from 1 to 10 toggling the config switch left/right. Push in to select value.

The cursor will jump to the **Auto-off** settings: Select after what time the display shuts off after entering the main operation display.

Choices are:

Never – 5 seconds – 30 seconds – 1 minute – 5 minutes.



Select by toggling the config switch left/right. Push in to select value.

**SYS>CONFIG>Lemo/ACN**



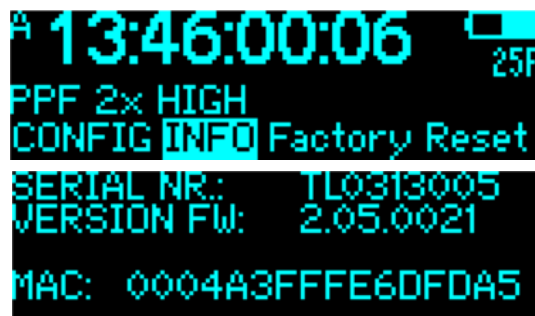
Select the function of the USB connection:

**MTC**: this is the default, will be recognized as generic MIDI interface and deliver time code as MIDI time code.

**COM**: select to communicate with computer, for updating software or transferring ACN data. This mode will appear as a HID in the control panel.

Select by toggling the config switch left/right. Push in to select mode.

**SYS>INFO**



Select **INFO** to display information about the device:

Serial Number

Main firmware version

Mac address



## ACN MENU

A 13:41:54:19 25F  
PPF 2x HIGH LNA  
ACN COM TXe 20 Y

MODE

A 13:43:25:24 25F  
PPF 2x HIGH  
ACN mode: OFF JAM →

A 13:43:41:17 25F  
PPF 2x HIGH  
ACN mode: TXext TCRX →

The **ACN** menu accesses the **Ambient Clockit Network** configuration.

To enable ACN, select the **MODE**

In the release version of the ACN-TL, three different network communication modes are available:

JAM, TXext, TCRX

### ACN > JAM

A 13:47:03:16 25F  
PPF 2x HIGH  
ACN mode: OFF JAM →

A 13:47:18:07 25F  
PPF 2x HIGH LNA  
Select ACN channel: 20

MODE CHNL ANT PWR SYNC

A 13:50:58:10 25F  
PPF 2x HIGH LNA  
Select LNA: off on

A 13:53:58:24 25F  
PPF 2x HIGH LNA  
enter PIN: -000

MODE CHNL ANT PWR SYNC

The **JAM** mode allows to send a sync command to other ACN-TL or ACL 204 devices or receive sync command from them. This serves to remotely sync all units on the set. First, the menu asks to select the wireless channel.

The **CHNL** setting allows you to select between 16 network channels within the 2.4 GHz range.

The channel can be changed later.

After setting this, selection of internal or external antenna is possible and powering the low noise amplifier **LNA** for the receiver on or off. The LNA draws power, so it is recommended only should the reception of data be insufficient without. Default setting is internal antenna, for activating the external antenna a PIN code is required.

If the external antenna is activated, the antenna symbol on the bottom right of the display is shown, LNA is shown as well

**PWR** lets you increase the output power of the transmitter. Default is 8 dBm, up to 18 dBm is possible. Again, the PIN is required.

```
MODE CHNL ANT PWR SYNC
```

```
Send sync broadcast?
yes no
```

```
A 13:58:50:08 25F
syncing...
TC 1 (1 ok, 0 failed)
UB 1 (1 ok, 0 failed)
```

```
sync sent 14:37:33
TC:1 ok,0 fail, UB:1 ok,0 fail
MODE CHNL ANT PWR SYNC
```

```
sync rcvd 14:54:37
MODE CHNL ANT PWR SYNC
```

Selecting **SYNC** opens the screen for sending a sync command to all ACN-TL or ACL 204 in reach which are on the same channel and in JAM mode. Default is on no, toggle to yes and push to enter.

After sending out the sync command including time code and user bit, the other units reply and the number of units which replied and were successfully synced is displayed.

A device that received a sync command will memorize when the sync command was received. The transmitting device also memorizes the event. The information is displayed when **ACN** is selected from the main menu.

There may be various reasons for a “sync failed” returned:

For time code:

- If the frame rates of sending and receiving device do not match (integer vs. non-integer frame rates like 25 fps and 29.97 fps, the sync command is rejected.
- If **“OFF”** is selected in the GEN>JamTC settings.
- If **“manual/once”** is selected in the GEN>JamTC settings and the device has already been jammed before.

For user bits:

- if the GEN>UB>JamUB is set to “manual”

ACN > TCext / TCRX

```

A 14:07:03:11 25F
PPF 2x HIGH LNA
ACN mode: TXext TCRX →
  
```

```

A 14:07:06:16 25F
PPF 2x HIGH LNA
ACN mode: TXext TCRX →
  
```

```

A 14:12:45:09 25F
PPF 2x HIGH LNA
Select ACN channel: 20
  
```

```

sync sent 13:58:45
TC:1 ok,0 fail, UB:1 ok,0 fail
MODE CHNL ANT PWR
  
```

```

A 14:14:25:09 25F
PPF 2x HIGH LNA
Select ACN antenna: int ext
  
```

```

A 14:16:26:21 25F
PPF 2x HIGH LNA
Select LNA: off on
  
```

TCext is a wireless transmission of external time code present on the Lemo/TC input. This is intended for transmitting a record-run time code to another ACN-TL or ACL 204 which is in TCRX mode. Once progressing time code is detected, the ACN-TL jams to it and sends a jam command to the slaves.

When external time code stops, a stop command is sent to the slaves.

If static time code value is recognized, as put out by a video camera or Sound Devices recorder, the time code is stopped and a static time code is put out on the time code output of the slaves as well as on the output of the unit that is in TCext.

This feature makes it possible to remotely start and stop recording of audio recorders, cameras and video recorders which support being triggered by time code.

As in JAM mode, the network channel needs to be set first when coming from OFF condition but can be changed any time. Other available settings are selection of internal or external antenna, activating LNA and setting the output power of the wireless module. PIN is required for external antenna use and higher output levels.

EXIT

```

A 14:20:36:13 25F
PPF 2x HIGH LNA
GEN SYNC TC SYS ACN EXIT
  
```

Exits to the main operation screen.

## 8. LED Indications

As used to from former devices of the Cockit Time Code family, the ACN-TL has a red and a green flashing LED to display operation and battery status:

0 1 2 3 4 seconds:

● ● ● ● ● red flashing in 1 second intervals: running, but not jammed or set.

● ● ● ● ● green flashing in 1 second intervals: running, jammed or set manually.

**This is the normal operation mode.**

● ●● ●● red double flash every 2seconds: battery low, not jammed or set.

● ●● ●● green double flash every 2seconds: battery low, jammed or set.

● ●● ●● ●● ●● red double flash every second: TC / video not sync, not jammed or set.

● ●● ●● ●● ●● green double flash every second: TC / video not sync, jammed or set.

The double flash on every second is shown while invalid combinations are configured or while syncing the genlock signal to time code after configuration changes or jamming.

● ●●● ● ●●● combination of not sync and low battery, not set or jammed.

● ●●● ● ●●● combination of not sync and low battery, set or jammed.

● ●●●●●●●● alternating colors during firmware update.

## 9. Firmware Update

New features, improvement and fixes for the ACN-TL will be available for download from our website:

<http://www.ambient.de/en/products/ambient-recording/clockit-timecode/tiny-lockit.html>

The firmware update comes as a executable file including the programming interface and the firmware file.

Connect the ACN-TL to a computer running a Microsoft Windows® operating system using a USB-A cable to Lemo series 0B 5-pin connector and run the updater. Press the “UPDATE” button. Wait until the message “update successful” appears.

The adapter cable from USB-A to Lemo 5-pin is available from Ambient recording.

Item code **ACN-USB**

Contact us for bug reports and suggestions through our contact form.

## 10. Physical specifications

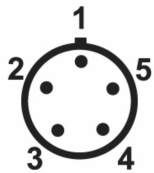
Dimensions: (L / W / H): 71.5 x 56 x 20 mm

Weight: 0.118 Kg (no batteries)

Power consumption: 70 mA (3 Volts, typical)

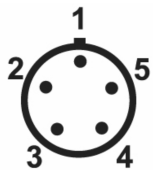
Connectors:

“Lemo/TC”: Lemo series 0B 5-pin (matching connector  
FGG/JGG.0B.305.CLADxx)



pin 1: ground  
pin 2: LTC IN  
pin 3: ASCII IN / OUT  
pin 4: Tune reference 1.92 MHz out / DC-IN 6 to 18 Volts  
pin 5: LTC OUT (adjustable output level)

“Lemo/ACN”: Lemo series 0B 5-pin (matching connector  
FGG/JGG.0B.305.CLADxx)



pin 1: ground  
pin 2: LTC IN /USB 5V Input  
pin 3: ACN: USB D+ / RS232 TX / Event Switch to Pin 4 / GPO  
(General Purpose Output TTL)  
pin 4: ACN: USB D- / RS232 RX / Event Switch to Pin 3 / GPI (General  
Purpose Input TTL)  
pin 5: LTC OUT / 3.3 Volts DC OUT

Lemo/ACN remarks:

- GPO is a timer-driven output with TTL output signal (47 Ohm series resistor)
- GPI is a timer-driven input and even a timer-driven output with an open-drain transistor. It has configurable pull-up (30k) and pull-down (20k) resistors.
- The event switch has a 200 mA fuse between pin 3 and 4

Antenna: SMA-F

## **11. Warranty & Approvals**

### **Warranty**

Ambient Recording GmbH warrants the TinyLockit ACN-TL synchronizer against defects in materials and workmanship for a period of ONE (1) year from date of original retail purchase. This is a non-transferable warranty that extends only to the original purchaser. Ambient Recording GmbH will repair or replace the product at its discretion at no charge. Warranty claims due to severe service conditions will be addressed on an individual basis. THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE. AMBIENT RECORDING GMBH DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. AMBIENT RECORDING GMBH IS NOT RESPONSIBLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING FROM ANY BREACH OF WARRANTY OR UNDER ANY OTHER LEGAL THEORY. Because some jurisdictions do not permit the exclusion or limitations set forth above, they may not apply in all cases.

For all service, including warranty repair, please send the ACN-TL, along with proof of purchase date to your retailer, or, if not applicable, to:

Ambient Recording GmbH  
Schleissheimer Str. 181 C  
DE – 80797 Muenchen, Germany

Please obtain a return authorization through the contact form on our website before sending in a unit.

## **CE CE Conformity Statement:**

Declaration of Conformity

According to ISO/IEC Guide 22

Manufacturer's Name: Ambient Recording GmbH

Manufacturer's Address: Schleissheimer Str. 181 C, DE – 80797 Muenchen, Germany

declares that the product: ACN-TL Synchronizer

is in conformity with:

- EN 60950-1:2006 + A11:2009+A1:2010+A12:2011+AC:2011

- EN 300 440-1 V1.6.1

- EN 300 440-2 V1.4.1

- EN 301 489-1 V1.9.2

- EN 301 489-3 V1.4.1

which is indicated and affirmed by the applied CE marking.

## **FCC FCC Statement**

The FCC requires that the following statements be included in this manual for ACN-TL:

### **FCC § 15.19**

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.

### **Canada CNR-Gen Section 7.1.3**

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.

### **FCC § 15.21**

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

### **FCC § 15.105**

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or

television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**ICES-003**

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Tested by: TÜV SÜD Product Service, DE 94315 Straubing

March 2013

Sebastian Fell

Ambient Recording GmbH



## 12. Recommended accessories

**ACM-TL** Mounting accessory for attaching the device to a 3/8" thread



**ACM-FS** Adapter 3/8" to cold shoe



**ACN-USB** Adapter cable USB-A to Lemo Series 0B 5-pin



**LTC-OUT** Adapter cable Lemo Series 0B 5-pin to BNC



**LTC-OUT/ Epic** Adapter cable Lemo 5-pin to Lemo series 00 4-pin for use with RED Epic / Scarlet



**TC-I/O** Adapter cable Lemo 5-pin to Lemo 5-pin for use with ARRI Alexa



**ANT-2.4-SMA-M** Antenna straight



**ANT-2.4-SMA-M90** Antenna right angle



**ACNTL-T** Pouch for the ACN-TL





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