

# Clockit Master Slate

## ACD 301 RF

Time Code Slate / MK III - 2012



Rev. 6.03

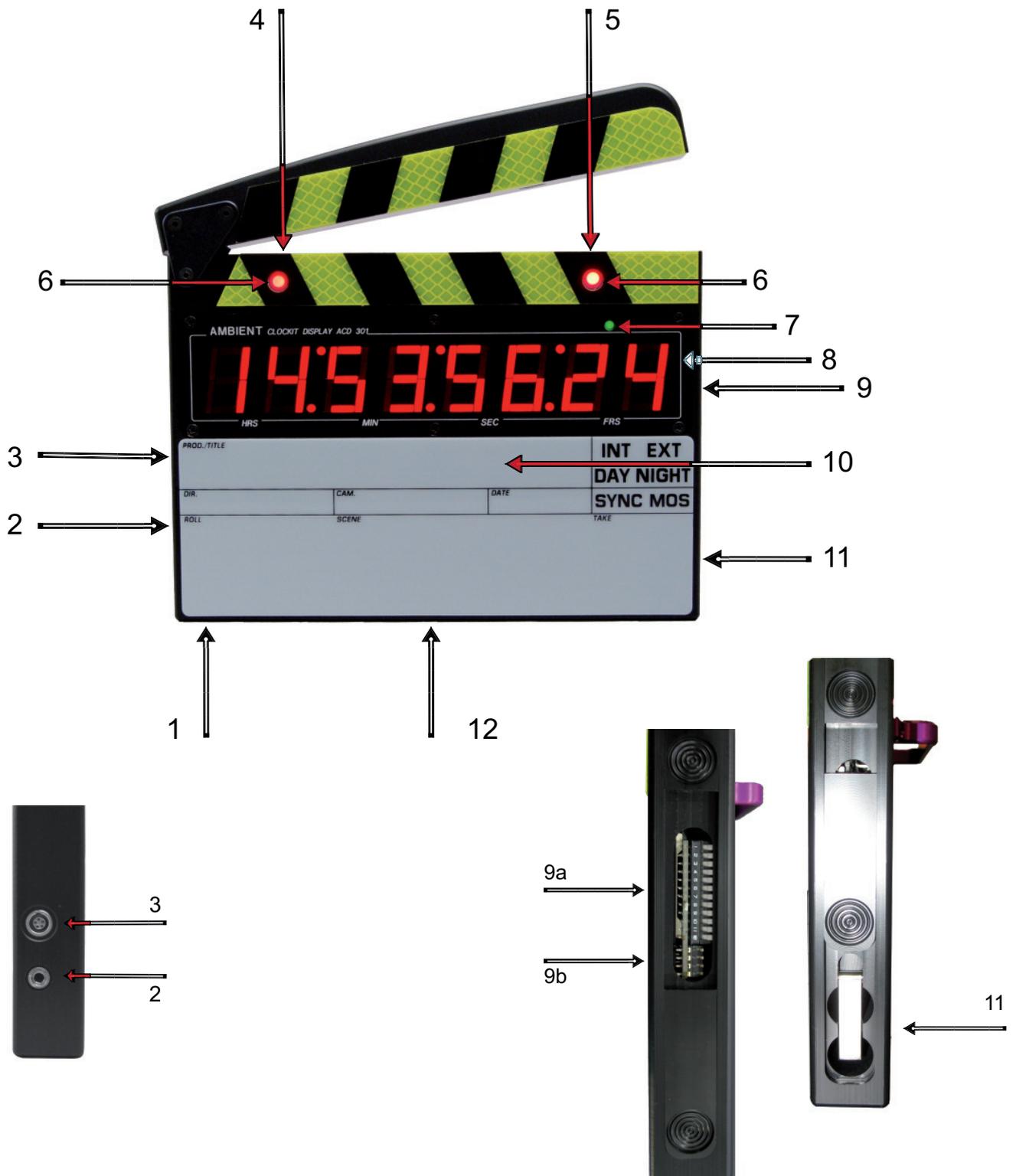
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# 1 User Instructions

## 1.1 Controls & Control elements

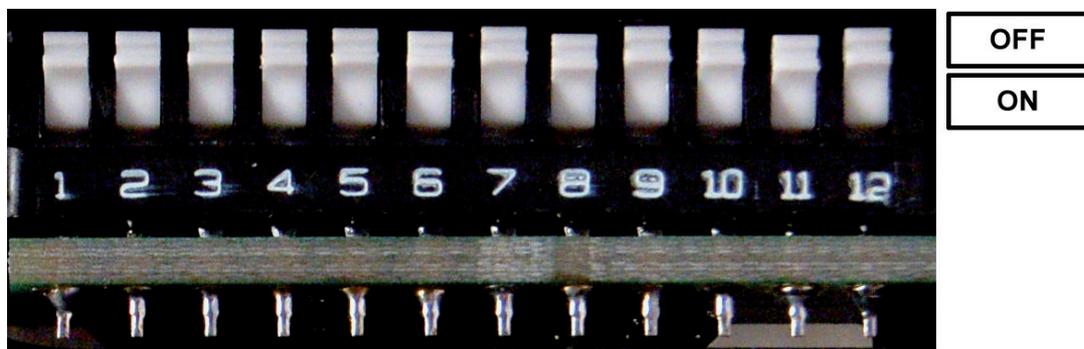


<b>Bottom edge</b>	<ul style="list-style-type: none"> <li>1) ON/OFF switch</li> <li>12) Antenna</li> </ul>
<b>Left side</b>	<ul style="list-style-type: none"> <li>2) 1/8" jack time code In/Out socket</li> <li>3) 5 PIN LEMO interface socket</li> </ul>
<b>Between clap stick and body</b>	<ul style="list-style-type: none"> <li>4) Push button left. ( RED )</li> <li>5) Push button right. ( BLUE )</li> </ul> <p style="text-align: center;">All internal setting functions are carried out using these two buttons in combination with the DIP-switches.</p>
<b>Front</b>	<ul style="list-style-type: none"> <li>6) 2 RED flash-LED's</li> <li>7) RED and GREEN single LED</li> <li>8) LED display with Anti-glare mask and polarizing red filter</li> <li>10) Writing surface for board marker</li> </ul>
<b>Right side</b>	<p>Two sliders are on this side of the slate.</p> <ul style="list-style-type: none"> <li>9) The top slider exposes the DIP-switches.</li> <li>9a) DIP-switch with 12 switches</li> <li>9b) DIP-switch with 4 switches</li> <li>11) The Bottom slider locks the battery contact strip and allows the exchange of batteries.</li> </ul>
<b>Back cover</b>	<p>Has a short form instruction manual laser engraved; it describes the main functions of the slate. (see page 30)</p>

### 1.1.1 The DIP-switches

There are two switch fields inside. One with 12 DIP-switches and one with 4 DIP-switches. Their functions are outlined in this chapter. It is important to note that changes made to the DIP-switches (12 switch-field) 1, 2 and 3 are activated only after a power-down, power-up cycle. Switches 4 through 12 take effect at once.

#### *DIP-switch with 12 switches:*



#### Frame rate

SW	23.976	24	25	29.97	29.97 Drop	30	30 Drop
1	ON	ON	OFF	ON	ON	OFF	OFF
2	OFF	OFF	OFF	ON	ON	ON	ON
3	ON	OFF	OFF	OFF	ON	OFF	ON

**Note:** Switch 3 down only (25 fps) is enhanced reader (see section 3.4)

### Operating modes

<b>SW</b>	<b>Gen</b>	<b>Gen/ RTC</b>	<b>Read/Gen</b>	<b>Read</b>
<b>4</b>	OFF	OFF	ON	ON
<b>5</b>	OFF	ON	OFF	ON

### Display modes

<b>6+7</b>	OFF	User bits 2 seconds then off
<b>6</b>	ON	TC running short flash
<b>7</b>	ON	Clapped time after user bits
<b>6+7</b>	ON	Clapped time only long flash

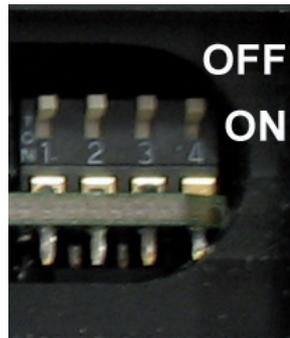
**Note:** With SW 7 down LED display shuts off after 3 minutes.

<b>8</b>	ON	Advance Frs.
	OFF	Retard Frs. selected by switches 9.10.11.

	<b>FRS</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>9</b>	1's	0	1	0	1	0	1	0	1
<b>10</b>	2's	0	0	1	1	0	0	1	1
<b>11</b>	4's	0	0	0	0	1	1	1	1

<b>12</b>	OFF	<b>Running time code shown when clap stick lifted.</b>
	ON	<b>User bits header</b>

**DIP-switch with 4 switches:**



- 1 **TRX OFF / ON** Transceiver are transmitter when slate is in GEN mode, receiver when in READ or READ/GEN mode.

Make sure TRX is switched off when not in use, reading or jamming TC from LEMO or 1/8" jack is not possible if TRX is left on.

- 2 **TX continuous / burst:** when in GEN mode, TC is transmitted continuously or as a 5 seconds burst when slate is clapped.

- 3 **Flash-LED ON / OFF:** LEDs flash at second's start (5 frames) when up.

These aids syncing up if the frames are not readable on the display.

- 4 **Read TC is inserted in user bits when in RD/GEN mode**

### 1.1.2 Brightness control

Open the clap stick and hold down one button while incrementing or decrementing the brightness with the other.

The brightness of the slate can be altered in 9 steps with the blue and red pushbuttons. This optimizes film exposure of the display and helps save batteries. Additionally, when the brightness is at maximum there is an automatic control which reduces the brightness in 10 second cycles. When the slate is closed the internal counter counts back to 0 seconds. The display will show maximum brightness on opening again.

Due to the increased brightness of the slate, it is necessary to save batteries. In the clap mode the slate is opened and clapped usually within 10 seconds, so that this feature does not impair the maximum brightness at slating time.

**Note:** When the batteries get low and don't recuperate in the time the display is off, the processor reduces the maximum brightness until batteries are changed. If you can't get 9 brightness levels it is time to change the batteries. (See chapter 1.1.4 and 1.1.5)

**Note:** No external time code should be connected in the generator mode when changing brightness otherwise the generator could be jammed if the red button is pressed while holding down the blue. In reader mode changing the brightness will not influence the generator.

### 1.1.3 The "Red" and "Green" LED

On the top right hand corner of the display are a Green and a Red LED which indicate the status of the generator and reader.

RED LED flashes at one second intervals. Gen ON and running but hasn't been set from an external or RTC source.

GREEN LED flashes at one second intervals. Gen ON and has been set from external source or RTC on start up.

**Note:** If the generator loses time due to unsuccessful ext. Jam or other problem, the Red LED will flash instead of the Green.

When the generator is set from an external source while it is running the Red LED will go on shortly and then the Green LED will flash at 1 sec. intervals.

A full on LED indicates latch up or time code/noise present at the input. Repeat jamming process, or turn OFF then ON to reset.

**Generator mode** When the slate is turned ON, the Red LED will flash at one second intervals indicating that the generator is running but not set.

**Generator RTC mode** When the slate is turned ON the Green LED will flash indicating that the generator has been set from the internal RTC.

**Reader/Generator mode** When the slate is opened and the reader mode is active the Red LED will be ON if no ext. TC is present. The Green LED will be ON indicating that an external TC is being read successfully.

When the slate switches over to generator on closing the slate the Green or Red LED will flash as described in the generator mode.

**Reader Mode** The Red LED is full ON when no Ext TC is present or there are reading problems. The Green LED will be full ON when an external code is being read correctly.

#### 1.1.4 Voltage readout, low battery warning

Pressing the right / blue button shows the battery voltage for 5 seconds before going into the camera speed check (only in GEN mode with no TC signal at the input or in READ mode).

When the batteries have gone below 6.9 Volts or the batteries are being changed the Red or Green LED will double flash.

If using good alkaline, this threshold gives you about one hour to replace the batteries (with lit LED display at a medium brightness level).

If using Ni-MH or Li-Ion batteries, that time may be shorter due to the different discharge curve of those.

For rechargeable or Lithium batteries, we recommend monitoring the voltage indication and double flash behavior to gather an empirical value about how long those will last when they are close to being empty.

### 1.1.5 Changing the batteries

The ACD301 accepts 6 pcs. AA 1,5 Volt batteries.

Make sure to observe polarity, reversed batteries will leak!

Alkaline, Lithium or rechargeable Ni-MH is possible.

Due to the high current draw with display at higher brightness levels, Lithium batteries will last longer when operating with permanently opened slate.

The slate's internal Ni-MH accumulator will keep the generator running for 5 minutes when the batteries have been removed. The LED display is shut off while running on the backup battery. The internal data are not lost during battery change. After new batteries are inserted, double flashing will go on for about a minute.

### 1.1.6 Tuning the slate

The generator Xtal of all Clockit units can be "tuned" using the Clockit Controller (ACC 101 - 501) to within  $\pm 0.1$  ppm to its reference Xtal, which in turn is "tuned" to GPS (factory setting) or to a fixed offset to match another machine by the user. Full details of this process will be found in the Clockit Controller manual.

## 1.2 Check features

The slate can be used to implement all time code checking functions required on the set using the internal Clockit generator as a master to check all other time code equipment as required. Error checks can be carried out without the slate jamming from the externally connected time code.

**The following checks can be implemented:**

- |          |                           |  |
|----------|---------------------------|--|
| <b>A</b> | <b>Frame rate</b>         | identification   |
| <b>B</b> | <b>Drop, Nondrop</b>      | identification   |
| <b>C</b> | <b>Error</b>              | between Slate generator time code and any externally<br>connected time code up to 2 Frames in $\frac{1}{4}$ frame rate steps |
| <b>D</b> | <b>Camera speed check</b> |  |

### 1.2.1 Camera speed check



Vertical bars flicker at fps

slate fps

This feature works only when no external TC connected. When viewing the slate through a camera you will see one horizontal stripe. This stripe is standing still if the camera's speed matches the slates frame rate. If the bar is moving left then the camera is too slow, if the bar is moving to the right then the camera is running too fast in respect to the set frame rate.

### 1.2.2 Checks with No external TC connected

#### To temporarily show user bits.

Press the RED button.

#### To temporarily show speed and frame rate.

Press BLUE button to show the Generator frame rate and strobe bars for camera speed check.

#### To latch camera speed check.

Press and hold BLUE button then push the RED button,  
hold and release first the BLUE followed by the RED button.

#### To unlatch the camera speed check.

The speed check will be displayed until you press the BLUE button to unlatch the speed check again.

### 1.2.3 External TC frame rate identification

Press BLUE button to display the Generator frame rate and next to it the external TC frame rate. A single bar to left of the frame rate indicates the eventual error in the following ways:



0 1/4 1/2 1 1-1/4 1-1/2 1-3/4 2> offset TC is connected  
 if external  
**Frames error ext. fps slate fps**

### 1.2.4 EXT TC error check

Bar full left indicates an error of 0 frames or less the ¼ frames.

4 bars from left 1 fps error.

Full right indicates 2 or more frames error.

### 1.2.5 Frame rate identification

The ACD slate display shows the various frame rates in the following way:

<b>Display</b>	24	25	23	29	2d	30	3d
<b>Frame rate</b>	24	25	23.98	29.97	29.97	30	30
						Drop Frame	Drop Frame

## 1.3 The Manual Set Mode

To enter the SET MODE press both (RED and BLUE) buttons simultaneously for approx. 3 seconds until the user bits show (one spacer dot). The left most digits will flash. You can then release both buttons. The digits can be changed with the following cursor movements:

### 1.3.1 Moving the Cursor

**To move Right** Press the BLUE button.

**To move Left** Hold the BLUE button down and press the RED button.

### 1.3.2 Changing the digit values

**Increment value** Push RED button.

**Decrement value** Hold down RED button and decrement with BLUE.

### 1.3.3 Cancelling changes

Closing the slate stick at any time during the set mode immediately cancels all the current changes and reverts the slate to the state prior to the set mode.

**Note:** The generator still counts during set mode so no time is lost by entering and leaving set mode in the above manner.

### 1.3.4 The cursor ring



Diagram of cursor ring

1 2 3 4 5 6 7 8 virtual 9

The cursor moves in ring in the following way:

First 8 user digits (single space dots) then a position one digit to the right of the 8 user bits (pos. 9) where the single spacer dots flash and the old and new user bits can be toggled to select. Then on moving the cursor one more step to the right the time display is entered (double space dots). Moving the cursor to the right leaves the time display through the Toggle position (pos. 18) and reenters the user bit field from the left. The cursor can move in both directions to reach its required position though the left to right movement is easier to implement with the push buttons and considering one changes user bits more often than the time.

**Note:** The position of the cursor decides which new Data is entered into the generator.

**With the cursor in the user bit or toggle user bit position,** only user bits will be entered into the generator. The time which still runs in the set mode, will not have been changed.

**With the cursor in the Time or toggle time position** the selected time and user bits will be entered into the generator.

**Loading** the selected values into the generator is implemented by holding down both buttons simultaneously till the display runs.

### 1.3.5 Notes on selecting digits

#### User bit Field

The user bits have 8 digits all of which can be set to numerals 0 to 9 and various letters. Generally there is no restriction to what one selects but user bits have been traditionally used to indicate the date and/or production number, camera number etc.

In addition time code film cameras expect to find the date in a particular configuration and may reject a time code if the date is not written correctly. A specific configuration is necessary so that a number is recognized for what it is, for example 'day of the month'. Obviously if the year was entered into this slot the reader would reject a day of the month with a value of 96 (the year).

We recommend the following formats for the order of the digits as seen in the display.

**D**=Day. **M**=Month. **Y**=Year. **X**=Prod Number. **U**=Unit (Camera). **R**= Roll Nr.

### 1.3.6 The Aaton configuration

#### DD MM YY XX

When working with an Aaton or Aaton system cameras, or setting the Internal RTC this format must be used.

### 1.3.7 The AMPS configuration

#### DD MM UR RR

Use this format when more identification numbers are required.

### 1.3.8 The Time Field

The time field has the following fixed configuration:

H= Hours M= Minutes S= Seconds F= Frames

#### HH MM SS FF

When the display is running the frame field is changing at the frame rate. In the set mode the FF position can contain the following digits and letters which indicate the frame rate selected by the DIP-switches or modes for setting the RTC.

### 1.3.9 The Frame (FF) Digits

<b>Display</b>	24	25	23	29	2d	30	3d	ct	cd
<b>fps</b>	24	25	23.98	29.97	29.97	30	30	set	set
					Drop Frame		Drop Frame	RTC Gen. TC	RTC from Manual Display

**Note:** The frame rate displayed is an indication of the DIP-switch setting and cannot be changed by the cursor.

### 1.3.10 The CD and CT functions

The ct or cd function can be selected in the FF position. The slate must also be in the generator /RTC mode.

#### Select ct

When Load is implemented the RTC is set from the generator time and date.

#### Select cd

When Load is implemented the RTC is loaded from the current display time and date. (Set manually)

#### Select Fps (DIP-switch value shown)

When Load is implemented only the generator is loaded with the selected data.

### 1.3.11 Setting the generator

There are three settings of the DIP-switches in which the generator is active.

- A Generator Mode**
- B Generator/ RTC Mode**
- C Reader/ Generator Mode**

#### In Generator Mode

On power-up the generator starts counting from 00.00.00.00 .and the user bits are 00.00.00.00. The Red LED flashes.

Go to set mode. (See 2.3)

Set user bits as above and move cursor to time frame.

Set time value and verify frame rate in last 2 digit positions.

To LOAD press both buttons simultaneously till display runs.

User bits can be loaded without changing time by selecting the user bits and loading with the cursor in the user bit display.

### **In Generator / RTC Mode**

On power-up the generator is loaded with the RTC time and date values. The Green LED flashes.

The frame rate is as selected by the DIP-switches.

The values entered by the RTC will be overridden by a manual set as above or by jamming from Ext TC.

### **In Reader / Generator Mode**

The generator cannot be loaded in the Reader/Generator mode.

Select Generator Mode, then load the generator and change the DIP-switches back to Reader/Generator Mode. (DIP-switch pos. 4.5. goes from Off. Off to On. Off)

When re-jamming generator change DIP-switches to generator mode re-jam and change DIP-switches back to Reader/Generator.

**Note:** We recommend that the slate is used as master in this mode. It is easier to re-jam the camera and recorder than changing the slate's DIP-switches each time.

### **1.3.12 Setting the Real Time Clock (RTC)**

The RTC can only be set with the slate in generator RTC mode

#### **To enter values from running generator**

Go manual set mode.

Check that user bits have DD.MM.YY.XX format

Move cursor to FF position without changing the display.

Select ct.

Load by pressing both buttons till display runs.

**To enter values from selected display**

Go manual set mode

Enter date

DD. MM. YY.XX XX don't care

Enter time

Move cursor to pos. FF select cd

Load by pressing both buttons till display runs

**Note:** If frame rate is selected in the FF position then only the generator will be loaded.

## 1.4 Jamming the generator from external TC

The slate must be in the Generator or Generator/RTC mode.

Connect external TC.

Verify frame rate and error with the blue button as in 2.2.2 and 2.2.3.

While holding down Blue button tip Red button ON shortly.

Red LED goes on then the Green LED flashes.

Check frame error with Blue button again.

The error bar should be on the far left.

**Note:** The generator always runs with the frame rate selected by the DIP-switches. Thus X jamming of frame rates is possible. In other words a camera running at 24 fps can jam a 30 fps slate.

**Note:** The X jamming and the error check takes place at the 00 Frame transition. Thus the error check works correctly between time codes of different frame rates. A 24 fps time code running with a 30 fps time code will show no error if the 00 frame points are coincident in time.

## 1.5. Setting the generator from an ASCII source (Aaton protocol)

The Master slate is fully Aaton compatible and can be set by the Aaton Origen C or by the Ambient Controller ACC 101 / 501 using the ASCII protocol.

The ASCII protocol enquires the time and user bit values from the slate; it checks the error and reloads the external time value at the 00 frame transition point on initialization.

Connect the ASCII Device

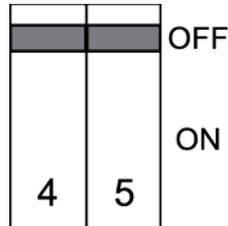
Check error

Initiate reload

Red LED goes ON, and then the Green LED flashes.

## 2 Operating modes

### 2.1 Generator Mode



The Clockit master slate contains a very accurate time code generator which drives the display. When the slate is synchronized to a film camera or Nagra recorder, the time code will not drift off more than 1 frame in 10 hours\*. Other time code machines which do not have such accurate Time code generators such as DATs and video recorders may have to be synchronized every hour. We recommend the Lockit box as an accurate time code and video sync source for audio or video recorders.

**Note:** Clockit units running together do not drift apart more than **1 frame in 24 Hours**.

When Clockit units are used in combination with other time code equipment calibration errors can lead to increased TC-drift necessitating re-jamming more frequently.

#### The Clapping sequence is as follows

Open slate - The Time code is displayed

Close slate - The Time code is frozen for 3 frames, and then the user bits are displayed for 3 seconds.

When switch 7 is ON the clapped time is displayed for 2 minutes at reduced brightness after the user bits are shown. This value can be logged by the Continuity/Script person.

Traditionally the time code in the master slate display is used to represent the time code in the audio machine for syncing purposes. It may or may not have the same frame rate as the film camera. The frame rate should be chosen so that the 00 frame point in Recorder and camera is identical, assuming no time code error. See the following table:

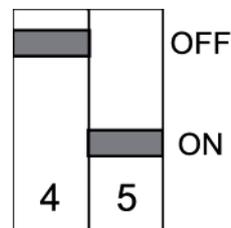
Film Camera	fps	24	25	23.98	30	
Video Camera	fps		25			29.97
Master Slate						
NTSC Video	frs	30*		29.97	30*	29.97
PAL Video	frs	25	25		25	

\* DAT recorders MUST be "pulled up", in other words run at 30 fps instead of 29.97 fps. The word clock will run faster in the recording process and be pulled down to 29.97 fps to run in sync with the Telecine which transfers the film, which was shot at 24 fps at 23.98 fps to be in sync with NTSC color video at 29.97 fps.

**Note:** The use of drop frame codes in the recording process is not recommended.

**Note:** Some film cameras have a 23.98 fps frame rate. Audio recorders can then use 29.98 fps TC. Recordings can then be synchronized with the Film (shot at 23.98 fps) without the need to pull down during the Telecine process.

## 2.2 Generator RTC Mode



This mode has the same function as the generator-only mode with the difference that on power-up of the master slate the RTC time and date is loaded into the Generator.

## 2.3 Reader / Generator Mode



In many film situations there is a requirement for 2 time codes to be displayed. In the classical situation a playback with time code is being played in a scene where at the same time sound is being recorded.

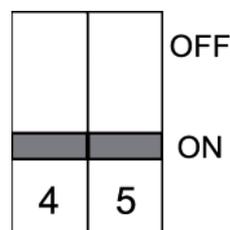
The master slate when opened, displays the Playback time code (ext. TC) connected by cable or transmitted by radio, thus facilitating syncing playback to picture. When the slate is closed the generator time is displayed thus giving a time code value corresponding to the time on the recorded tape.

**Note:** When switch 7 is ON the playback time value at the moment of closure of the slate is displayed for 2 minutes after the user bits. This value can be logged by the Continuity/Script person.

**Feature:**

With DIP-switch 12 ON the TC out signal (pin 5 LEMO) contains the generator time and the reader time in the generator user bit slot. This TC could be transmitted for logging purposes.

## 2.4 Reader Mode



In this mode the slate is a reader only and can be used in conjunction with a radio link or cable to display Playback time code in a video clip or Multi-Camera shooting situation.

When the slate is opened the time code is displayed.

When the slate is closed the user bits of the Ext TC are displayed.

This function is like the generator mode only the time code is coming from an external source.

**Note:** The DIP- switches 1, 2 & 3 should be set to OFF, OFF and ON giving a meaningless setup of 25 fps Drop frame. This setting only has meaning in the reader mode where the reader will then read forwards, backwards and up to several times normal speed.

## 3 New features in ACD301RF MKIII

### 3.1 CLOCKIT Radio Slate

The CLOCKIT Radio Slate is a combination of a small UHF telemetry transceiver powered by 2 AA batteries and a receiver built into the master slate. This makes the unit more compact than external receivers and easier to use. The range can be up to 200 meters but in difficult conditions it is typically 50 meters.

#### 3.1.1 Transceiver unit TC-TRX

The transceiver unit shipped with the ACD301RF can be configured to transmitter or receiver by sliding switch inside the battery compartment.

A dual color LED indicates transmits (green) or receives (red).

When shipped, it is set to transmitter.

The transceiver has a LEMO 5-pin connector:

pin 1	=	ground
pin 2	=	tc-in
pin 5	=	tc-out

Mating connector is LEMO part no. FGG.0B.305.CLADxxZN  
or the shorter version JGG.0B.305.CLADxxZN

Also on the top are the on/off switch and the antenna.

The transceiver is shipped with our TC-IN cable XLR-3F to LEMO-5pin to feed time code into the transceiver. This cable can also be used to feed time code into the slate by wire.

The TC-TRX is available in 315 MHz (green marked antenna), 418 MHz (blue marked antenna) and 433 MHz (red marked antenna).

**Note:** The TC-TRX uses “amplitude manipulation” and is not compatible with older slates or the TC-TX / TC-RX, a.k.a. “Black Box”.

### 3.1.2 Built-in TC-TRX

A transceiver is built into the slate and can be turned on and off with the 4-DIP-switch → switch 1

**Up = off, down = on**

When the slate is in GEN mode, the TRX is set to transmitter. With 4-DIP-switch → switch 2 user can select if time code is transmitted continuously or as a five seconds burst after clapping the slate.

**Up = cont., down = burst**

When the slate is in READ or READ/GEN mode, the TRX is set to receiver.

**Always set the TC-TRX to the right mode.**

**Note:** With the receiver on and the transmitter off there will be noise in the time code input line making the LED glow red (see 1.1.3). Always switch off the transceiver when not in use.

**Note:** Some Steadicam and camera focus remotes use the same frequency as our transceiver module, leading to poor reception and low range (interference).

## 3.2 Operating Note

The slate can be used to show the camera the user bits before rolling over. This is done by pressing the RED button under the clap stick. This will become useful in the near future to display the Event number which is a unique number for each audio recording in the user bits. This number can be slated to the camera in advance thus showing the event number on film like the take number written on the slate.

Alternatively, the slate will show UB automatically when opened if DIP-switch 12 is down.

## 3.3 Large Writing Sleeve

Due to users requests we offer a larger writing sleeve for the ACD master slate. The width is a standard 11 inches „Fits in a front box“ and the surface is covered with a non-reflective laser engraved label. Standard boxes are etched in the surface.

**Note:** The writing surface is similar to Formica and can be drying wiped clean. If the surface gets grey after frequent use it can be cleaned occasionally with spirits or acetone.

**Note:** Too much cleaning with acetone or aggressive solvents may damage the writing surface!!

## 4 Technical Data

### 4.1 Mechanical Specification

Dimensions	250 x 160 x 26 mm
Weight	960 g (no batteries)

### 4.2 Electric Specification

Batteries	6 pcs. AA 1.5 Volt
Current consumption	
Display OFF	30 mA
Display level 9	500 mA

### 4.3 Signal Specification

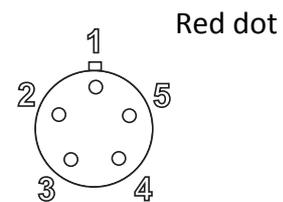
The ACD 301 generates all Time codes according to SMPTE / EBU standards.

TC - IN	0.1 to 5 Volt pp.
TC - OUT	1 Volt pp.
AATON (ASCII)	TTL Level
TUNE OUT	TTL Level

### 4.4 Plug Specification

#### LEMO 5 PIN

Pin	SIGNAL
1	GND
2	TC- IN
3	ASCII I/O
4	TUNE OUT *
5	TC- OUT



Front view

**Note:** No external DC input as indicated on slate back panel

#### 1/8" JACK SOCKET

Pin	SIGNAL
TIP	TC - OUT
RING	TC - IN
SHAFT	GND (SHIELD)

**We wish you successful shooting and in case you have any questions please don't hesitate to get in touch with us.**

## 5 Warranty & Approvals

### 5.1 Warranty

Ambient Recording GmbH warrants the Clockit Master Slate ACD301 RF time code slate 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 ACD301 RF, 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.

## 5.2 Approvals

### **CE CE Conformity Statement:**

Declaration of Conformity

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

declares that the product:

ACD 301 Time Code Slate

is in conformity with:

Document No.

EN 50 081-1 (EN 55022 Class B)

EN 50 082-1 (IEC 801-2 / ENV 50140)

Test Report No. 256 395 by EMV Testhaus GmbH, DE-94315 Straubing, July 8<sup>th</sup> 1996

### **FCC FCC Statement**

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.

**DIP SWITCHES**

24	25	30	29	97	23	98
1 ON	OFF	OFF	ON	ON	ON	ON
2 OFF	OFF	ON	ON	OFF	OFF	OFF
3 OFF	NonDrop	ON	Drop	Fr.	ON	OFF
4 OFF	OFF	RD/GEN	RD/GEN	READ	READ	READ
5 OFF	ON	OFF	ON	ON	ON	ON

Display Modes:  
 6+7 OFF Userbits 2 secs. then off  
 6 ON TC running short flash  
 7 ON Clapped time after userbits  
 6+7 ON Clapped time only long flash  
 7 ON: display shuts off after 2 min. reactivate by opening slate.

**QUAD-SWITCH**

1	2	3	4	5	6	7
0	1	2	3	4	5	6
0	1	0	1	0	1	0
1	0	1	0	1	0	1
1	0	1	0	1	0	1
1	0	1	0	1	0	1
1	0	1	0	1	0	1
1	0	1	0	1	0	1
1	0	1	0	1	0	1
1	0	1	0	1	0	1
1	0	1	0	1	0	1
1	0	1	0	1	0	1

8 ON Advance Fps.  
 OFF Retard Fps. Sel. SW. 9, 10, 11  
 Fps. 0 1 2 3 4 5 6 7  
 9 1's 0 1 0 1 0 1 0 1  
 10 2's 0 0 1 1 0 0 1 1  
 11 4's 0 0 0 0 1 1 1 1  
 12 ON Userbits header

**BATTERY VOLTAGE CHECK**  
 Press blue button  
 keep pressed for Speed and Fps check

**6 x 1.5V Cells Alkaline**  
 Change batteries when led(s) doubleblink. 5 min backup time.

No warranty repairs on leaked Cell damage.  
**REVERSED CHARGED CELLS LEAKI**  
**DOUBLECHECK CELL POLARITY!**

**SPEED and Fps. CHECK** Press blue button 5 sec. Framerate shows with strobe bars, and ext. TC framerate if present.

**INTERNAL CLOCK (RTC)** See manual

**READER** Set dipsw. 1,2 to Fps. dipsw. 4,5 to reader connect ext. TC. Check Fps. with blue button.

**READER/GEN.** Set dipsw.4,5 to gen. Set Gen time or ext. Jam. Turn dipsw.4 on. See manual.

**GENERATOR** Set dipsw. to framerate and function required first, then switch on. TC generates to selected Fps. Check Fps. in display with blue button.

**BRIGHTNESS** Open claspstick. Hold down one button. Change brightness with other. (Brightness level is stored)

**RF TRANSCIEFER:**  
 Always turn off when not in use or when jamming the slate from LEMO or MINIJACK.  
 TRX = RX in READ Mode  
 TRX = TX in GEN. Mode, continuous or burst 3 sec.



**MANUAL SET MODE** Press both buttons simultaneously fill userbits, show (one spacer dot). Cursor moves in ring. First user then time and back to user. Blue button to move cursor right. To move left press down blue button. Shift left with red button. Red button to increment digit. To decrement, hold down red button decrement with blue. When userbits set, move cursor to position 9. Toggle new/old user with red button. To set displayed user alone, press both buttons with cursor in user field, till display runs. Shift cursor right till time window shows (two spacer dots). Change time digits and check framerate (set with dip switches). To set generator, last two digits must show framerate not. of. or cd. (see Real TimeClock). Press down both buttons till display runs. Time/user are set. To cancel new settings and return to generator, which is still counting, close slate anytime in set mode.

**EXT TC JAM** Connect external TC and view Fps. with blue button. Slate senses ext. TC and ext. framerate. Press red button to set while holding down blue button. Only time and user will be transferred. X JAM possible. Led goes red then green. In reader/gen. Mode internal gen. cannot be set from ext. TC. Set to gen mode, load and turn dipsw. 4 on.

**AATON ASCII SET** Connect Aaton Origen C or Ambient Controller to initiate or check time. Load if necessary. Led goes red then green.



**MINIJACK**

- TIP LTC-OUT
- RING LTC-IN
- SLEEVE SHIELD

**CLOCKIT TIMECODE**  
 Masterslate  
 ACD 301 MK III

900.402

ON/OFF

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