AMBIENT CLOCKIT MASTER SLATE ACD101

The ambient compact Clockit Master Slate is a state of the art time code clapper containing a software based timecode generator and reader. The generator is driven by a very accurate crystal oscillator giving better than 1 ppm accuracy.(one Frame a Day)

The slate is compatible with other clockit units such as the ACL Lockit video camera synchroniser, ATM Clockit Timecode burst unit for audio recorders and the Ambient Clockit controller and can be set by Aaton ASCII command or jam synced to external timecode. Hand setting is easy and quick

The slate can be used as a stand alone unit where its accuracy will be better than most of the units it is set by, or as part of a Clockit driven system where the overall accuracy of all clockit units can be further tuned by the Clockit Controller to give a system accuracy of better than 1 ppm.

The slate can function as a reader of external timecode and its display can be retarded or advanced 7 Frames. The display has seven different brightness levels which can be set by push button. The slate's internal generator can be jam synced with ext timecode. set by ascii (Aaton Origen C) or set by hand. In the hand setting mode the user bits can be changed as in changing camera roll number without stopping the time. in other words once the time of day and date has been set it is good for all day. When using the display intermittently as in normal clapping mode the slate can run for several days on one set of batteries.

General features
*Small Rugged compact design running on 6 Mignon (Penlite) cells.
*DC/DC converter for long Battery life several days in Clapper mode.
*Microprocessor design gives minimal electronics and low power
*Variable Brightness Display. settable with external push buttons
*Clapper functions invertable showing time or user first
*Clapper fiunction without sticks using buttons,good for documentary
*Reads external time code to 1.5 times normal speed no frame delay.
*Time display shift settable + - 7 Frames
*Standard 5 pole Lemo input/output socket.
*Battery backup to allow battery change without losing time (5minutes)
*Led indicators to show state of battery and generator
*Slate extension for writing Take and Scene.
*A bigger slate for feature film use is being built.
*Charge internal batteries through Lemo input socket

GENERATOR FEATURES
Fully clockit compatible
Very accurate tunable clock,
Better than Arri cameras less than one frame a day without tuning
Hand setting of time for use as Master Slate to set ARRI 535. Aaton etc

User bits (CAM ROLL Nr) can be set without altering Time
Generates all Framerates 24. 25. and 30. 29.97 in Drop, Nondrop modus
Set time/ user with ext. timecode, Ascii. or by hand with push buttons
Operation modi set by DIP swiches covered by battery slider
Dip switch Framerates overridden by hand setting or ext Timecode

1.1 LED indicators

RED LED blinks at one second intervals when the generator has not been set.On switch on the generator starts from 00.00.00.00.
GREEN LED blinks at one second intervals when the generator has been set successfully from Ascii ext. timecode or by Hand. When setting from external timecode the LEDS change from red to green, the external timecode must be withdrawn on the green phase,or Jam will repeat every 5 seconds.
When the red or green LED blinks in double time the battery has gone below a predetermined value Change batteries. time is still OK
When the red LED is permanently on then the generator and microprocessor has stopped running correctly. change batteries and reset.

1.2 Lemo socket. Pin assignment

Pin 1	**GROUND**
Pin 2	**LTC in**
Pin 3	**ASCII In/Out, Tune**
Pin 4	**External supply 9 to 12 volts**
Pin 5	**LTC Out**

1.3 Switches

Fr/sec	24	25	30	29.97
1	On	off	off	on
2	Off	off	on	on

3	On Drop Fr. Off Non Drop
4	On Reader Off Generator
5	On Display continuous
	Off Display on for 5 secs
6	On First userbits then time
	Off First time then user bits
7	On Buzzer on
	Off Buzzer off
8	On Add frames 9-11
	Off Subtract frames 9-11

Frs	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

Binary Number 1.on 0. off
12   On. charge Nicads if fitted

Off no charge.

1.4 Brightness Setting
The brightness of the display can be adjusted in 7 steps. One button is held down while the other is used to change the display brightness. Brightness levels 6 and 7 are only usable on intermittent display, Clapper mode. There is an internal command to lower brightness level if the display is left on permanently at the very bright level.As the batteries become empty it can occur that the display flickers. It has switched automatically to a lower brightness. Change batteries soon. time has not been lost.

1.5 Generator
Setting the generator by hand is easy and has the following features

*Setting user bits without stopping or changing time
*Setting time and user together with one setting movement
*Setting time without changing user

Switch on, and open the clapper.
SET MODE
Hold down both buttons at once for five seconds to reach set mode,

Left button moves digits up .Hold down left button right button moves digits down.

Right button moves cursor to the right .hold down right button left button moves cursor to the left.
The cursor can be moved round a ring with user bits, then one space (POS 9) and onto time. Moving The cursor out of the time space through pos 9 reaches user bits again and so on.
In pos 9 the left button can be used to toggle the newly set or old time and user bits. the one showing in the display will be selected when entering.

USERBIT DESIGNATION
Y: year. M: month. D: day. R: roll. U: unit.

Old	YY MM	DD	RR
New	MM DD	UR	RR
or AATON	DD MM	YY	PP
	YY MM	DD	PP

The user bits show with cursor on left digit blinking. Set digits as above.
Newer master slates will show cursor at roll increment position one click and the roll number will increase.
After user has been set move cursor to pos 9 and toggle old or new user. to select.

ENTER user only and retain running time by holding down both buttons 3 seconds or move cursor right to enter time domain. Set time in a similar manner to user and enter time by pressing the two buttons simultaneously. Displayed time is entered and also selected user bits. To change time while retaining user move cursor through user domain to reach time or move cursor left into time domain. Don't change user on the way!
The setting mode can be terminated at any time by closing the clapper. the clapper will show old time and user.

Setting with external timecode

Plug in the external timecode through the lemo socket. The generator LED will go red then green. Withdraw the external timecode on the green Phase. After 5 seconds the generator will be jamsynced again.The LED will go red then green again. After the external timecode has been removed the green led must continue blinking. The generator will change to the framerate entered.

Setting with ASCII.
Connect Ambient controller or Aaton Origen C to clapper with ASCII blue Cable.Initiate ASCII or tune process.The led will change to green. Remove cable.

1.6 Reader
Clapper functions remain the same
Set DIP switch to reader and framerate
Connect external timecode.
Display will show timecode up to 1.5X speed

1.7 Clapper function
Open clapper,Time displays. Shut clapper, user bits display. After 5 seconds display shuts off.The display can be reversed to show userbits then time.
Press button, time is displayed. release button, time changes immediately to user bits and a buzzer sounds from the moment of changeover for 300 mS. The display shuts off after 5 seconds. The display can be reversed,

1.8 Permanent display
Open clapper. Time shows
Shut Clapper.Set dip switch to permanent Display.Time shows

1.9 External Slate extension.
Move battery slider to expose slot
Slide in slate extension. Lock with battery slider.
use board marker and dry wipe clean.

1. 10 Changing batteries
Use only alkaline batteries duracell or equivalent
the batteries can be change without losing time the internal battery backup runs for 5 minutes. this backup is also used to cover momentary loss of battery contact should the clapper be dropped shaken or the sliding lid inadvertently opened.

Nicads can be ticklecharged, really! through the external supply and the clapper can be run from an external supply of 9 to 16 volts.

1.11 Good shooting with the "Clockit Master Slate".

Here are some typical filming situations which can be taken care of by the master slate.

Shooting with new Aaton and ARRI timecode cameras . No need to rent a CCU. Clapper loader enters Time of day and user bits , jams camera and goes to sound and jams sound. At every roll change changes roll number and rejams camera and sound. If more than one clapper is used the roll number can be set on the other boards by Jam syncing.
Updating user bits this way is much quicker than connecting CCU then Jamming the slate from the camera. The master slate as portable master generator.

Shooting with old Aaton cameras. Set slate BY ASCII with Ambient Controller or Origen C. Set and record sound with ambient ATM burst Generator. for DAT and other recorders. or other timecode machine.

Continuous shooting with non timecode cameras. Set time on one slate and jam sync other Slates. Use LOCKIT TC generator Synchroniser as external timecode source for the audio machine, jam lockit to the slates. Set up clapper(s) in view of cameras.and begin shooting Clappers and lockit and connected audio machine will maintain 1 Frame a Day accuracy.

Vidoeo clips. Use clapper as reader connected by cable or wireless link to playback machine. Correct frameshift if necessary.

Mixed video or camera shoot. Connect Lockits to Betacams. Slate to non timecode camera. Timecode cameras have one frame a day accuracy. Jam sync all clockit units after setting master slate. System will maintain oneframe a day accuracy.