

LOCKIT USER TIPS

Betacam Shoot

In order to program the right time of day userbits etc into the Lockit you do not need a master clock.

- Make one Betacam the master
- Set to free run
- Set up timecode time of day/ userbits in this Betacam
- Switch on all Lockits they will blink red (not set)
- Connect the setting cable to the timecode out of the master Betacam
Setting cable is BNC to Lemo 5 pin Timecode goes into the BNC and out of the Lemo
- Jam one Lockit after another to the Master camera using the **setting cable** removing each Lockit when it blinks green.
- Now all Lockits are running sync to the master camera.
- Now connect up a Lockit to the master camera and all other cameras and audio. Set to external timecode. All units are now sync.

(If all lockits are jammed within 2 minutes from the same master camera they will all be in sync with not more than 1/100 Fr difference.) The master camera will not drift more than 1/100 frame in 2 minutes.

You can use the **Clockit controller** as a master timecode source but its main use would be to check drift and Tune the Xtals of the Lockits before a long shoot or a severe climate change or after several months / year, (aging). The Lockit has a temperature compensated oscillator but using the tune function you can really be certain that the xtals are optimised.

Timecode Outputs. The BNC timecode output is about 1.2 Volts pp for a 5 K ohm input impedance. We have had some trouble with Ikegami cameras as they have terminated the timecode input with 75 Ohms (videoseginal impedance not timecode). The BNC timecode output levels then too low and error is shown. There is a TTL level out from the Lockit at the Lemo socket pin 5 and with a special cable Lemo to BNC (**not the setting cable** as this cable is the other way round) a sufficient timecode level can be fed to the Ikegami.

Genlocking.

The Lockit black and burst video out is used to genlock the camera and is connected to the genlock in of the camera. The reason for this is as follows. The timecode word has an exact timing relationship to the video frame so that in editing the timecode value is assigned to the correct video frame . If one only uses the timecode in then the video frame will drift relative to the timecode and eventually there may be a video glitch as the camera readjusts the video to timecode. The camera reads the timecode input and puts the nearest frame value onto the picture. It also adjusts the video frame sequence to follow the 4 field NTSC and the 8 field PAL sequence. If the camera runs for a long time the timecode seen at the input may be seen as incorrect and the camera will correct, causing a sync glitch. If the Lockits video out is connected to genlock in the camera's video generator and tape mechanism etc is all synchronised to the lockit box so there will be no drift and the field sequence will always be correct.

The lockit box can be seen as a virtual camera.

In normal practice stationary cameras can be timecode and genlocked together using cables The Lockit box provides the same solution without cables.

Note: If there are any problems with the camera not syncing to genlock, then the genlock can be removed and the Lockit timecode can remain connected. In this mode with shots of short duration the timecode will be correct, but there is a danger of frame offsets due to the camera reframing on long takes.

Battery Life

- One should always give the Lockit new AA alkaline cells before a shoot begins.
- The Lockit will run about 16 hours on a set of batteries.
- When the Lockit double blinks one should change batteries there is a danger that the video will become unstable when the batteries are very low.
- For very long shoots there is an alternative method of powering .
- The Lockit can be externally powered over the Lemo socket. Using the Hirose DC out from the Betacam and a Hirose/ Lemo external power cable. In this method the batteries act as backup. When the external power is disconnected, (Camera battery change) the internal lockit batteries take over seamlessly. There is now timecode or videosync loss. In this way a Lockit can easily go a whole day (weekss) on one set of batteries.

Wordclock

The Lockit has switchable 48Khz wordclock output (Note. without pull up or pull down). This wordclock can be used to advantage when syncing portable audio recorders.

For example The HHB Portadat syncs better to wordclock as the sync signal is at a higher frequency. Using videosync the field rate 50/60 Hz is extracted from the video signal. As this is a low frequency the PLL correcting period is longer leading to more jitter.

Tascam DA88

The Tascam DA88 is being used often for field recordings. The lockit can be connected to the Tascam using the wordclock sync signal (or video , but wordclock is best) and timecode. If more than one Tascam is being used in parallel the wordclock out from the first machine can be looped out to the other units. The timecode should also be looped through but be careful that only loop is used otherwise a tape timecode on one machine could lead to offsets and problems on the other machines.

PLEASE READ THE MANUAL FOR OTHER TECHNICAL DETAILS.

DIPSWICH SETTINGS ON THE LABEL AS WELL. PICTURE AS SEEN WITH OPENED SLIDER

ALWAYS CHANGE SETTINGS BEFORE SWITCHING ON.

NO SETTINGS CHANGED WHILE LOCKIT IS RUNNING ARE VALID.

SETTINGS ARE LOADED DURING POWER UP

Please feel free to call us at Ambient for help at any time. We would also be very happy to receive any pictures or user reports good or otherwise. It helps us to improve things if needed and success stories give a great boost!!

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