

OPTOLUTION Synchronizer

The synchronizer is a compact device that coordinates the timing of a pulsed light source with a digital camera. It is connected to a computer (wireless serial link) and controlled via software. There are multiple software options available:

- PIVlab (open source) includes synchronizer timing presets for supported cameras.
- oltSync is a windows software that allows flexible configuration of the timing.
- Or integrate the synchronizer in your own setup using simple plain text serial commands.

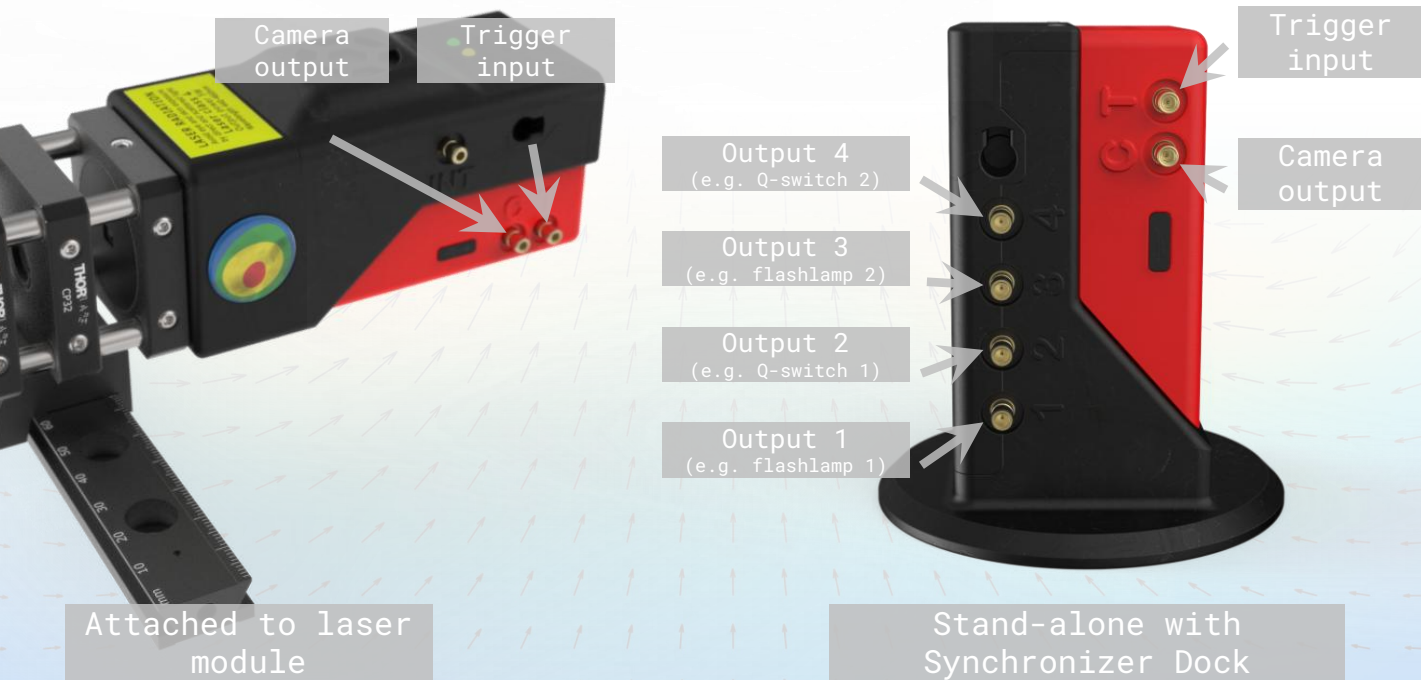
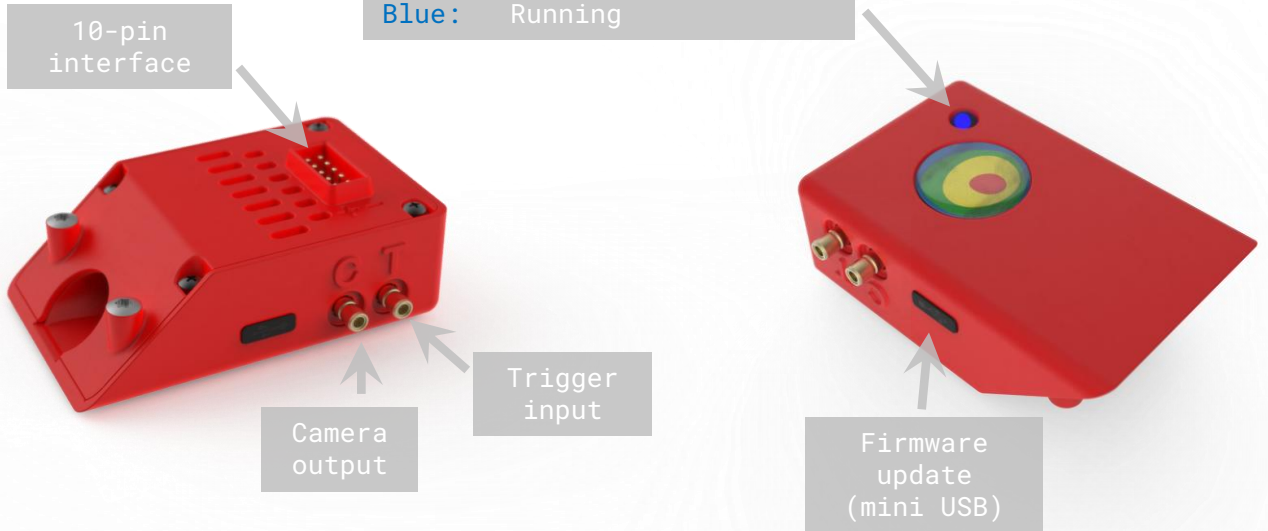
Main Features:

- Usage as stand-alone device
 - Five outputs, one input (with the Synchronizer Dock)
- Attached to OPTOLUTION laser / LED modules
 - Two outputs (camera and light), one input
- Wireless serial link
- SMB connectors
- Minimum pulse spacing: 1 μ s
- Pulse timing standard deviation: 10 ns
- External trigger modes:
 - Mode 0: Internal. Uses the configured camera and pulse timings, and starts recording when 'Start' button is clicked, stops when "image amount" is reached.
 - Mode 1: External – Double shot on rising edge. Uses the configured camera and pulse timings, arms when 'Start' button is clicked, records one double image each time trigger goes high, stops when 'image amount' is reached.
 - Mode 2: External – Shoot while high. Uses the configured camera and pulse timings, arms when 'Start' button is clicked, records while the trigger input is high (and pauses when it is low), stops when 'image amount' is reached.
 - Mode 3: External – Start on rising edge. Uses the configured camera and pulse timings, arms when 'Start' button is clicked, starts record when the trigger input goes high, stops when 'image amount' is reached.
- 100 - 240 V AC power supply

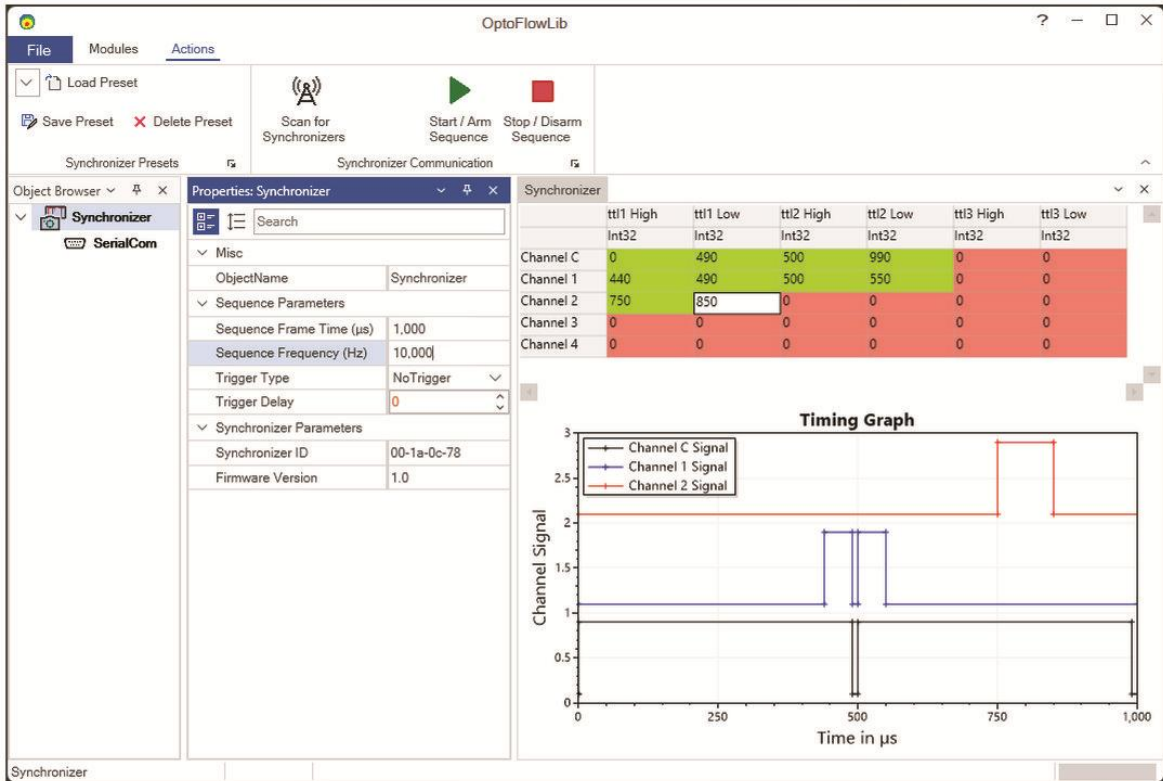


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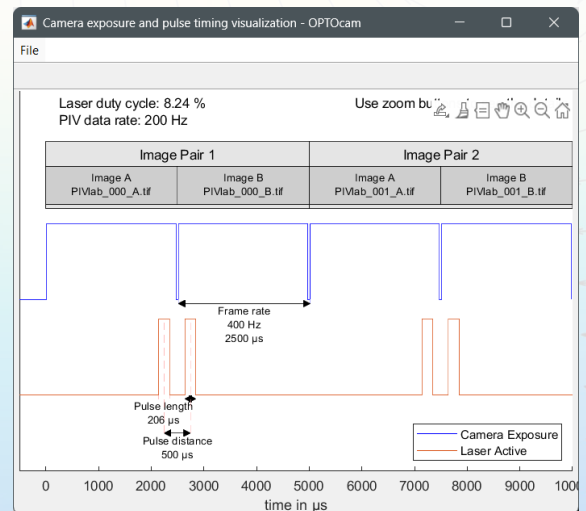
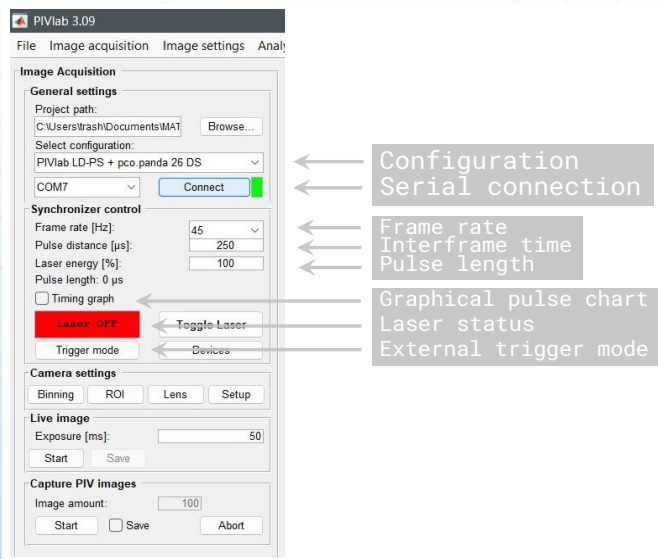
Green: Power OK
Orange: Data received
Blue: Running



Configuration via Software oltSync



Configuration via Software PIVlab



OPTOLUTION Synchronizer – Serial commands

(all commands sent at 9600 baud, 8 data bits, 1 stop bit, parity: none; with crlf as newline character)

Request the ID from the synchronizer:

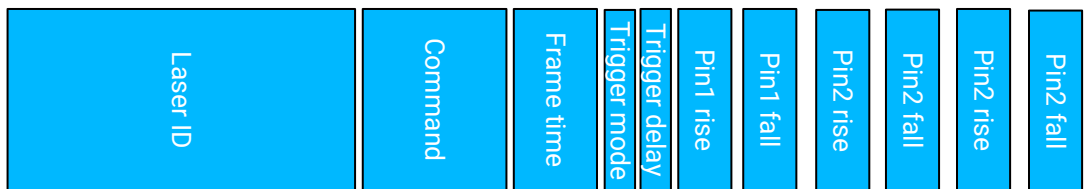
WhoAreYou? , will report e.g. "oltSync:00-1a-0a-4b" (used in the examples below)

Request the firmware version from the synchronizer:

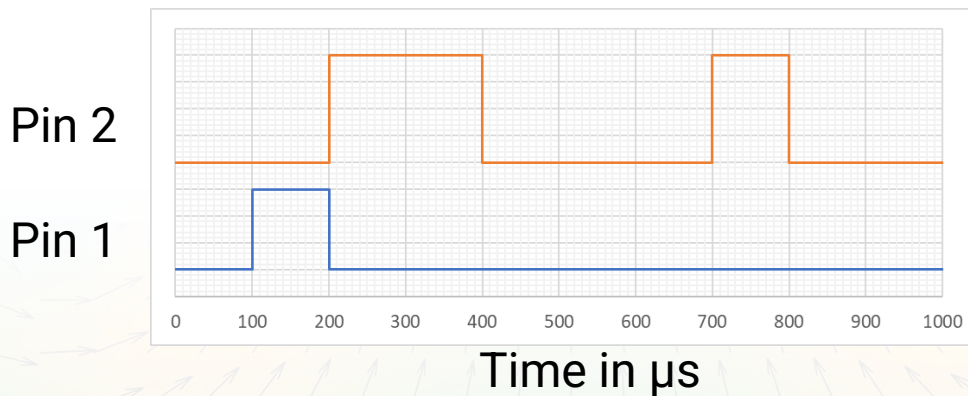
WhichFirmWare? , will report firmware version, e.g. "oltSync:1.0"

Set a timing sequence (all times in microseconds):

TALKINGT0:oltSync:00-1a-0a-4b:sequence:1000:0,0:100,200:200,400,700,800



This will result in the following signal:



Start the signal generation:

TALKINGT0:oltSync:00-1a-0a-4b:start

Stop the signal generation:

TALKINGT0:oltSync:00-1a-0a-4b:stop