



ILA Synchronizer 2011 – Specifications

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Hardware Specifications:

- 5ns resolution
 - ultra low jitter
 - TTL compatible pulses (capable of driving down to 10Ohms)
 - output voltage adjustable for special Lasers
 - repetition rates from 0,047 Hz up to 10 MHz
 - 12 independent outputs, separately configurable
- (controls multiple laser systems separately or synchronized)
- Q-Switch channel logic OR mode
 - CW-mode capable
 - non-stop reloading (no stopping of output sequence while user varies the timing)
 - 6 trigger inputs up to 2.7MHz
 - configurable trigger logic (selectable as logic AND, OR, INVERT)
 - free programmable trigger delay
 - free programmable trigger window
 - incremental encoder mode
 - ultra quick following of external triggers
 - 100Mbit Ethernet connection for communication with PC
 - comfortable configuration via ILA-Software



Trigger configuration:

The external trigger signals can be configured as „AND“, „OR“ and „INVERTED“. This useful

figure 1: ext. Trigger inputs

when combining multiple trigger signals and lets one decide on which edge the sequence should start.

Trigger Window:

A programmable window is added to the sequence in which the system is sensitive to the external trigger. This is useful if e.g. lasers are used which only work in a small frequency margin. The trigger window function makes it possible to use almost any trigger signal, be it jittered or varying in speed or bursts.

Incremental encoder mode:

The system generates a new internal trigger after counting a programmable amount of encoder pulses on t2. This counter is reseted with an trigger on t1, usually the null-impulse. This is useful when using rotating devices under test with an incremental encoder. After the internal trigger is generated, the usual trigger features described above can be applied. In combination with the trigger window a fixed timing sequence is achieved, giving you shots at an exact position, no matter of the variations of the device's rotation jitter.

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