



Passive Differential Pulse Inverter

- Differential pulse-inversion of trigger sources with closed circuits
- For trigger signals from pulsed lasers and fast APDs (SPADs)
- No power supply required
- Offset-drift compensation
- Conversion of TTL pulses to negative signals for bh TCSPC modules



The A-PPI-D is a passive device used to transform positive pulsed signals such as TTL output pulses of detectors or trigger sources into signal pulses suitable for accurate detection with bh TCSPC modules.

Power Supply

Power Supply: passive

Connectors

Input: 50 Ω, SMA female
Output: 50 Ω, SMA female

Pulse Inversion

For Triggersignals from pulsed Lasers and fast APDs

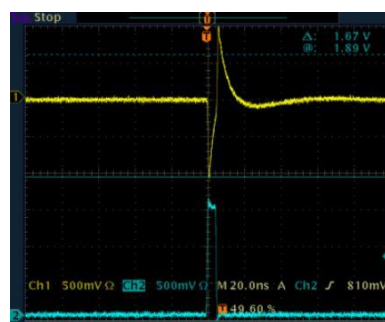
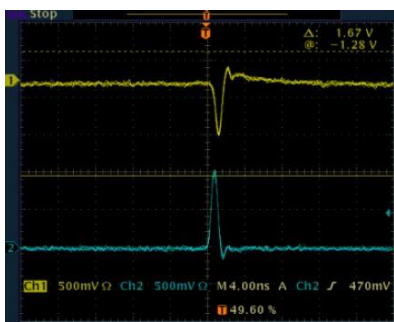
Principle: leading or falling edge of incoming trigger pulse is differentiated

Output: 50 Ω, SMA female

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Response to short pulses (< 2 ns): one inverted pulse (only first edge of input pulse is differentiated)

Response to longer pulses (> 2 ns): bipolar pulse, first peak is inverted to input pulse (differential of first and second edge of input pulse)



Response of A-PPI-D (yellow curve) to a positive pulse (cyan curve). Left short input pulse with 1 ns pulse width and right long input pulse with 5 ns width.

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