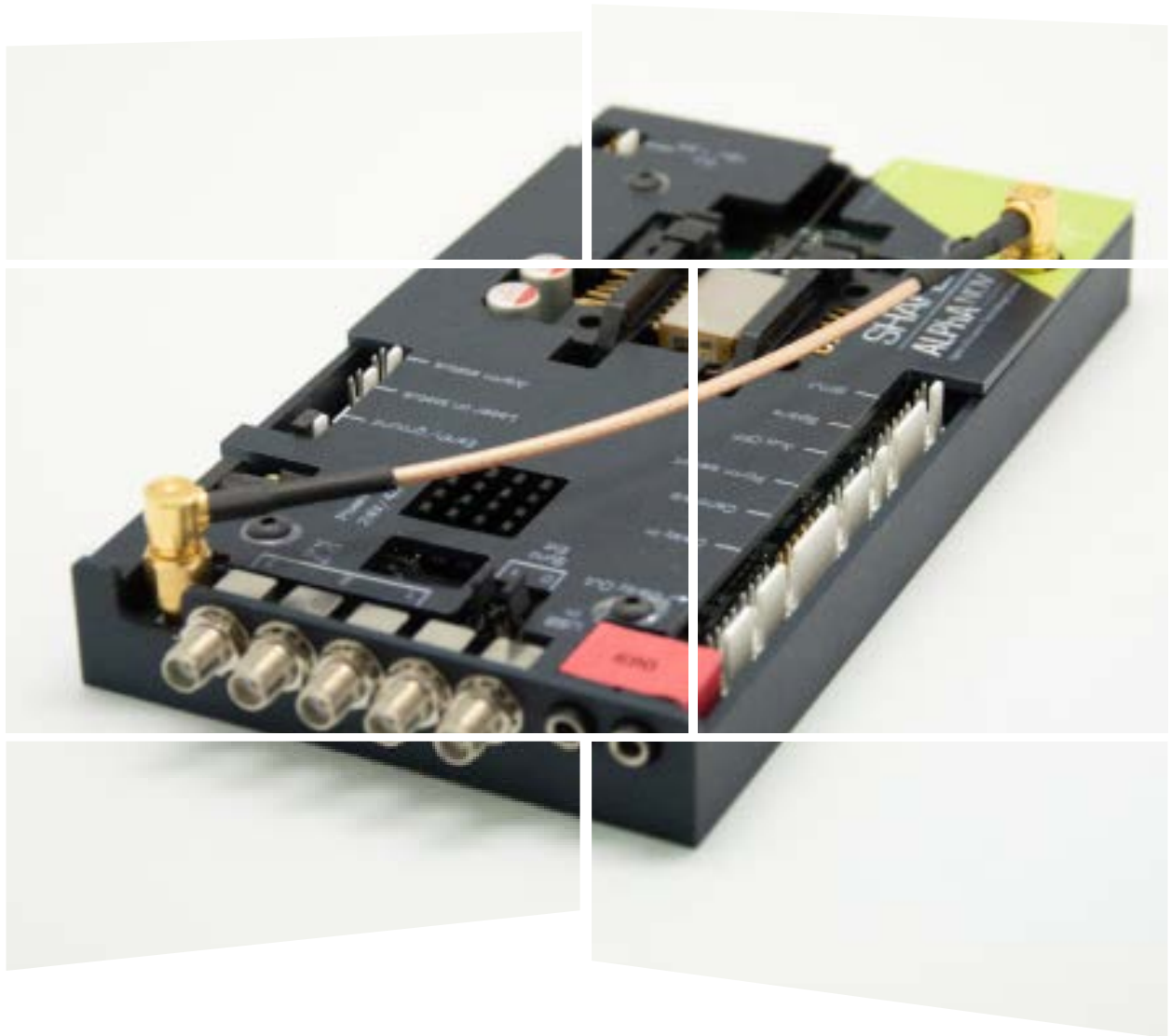


Laser Diode Driver

For precision pulse shaping



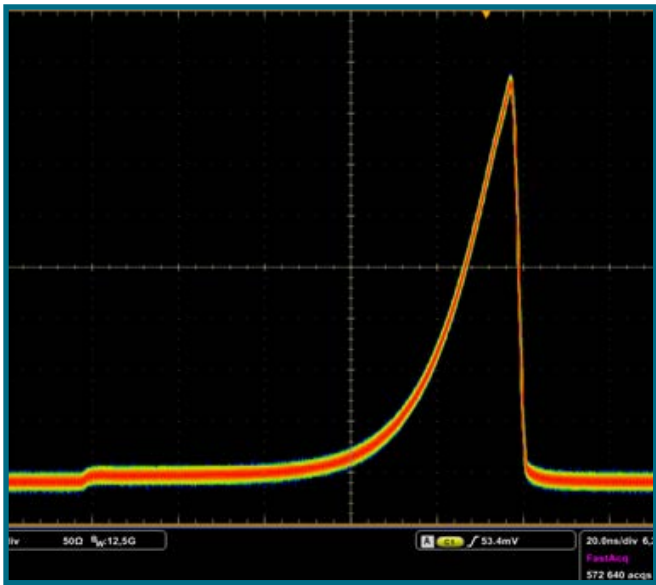
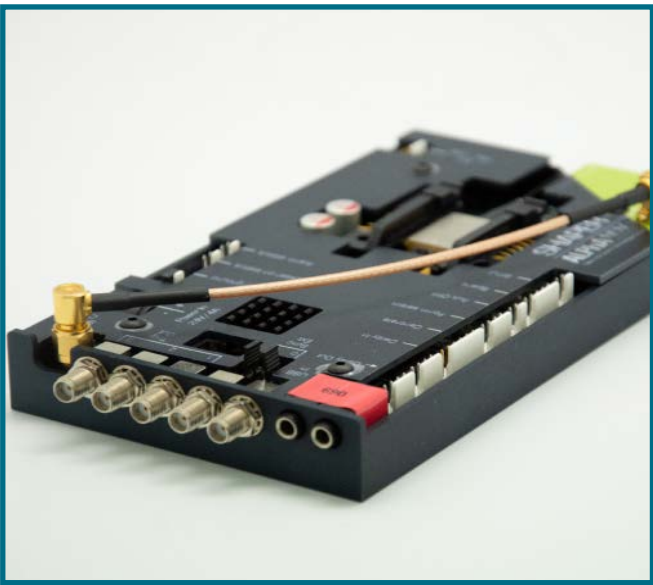
ALPhA NOV

Optics & Lasers Technology Center

Laser Diode Driver

For precision pulse shaping

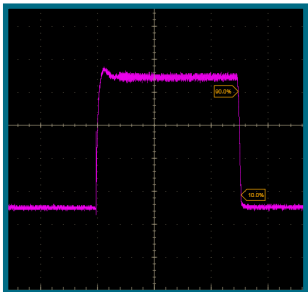
Laser diode driver to generate any Pulse Shape with ns pulse duration. It is a multifunctional unit with integrated AWG (Arbitrary Waveform Generator), TEC controller & multiple Pulse Delay Generators for signal synchronization.



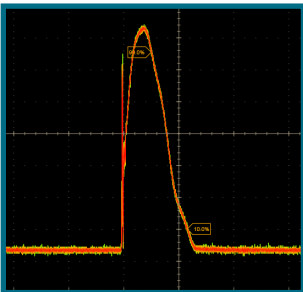
Key features

- Direct modulation of ns laser pulses with any shape
- 0 to 1.6 A output current with 16 bit/48 dB/30 μ A resolution
- Integrated pre-configured mounting sockets for type 1 butterfly laser diode (type 2 on request)
- User set pulse shape from 500 ps to 2 μ s with 0 - 20 MHz repetition rate
- Integrated TEC controller with over temperature protection
- Special mode for laser diode “gain switch peak” suppression
- Built-in pulse AWG with internal or remote triggering
- Integrated Pulse Delay Generator
- USB interface with intuitive GUI software
- Available in two versions direct or external modulations

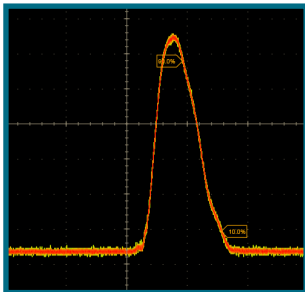
Technical Specifications



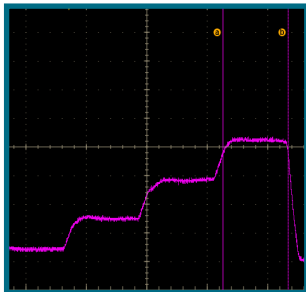
1 A, 100 ns square pulse



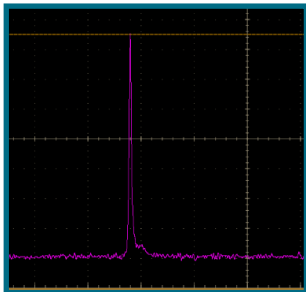
1.5 ns pulse



1.5 ns pulse with activated “gain-switch peak suppression” function



400 mA, 100 ns step wave pulse



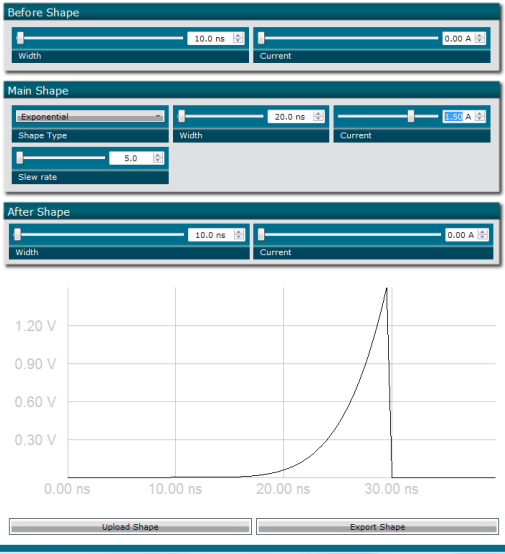
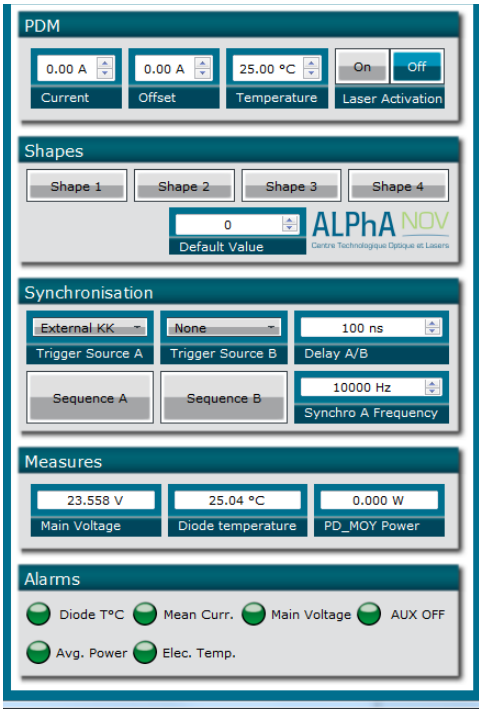
80 ps stable gain-switch pulse

Electrical

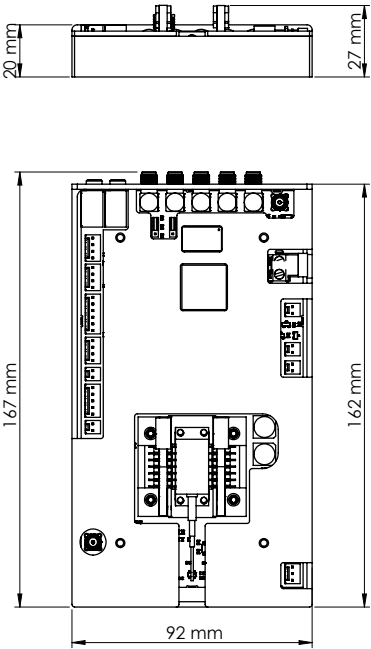
	Characteristics	Min	Max
Laser diode pulse shaping (direct modulation)	Peak current level	0	1.6 A
	Pulse shaping duration (Longer shape if step is set longer - 4000 step max)	500 ps	2 μ s
	Pulse shaping timing resolution	-	500 ps
	Pulse shaping current resolution	-	30 μ A
Laser diode pulse shaping (external modulation)	Original pulse peak current level	0	3.5 A
	Original pulse timing resolution (delay/pulse-width)	-	1 ns
	EOM/AOM* pulse shaping duration	500 ps	2 μ s
	EOM/AOM* pulse shaping timing resolution	-	500 ps
Electrical synchronization (Pulse Delay Generator) outputs	Output voltage (factory configuration)	-	1 V (50 ohm)/5 V (High-Z)
	Number of outputs	-	3
	Synchronization signals duration	0	10 ⁹ ns
	Synchronization signals resolution	-	1 ns
General	Output voltage	0	3.3 V (50 Ohm)
	Compatibilities & Libraries	Win XP/7/10 - DLLs - UART protocol	
	Interface	USB or UART	
	Power supply	24 V/4 A (110 V/220 V adapter included)	

Technical Specifications

GUI control software

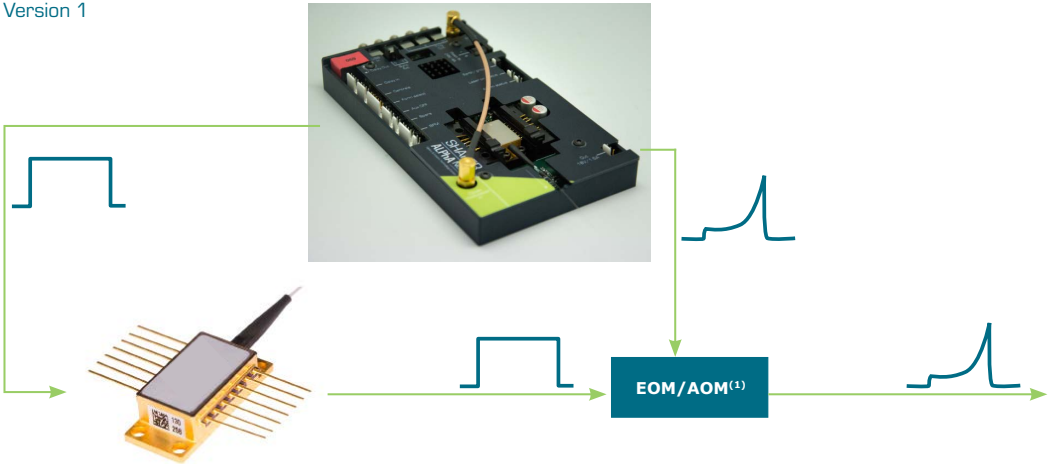


Mechanical



External modulation

Version 1



⁽¹⁾ Electro Optic Modulator / Acousto Optic Modulator

Direct modulation

Version 2

