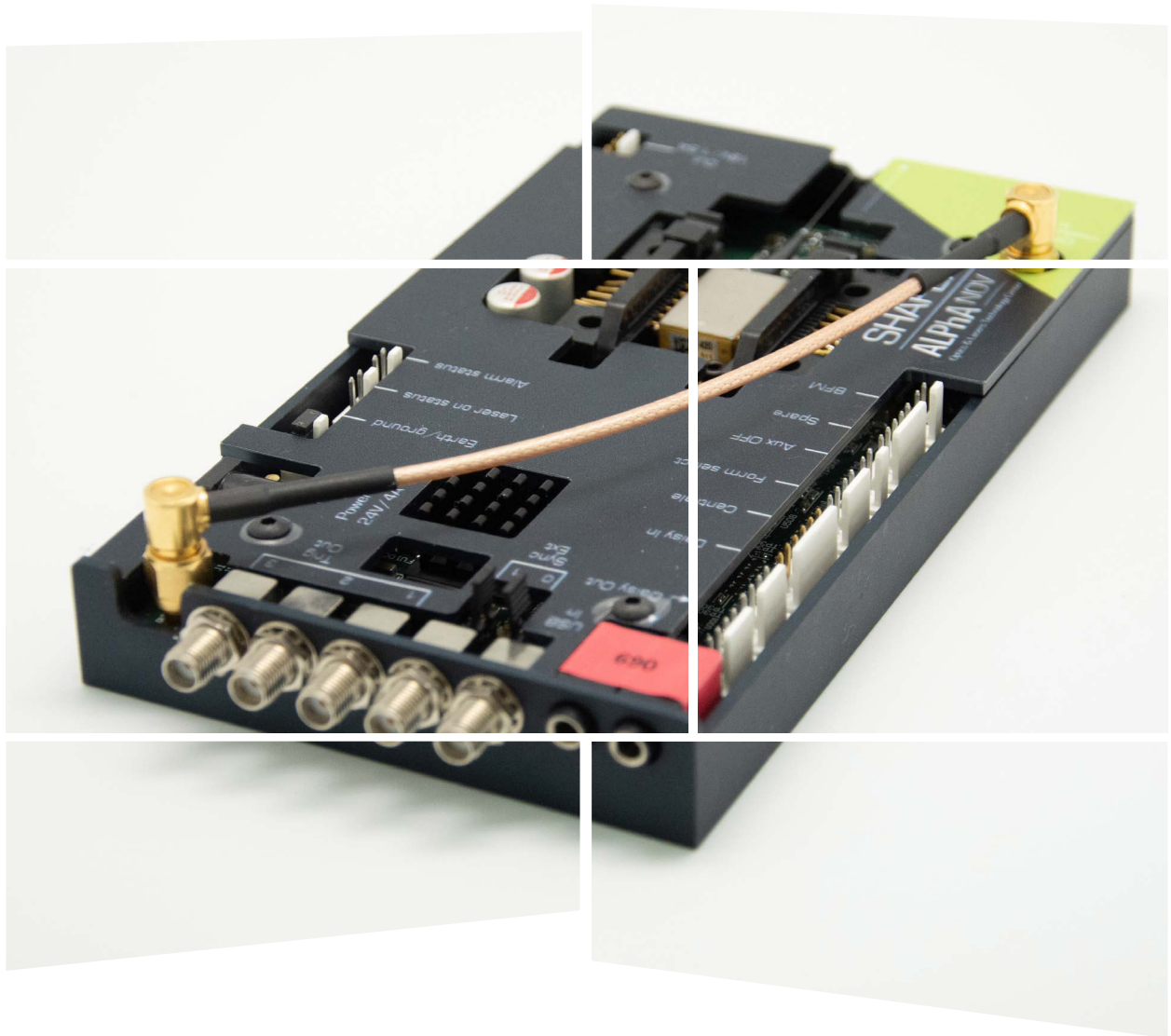


# Laser Diode Driver

For precision pulse shaping



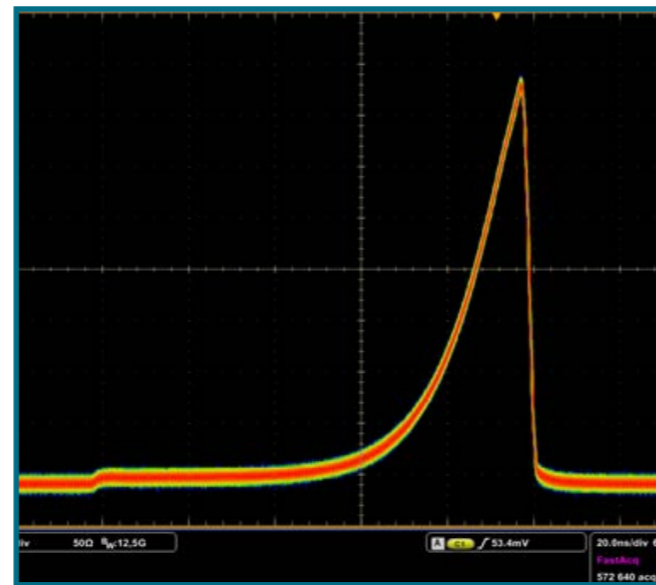
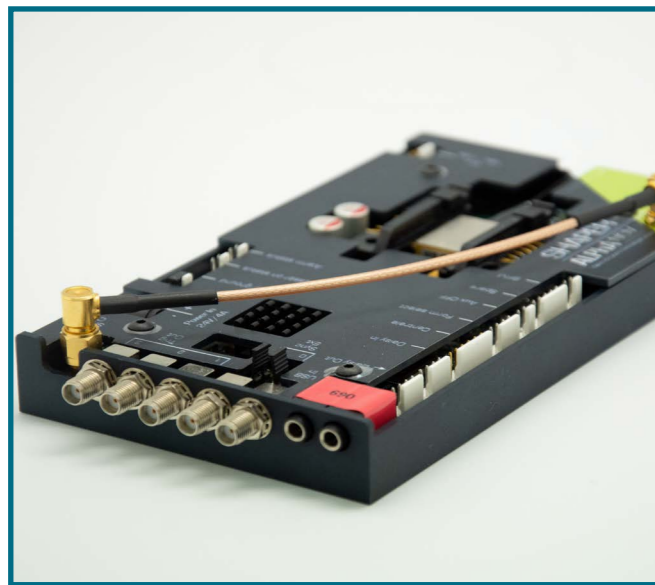
**ALPhA** **NOV**

Optics & Lasers Technology Center

# Laser Diode Driver

For precision pulse shaping

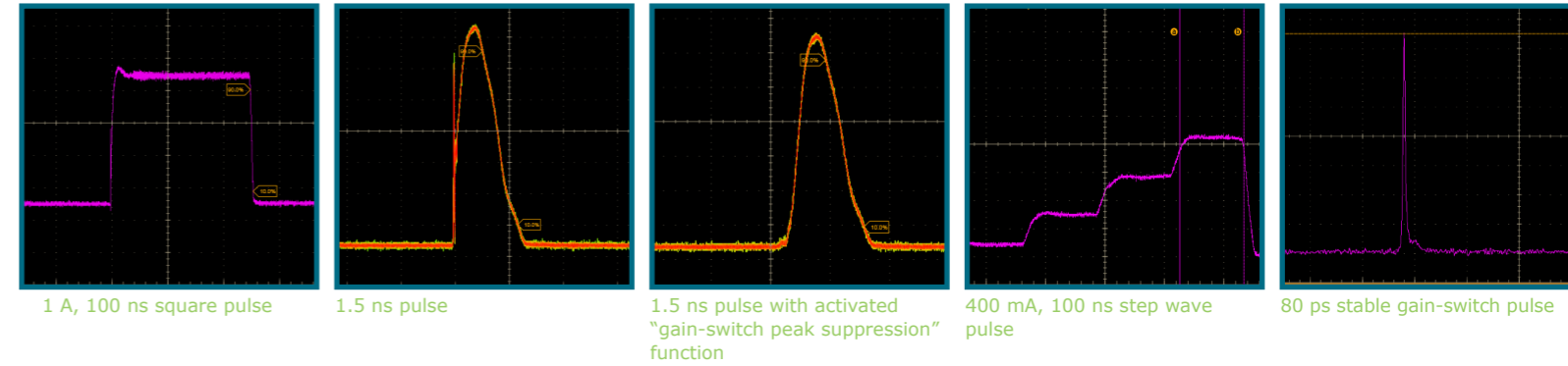
Laser diode driver to generate any Pulse Shape with ns pulse duration. It is a multifunctional unit with integrated AWG (Arbitrary Waveform Generator), TEC controller & multiple Pulse Delay Generators for signal synchronization.



## Key features

- Direct modulation of ns laser pulses with any shape
- 0 to 2 A output current with 16 bit/48 dB/30  $\mu$ 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  $\mu$ s with 0 - 250 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

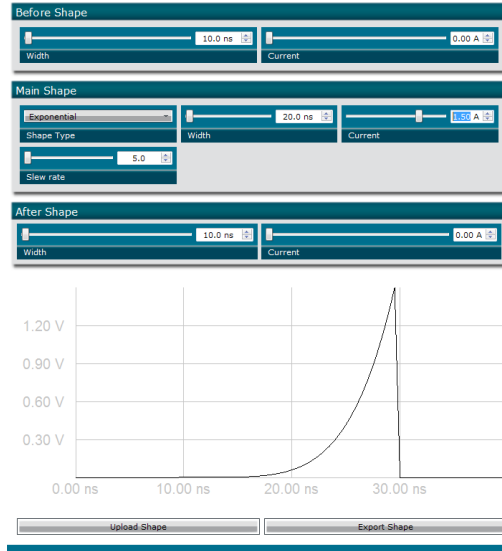
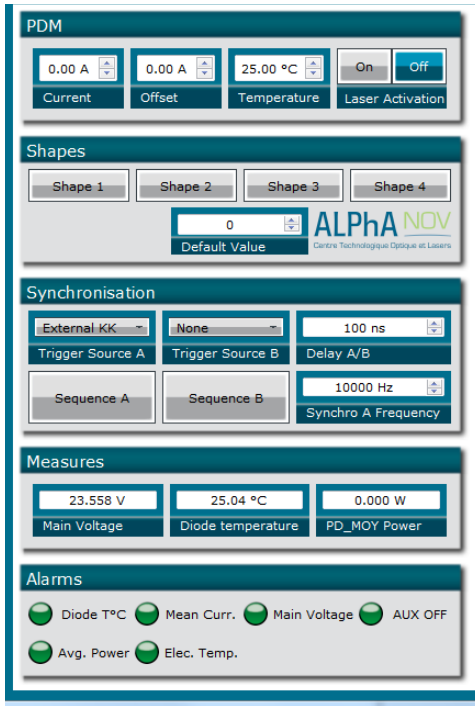


### Electrical

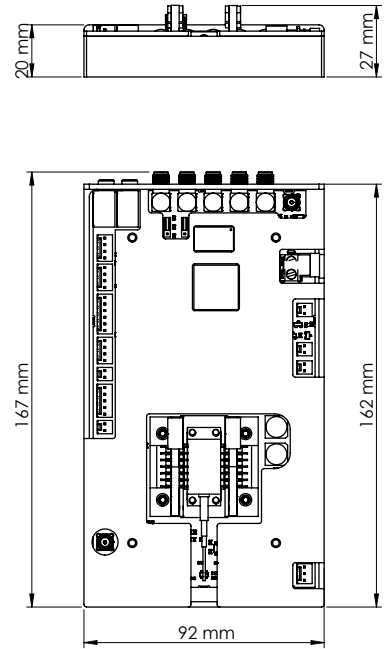
	Characteristics	Min	Max
<b>Laser diode pulse shaping (direct modulation)</b>	Peak current level	0	2 A
	Pulse shaping duration	500 ps	2 $\mu$ s
	Pulse shaping timing resolution	-	500 ps
	Pulse shaping current resolution	-	30 $\mu$ A
<b>Laser diode pulse shaping (external modulation)</b>	Original pulse peak current level	0	4 A
	Original pulse timing resolution (delay/pulse-width)	-	1 ns
	EOM/AOM* pulse shaping duration	500 ps	2 $\mu$ s
	EOM/AOM* pulse shaping timing resolution	-	500 ps
<b>Electrical synchronization (Pulse Delay Generator) outputs</b>	Output voltage (factory configuration)	-	1 V (50 ohm)/5 V (High-Z)
	Number of outputs	-	3
	Synchronization signals duration	0	10 <sup>9</sup> ns
	Synchronization signals resolution	-	1 ns
<b>General</b>	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

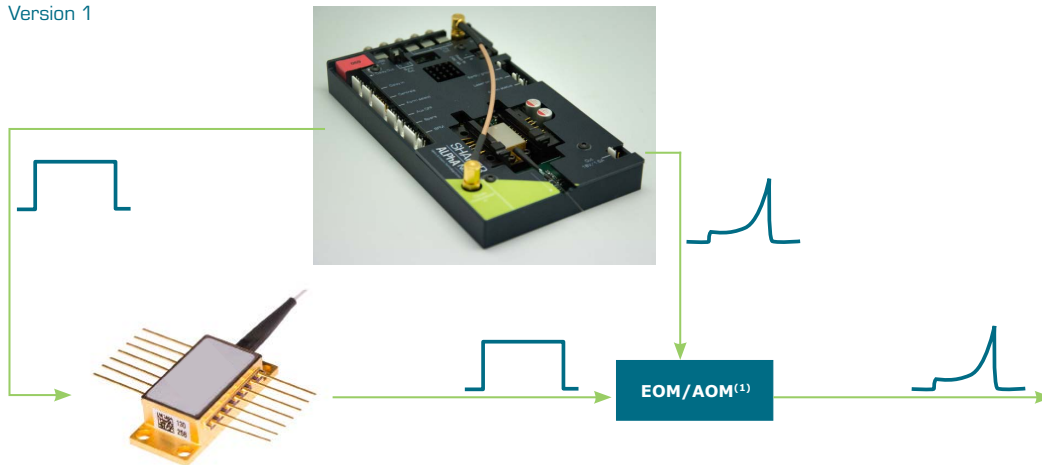


## Mechanical



## External modulation

Version 1



<sup>(1)</sup> Electro Optic Modulator / Acousto Optic Modulator

## Direct modulation

Version 2

