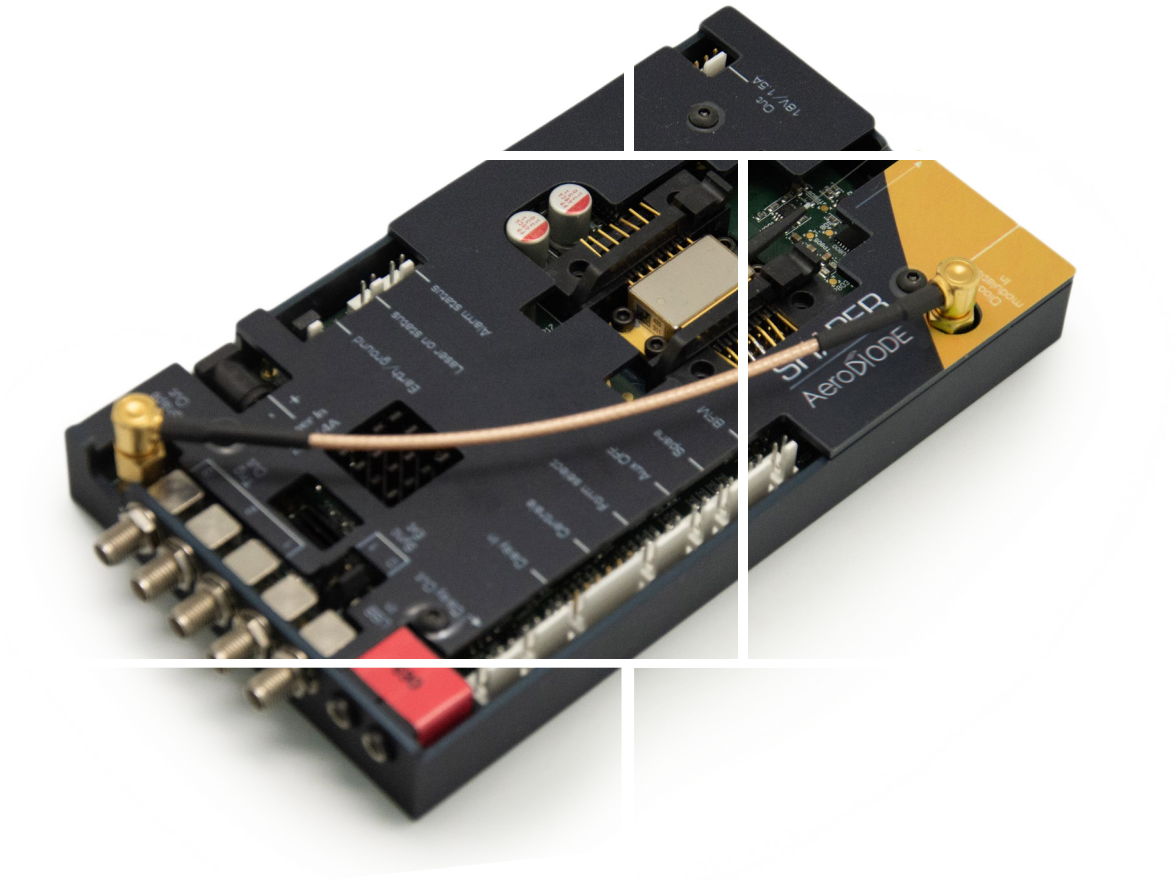
Laser Diode Driver

For precision pulse shaping



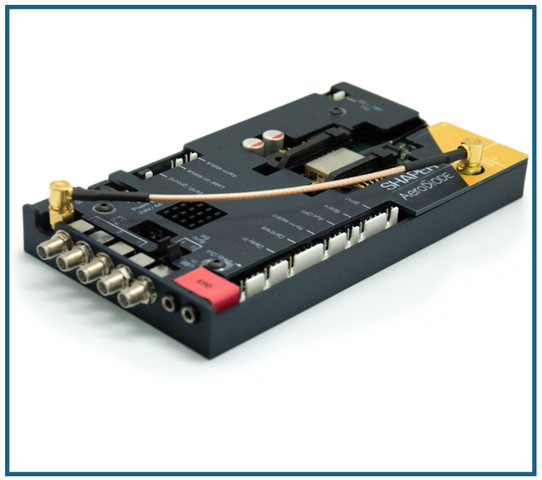
AeroDIODE

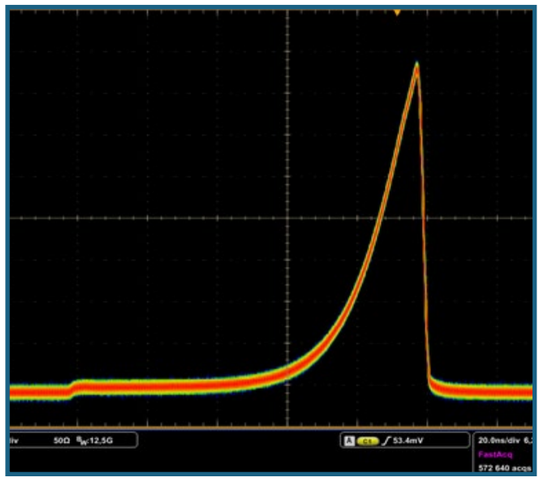
www.aerodiode.com

Laser Diode Driver

For precision pulse shaping

Laser diode driver to generate any pulse shape with nanosecond pulse duration. It is a multifunctional unit with integrated AWG (Arbitrary Waveform Generator), TEC controller & multiple pulse delay generators for signal synchronization.

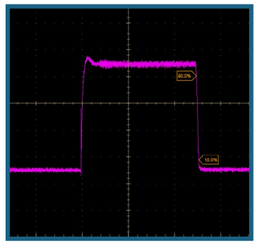




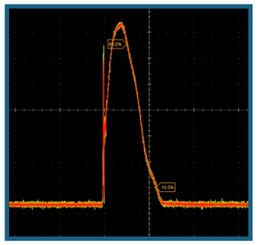
Key features :

- Direct modulation of ns laser pulses with any shape
- 0 to 1.6 A output current with 16 bit/48 dB/30 µA resolution
- Integrated pre-configured mounting sockets for type 1 butterfly laser diode (type 2 on request)
- User set pulse shape from 500 ps to 8 µs 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
- 3 integrated Pulse Delay Generators
- USB interface with intuitive GUI software
- Available in two versions direct or external modulations

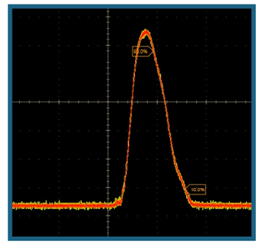
Technical Specifications



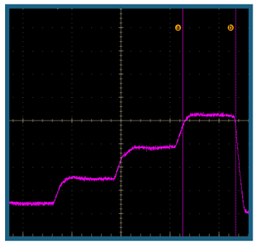
1 A, 100 ns square pulse



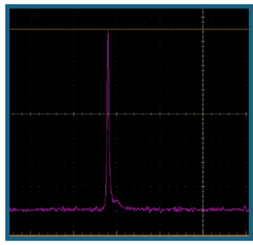
1.5 ns pulse



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



400 mA, 100 ns step wave pulse

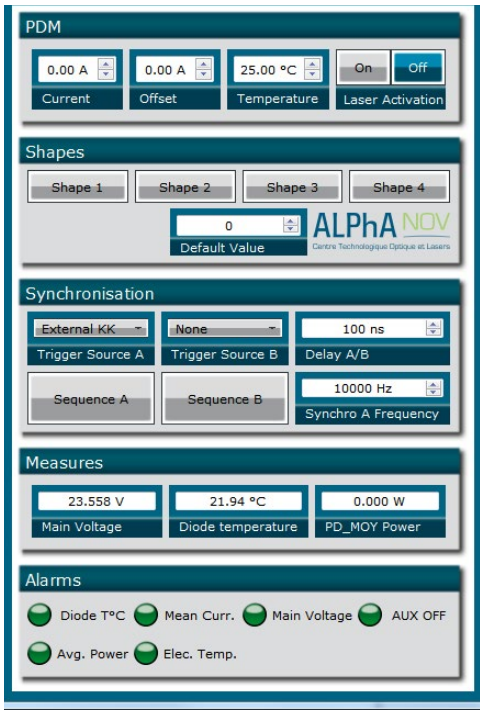


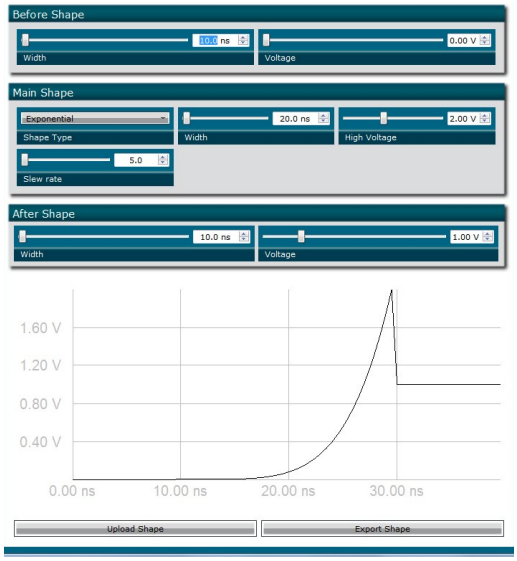
80 ps stable gain-switch pulse (Gain switch performance depends on laser diode)

Laser diode pulse shaping (direct modulation)	Peak current level	0 - 1.6 A
	Pulse shaping duration (4000 step max)	0.5 ns - 8 µs
	Pulse shaping timing resolution	500 ps
	Jitter (external/internal trigger)	± 2.5 ns / < 100 ps
	Pulse shaping current resolution	30 µA
	Jitter (internal trigger/external trigger)	<100 ps / <1.5 ns rms
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	0.5 ns - 8 µs
	EOM/AOM* pulse shaping timing resolution	500 ps
	Output voltage (factory configuration)	1 V (50 Ohm)/5 V (High-Z)
Electrical synchronization (Pulse Delay Generator) outputs	Number of outputs	3
	Synchronization signals duration	10^9 ns
	Synchronization signals resolution	1 ns
	Output voltage	3.3 V (50 Ohm)
General	Compatibilities & Librairies	Win XP/7/10 - Hexa - DLLs - LabVIEW - Python
	Interface	USB or UART
	Power supply	24 V/4 A (110 V/220 V adapter included)

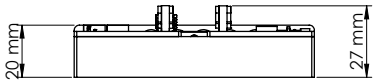
Technical Specifications

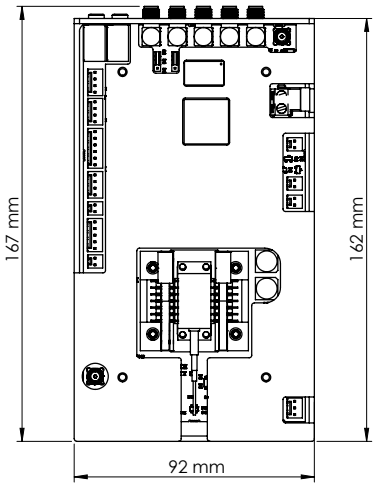
GUI control software





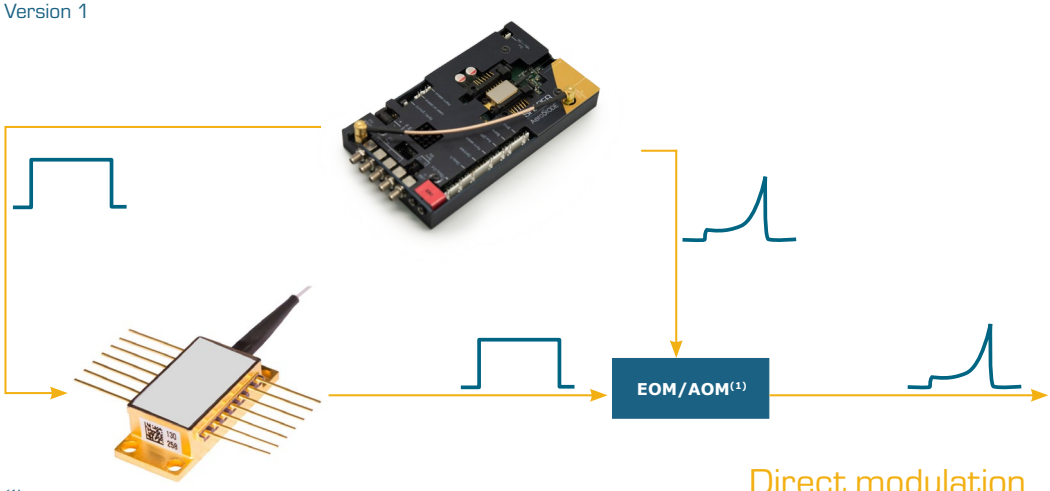
Mechanical





External modulation

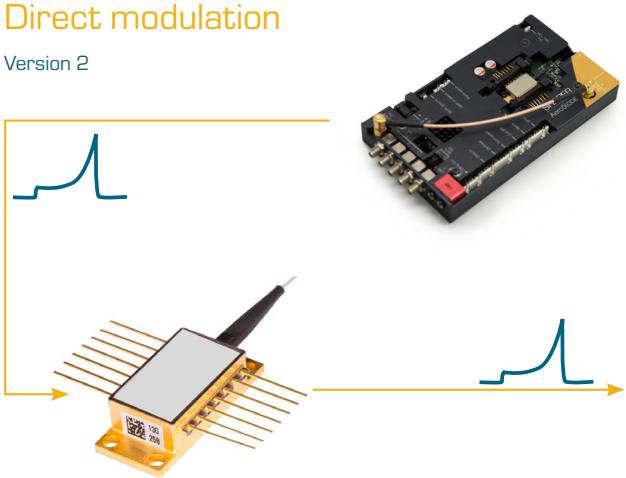
Version 1



(1) Electro Optic Modulator / Acousto Optic Modulator

Direct modulation

Version 2



Photos : ALPhANOV - Version 01/20

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