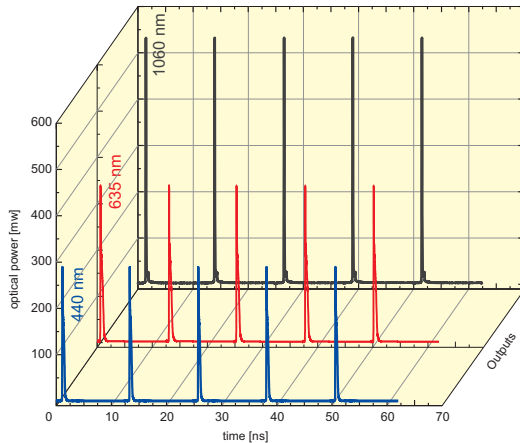


PDL 808 "Sepia"



Multichannel Picosecond Pulsed Diode Laser Driver



- Modular system: multiple configurations
- Drives up to 6 laser or LED heads
- Various operation modes: simultaneous, delayed, sequential
- Laser heads from 375 to 1990 nm, LED heads from 255 to 600 nm



Applications

- Multicolour time-resolved fluorescence spectroscopy (PIE)
- Diffuse optical tomography
- Multiwavelength laser ranging / LIDAR
- Molecular imaging
- Quantum optics, single photon generation

Multichannel Picosecond Pulsed Diode Laser Driver

The PDL 808 "Sepia" is a modular multichannel picosecond pulsed diode laser driver. Up to 6 laser heads can be driven in parallel: synchronously, delayed or in a user defined sequence with up to 80 MHz repetition rate (depending on the connected laser head). Laser wavelengths between 375 and 1990 nm (LDH-P-C Series) and pulsed LEDs between 255 and 600 nm (PLS Series) are available. The laser heads can emit light pulses as short as 70 ps FWHM (50 ps on selection). The PDL 808 "Sepia" provides maximum flexibility for simultaneous and multiple wavelengths applications. Wavelengths can be changed quickly by simply plugging in a different laser or LED head.

The system is available in two different sizes and consists of the mainframe with the power supply and a set of individual modules:

- An oscillator module which delivers the repetition frequency of up to 80 MHz. This module itself is capable of triggering two individual laser driver modules.
- A gated signal splitter module which can split an incoming trigger signal into 8 distinct signals of same amplitude.
- A sequencer module which allows the sequential triggering of individual laser heads.
- A laser driver module which controls the individual laser heads.

The signal path is established by external cabling. This allows besides maximum flexibility (even across multiple racks) also easy and jitter-free delay insertion as well as manifold synchronisation options.

An alternative to the PDL 808 is the computer controlled multichannel driver PDL 828 "Sepia II" which offers even more functionality and allows to operate green and orange laser heads of the LDH-FA Series.



two channel version

Specifications

Mainframe

Large	1 slot for oscillator module and 1 slot for sequencer or signal splitter module, 6 slots for laser driver modules
Small	1 slot for oscillator module, 2 slots for laser driver modules
Power supply	100 to 250 VAC, 50/60 Hz, max. 150 Watts (large) or 70 Watts (small)
Dimensions	large: 449 × 310 × 133 mm (w × d × h) small: 237 × 310 × 133 mm (w × d × h)

Oscillator Module

Type	crystal locked
Master frequency	80 MHz standard, other frequencies available upon request
Repetition frequencies	80, 40, 20, 10 or 5 MHz (user-selectable)

External Trigger Input

Amplitude	-5 to +5 V (maximum limits)
Frequency range	10 Hz to 80 MHz

Synchronization Output

Amplitude	< -800 mV into 50 Ohms (NIM)
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Sequencer Module

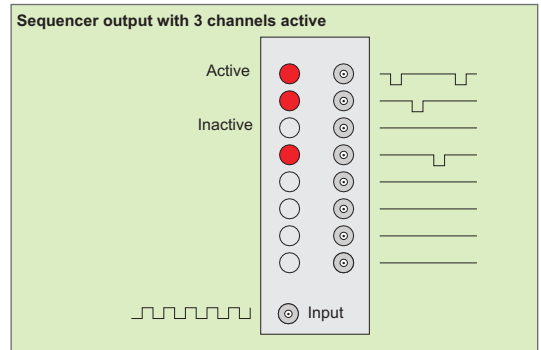
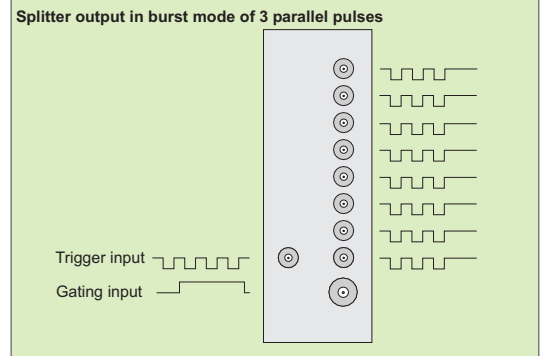
Input	1 trigger, NIM (threshold approx. -400 mV, neg. slope)
Outputs	8 trigger, NIM (< -800 mV, 50 Ohms), separately enabled by switch

Signal Splitter Module

Inputs	1 trigger, NIM (threshold approx. -400 mV, neg. slope), 1 gating, TTL (high output is enabled, low output is disabled)
Outputs	8 trigger, NIM (< -800 mV, 50 Ohms)

Laser Driver Module

Input	1 trigger, NIM (threshold approx. -400 mV, neg. slope)
Output	1 laser head connector
Controls	output power tuneable with 10-turn potentiometer



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For all available types and wavelengths please go to:

<http://www.picoquant.com/products/ldh/ldhseries.htm>
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Please call for detailed information and data sheets. OEM Modules of all products are available upon request. Please check our website for updated information.

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