LUMENTUM

GLX-200 Femtosecond Nd: glass Laser

Customized systems with SESAM® technology*

The GLX-200 employs SESAM technology and an all-solid-state design to deliver exceptional reliability and stability. A SESAM device enables passive mode-locking to provide nearly transform-limited femtosecond pulses at start-up with very low amplitude and phase noise. The GLX-200 uses diode pumping to deliver unparalleled reliability and long-term stability.

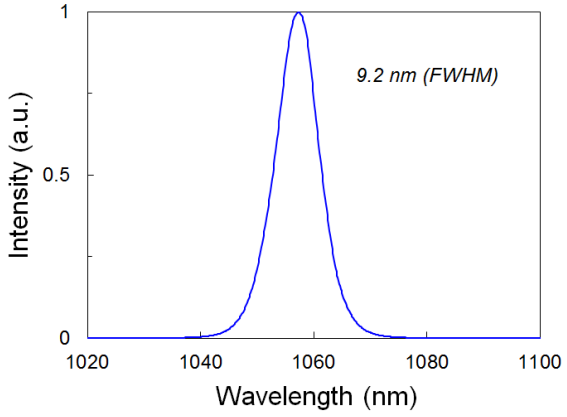
The GLX-200 femtosecond Nd: glass laser system offers a wide range of customer-defined repetition rates. Additional customized options include high output power, second harmonic generation, pulse selection, increased pulse width, fibercoupling, and clock synchronization with a phase-locked-loop feedback system. The GLX-200 laser system uses standard wall-outlet voltage and needs no water cooling for easier installation and lower operating costs.

*The GLX laser uses passive, self-starting Lumentum-proprietary SESAM technology (a semiconductor saturable absorber mirror) to generate the picosecond seed pulses without requiring any external control. SESAMs from Lumentum are designed and optimized for the GLX laser to avoid long-term degradation.

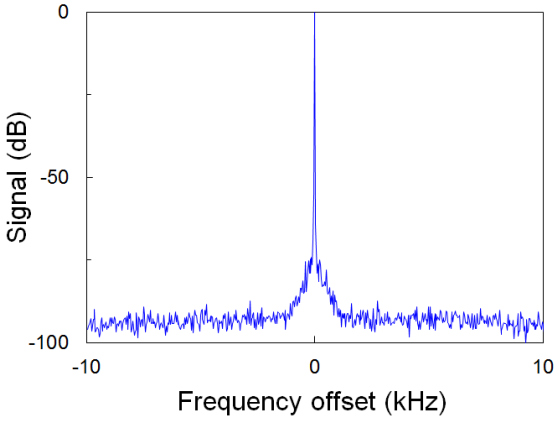
Features
- Passively mode-locked DPSSL
- Air cooled
- Turnkey operation
- Low maintenance

Options
- Pulse picker
- Switchable/tunable repetition rates
- Multiple output beams
- Second harmonic generation (SHG)
- Remote control
- Clock synchronization
- RS232

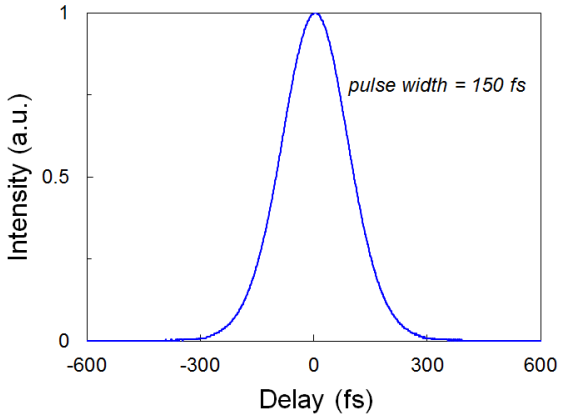
Applications
- Photocathode illumination
- Seeding amplifier
- Multiphoton excitation
- Pump-probe experiments
- Nonlinear optics
- Optical testing



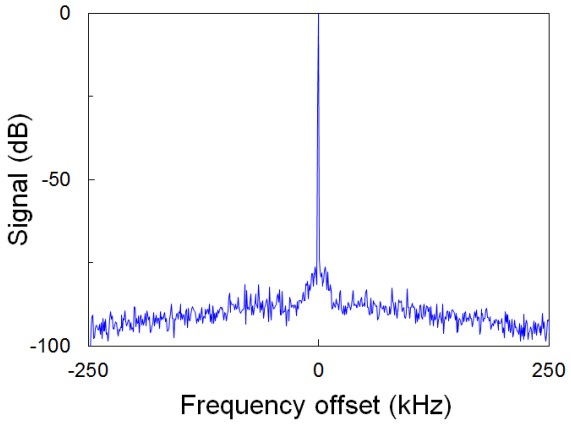
GLX-200 laser pulse optical spectrum (resolution: 0.1 nm)



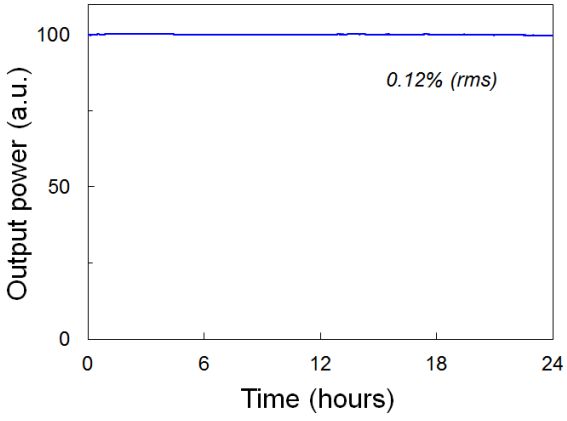
Typical pulse train microwave spectrum centered at the laser repetition rate
(span: 20 kHz, resolution: 3 Hz, vertical scale in dB)



Typical non-interferometric GLX-200 laser pulse autocorrelation trace



Typical pulse train microwave spectrum centered at the laser repetition rate
(span: 500 kHz, resolution: 100 Hz, vertical scale in dB)



Average laser output power (long term)

Specifications

Parameter	GLX-200 Laser Details	
Output power	200 mW	400 mW
Repetition rate	50 – 200 MHz	
Pulse width	150 fs	200 fs
Wavelength	1053 – 1064 nm	
Power stability	1%/°C	
Spatial mode	1.1 M2 (TEM_{00})	
Turn-on time	1 min	
Pointing stability	25 µrad/°C	
Pulse energy stability (>1 kHz)	0.1% rms	
Voltage	100 – 240V AC	
Frequency	50 – 60 Hz	
Input power (single phase)	200VA	
Laser head (L x W x H, weight)	932 x 460 x 203 mm, 50 kg	
Power supply (L x W x H, weight)	320 x 255 x 110 mm, 5 kg	

Laser Safety

Ordering Information

For more information on this or other products and their availability, please contact your local Lumentum account manager or Lumentum directly at customer.service@lumentum.com.

Laser Head

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PRF	Code
Specify within the range of 050 – 200 MHz	xxx[1]

Wavelength	Code
Specify within the range of 1053 – 1064 nm	xxxx[2]

Options	Code
No options	0
CLX[3]	C

Example of a Complete Order

GL-075-1064-0-00 (75 MHz, infrared, no options)

Notes:

1. Where 050 equals 50 MHz
2. Where 1064 equals 1064 nm
3. CLX-110 phase-locked clock synchronizer to synchronize the laser system's repetition rate to a reference clock signal.

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