

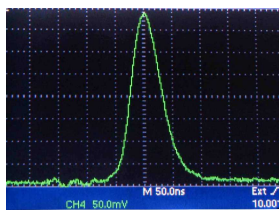


The RGB-ALFA series is family of compact master oscillator flash lamp pumped Nd:YAG lasers producing emissions in the nanosecond regime. Design features include a highly stable passively or EO Q-switched oscillator and frequency conversion to the second and/or third harmonics by means of various NLO crystals.

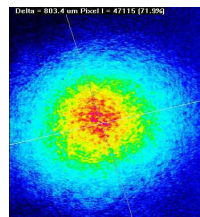
The lasers produces Single Longitudinal Mode and TEM00 near diffraction limited radiation at a variety of energies, wavelengths and repetition rates. Laser models with multimode flat-top output is also available.

In addition to constituting highly versatile laboratory tools all ALFA series lasers are rigorously designed to meet the high stability standards required for scientific and technological applications.

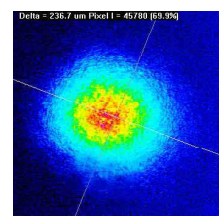
## Beam Characteristics



Typical temporal pulse shape  
RGB-ALFA-1964



Typical transversal shape at 660nm  
RGB-ALFA-1964



Typical transversal shape at 440nm  
RGB-ALFA-1964

## System Features

- ⊕ Cost-effective Master-Oscillator design;
- ⊕ Optimised laser characteristics for scientific and technological applications;
- ⊕ Remote control via Wireless unit (optional);
- ⊕ PC control via RS232 using advanced Geola software or LabView drivers (optional);
- ⊕ Long coherence length > 2m source;
- ⊕ Custom design plug for remote control of main laser functions (optional);
- ⊕ Lasers are CE marked according to IEC 60825-1:2001/EN 60825-1:2001;
- ⊕ Low electrical consumption;



GEOLA

The RGB-ALFA Series of Pulsed Nd:YAG Lasers

Technical Parameters

Advised Model	RGB-ALFA-1964	RGB-ALFA-3864
Output Wavelength:	660nm 532nm 440nm	669nm 532nm 446nm
Output Energy <sup>(1)</sup> :	4mJ 6mJ 2.8mJ	3.5mJ 6mJ 2.5mJ
Pulse Duration:	50ns 35ns 50ns	50ns 35ns 50ns
Energy Stability (StDev) <sup>(2)</sup> :	< 2 / 2 / 3 %	
Beam Divergence:	Near Diffraction Limit for beam size	
Line width:	< 0.003 cm <sup>-1</sup>	
Beam Diameter (1/e <sup>2</sup> ):	~ 5...9 mm	
Beam Profile <sup>(3)</sup> :	Near Gaussian in near field and Gaussian in far field	
Pulse Repetition Rate <sup>(4)</sup> :	5 / 10 / 20 / 30 / 50 Hz	
Beam Pointing:	< 150 μrad	
Polarization:	Horizontal or Vertical, > 98%	
Q-Switching Type:	Passive or E-O	
Optical Pulse Jitter <sup>(5)</sup> :	< 5 μs for Passive Q-Switch and ~ 1 ns for E-O Q-Switch	
Triggering:	External / Internal	
<b>DIMENSIONS</b>		
Laser Head: (L x W x H)	860 x 360 x 180 mm	
Power & Cooling Cabinet: (L x W x H)	600 x 550 x 550 mm	
Umbilical length:	3 m	
<b>ENVIRONMENTAL REQUIREMENTS</b>		
Cooling requirements:	< 10 litres/minute (Water flow for 20 °C water temperature)	
Room Temperature:	18 - 25 °C (recommended)	
Relative Humidity:	< 65% (non-condensing)	
Mains Voltage:	210...240 VAC, single phase 50/60 Hz	
Power Consumption:	~ 1 ... 4 kW	

Geola Digital reserves the right to change specification without notice

<sup>(1)</sup> For higher energies an amplification cascades could be installed on request.

<sup>(2)</sup> Std.Dev. for 20.000 shots at 30Hz repetition rate.

<sup>(3)</sup> Flat-Top harmonic outputs could be provided on request.

<sup>(4)</sup> Other repetition rates could be available on request.

<sup>(5)</sup> Std.Dev, with respect to External sync pulse signal.

Distributor

Manufacturer

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