

Notes on Kyle's fiber laser setup

Oscillator

QWP

HWP

PBS

YDF
fiber

LD pump
(under fibers)

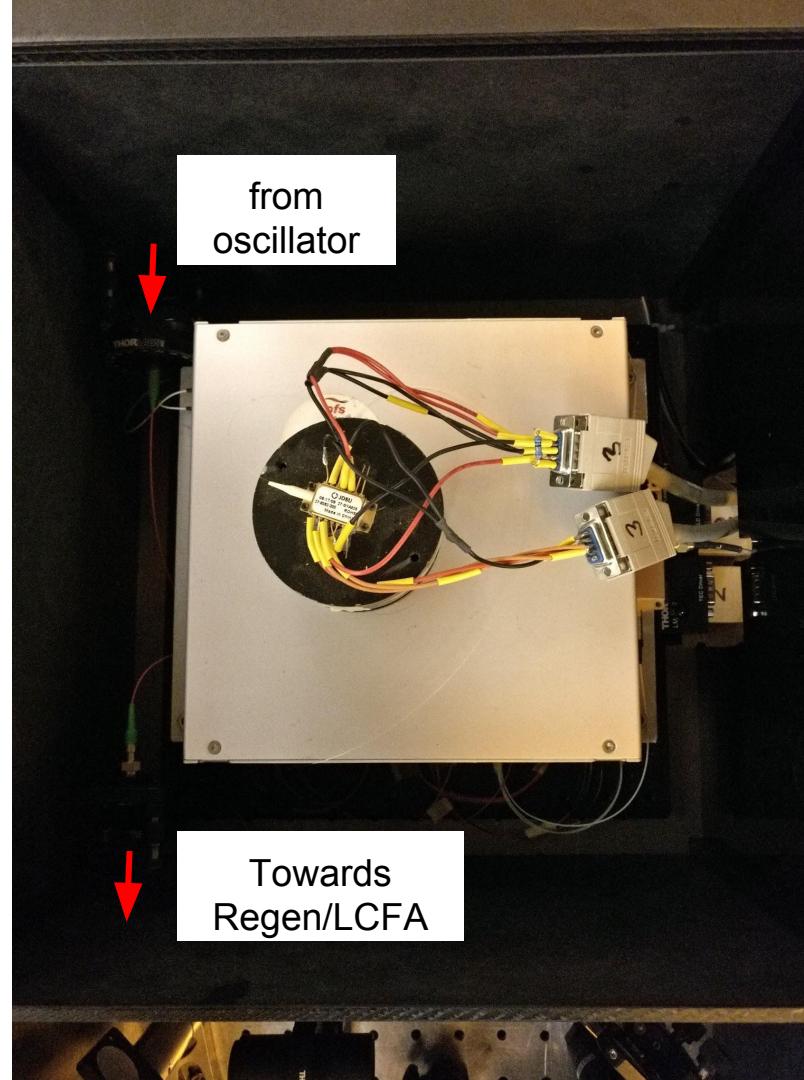
Diffraction
Grating
Pair

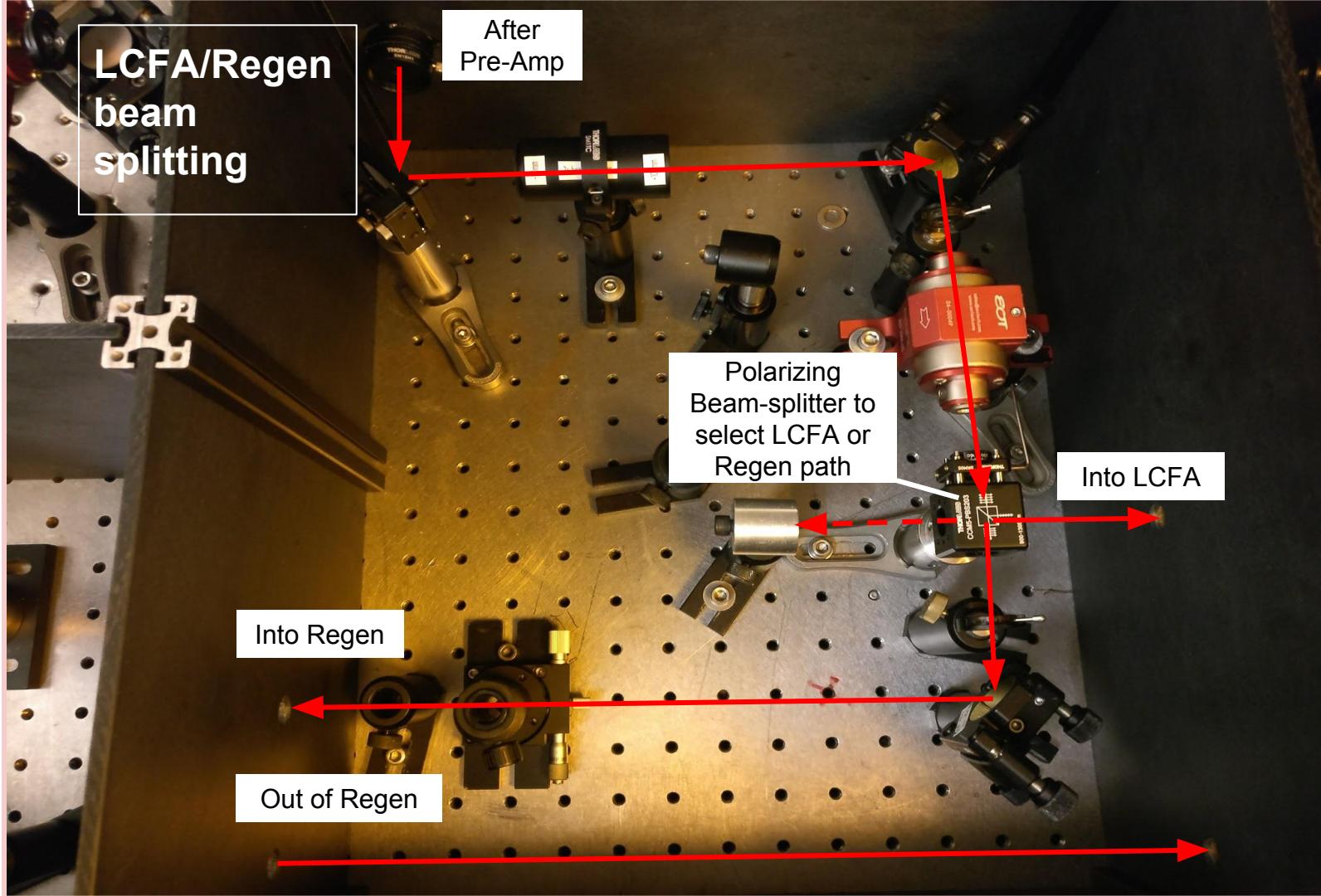
Post -Oscillator

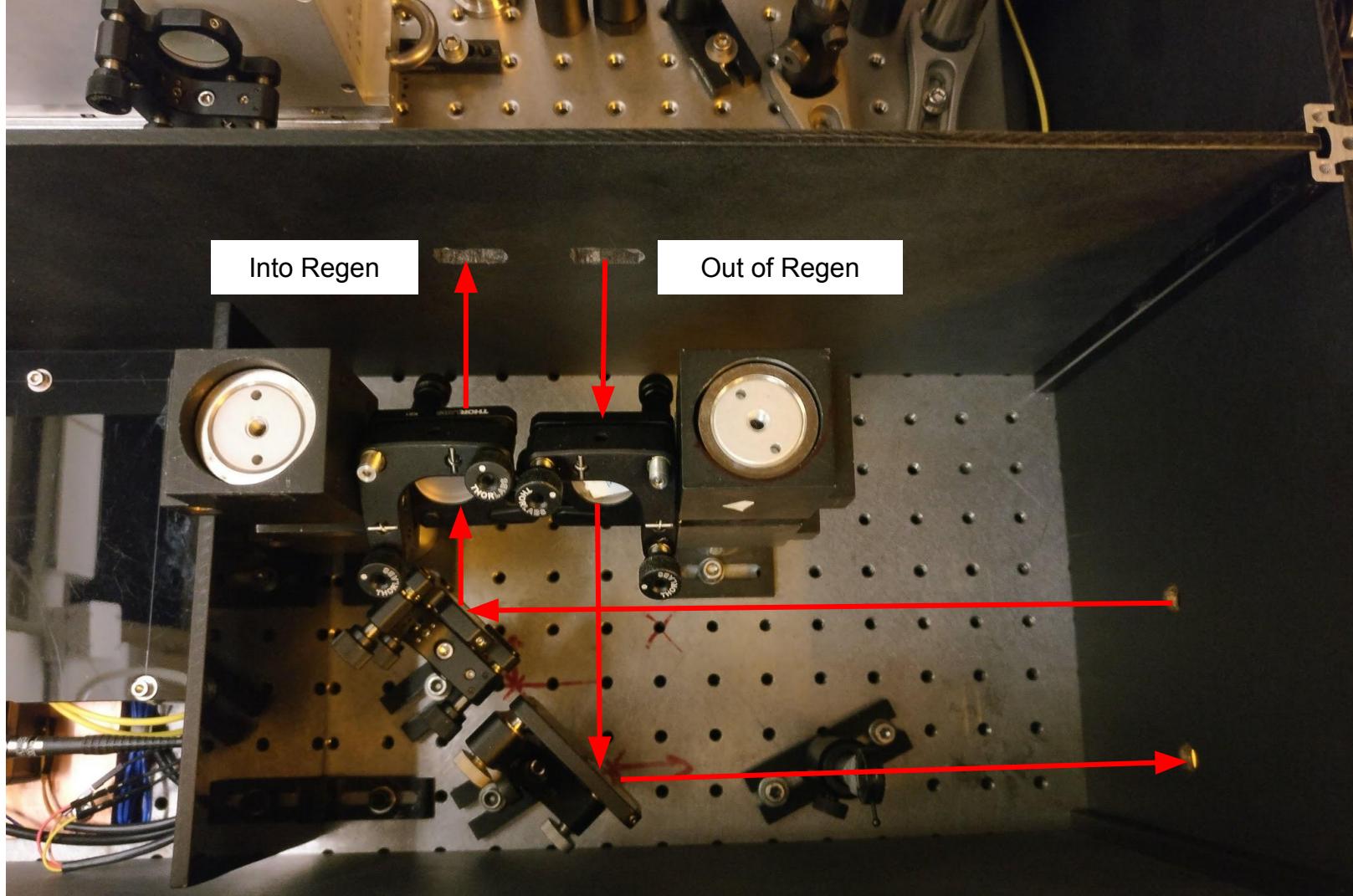
Extra optics for optional
compression

into pre-
amplification

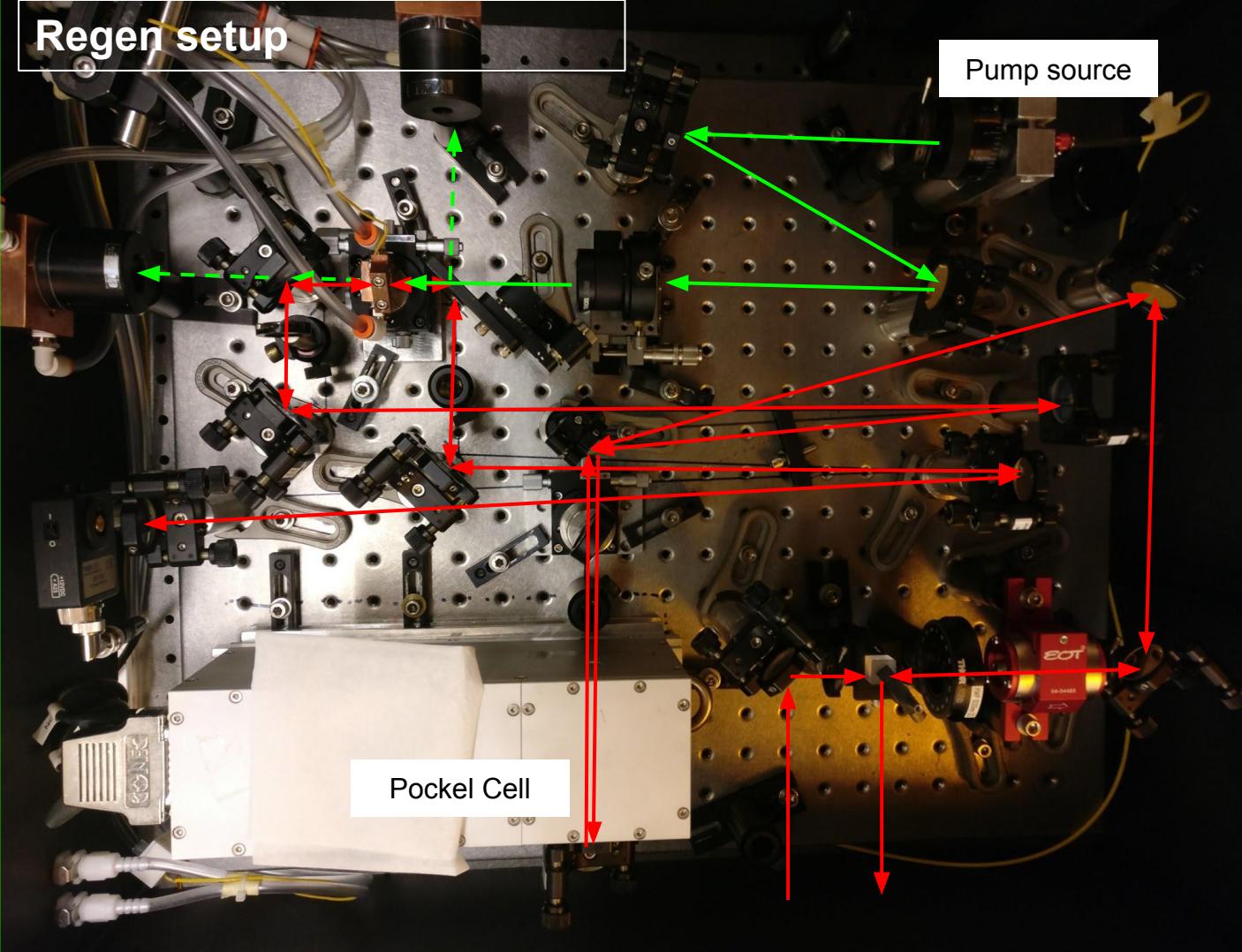
Pre amp Section

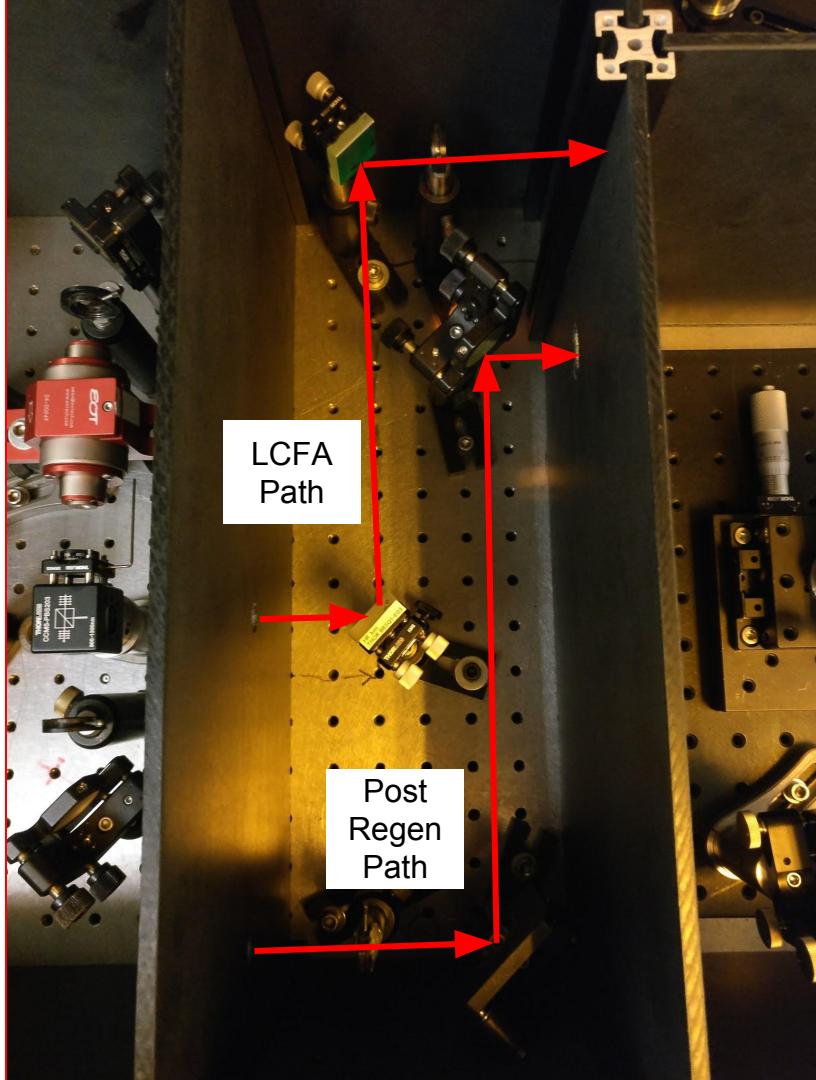


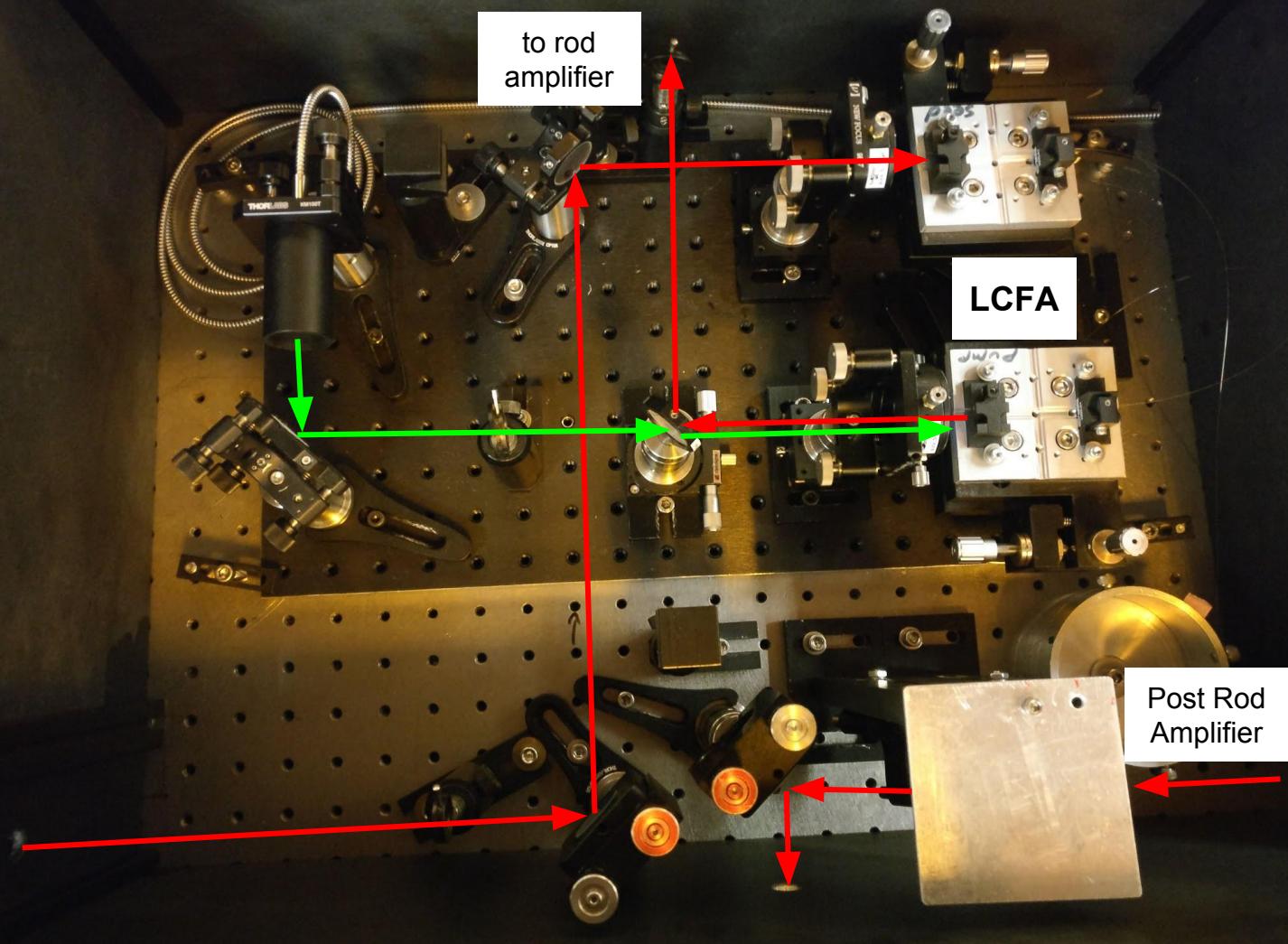




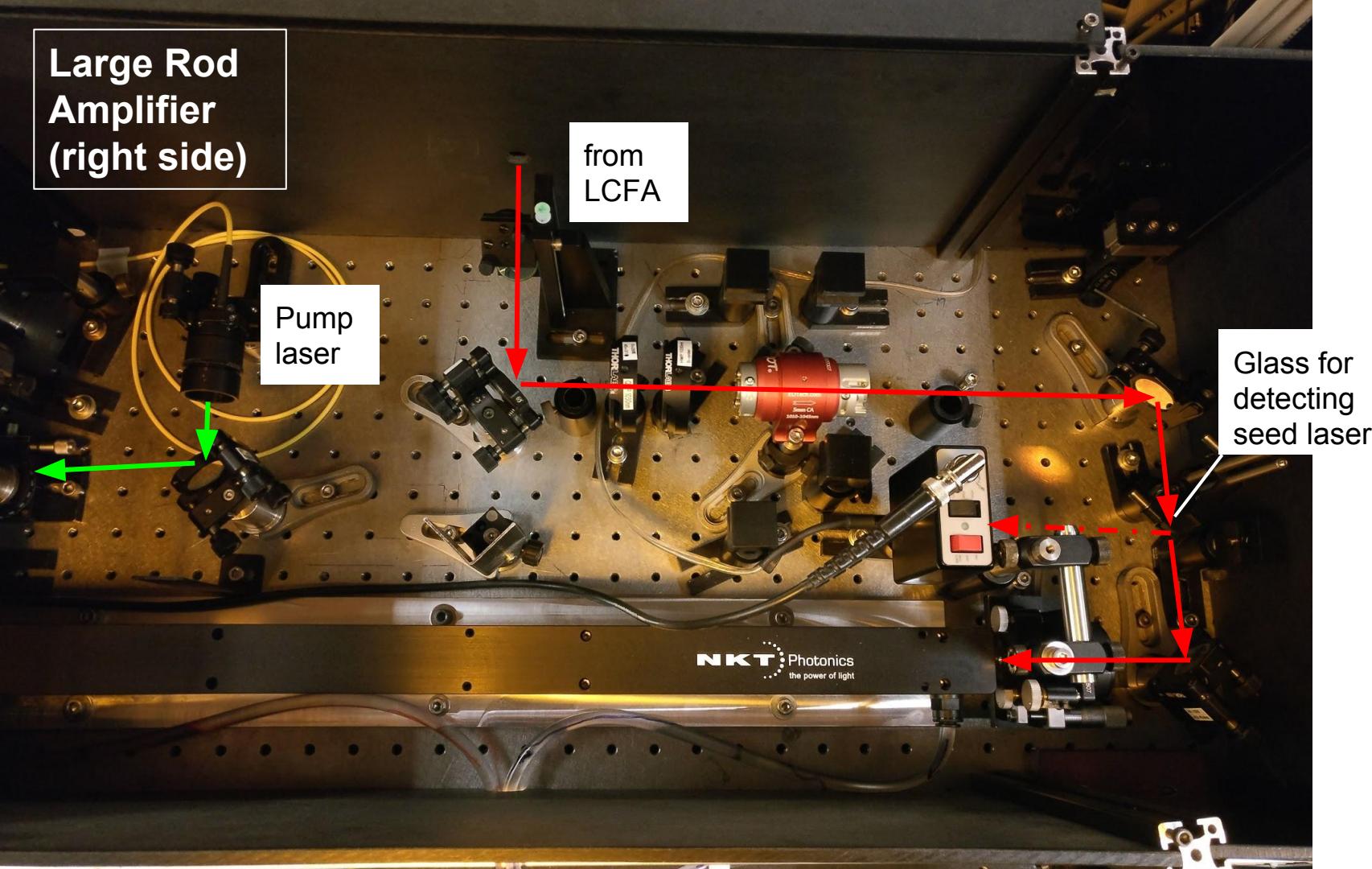
Regen setup



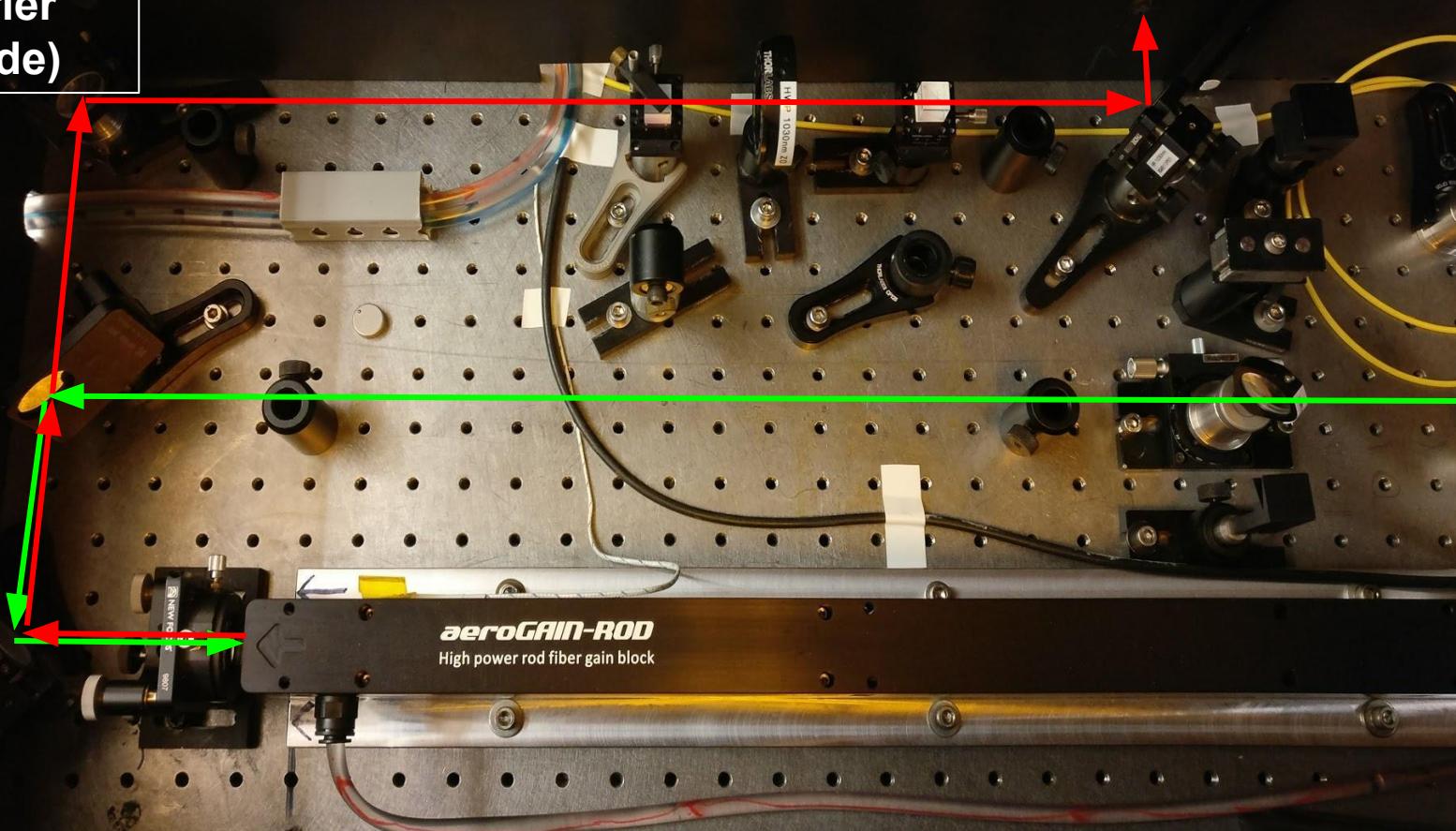




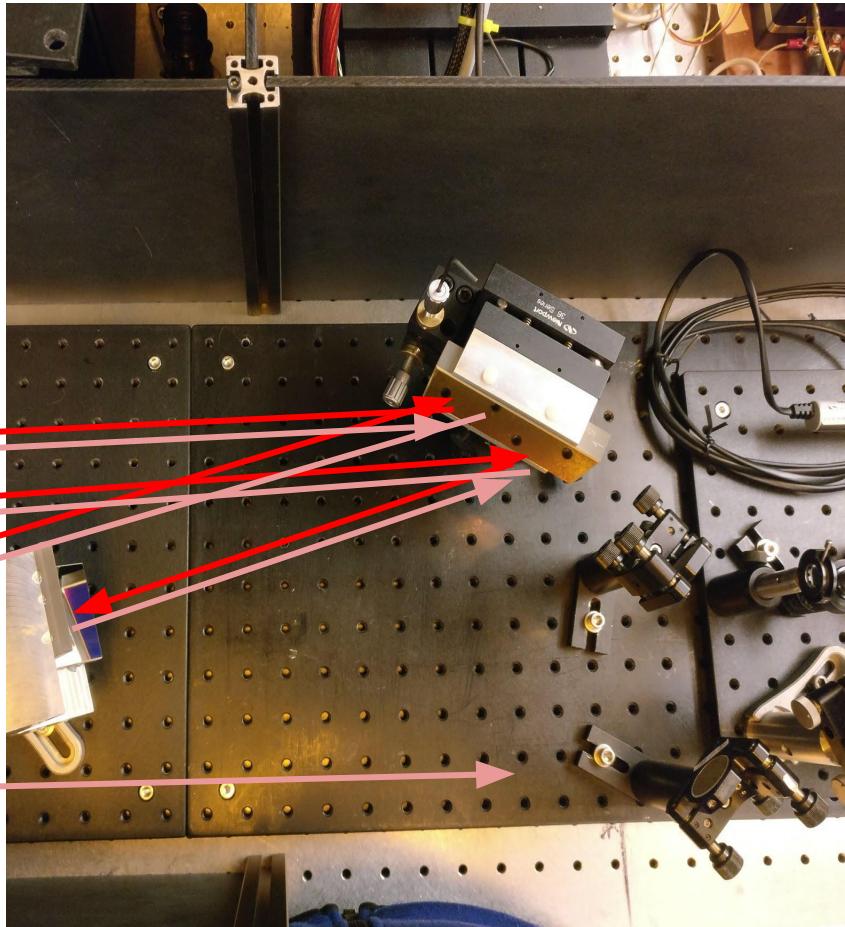
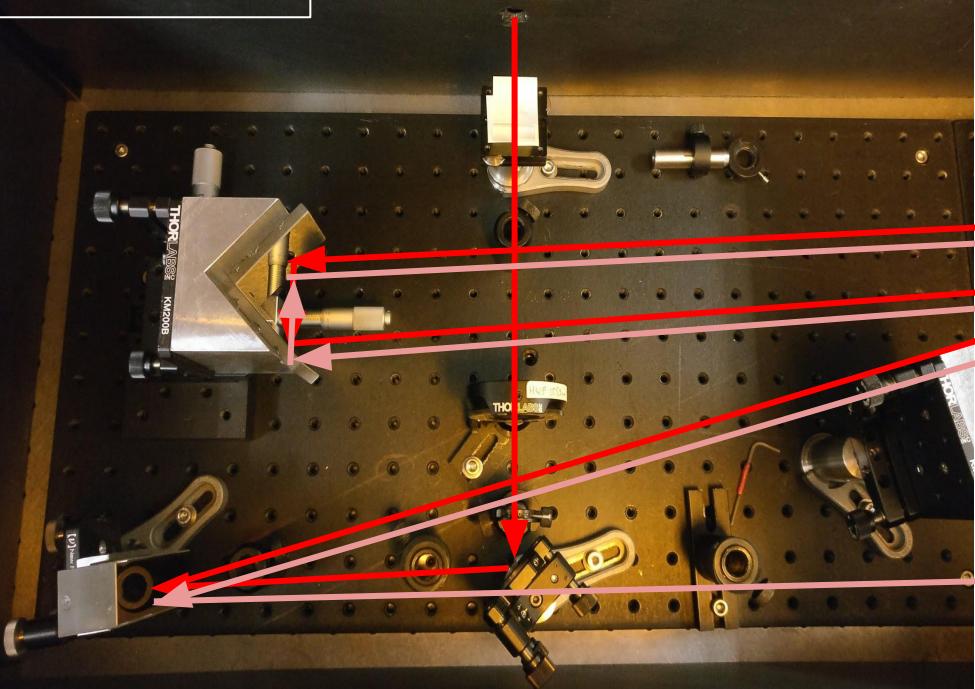
Large Rod Amplifier (right side)

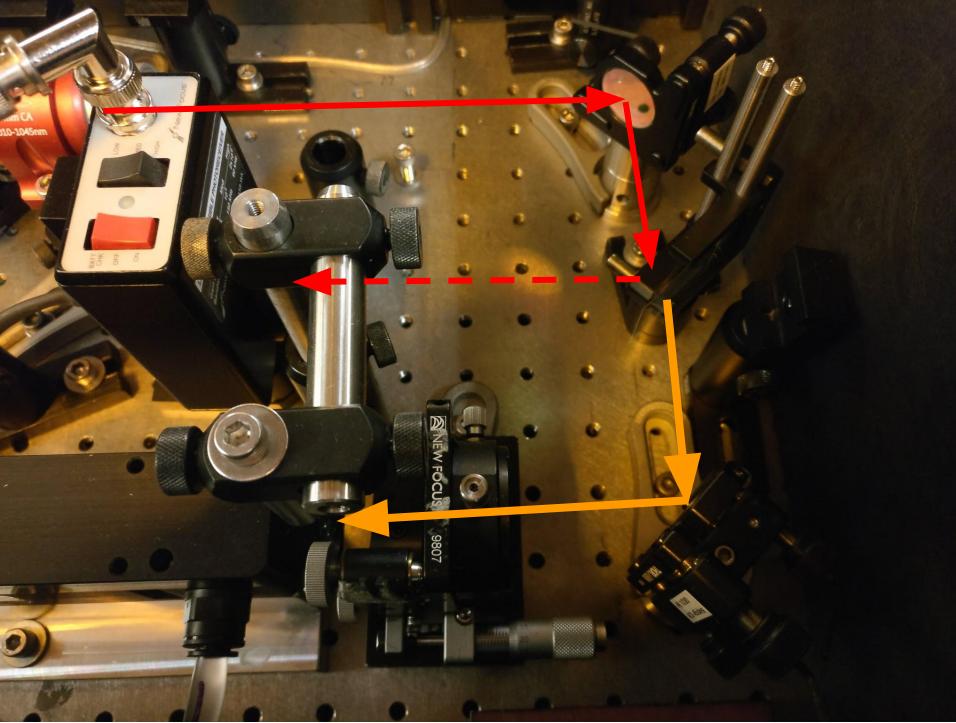


Large Rod Amplifier (left side)



Pulse Compressor



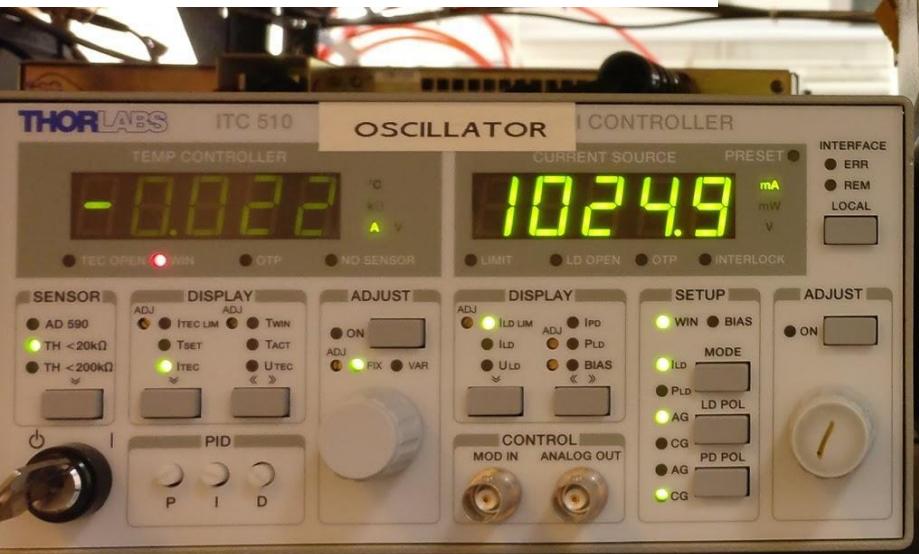


It is very important that the pump laser is not turned on before the seed. The pump laser is setup with a variety of electrical and laser interlocks, so if at any point the seed laser shuts off or has low power, the pump laser will be shut off.

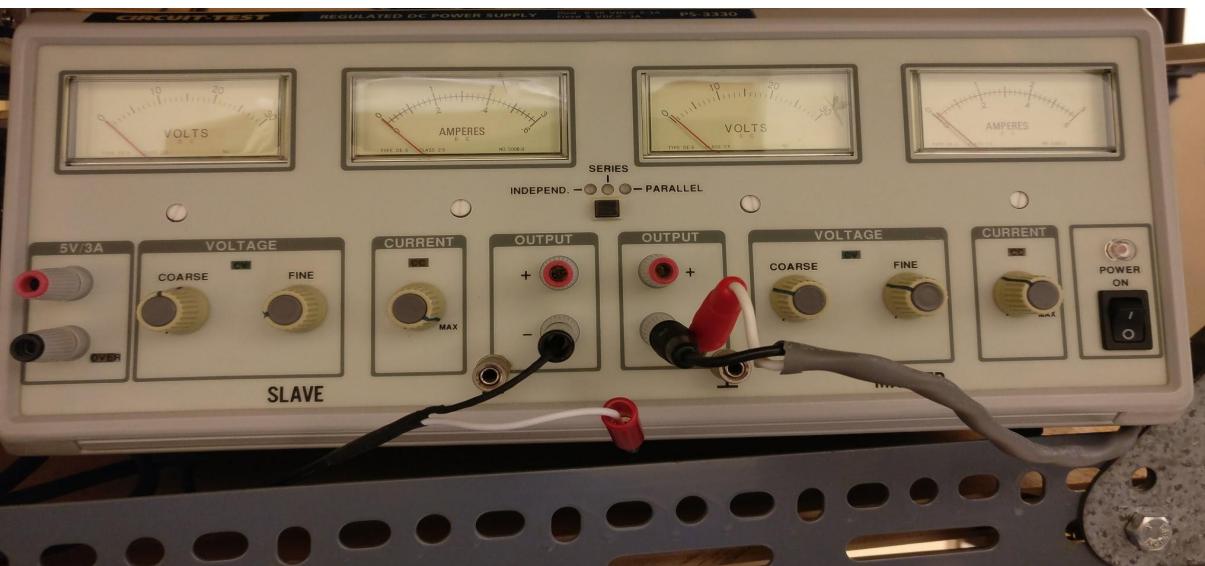
The only weakness to the interlock is this section of the laser that's undetected (in orange).

Controller for Oscillator

1. Turn key to ON
2. Check current and temperature limit
3. Turn knob to raise current and to increase laser power
4. ???

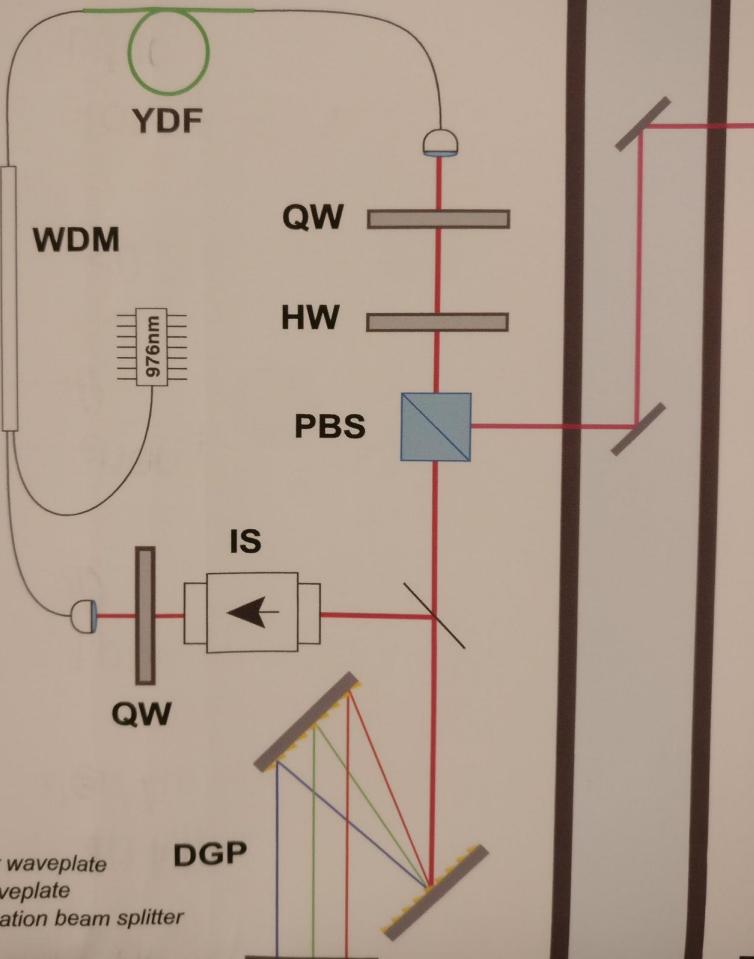


Voltage amplifier for something...



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positive
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be



QW - Quarter waveplate

HW - Half waveplate

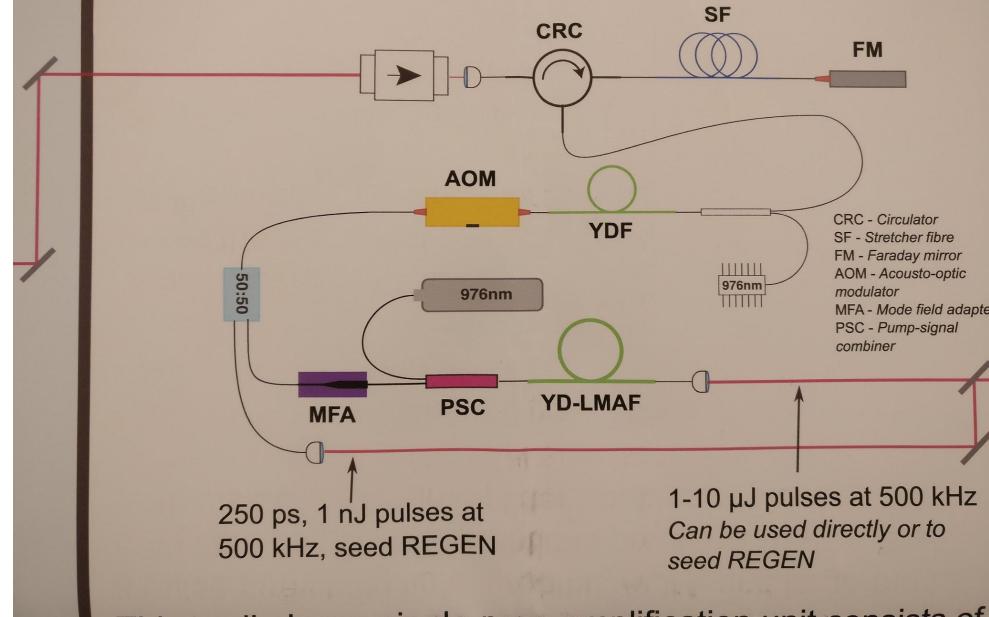
PBS - Polarization beam splitter

IS - Isolator

DGP - Diffraction grating pair

WDM - Wavelegnth division multiplexer

LCF Amplifier



The figure illustrates the single pass amplification unit consists of