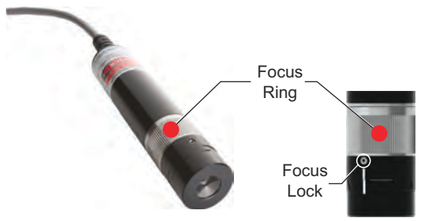
## *Focusing Coherent StingRay Lasers*

Coherent StingRay is equipped with a state-of-the-art translation focus mechanism. To focus the laser:

1. Using the 0.035 hex Allen wrench (provided—E), loosen the focus lock.
2. Grasp the focus ring and rotate the focus until it reaches the desired minimum thickness at the working distance you are using the laser.
3. Tighten the focus lock.




## *Installing an Optical Head*

The Coherent StingRay lasers in the Developer's Kit are designed to allow changing the optical head. This capability lets the user evaluate multiple optical configurations and identify the best solution for a given application.

To change the optical head:

1. Using the 0.035 hex Allen wrench (provided—E), loosen the setscrew.
2. Slide the head off.
3. Replace with the selected head from the kit.
4. Balance the optical head by moving the head along the dovetail axis and watching the power distribution change as the head moves.
5. Visually optimize the "balance" to make sure that the power is evenly distributed between the two sides.
6. Tighten the setscrew to lock the head in place.


This procedure can be repeated for all the appropriate heads included in the kit.

Questions?

Call: (USA) 1.800.343.4912
(Europe) +49-6071-968-0
(International) 503.454.5700
or visit our website: www.Coherent.com/StingRay

*Coherent StingRay Developer's Kit*
*Laser Safety and Installation Quick Start Guide*

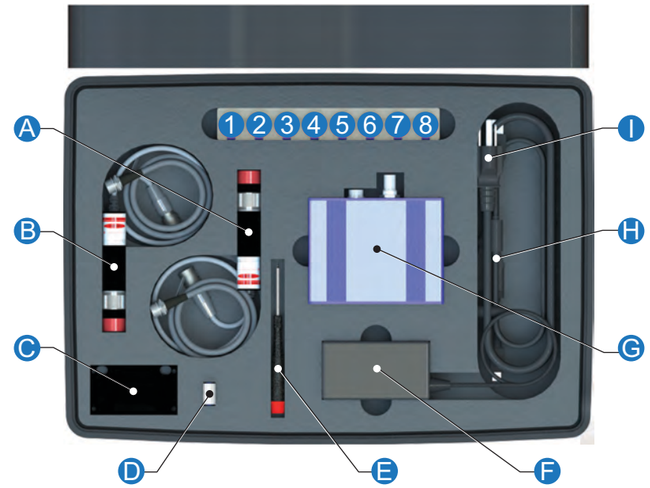
*Part No. 1264074 Rev. AC*



COHERENT


# COHERENT STINGRAY DEVELOPER'S KIT

## *Laser Safety and Installation Quick Start Guide*




| Item Description | Label ID |
|---|---|
| 30 Degree Line, Standard Focus (Red) | 1 |
| 30 Degree Line, Extended Focus (Red) | 2 |
| 30 Degree Line, Standard Focus (Green) | 3 |
| 30 Degree Line, Extended Focus (Green) | 4 |
| 60 Degree Line, Standard Focus (Red) | 5 |
| 60 Degree Line, Extended Focus (Red) | 6 |
| 3 Line, 30 Degree, IA 1.5 Degree Standard Focus (Red) | 7 |
| 19 Dot IA 0.77 Degrees, Standard Focus (Red) | 8 |
| 520-50 mW CW Laser | A |
| 660-100 mW CW Laser | B |
| Coherent StingRay Mount | C |
| USB w/Software | D |
| Allen Wrench | E |
| Power Supply | F |
| CDRH Controller | G |
| USB Cable | H |
| Power Cord | I |

## Optical Safety

Laser light, because of its special properties, poses safety hazards not associated with light from conventional sources. The safe use of lasers requires that all laser users, and everyone near the laser system, are aware of the dangers involved. The safe use of the laser depends upon the user being familiar with the instrument and the properties of coherent, intense beams of light.

**DANGER!**
**Direct eye contact with the output beam from the laser will cause serious damage and possible blindness.**

Laser beams can ignite volatile substances such as alcohol, gasoline, ether, and other solvents, and can damage light-sensitive elements in video cameras, photomultipliers, and photodiodes. Reflected beams may also cause damage. For these reasons, and others, the user is advised to follow the precautions below.

- Observe all safety precautions in the operator's manual.
- Extreme caution should be exercised when using solvents in the area of the laser.
- Limit access to the laser to qualified users who are familiar with laser safety practices and who are aware of the dangers involved.
- Never look directly into the laser light source or at scattered laser light from any reflective surface. Never sight down the beam into the source.
- Maintain experimental setups at low heights to prevent inadvertent beam-eye encounter at eye level.

**WARNING!**
**Laser safety glasses can present a hazard as well as a benefit; while they protect the eye from potentially damaging exposure, they block light at the laser wavelengths, which prevents the operator from seeing the beam. Therefore, use extreme caution even when using safety glasses.**

- As a precaution against accidental exposure to the output beam or its reflection, individuals using the system should wear laser safety glasses as required by the wavelength being generated.
- Use the laser in an enclosed room. Laser light remains collimated over long distances and therefore presents a potential hazard if not confined.
- Post warning signs in the area of the laser beam to alert individuals present.
- Advise all individuals using the laser of these precautions. It is good practice to operate the laser in a room with controlled and restricted access.

## Electrical Safety

The Coherent StingRay laser does not contain hazardous voltages. Do not disassemble the enclosure. There are no user-serviceable components inside. All units are designed to be operated as assembled. Warranty will be voided if the enclosure is disassembled.



## Installing the Laser CDRH-compliant System

This section describes how to get the laser up and running in CW mode with the laser controller. For more information—including specifics on modulation, interfacing, installation, and heat sinking—refer to the *Coherent StingRay Operator's Manual* (1223124), available in PDF format on the included flash drive, and to the Coherent website: www.Coherent.com/StingRay.

For information about optical safety, refer to the "Optical Safety" topic (p. 2), and to the *Coherent StingRay Operator's Manual*.

Note that in this configuration the laser is CDRH compliant for end-use applications. This laser will not start emission until the interlock and key switch are enabled and power applied to the controller. Once these conditions are met, the laser will begin emitting in 5 seconds (safety delay).

### Required Material

Laser (A or B) and Mount (C)

Power Supply (F) and Power Cord (I)

CDRH Controller (E)

USB Cable (H)

### Optional Material

***Coherent Connection Software***

D

This optional software can be used to interface with lasers that have the RS-232 communication option enabled. For details on communication protocols, refer to the *Coherent StingRay Operator's Manual* (1223124), available in PDF format on the flash drive that shipped with your system.

## Installation Procedure


## Installing the Optional Coherent Connection Software

Close all programs. Insert the Coherent StingRay flash drive into a USB port on your computer. Double-click the *Coherent_Connection_Setup.exe* file to start the installation process. Follow the on-screen instructions. For detailed operating instructions, refer to the *Coherent StingRay Operator's Manual* (1223124), available in PDF format on the included flash drive and also available on the Coherent website: www.Coherent.com/StingRay.