

Insect Rig Quick Start Guide

1. Program StopShot according to the instructions found here: www.cognisys-inc.com/high_speed_shutter/stopshot_hss.php
If your firmware is version 1.0.09 or later you can load the settings from the presets stored in StopShot, it's the third preset called *Insect Rig*. Turn the gain on StopShot down to a minimum.

2. Slide the StopShot controller into the controller holder and tighten the rubber stoppers to hold it in place. Then make four connections: power and the three shown in the image right:

- Power – 2.1mm power connector (no color band)
- Sensor – 3.5mm cable with Purple band
- Trigger 1 – RCA with Red band
- Trigger 2 – RCA with Green Band



3. Attach your camera, high speed shutter, controller and battery pack to the high speed shutter support system – see instructions with high speed shutter support system for more information.

4. Remove the two ¼-20 x 1" bolts that hold the camera plate to the Insect Rig using the supplied 5/32 hex key.

5. Attach the camera plate to the dovetailed mount on the high speed shutter support system with the three supplied ¼-20 x 5/8" bolts – tighten with the hex key.

6. Install the entire camera and shutter assembly to the insect rig by reinstalling the two ¼-20 x 1" bolts that were removed in step 3.

7. Connect the electrical connections to the shutter as follows:

- Shutter Power – 2.1mm power connection – no color band
- Trigger In – RCA with Red Band
- Flash Sync – RCA with White Band

8. Connect the Li-Ion Battery to the 2.1mm female connector on the Insect Rig.

9. Connect the remote shutter port of your camera to the female RCA that is bundled with the shutter wiring using your camera specific shutter interface cable (supplied separately). The excess wire can be stashed under the battery case.

10. Mount one sensor bracket to each side of the rig - they are mirrored parts and can be attached to the inside or outside of the rig. If you are using the mini laser transmitters mount the sensor brackets to the mounting hole furthest back. If you are using the standard laser transmitters connect the sensor brackets to one of the two forward holes (see image on reverse side).

11. Mount Receiver A and Receiver B to the sensor brackets using the supplied ¼-20 x 3/8" socket cap bolts. Receiver A should go on the top right (the side that has two wires coming from the rig arms. Receiver B should go on the top left (Receiver B is shown below).

12. If using the standard laser transmitters mount them under the receivers. If using the mini transmitters mount them to the supplied laser brackets. Then mount the laser brackets to the rig using the mounting holes at the end of the arms.

13. Connect the cross beam sensors. For Receiver A:

- 3.5mm cable tagged Purple connects to Jack labeled "StopShot".
- 3.5mm cable tagged Blue connects to jack labeled "Rcvr B".
- Using a short 2.5mm right angle cable (supplied) connect the "Xmitter Pwr" on Receiver A to the Laser transmitter.

14. For Receiver B:

- 3.5mm cable tagged Blue connects to jack labeled "Rcvr A".
- Using a short 2.5mm right angle cable (supplied) connect the "Xmitter Pwr" on Receiver B to the Laser transmitter.

15. Turn the system on using the power switch on the insect rig and press the button on the shutter controller. This will open the shutter allowing you to align the lasers and focus.

16. Pick your focal distance and adjust the arm position of the rig if necessary.

17. Align lasers and focus – Start by roughly aligning the lasers so the transmitter from the each side hits the receiver on the opposite side. If everything is aligned the orange light will be illuminated on the back of Receiver A. To fine tune put a sheet of paper between the sensors at a slight angle in the center of the two laser transmitters. One laser will be incident on one side of the paper and the other on the opposite side. Focus the lasers so they are each a point on the paper. Look through the view finder of the camera and make certain the points are in focus and in the center of the viewfinder. If not make adjustments to the lasers so they meet in the center and are in focus. When using the standard transmitters it may be necessary to twist the laser slightly by grabbing the plastic piece with the molded in ridges against the housing.

18. Install and align the flashes – If your flashes have PC sync connections you do not need the top half of the hot shoe that is supplied with the rig. You can remove this and connect the pc sync cables directly to your flashes. Turn the flashes on, set to Manual and turn down the power to 1/32 or lower.

19. Put the camera in bulb mode and turn it on. Set the aperture to match the flash power you have chosen. Remember the faster the flash (the lower the power) the better you will freeze the fast action of the insect wings.

20. Do a test fire. Press the button on the shutter to close it and get it ready for triggering. Pass your finger through the cross beam. You should hear the high speed shutter fire and see the flashes go off. If this happens as it should, flip the shutter button on the insect rig. The camera shutter will open and you are armed and ready. Pass your finger through the cross beam again. This time an image will be taken of your finger as it passes through the beams. Flip the shutter switch back to off and check the focus and exposure, adjusting if necessary.

For more information about the insect rig visit: www.cognisys-inc.com/products/insect_rig.php

Technical Support: support@cognisys-inc.com

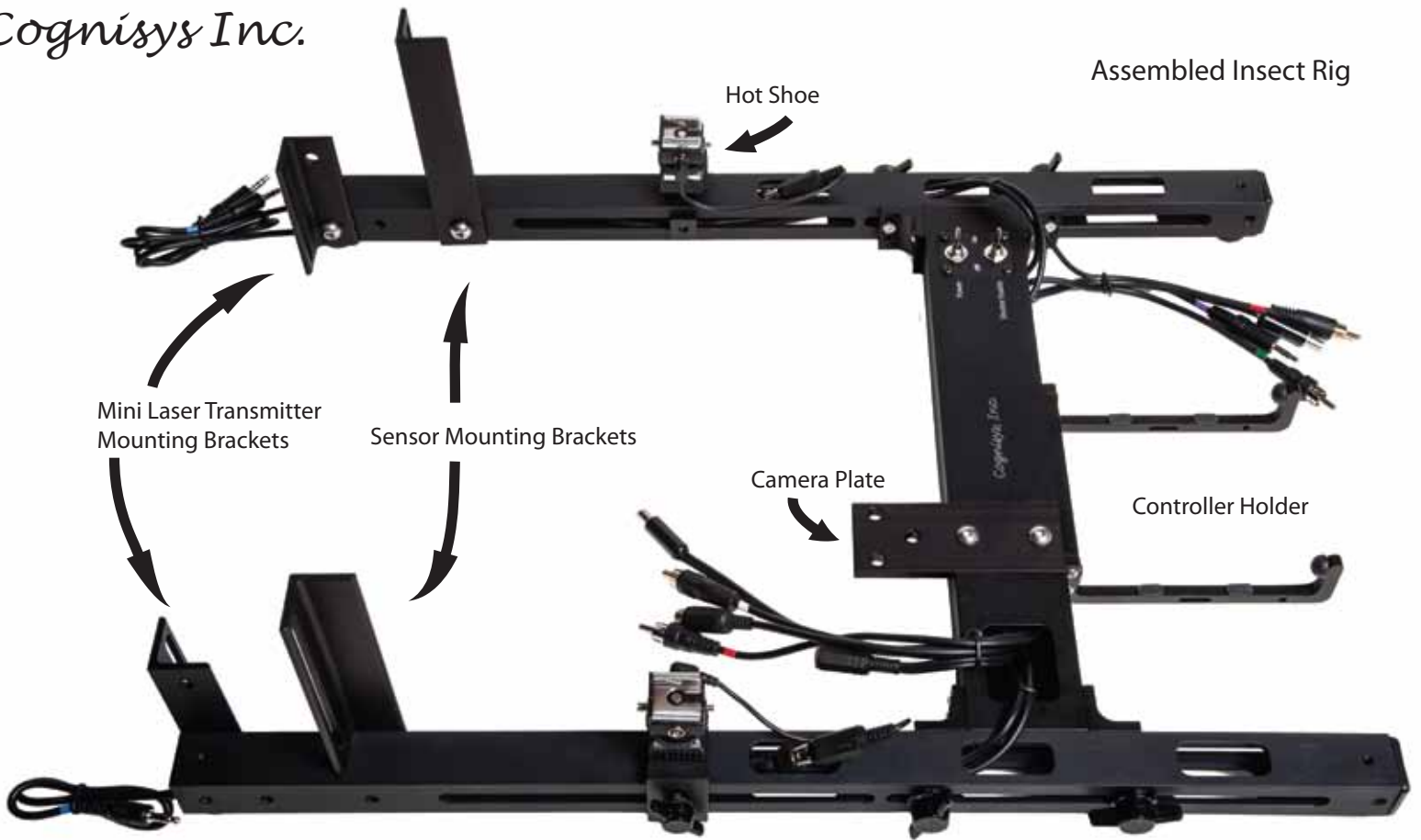


Mini Laser Transmitters



Standard Laser Transmitters

Assembled Insect Rig



What's in the Insect Rig Box:

- (1) Insect Rig
- (3) 1/4-20 x 5/8" Socket Cap Bolts
- (4) 1/4-20 x 3/8 Socket Cap Bolts (for Sensors)
- (2) 2.5mm Cables 8" long
- (2) Mini Laser Transmitter Brackets
- (1) Left Sensor Bracket
- (1) Right Sensor Bracket
- (1) 5/32 Allen Key

Insect Rig with StopShot, X-Beam Sensors, Shutter and Battery Installed

