Alignment Procedure

Quasar 3D Stereographic Beamsplitter

Instructions with Mirror Gauge

1. Mount mirror gauge into Direct-eye camera (its the camera under the Motion Module) and mount camera onto rig.

- Note that the mirror gauge currently only works with PL, PV and B4 mount lenses. When inserting the gauge, be sure to bias the gauge up and to the right. We do this as a matter of routine but it also makes sure we are getting as close to a repeatable line-up as possible.

- Note: the mirror gauge is only needed when changing camera bodies, not when only changing lenses.

2. Loosen the six side screws (7/64î allen key) found on either side of the mirror box, bottom screws (3/32î allen key) found on the bottom of the mirror frame pivot, and top screws < 1/8" allen key) found on top of the mirror frame pivot.

- This step is mainly only needed when changing camera and lens package. It does not need to be repeated if you are using the same camera/lenses. The screw on top, and towards the middle of the mirror frame pivot is nylon tipped and is a set screw. The screw on bottom of the mirror frame pivot is a ball bearing. The adjustment is done on the bearing screw to move the mirror up or down.

3. Adjust angle of mirror to angle bracket and tighten inner screws followed by outer screws.

- Hand tighten is all that is needed. DO NOT overtighten.

4. Mount lenses to cameras. Compensate for play in the mount by always mounting lenses with the same pull to one side, similar to the mirror gauge, up and to the right.

- This process assumes that lens tracking procedure has already been done. Each matched lens pair requires its own method for tracking and is outside the scope of this procedure list.

5. Mount cameras into rig.

- Be sure NOT to touch the glass with the lenses at any time. It WILL scratch or even break the glass! Stop screw on alignment dovetail will prevent this once adjusted.

6. Slide front and rear scale plates all the way over and align camera even to scale at zero both front and back.

- This is a preliminary setting to get you close.

7. Set Reflected-eye camera height to match lens size with Direct-eye camera. Look into mirror while making this adjustment.

- The easiest way to do this is to have a small flashlight handy and to look directly in front of the lenses. What you should see is the camera lenses match in height and distance from the mirror.

8. Use depth gauge to set Reflected-eye camera height along the Z-axis.

- This requires a 0.060" shim in order to zero outî the Z-axis. This process gives you a starting point in order to find the correct Z-height giving adjustment in both directions.

9. Plug in cables.

- Power distribution box, battery to power distribution 12V and 24V, camera power x 2, HD-SDI x 2, genlock x 2 into genlock box.

- Rig power cable will be connected after Alignment is complete.

10. UNLOCK the Alignment Module with 5/32" allen key.

- The Alignment Module's knobs must never be turned while the Alignment Module is locked. The are 4 locks, 2 on each side.

11. Align cameras by comparing images on an overlay monitor while adjusting the Direct-eye camera using the Motion Moduleís Interocular and Convergence knobs.

- The Motion Control box must be disconnected in order to be able to manually turn the IO knobs. Use the rear knob to align the background, and the front knob for foreground elements.

12. Set hard stops, found under the Motion Module, with a 3/32" allen key.

- Turn the left side hard stops to set them in place by turning them until they rest to the camera's position. Now move the camera back and forth to make sure the camera stops where it should.

13. Set scales to 0 on both sides.

- Scales now accurately reflect rigs positioning.

14. Use knobs on alignment module to adjust for pitch, roll and Z of Reflected-eye camera

15. Check horizontal and vertical alignment, at near focus and distant focus.

- Distant focus would ideally be something far away such as a telephone pole, near focus would be an allen key a few inches from the mirror box

16. LOCK the Alignment Module with 5/32"allen key

17. Set hand controller.

- Plug in controller to the control box before plugging in power cable.

- Wait for sequence lights on controller to turn off. Hold initialise button until self calibration begins. For additional information regarding the hand controller, refer to the Hand Controller Operation Manual.

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