

Agno's Mrotator TCPshort – Multi Row

Canon 70- 300mm IS & Canon 28 - 135mm Lenses

Test Report: June 2006

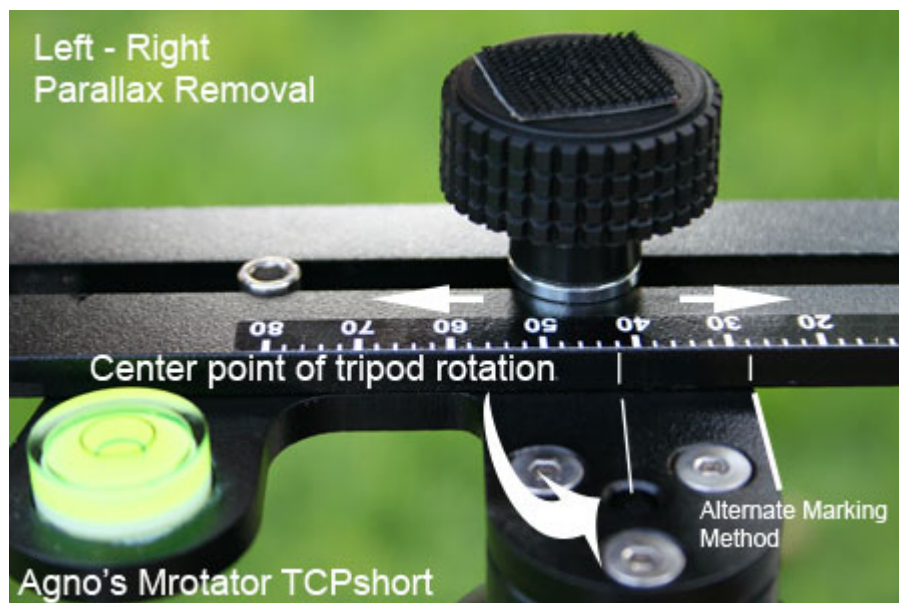
Introduction: The L shaped panorama bracket and rotator base are designed to accommodate most types of film and digital cameras. It provides a method for capturing single or multiple row images suitable for creating cylindrical panoramic image. This report uses the Canon 5d and Canon 70-300mm IS lens at focal length of 70mm. The Mrotator TCPshort pan head process is the same for the Canon 28 – 135mm at 28mm.

Specifications: Agno's Mrotator TCPshort Kit. The kit includes Mrotator TB rotator base, L bracket and a camera standard Manfrotto quick change rectangle adapter plate. The adapter plate is similar to Manfrotto product nr. 3299.



Design Features: The Mrotator TCPshort can be separated into 2 pieces allowing for easy travel storage. All the alignment control knobs are within easy reach while standing from behind. Location of the control knobs and spirit level (if mounted on the back side) are easy to read and understand.

Setup Procedure: Place the Manfrotto 488RC2 ball head on a Manfrotto 3001d tripod. Place the assembled Mrotator TCPshort on the ball head quick release plate.



Removing left/right parallax. Parallax is the apparent change in the position of an object that results in change in the point of view. It is referred to the No Parallax Point or NPP.

It is necessary to align the camera on the panorama head to view the object from the exact same position. Loosen the Mrotator TCPshort horizontal bracket knob (see above photo) and gently slide the bracket until the camera's view finder "Center" focus box is lined up directly over the top of the tripod's center rotation point. We found the lens center at **42*** on the head horizon scale. See the alternate marking method **28***. This should eliminate parallax.

Find Entrance Pupil [Nodal Point] location for the Canon 70 – 300mm IS @ FL 70mm.

The nodal point (NPP) location is a function of the lens and not the camera. It is the position inside the lens where the incoming image is inverted and projected back to the film plane or sensor.

Using the right side of the Manfrotto quick release plate (shown installed horizontally), we found the center point to be around **26*** on the horizontal arm (with camera) index scale.

***Scale markings shown represent a good starting point**





(Finding the Nodal point NPPcontinued)

The top of this picture shows the distance between the two marker poles and the camera. First line up both the back and forward marker stick (bottom center). Then rotate the camera left about 10° to left and right. Slide the camera forward or backward on the Mrotator TCPshort camera arm until both marker sticks do not move. In the photo above.. the center and right marker does not change positions. The left picture shows the back marker stick moved to the left of the red line. This indicates that I am very close to the nodal point.. but not yet precise. I would continue moving ½ mm at a time until the two marker poles in the left, center and right angle views did not change positions.

Setting up to take the images . Set up and level your tripod and Mrotator TCPshort. The camera arm should be at the Level Zero or 0° mark. Later for the second row of pictures you will rotate the Mrotator TCPshort bracket up (lens down) -15° for the second row of images



Taking the 2 Rows Photos

Using the spirit level, setup the tripod and Mrotator TCPshort bracket. Now it is time to take the first row of 4 images. As you take your pictures from **left to right** the images should have about 20% overlap. Then we returned to the far left side again and tilted the Mrotator TCPshort pan head down -15° and took another set of 4 images.

Photographs



Horizon

Tilt the bracket up (lens down) -15°



(Tilt -15° lens down)

We used PTgui version 8.5.4 to stitch the 8 images. Your stitching should be near perfect. Notice the irregular edges that need to be cropped.



Finished Cropped image

Precision Mrotator TCPshort panorama head with correct alignment will produce an excellent result.



Our testing equipment:

Camera: Canon 5d

Compact Flash Card: 1 GB Lexar Media Professional 80x WA (also had 256mb compact flash card)

Prime Lens: Canon 70 – 300mm IS @70mm (same procedure for the Canon 28 – 135mm @ 28mm)

Images: Canon CR2 RAW

Pan Head: Agno's Mrotator TCPshort

Support: Manfrotto/ Bogen Ball Head 488CR2 (supports 17.6 lbs)

Tripod: Manfrotto/ Bogen 3001d

Conclusion

Qualities:

The Mrotator TCPshort design makes it easy to align the camera and lens so that you will get repeated "NO error" type stitched images. Take precision single photo's the first time and your stitched panorama should be almost error free.

Normally all controls are at the back of the camera. The Mrotator TCPshort alignment knobs are also easily accessed from the back side of the tripod. This means you can stand in one location and make ALL the adjustments. This prevents accidentally hitting a tripod leg.

Rotating through the Mrotator TB click stops is very easy. The clicking sound and feel are solid.

Using the Manfrotto Quick Change Plate adapter (US Nr. 3299) is a great idea. It permits removing and re-mounting the camera on the Mrotator TCPshort without having to realign the camera again. The camera plate portion of the Manfrotto 3299 remains on the camera base allowing re-use on another tripod or monopod.

Suggestions:

Total assembled tripod, ball head, Mrotator TCPshort pan head, are made of steel and aluminum material. The rotator base is master crafted aluminum for accurate rotation. The L-Bracket is master crafted, precision cut and formed structural steel that assures the camera and lens will be properly supported during the imaging process. Together the Mrotator TB rotator base and meticulousness formed bracket will assure exact positioned imaging.

A few times when placing the camera into the Manfrotto camera release clamp, the vertical arm bracket 0-90° would move down 5° under hand pressure and camera weight. This only an observation and I do not have any correction suggestion.

Recommendation: Excellent panoramic hardware for creating multi-row panoramas.