



## Review of TS Optics TSRC6M Telescope and CCD47 Reducer

## TSRC6M Telescope + CCD47 Reducer

The Ritchey-Chrétien telescope from TS-Optics with a focal length of 1370 mm and an aperture of 154 mm is an extremely compact deep sky telescope with very sharp imaging performance due to the mirror arrangement and was already delivered to us optimally collimated. The telescope makes a very high-quality impression: The tube is completely made of metal, the secondary mirror is very stably mounted to the tube and the focuser makes it possible to bring a DSLR camera exactly into focus without any problems and to fix it in this position all night long. Helpful for this are a 1:10 reduction for fine adjustment and two screws on the bottom to adjust the sluggishness of the focuser and to fix it. Focusing the telescope proved to be very easy, as we were able to bring the focuser to the correct distance range from the tube via the included 50 mm extension. In addition to the primary and secondary mirrors, there are slats on the inside of the tube to reduce the reflection of stray light, which further emphasizes the well-designed construction. The only drawback is the telescope cover: it is minimally too small for the opening, and easily falls out during transport or when shooting dark or bias frames, unless the telescope is oriented vertically upwards. Since only the lower dovetail bar is included, an additional dovetail must be purchased to mount a guiding scope. However, we were able to use a dovetail bar from our spare parts inventory, which made this a no-brainer for us.

The focal ratio of the telescope can be reduced from f/9 to f/6 with the 0.67x reducer CCD47. which is very convenient for the alignment to the target object, because stars become visible in the live view mode. Live View mode, on the other hand it allows much more light to reach the sensor at the same exposure time. The test images were taken exclusively in this configuration with an APS-C DSLR camera. For medium sized nebulae (Horsehead and Flame Nebula, Christmas Tree Cluster) and larger galaxies, the resulting focal length of 918 mm is ideal, but smaller galaxies or small planetary nebulae would require an even longer focal length.

The spikes on bright stars (caused by the spider of the secondary mirror), which are typical for reflecting telescopes, are symmetrical, uniform and sharp, which speaks for a very good alignment of the mirrors to each other. In general, the stars are very sharp and round in almost all areas of the image area: Coma only visible at the outermost edges of the image.

The CCD47 reducer can be attached to the camera via a 2" adapter, whereby the correct distance to the sensor must be set with intermediate rings. Through a M48x0.75 connection thread, 2" filters can also be attached to the reducer - or the latter to a filter wheel. The focal ratio of f/6 is already so fast for a telescope of this focal length that with an exposure time of 600s and already ISO 800 evenly exposed images can be achieved.

Conclusion: The 0.67x reducer makes the high-quality and sharp imaging Ritchey-Chrétien telescope from TS-Optics a relatively fast deep sky instrument, which is suitable for many objects in the night sky and for various needs due to the very good price-performance ratio and the large focal length of 918 or 1370 mm.

The telescope as well as the reducer were provided to us by TS-Optics for testing purposes. The content of the review reflects our own opinion and is in no way connected to the manufacturer.

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