

SETTING CIRCLES FOR EQ3-2 & EQ5

Understanding the Setting Circles

The quickest way to find objects is to learn the Constellations and use the finderscope, but if the object is too faint you may want to use setting circles on an equatorial mount. Setting circles enable you to locate celestial objects whose celestial co-ordinates have been determined from star charts.

Your telescope must be polar aligned and the R.A. setting circle must be calibrated before using the setting circles.

Reading the R.A. setting circle

The telescope's R.A. setting circle is scaled in hours, from 1 through 24, with small lines in between representing 10 minute increments. The upper set of numbers apply to viewing in the Northern Hemisphere, while the numbers below them apply to viewing in the Southern Hemisphere. The section next to the setscrew is scaled in minutes, from 1 through 10, representing the exact minute within the 10 minute increments.

In the case of Fig.a, the R.A. setting circle pointer indicates approximately 8 hours and 20 minutes. Now look for the number in the minute scale that aligns with any line on the main R.A. setting circle. In this case, it is 1. The reading on this R.A. setting circle, therefore, is 8 hours and 21 minutes.

Setting (calibrating) the R.A. Setting Circle

In order to set your Right Ascension circle you must first find a star in your field of view with known coordinates. A good one would be the 0.0 magnitude star Vega in the Constellation Lyra. From a star chart we know the R.A. coordinate of Vega is 18h 36m. Loosen the R.A. and DEC. lock bolts on the mount. Centre Vega in the telescope's field of view. Now rotate the R.A. setting circle until it reads 18h36m.

Finding Objects Using the Setting Circles

Example: Finding the faint planetary nebula M57; "The Ring"

From a star chart, we know the coordinates of the Ring are Dec. 33° and R.A. 18h52m. Set 33° on your DEC circle, 18h52m on your R.A. circle and the Ring Nebula should be in the field of view. Use low power until the object is found, then centre it in the field for high power examination.

Sometimes it is convenient to find an object with the DEC coordinate only. We could have found the Ring by setting 33° on the DEC circle, then traversing through Lyra in R.A. until it appeared in the field of view.

Note: To locate an object in the eyepiece, first locate the object in the finderscope view. The finderscope allows magnification of a larger area than the higher power telescope view. Finderscope should be aligned during daytime before use.

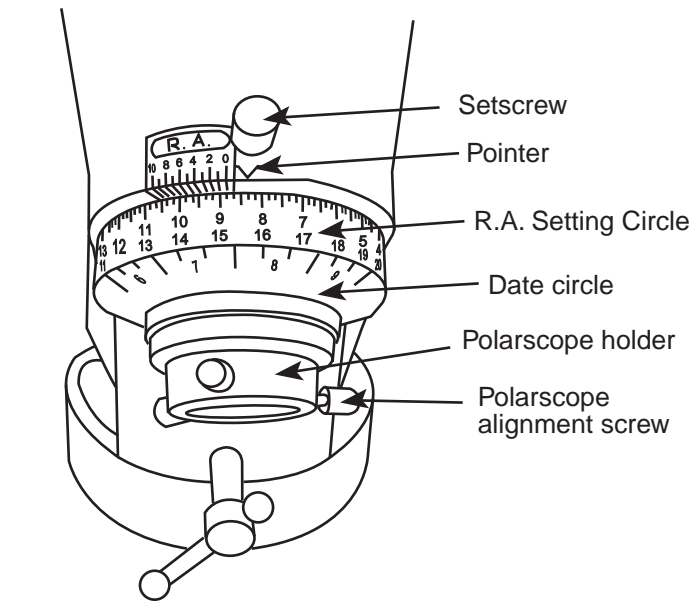


Fig.a

