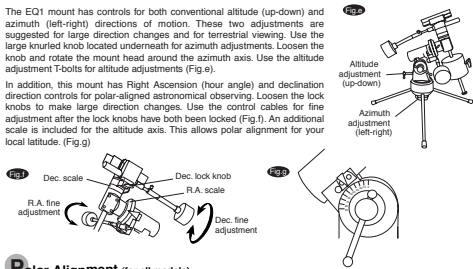## Operating the EQ1 mount (for all models)

The EQ1 mount has controls for both conventional altitude (up-down) and azimuth (left-right) directions of motion. These two adjustments are suggested for large direction changes and for terrestrial viewing. Use the large knurled knob located underneath for azimuth adjustments. Loosen the knob and rotate the mount head around the azimuth axis. Use the altitude adjustment T-bolts for altitude adjustments (Fig.e).

In addition, this mount has Right Ascension (hour angle) and declination direction controls for polar-aligned astronomical observing. Loosen the lock knobs to make large direction changes. Use the control cables for fine adjustment after the lock knobs have both been locked (Fig.f). An additional scale is included for the altitude axis. This allows polar alignment for your local latitude. (Fig.g)

Fig.e

Altitude adjustment (up-down)

Azimuth adjustment (left-right)

Fig.f

Dec. scale
Dec. lock knob
R.A. scale
R.A. fine adjustment
Dec. fine adjustment

Fig.g

Polar Alignment (for all models)

In order for your telescope to track objects in the sky you have to align your mount. This means tilting the head over so that it points to the North (or South) celestial pole. For people in the Northern Hemisphere this is rather easy as the bright star Polaris is very near the North Celestial Pole. For casual observing, rough polar alignment is adequate. Make sure your equatorial mount is level and the red dot finder is aligned with the telescope before beginning.

Fig.h

unlock

Setting the latitude

Remove the telescope tube and the counterweights from the mount. Find the latitude and time zone of your current location. A road atlas or GPS unit is useful for your local geographic coordinates. Now look at the side of your mount head, there you will see a scale running from 0-90 degrees (Fig.i). Unlock the hinge of the mount by gently pulling on the lock lever counter-clockwise. At the bottom of the head is a screw that pushes on a tongue under the hinge, changing the angle. Spin this until your latitude is shown on the scale by the indicator pin, then lock the hinge (Fig.h).

Finding Polaris

Polaris, the "Pole Star" is less than one degree from the North Celestial Pole (NCP). Because it is not exactly at the NCP, Polaris appears to trace a small circle around it as the Earth rotates. Polaris is offset from the NCP, toward Cassiopeia and away from the end of the handle of the Big Dipper (Fig.i).

Alligning your telescope to Polaris

Unlock the DEC lock knob and rotate the telescope tube until the pointer on the DEC setting circle reads 90˚. Retighten the DEC lock knob. Move the tripod so that the mount faces north and the R.A. axis points roughly at Polaris. A hand campass is useful for this step. Unlock the azimuth adjustment knob located underneath the mount

Fig.i

Big Dipper
Little Dipper
Polaris
+NCP
Cassiopeia