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EQ8-R PRO

Here you will find our illustrated manual for the setup and operation of the EQ8-R PRO from Sky-Watcher. The EQ-8 is a rugged computerized German equatorial mount. The big advantage is the internal cable routing with hub for USB and power supply.

Properties

Model	EQ8-R PRO
Manufacturer	Sky-Watcher
Type	german-paralactic
Maximum payload	50 kg
Control speeds (-fold)	0.125; 0.25; 0.5; 0.75; 1
Tracking speeds	solar, lunar, sideral
Polar altitude adjustment	10° - 65°
Weight of the mount	25.8 kg
Type of motors	stepper motors
PEC correction	yes

Individual parts

The mount consists of the following parts:

- solid tripod
- the mount itself
- counterweight rod
- counterweights
- small transparent box containing parts such as
  - hexagonal wrench
  - cables
  - hand control
- transport case, which is normally used to store the mount (the lid cannot be closed when the pole height is set)

Structure

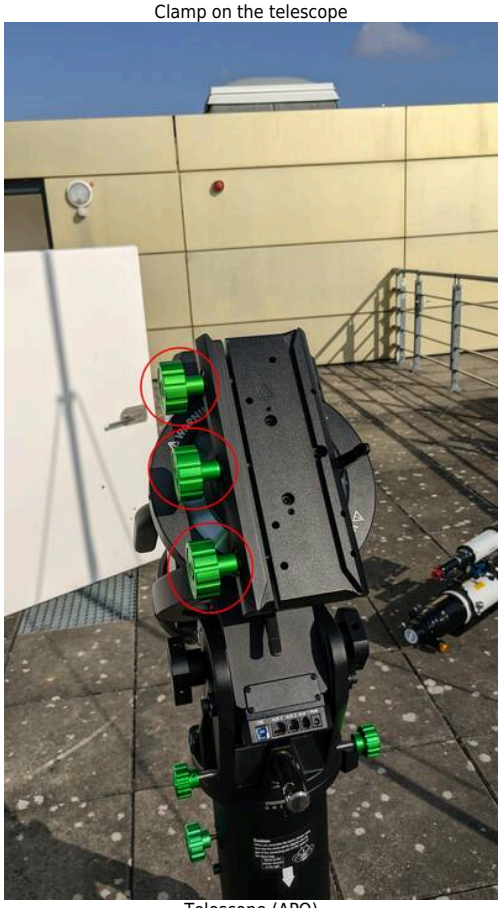
Step	Description	Parts needed	Telescope status after mounting
1	First, the three feet for the tripod must be placed as shown in the picture to the right. The tip of the “foot triangle” must face north. The feet are used to dampen vibration and level the mount.	3 feet	

Step	Description	Parts needed	Telescope status after mounting
2	Next, the tripod is placed on the prepared feet.	Tripod	
3	The third step is to place the actual mount on the tripod.	mount	

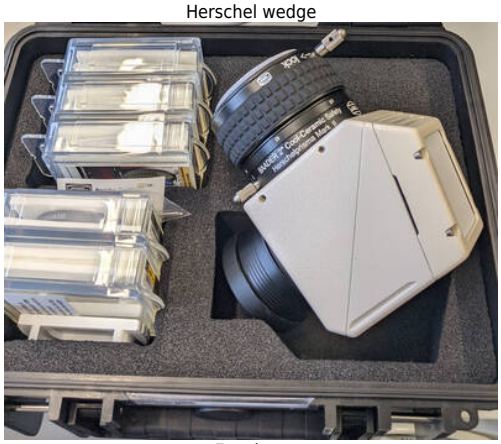
Step	Description	Parts needed	Telescope status after mounting
4	In this and the next two steps, the tripod and the mount are firmly connected to each other. To do this, first lightly screw in 2 hex screws on both sides of the mount and tripod.	2 hex screws	

Step	Description	Parts needed	Telescope status after mounting
5	The green wheel on the side of the tripod's center bolt must then be screwed into the base of the mount. If you look under the polar cradle of the mount, you can also see how the tripod bolt is screwed into the mount.		

Step	Description	Parts needed	Telescope status after mounting
6	Now the hexagonal screws can be tightened.		
7	Next, the counterweight rod can be screwed in	Counterweight rod 	

Step	Description	Parts needed	Telescope status after mounting
8	The counterweights can then be attached.	Counterweights	
9	Now the telescope can be mounted. In our case this is our APO. The Losmandy prism rail of the telescope has to be inserted into the clamp of the mount and then fixed with the 3 green screws.	Clamp on the telescope  Telescope (APO) 	

Step	Description	Parts needed	Telescope status after mounting
10	Now the cover can be removed from the telescope, in this case the APO.	Cover the telescope 	

Step	Description	Parts needed	Telescope status after mounting
11	Now the instrument can be mounted. Here we use the Herschel wedge together with a 2“ eyepiece	Herschel wedge  Eyepiece 	 

Step	Description	Parts needed	Telescope status after mounting
12	The mount and telescope combination can then be balanced. To do this, first loosen the locking lever of the right ascension axis (marked in the photos on the left). The telescope should then be able to rotate freely around the right ascension axis. Now move the counterweights on the counterweight rod to balance the system. Repeat the procedure for the declination axis, except that the telescope is moved forward or backward instead of the counterweights. To do this, loosen the three green screws on the clamp and move the telescope. It is best to do this in pairs.		  

Step	Description	Parts needed	Telescope status after mounting
13	Now connect the handset and the power cord.	Handset and power cord	  

Step	Description	Parts needed	Telescope status after mounting
14	Turn on 🙂		 

Operation

Start-up

The EQ8-R PRO can be easily turned on and off using the on/off switch. Unlike the OST, there is no need to wait for the mount to shut down. After switching on the mount, it is always necessary to perform an alignment first.

Alignment

The following options are available:

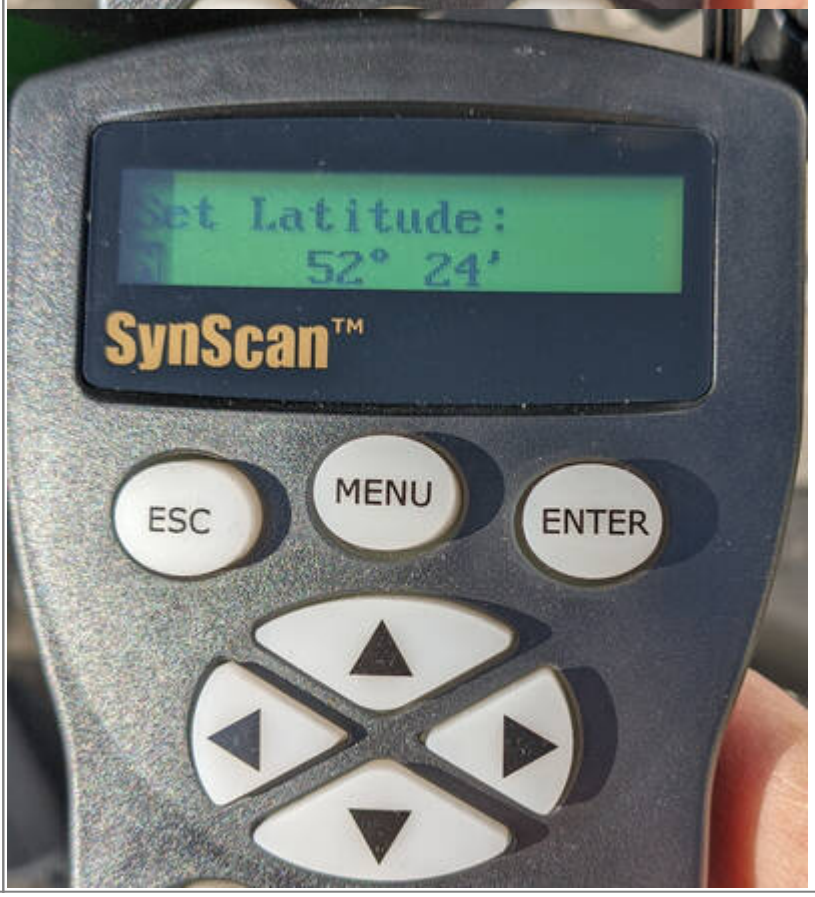
```
1-Star Align.
2-Star Align.
Polar Align.
```

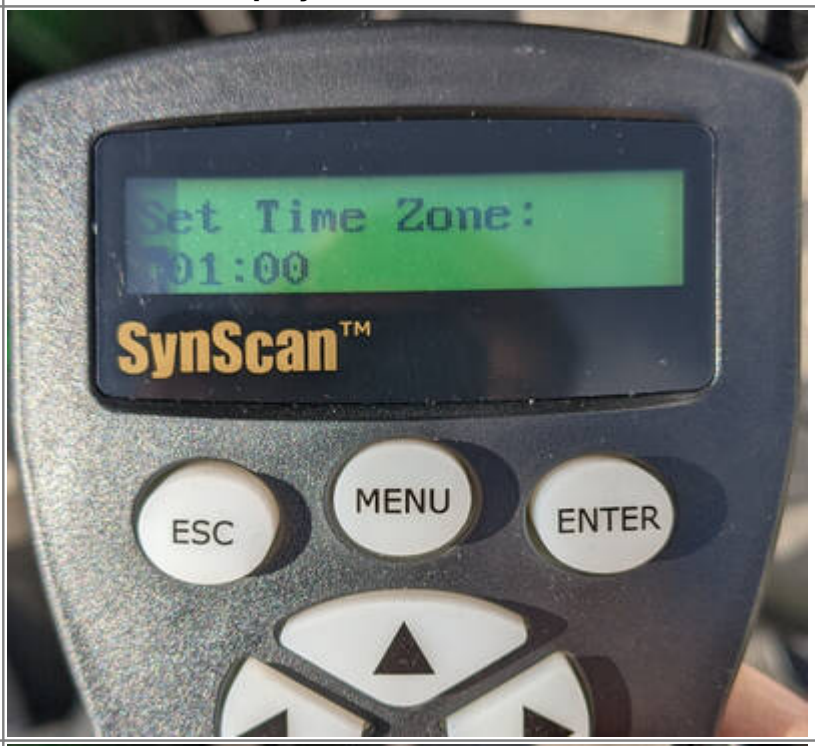
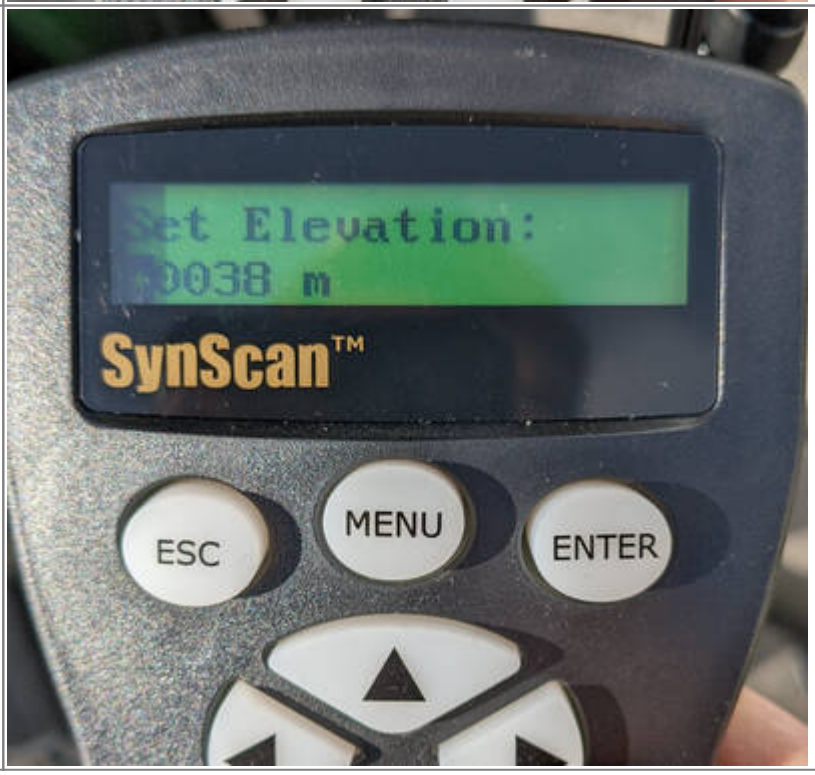
General procedure

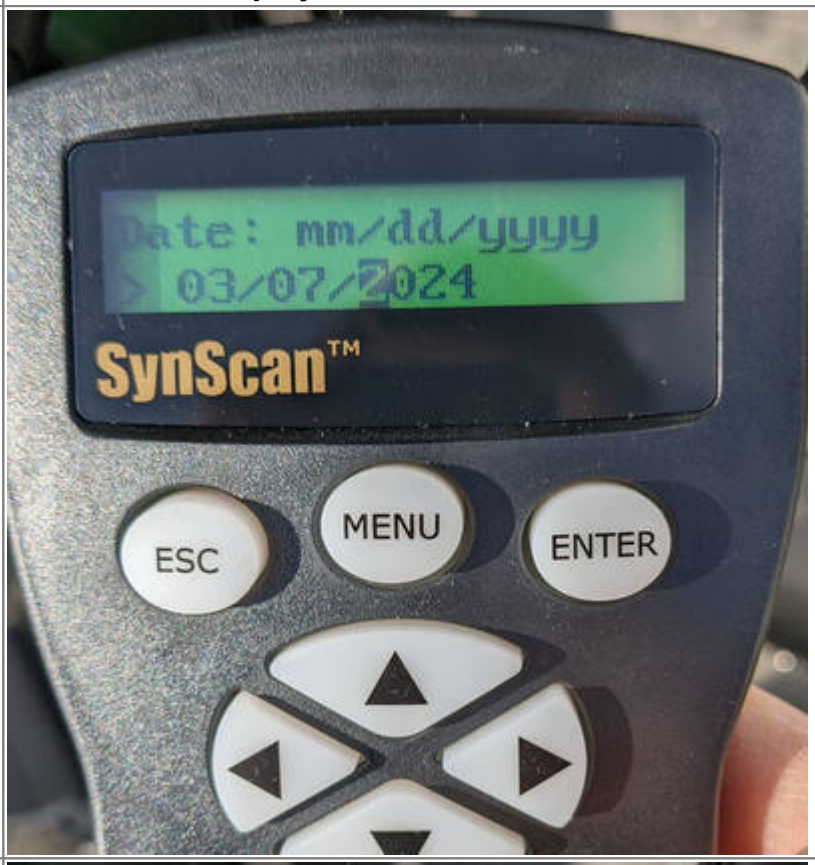
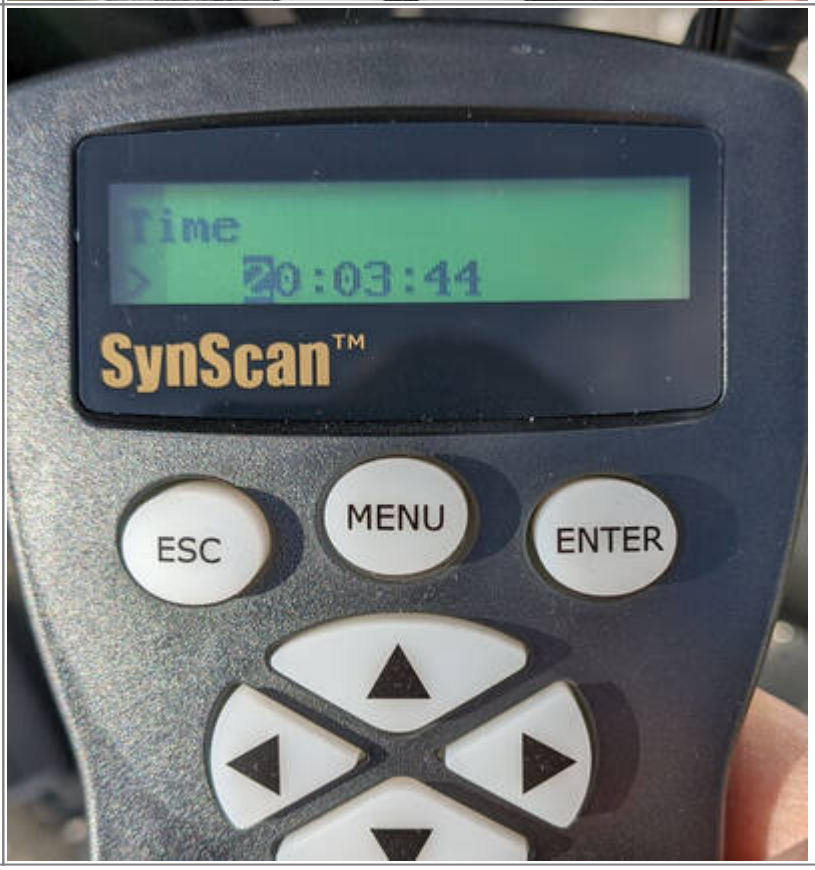
Step	Description	Hand control display
0	After confirming the On/Off switch, the manual control unit is initialized.	

Step	Description	Hand control display
1	After starting, the mount must be moved to the home position, which is confirmed by pressing **key 1**. After switching on, the mount will search for this position and move back and forth a few times. The display will show `Home Position Established`. Confirm this by pressing **Enter**.	
2	Next, you can set any offset for the declination axis. We do not need this and confirm with **key 2**.	

Step	Description	Hand control display
3	A warning will be displayed that you should not look at the sun without a proper sun filter. Confirm this by pressing **Enter**.	

Step	Description	Hand control display
4	Now you have to enter the latitude and longitude. These should be saved from previous sessions, so you only need to confirm them with **Enter**.	 

Step	Description	Hand control display
5	Next you have to set the timezone. Confirming with **Enter** is usually sufficient here as well, since the hand control saves this value.	
6	The height above sea level must then be set. The same applies as for the previous two steps. Normally a confirmation with **Enter** is sufficient.	

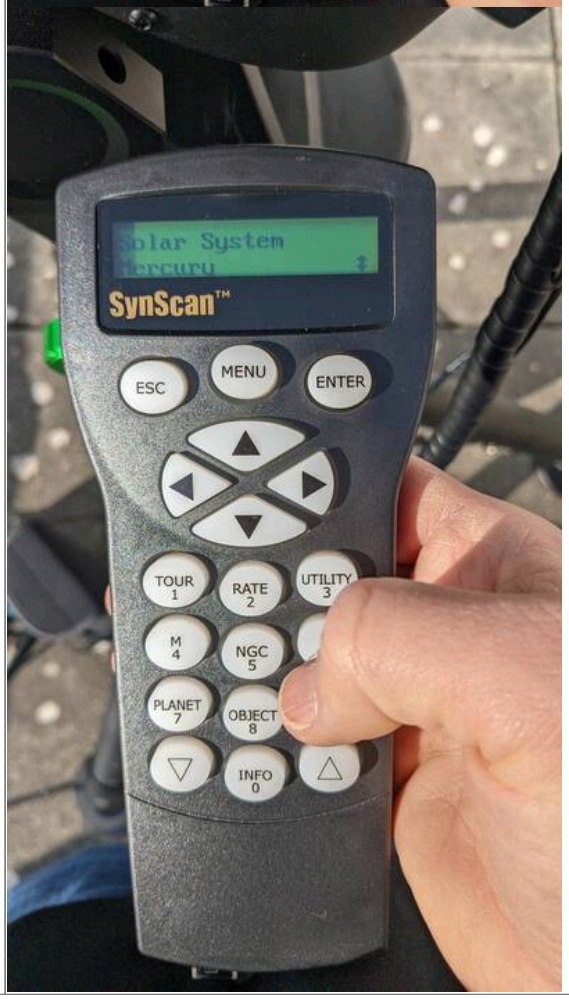
Step	Description	Hand control display
7	Next, set the current date and confirm with **Enter**.	
8	The current time follows. It is recommended to set a time a few seconds in the future and wait with **Enter** until the set time is reached. This gives more accurate results.	

Step	Description	Hand control display
9	The next step is to select whether Daylight Saving Time applies or not. The selection is made with the arrow buttons at the bottom left and right. Confirm with **Enter**.	
10	The display will then show the position angle of Polaris, which can also be confirmed with **Enter**.	

Step	Description	Hand control display
11	In the last step of the preparations you have to choose whether you want to start the alignment or not.	

Sonnenbeobachtungen

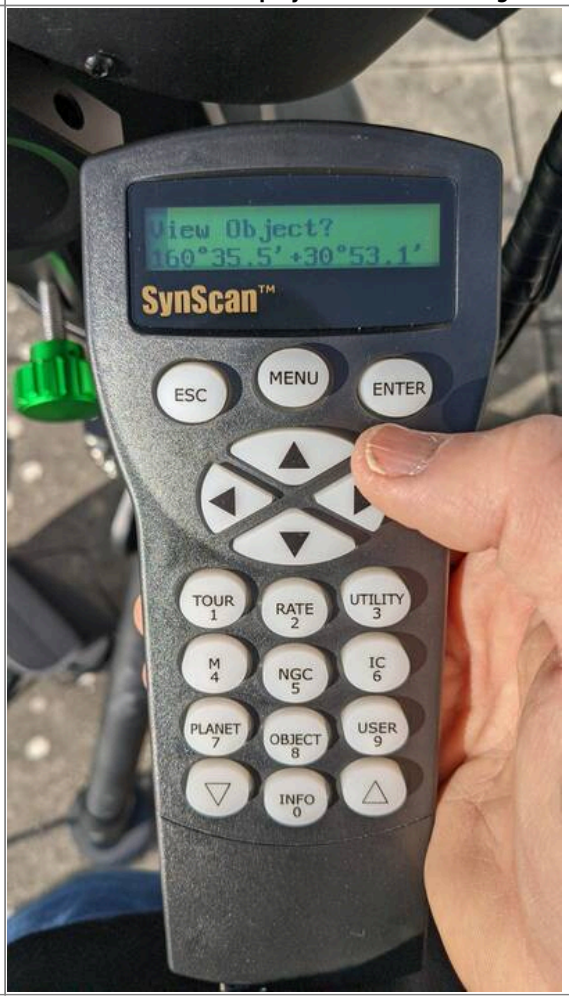
Schritt	Beschreibung	Display der Handsteuerung

Schritt	Beschreibung	Display der Handsteuerung
1	Als Erstes gilt es die `Object List` aus dem Menu auszuwählen. Man kann dieses auch über kürzer durch drücken der **Taste 8** erreichen, die einen Shortcut in dieses Menu darstellt.	 

Schritt	Beschreibung	Display der Handsteuerung
2	Durch die **Pfeiltasten** unten links und rechts auf dem Pad ist dann die Sonne auszuwählen.	

Schritt	Beschreibung	Display der Handsteuerung
3	Anschließend wird wieder eine Warnung angezeigt, dass man nicht ohne Filter in die Sonne schauen darf. Dies bestätigt man erneut mit einem Druck auf **Enter**.	

Schritt	Beschreibung	Display der Handsteuerung
4	Als Nächstes werden die aktuellen Koordinaten der Sonne angezeigt. Dies bestätigen wir mit **ENTER**.	

Schritt	Beschreibung	Display der Handsteuerung
5	Im letzten Schritt muss noch einmal mit **ENTER** bestätigt werden, dass man wirklich zur Sonne fahren möchte.	

Schritt	Beschreibung	Display der Handsteuerung
6	Anschließend positioniert die Montierung das Teleskop in Richtung Sonne.	

Schritt	Beschreibung	Display der Handsteuerung
7	Hat man die Montierung gut ausgerichtet, wird man eine Abbildung der Sonne auf der Hitzeschutzkachel des Herschel-Keils sehen.	

Schritt	Beschreibung	Display der Handsteuerung
8	Um die Sonne final im Okular zu zentrieren, kann es hilfreich sein die Bewegungsgeschdigkeit herab zusetzen. Hierfür auf **Taste 2** klicken. Anschließend kann über die **Zahlentasten** die Geschwindigkeit ausgewählt werden, die dann noch mittels **ENTER** bestätigt werden muss.	

Two Star Alignment

Kommt noch...

Polar Alignment

Kommt noch...

Hibernation

Kommt noch wenn es das gibt... 😉

Troubleshooting

Bekannte Fehlerquellen und deren Lösung sind hier zu finden.

Weiterführende Dokumentation

Mehr Details zur Montierung und zum Teleskop als solches können dem entsprechenden Manual im Praktikumsraum entnommen werden.