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

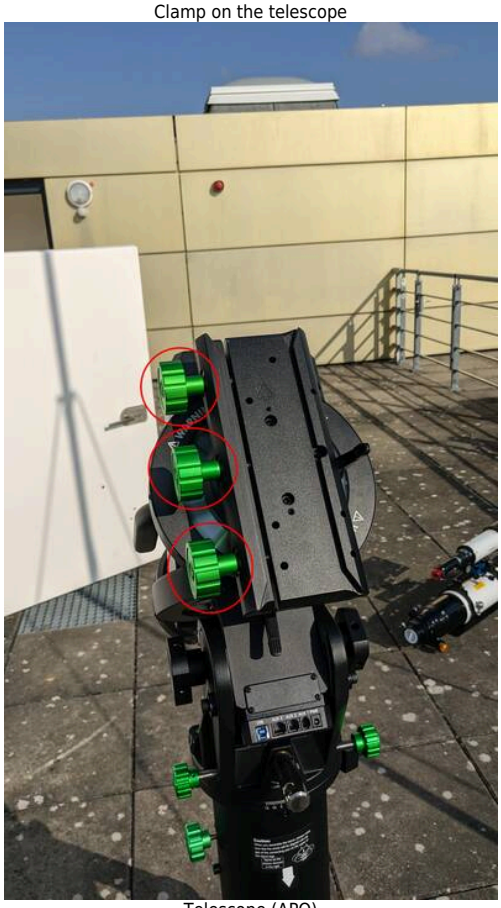
Step	Description	Parts needed	Telescope after the corresponding step
1	First, the three feet for the tripod must be placed as shown in the picture to the right. The tip of the “foot triangle” must face north. The feet are used to dampen vibration and level the mount.	3 feet	

Step	Description	Parts needed	Telescope after the corresponding step
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	

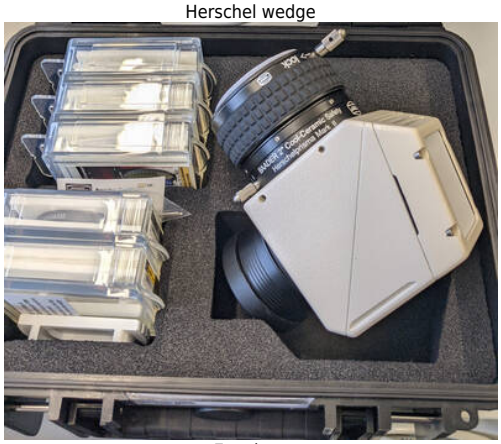
Step	Description	Parts needed	Telescope after the corresponding step
4	In this and the next two steps, the tripod and the mount are firmly connected to each other. To do this, first lightly screw in 2 hex screws on both sides of the mount and tripod.	2 hex screws	

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

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

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

Step	Description	Parts needed	Telescope after the corresponding step
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:

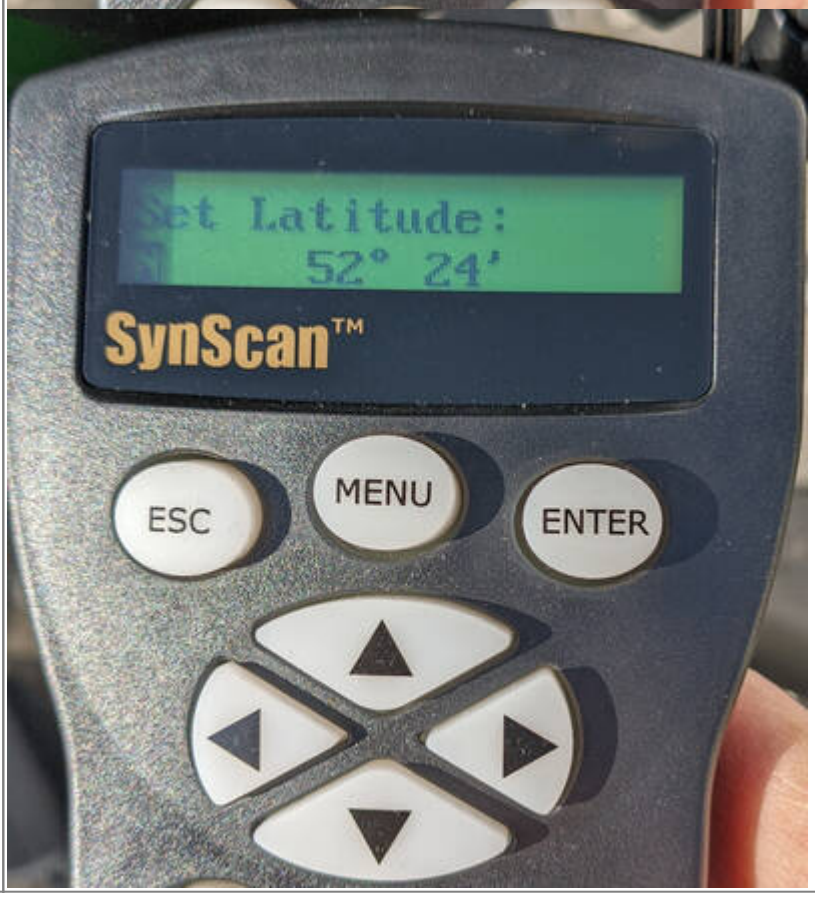
```
  1-Star Align.
  2-Star Align.
  Polar Align.
```

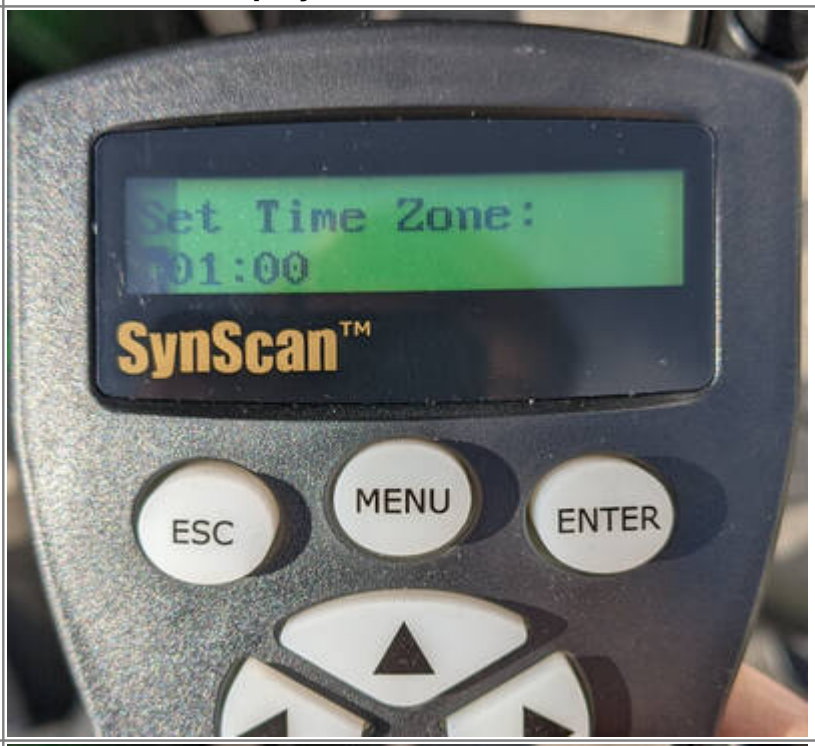
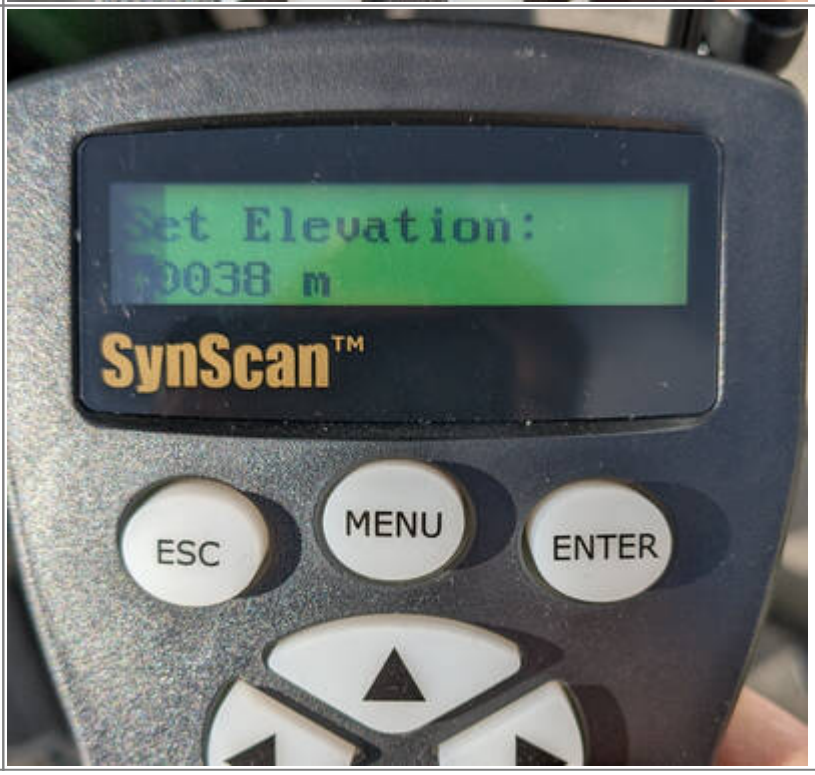
General procedure

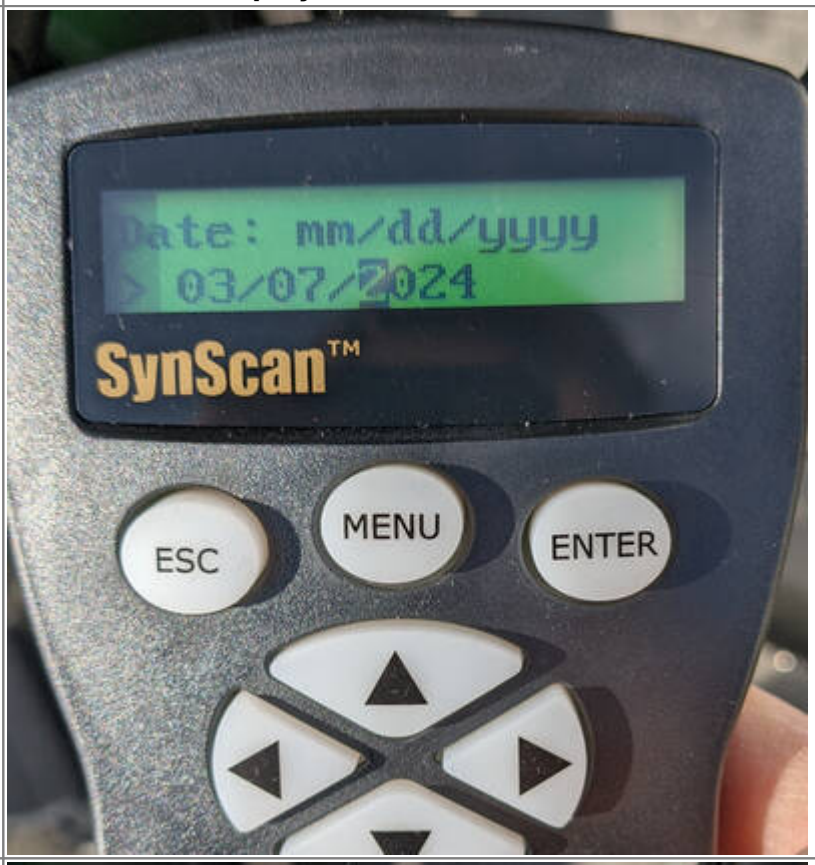
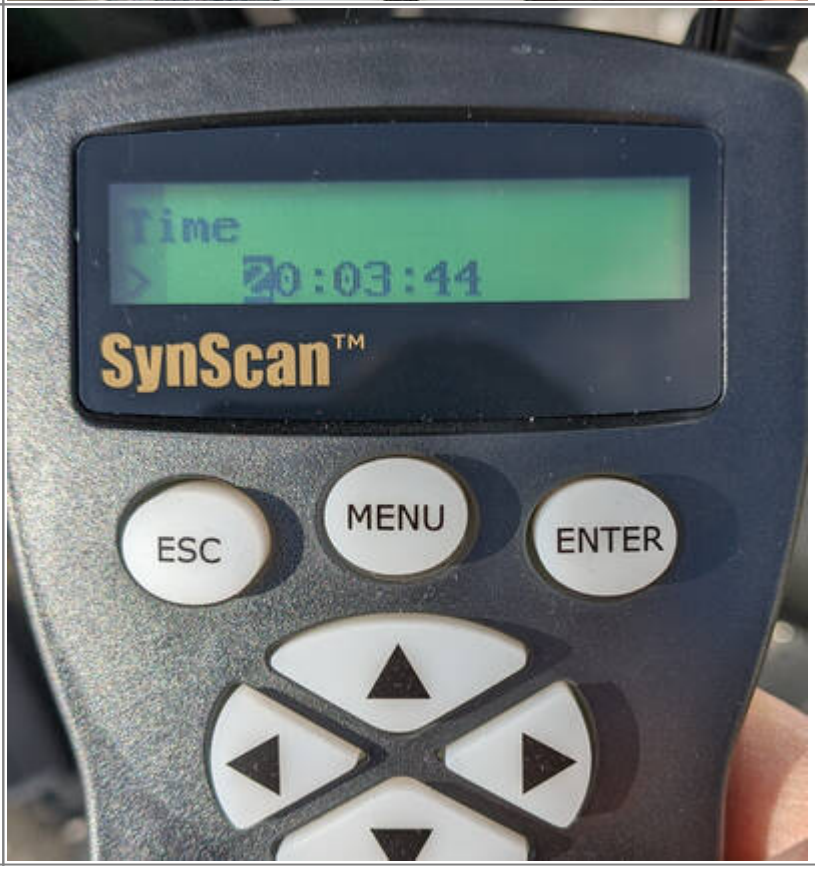
Step	Description	Hand control display
0	After confirming the On/Off switch, the manual control unit is initialized.	

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.	

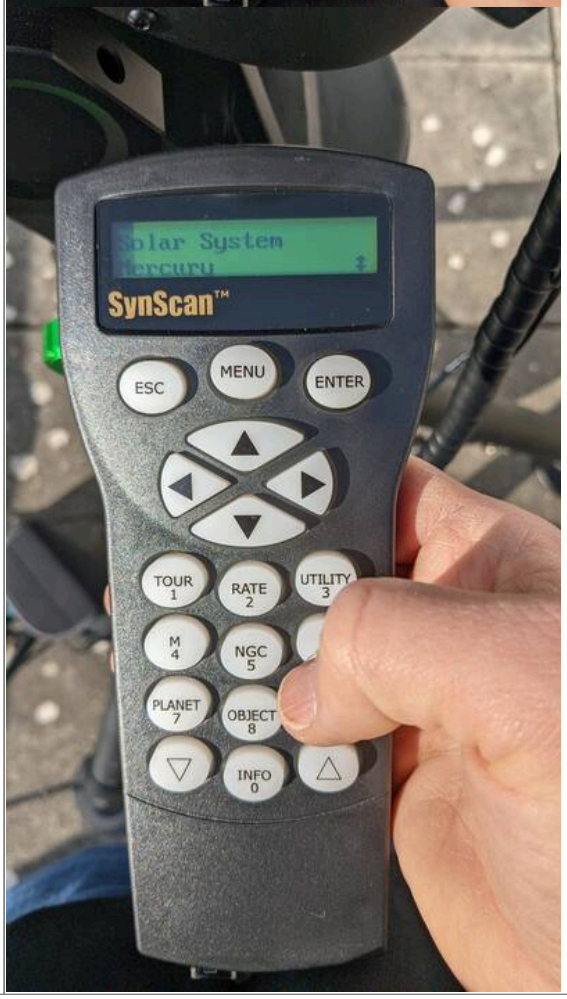
Step	Description	Hand control display
7	Next, set the current date and confirm with **Enter**.	
8	The current time follows. It is recommended to set a time a few seconds in the future and wait with **Enter** until the set time is reached. This gives more accurate results.	

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.	

Solar observations

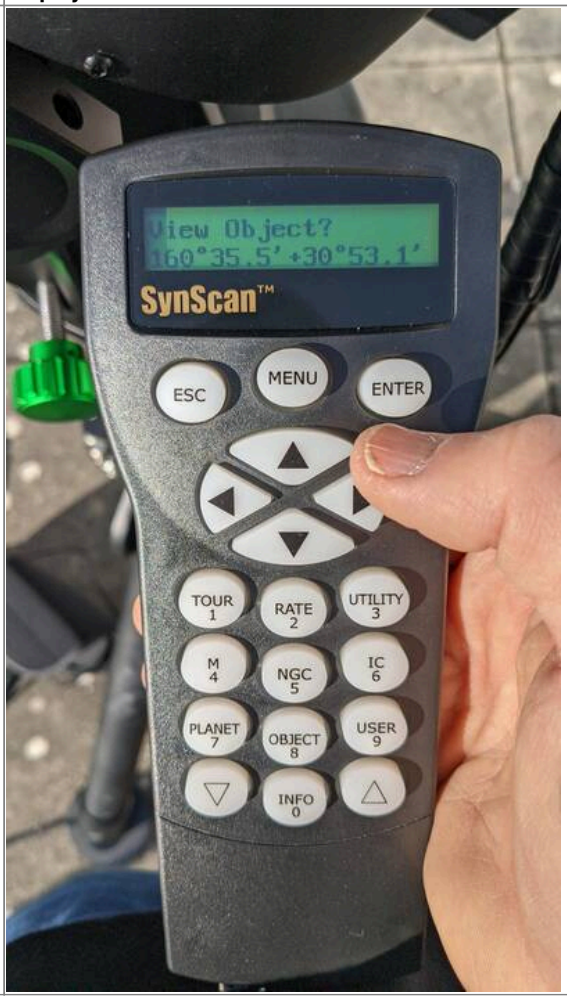
Step	Description	Display of the hand control

Step	Description	Display of the hand control
1	The first thing to do is to select the `Object List` from the menu. This can also be done by pressing **key 8**, which is a shortcut to this menu.	 

Step	Description	Display of the hand control
2	Use the **arrow keys** at the bottom left and right of the pad to select the sun.	

Step	Description	Display of the hand control
3	You will be warned again not to look at the sun without a filter. Confirm this again by pressing **Enter**.	

Step	Description	Display of the hand control
4	Next the current coordinates of the sun are displayed. We confirm this with **ENTER**.	

Step	Description	Display of the hand control
5	In the last step, confirm once more with **ENTER** that you really want to travel to the sun.	

Step	Description	Display of the hand control
6	The mount then positions the telescope toward the sun.	

Step	Description	Display of the hand control
7	If the mount is well aligned, you will see an image of the Sun on the heat shield of the Herschel wedge.	

Step	Description	Display of the hand control
8	To finally center the sun in the eyepiece, it may be helpful to reduce the speed of movement. To do this, click on **key 2**. The speed can then be selected with the **number keys** and confirmed with **ENTER**.	

Two Star Alignment

Still to come...

Polar Alignment

Still to come...

Hibernation

Still to come if there is one... 😉

Troubleshooting

Known error sources and their solutions can be found here.

Further documentation

More details about the mount and the telescope itself can be found in the corresponding manual in the practical room.