HM1 Quick Start Guide

The HM1 is the Avalon Instruments Harmonic Drive mount. This mount comes without clutch but with a safety break system designed to protect the setup in case of accidentally power loss. In order to make the system work properly is strongly suggested to follow the step by step setup procedure explained below:

Take of the mount from it's protective foamed bag, place it on a flat and antiscratch surface and take out all the provided accessories. Below is shown what included in the box.

Packing list

Mount head

- StarGo Plus
- Keypad + connecting cable
- Losmandy/Vixen saddle
- Azimuth pin with fixing screws
- StarGo Plus Power Supply
- Safety Break Power Supply
- RA / DEC motor cables
- Additional adapter ring for T-pod 110/130
- HEX keys

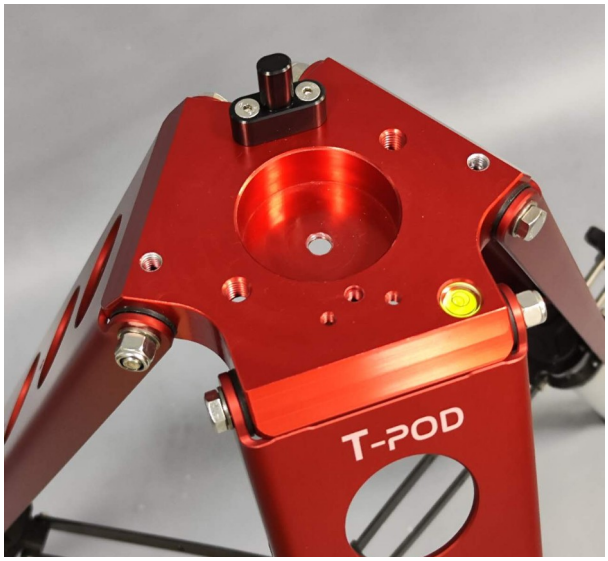
The mount for safety and reducing overall packaging reason, comes shipped at approximative latitude 80°. So, the first step to be performed soon after the unpackaging is the correct observer latitude settings. This operations is described below:

Remove the blocking knob on both mount sides and the latitude range screw.	When the mount base is free, rotate it until the white arrow match with the observer latitude.
	
In the sample below the mount has been set around 45°	Screw back the block latitue knobs and the latitude range screw
	

When the correct latitude has been adjusted it is possible to put the mount on the tripod. The HM1 is directly compatible with our T-pod 90, for the T-pod 110 and 130 models is required a ring adapter to allow a precise fitting in the tripod housing. The azimuth peg is separated from the mount and must be assembled on the tripod before to put the mount on it.

Assembling on T-pod 90

- Place the azimuth peg on the south side of the T-pod head and fix it by using the provided screws

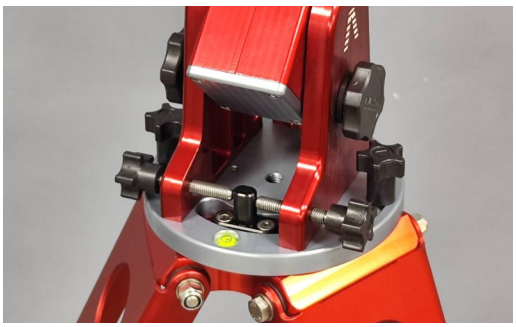


Assembling on T-pod 110/130

- Place the azimuth peg on the south side of the T-pod 110/130 head and fix it by using the provided screws.
- Place the adapter ring on the housing

Now the T-pod is ready, so is possible to put the mount on top and secure it with the provided knobs, as described in the pictures below.

After fitting the mount on the corresponding housing, taking care to make slide the previously fixed Azimuth Peg in the corresponding mount base hole slot, secure it with the two provided knobs on the lateral base sides and screw the two azimuth knobs on the peg, as shown in the image on the right.



Now the mount has been secured on the tripod, the next step will be the telescope saddle fixing:

At this point the mount is fully assembled, the next step will be the StarGo Plus and cable connections.

The StarGo Plus is a versatile controller, thanks to it's small dimensions and standard hole pattern it can be placed on many different positions of the setup. Just for instruction purposes this quick start shows how to install it on one of the most common position in the Avalon Instruments setup: on one of the tripod legs.

When the StarGo Plus has been securely fixed on the tripod leg is possible to start with the cable connections.

As already described the HM1 is an Harmonic Drive mount without clutch and with a Safety Break system. **The break is active when unpowered and it can be released when powered.**

NOTE: The mount in order to work properly and safely on this scenario requires two power supply that must be powered from the same power source. We strongly suggest to use a power strip to connect both the power supply provided.

The logical procedure to set up the rig in a safe and secure way is the following:

1 – Connect the RA / DEC motors cable from the StarGo Plug to the corresponding connectors on the mount body.

2 – Connect the Safety Break System Power Supply and the StarGo Plus Power Supply on the same power source.	
3 – Power On the StarGo Plus	4 - Wait until the Led start to blink
	
4 – Power on the Break to release it	

Now is possible to put the telescope on the mount and start the session

For a safety use of the ,ount is also important to follow a correct step by step procedure for the setup switch of. This procedure is described below:

First of all, in order to prevent any kind of collision risk, is strongly suggested to place the telescope in a safe position i.e. counwerweight down and telesope pointing to east.

Then:

1. Switch off the system via webapp
2. Unplug the StarGo Power Supply
3. Unplug the Brake