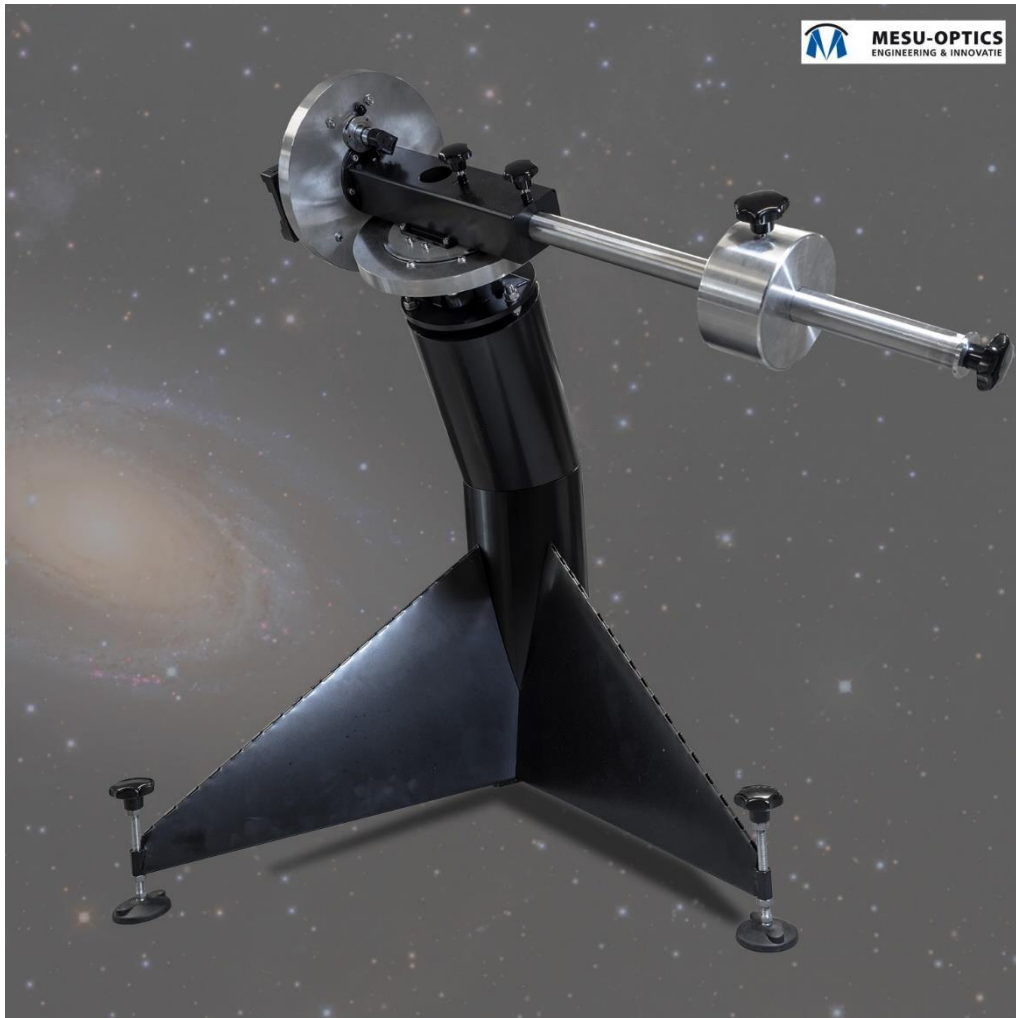


# Mesu 200 MKII setup guide



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## FOREWORD

Congratulations on the purchase of your Mesu-Mount 200.

The Mesu-Mount 200 is an equatorial mount with some special features.

1. A backlash-free drive mechanism that is very stiff and tracks extreme smoothly and accurately. These properties are especially important for astrophotography but they are desirable for other applications as well.
2. A new design polar adjustment that makes the complete setup more ridged without moving parts you don't need. The polar adjustment and the locking of the head is done in the same operation. This prevents movement after the adjustment is done and improves the polar adjustment.
3. Its very simple and rugged design enhances the reliability and the ease of use in darkness.
4. Its 17kg upper head has a huge carrying capacity so it will be possible to use heavy telescopes with this mount.
5. With a bended knee setup the Mesu-200 MKII is a flip-less mount. The mount can track all night long without a meridian flip. When used on a tripod or pier that can hit the telescope, Sitech.Exe can be used to configure a meridian flip. After passing the meridian it will still be possible to continue tracking an object until it reached the programmed meridian limits. In a mobile setup the last configuration can be practical and for a permanent setup some prefer the flip-less variant.
6. The SiTech Servo I controller included with the mount is an industry leading servo controlled system manufactured by Sidereal Technology that comes with powerful Sitech.Exe software.
7. All cables used on your instrument can be lead through the 80mm holes in the mount that prevents cable snacking. It's not restricted to the use of any connector type and there is place enough for all thinkable applications.

In short, this is a purchase that you will enjoy for many years to come.

## 1. Installation

For shipment, your Mesu 200 MKII has been broken down into a few sections that you will have to put together yourself. When you get your mount, it will look a lot like the picture below:



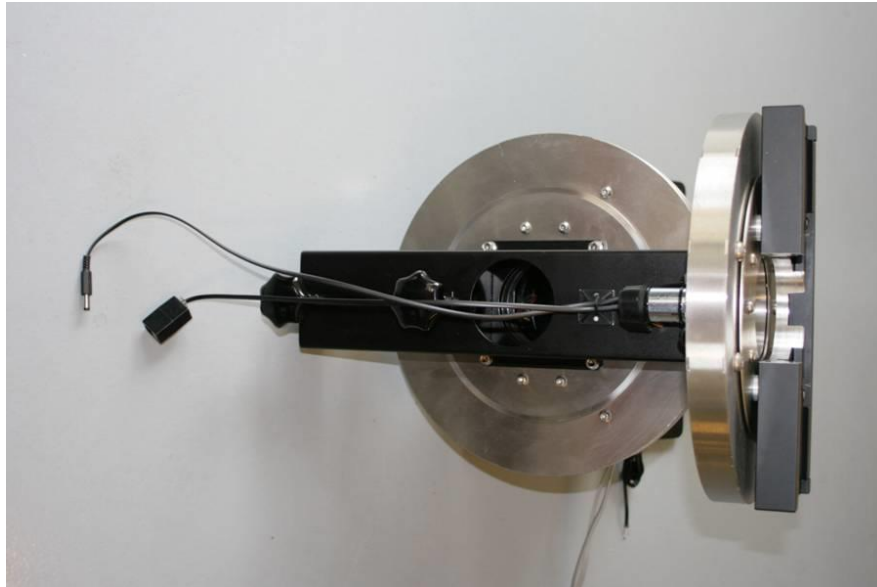
On a pallet, 2 boxes have been screwed, which contain the declination and right ascension houses. You will also find the counterweight bar, counterweight box and wedge mounted on the pallet.

When putting the mount together, it is best to start with the declination house:

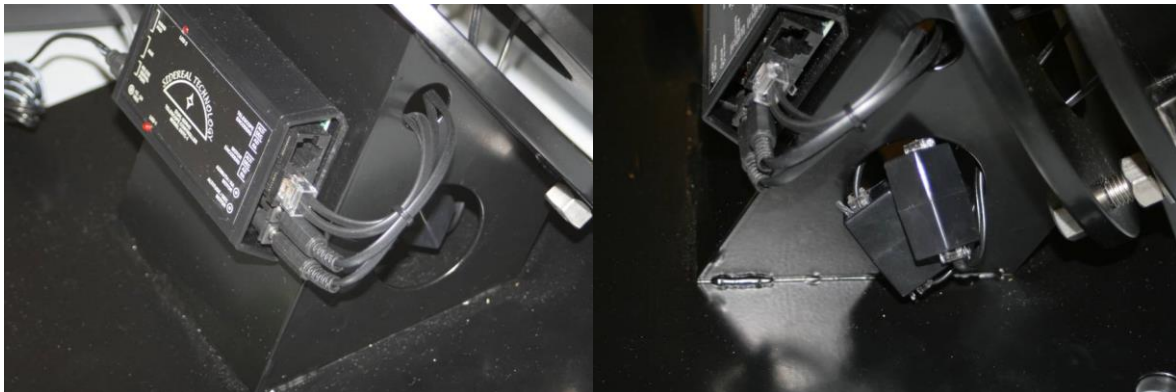


Remove the two short M6 screws with a 5mm Alan key and attach the counterweight box with 6 of the 10 longer M6 screws that came with the mount. After that, the Right Ascension house can be mounted to the counterweight box with 4 of the M6 screws. Your mount will now look like this:

When using the screws as described here you'll be fine. Only thing to look out for is not to go under 16mm from the top plate with screws. because that will damage the drive system permanently.



Next, the electrical connections need to be plugged in as follows:



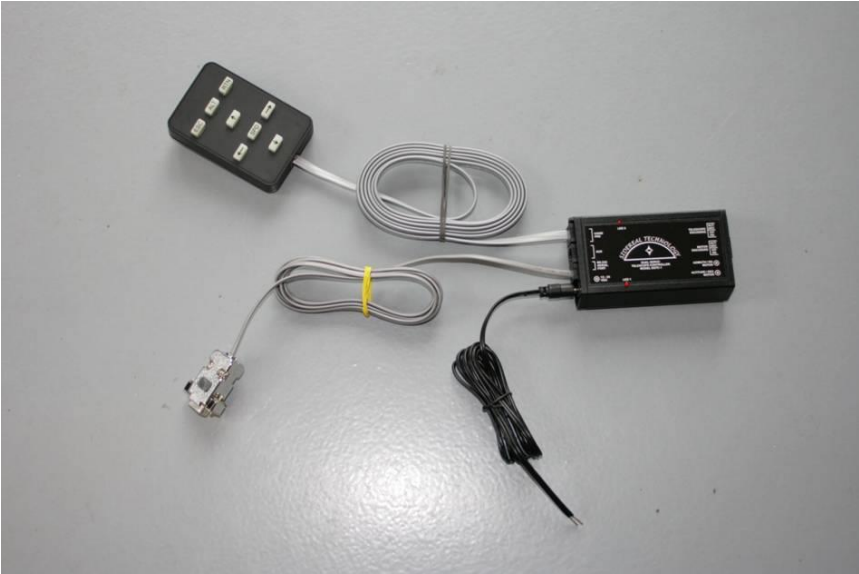
The motors are 2 separate wires from beginning till end. The motor encoder wire starts as one and splits into two.

The couplers are used to separate the two discs for packaging in different boxes and can be plugged in as shown.

You can check if you have the RA or the Dec. cables. When you swap them it will result in a short movement of the motor followed by an error shown on the controller by a blinking LED.

A thing that can go wrong is when you plug in one RJ 12 encoder plug directly in the controller where the RJ 45 plug needs to be. Do not plug the RJ 12 encoder directly into the RJ 45 socket. This will severely damage the encoder.

On the other side of the controller the hand pad, the serial cable and the 12V DC can be connected as shown in the picture:



The 12V cable needs to be connected with the dotted line to the + and the other to the – 12V DC. Voltage needs to be within 12 and 18 V DC. 2 Amp is more than enough for moving both motors at the same time with the highest speed. A good size battery would for example be the battery of a motorcycle.

The serial cable can be connected to the USB to serial converter. When you plug it in your computer the drivers will automatically be installed from the windows control system.

## Software installation

The Mesu-200 MKII has the same software setup as the old Mesu-200.

Everything in your controller is already configured with the right number of encoder ticks and settings.

### 1.1. SiTechExe and ASCOM

The SiTechExe software has to be installed on your computer. For the latest version you can use the Sidereal Technology website:

<http://www.siderealtechnology.com/>

On this website you will also find links to download ASCOM. This will also be necessary if you download the ASCOM compatible version of SiTechExe.

When installing SiTechExe, you will also get ServoConfig. This program will be needed when you want to change settings in your mount like speed. For more information about ServoConfig you can follow the following link:

<http://siderealtechnology.com/ServoConfig.pdf>

### 1.2. Cartes du Ciel

A very competent planetarium program you can use with your Mesu-200 MKII is Cartes du Ciel. This can be downloaded with the following link:

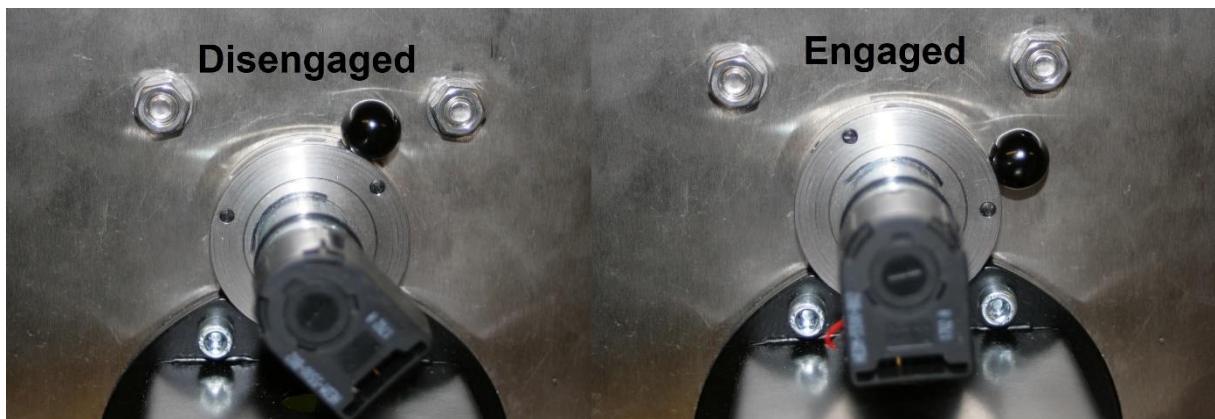
<http://sourceforge.net/projects/skychart>

## 2. Using the mount

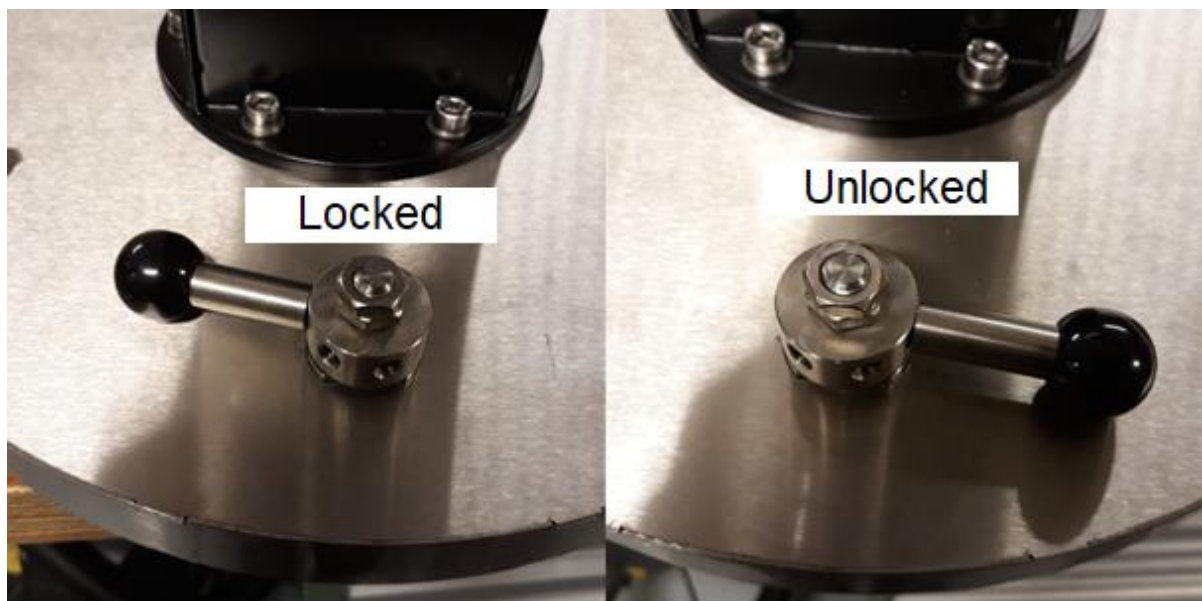
There are a few things that need to be taken into account when using the Mesu-200 MKII, to prevent damaging or misuse.

### 2.1. (dis)engaging the motors and using the disk brakes

A new feature on the Mesu-200 MKII that you are able to couple and decouple the servo motors, to make balancing your telescope easier. The two motors can be engaged and disengaged by operating the black handle as shown in the following picture:



The brakes on the other side of the housing can be unlocked by turning them counter clockwise all the way.



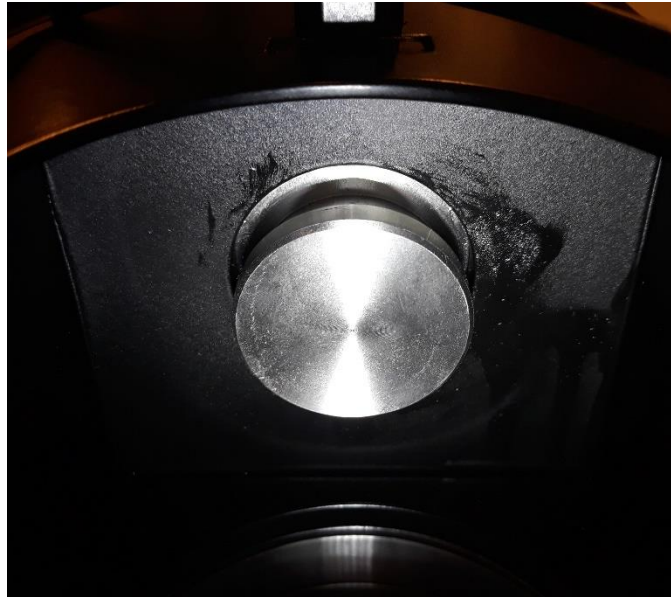
The brakes at the other side of the housings can be unlocked by turning them counter clockwise. When you rotate the Dec. brake as far as possible it can't walk back when using the mount. In that position the two axels can be rotated for balancing your setup. You can start by locking the dec and balance the RA or in another way you prefer.

It is important not to drive the mount with the motors when it's not balanced or when it's locked. When your setup is balanced the motors can be in the drive position.



## 2.2. Mounting the counterweight bar

When mounting the counterweight bar, it is important to put it in all the way, so that the notch hooks into the second plate of the counterweight bar hole:



## 2.3. Balancing the setup

Your setup needs to be balanced as good as possible but at least within 10 Nm. It can be done with the brake fully open and the motors disengaged.

### 2.3.1. Questions about balancing the Mesu-200 MKII

Much is said about balancing a friction driven mount some questions and answers can clear up things.

- **Does it slip?**  
Yes it can slip, above 10Nm. under 10Nm it is stiffer and smoother than all other telescope drive systems.
- **Will it damage when it slips?**  
No not the Mesu-Mounts.
- **Is balancing critical or difficult?**  
No, it only needs to be within 10 Nm.

After balancing the motors can be engaged and the mount can be slewed around with the hand pad to any point you like.