

Type C Charging Port:

Plug the Type C cable in this port to charge the rotator.

Sync Cable Port:



Plug the Hotshoe sync cable in this port for Move Shoot Move mode.

Slider Port:



Plug the sync cable for Slider

What can the Rotator do?

It has 2 modes.

1.Star Tracking mode

2. Move Shoot Move mode

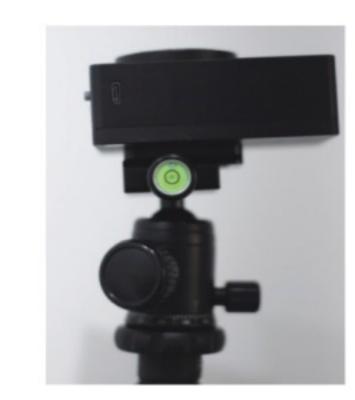
Star Tracking Mode for MSM Rotator

Quick Start for Star Tracking

- Set up the gears.
- 2. Polar alignment.
- 3. Set the rotator to Star Tracking mode.
- Do your composition.
- Happy shooting.



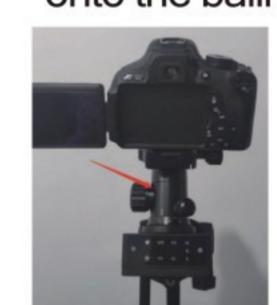




3. Install the 3/8" screw on the rotator base.



4. Install a ballhead onto the rotator base, then your camera onto the ballhead.



WARNING: Do NOT let your camera give an anti-clockwise pressure on the rotator base, or the Ballhead might get loose and fall off.

4. Attach the laser bracket onto the Rotator, any position, just do not conflict with camera.

How to do landscape astrophotography?

Method 1: Half-star tracking mode,

- Half-speed is 50% slower than the standard speed and is suitable for taking foreground and Milky Way photos in one shot.

Method 2: Full star tracking mode,

- 1. Turn OFF the star tracker and shoot, you will get a clear foreground but blurry stars.
- 2. Wait for the preferred star or constellation to show up in your composition, then turn ON the star tracker and take another photo; you will get clear stars but blurry foreground.
- 3. At last, blend the two photos in Photoshop or other post-processing software to get your final image.

Polar alignment for the Southern Hemisphere

1. Download an app with night AR mode, such as Photopills, Polar Scope Align Pro, and PolarisView etc. These apps will give you a live view of the night sky when you

https://www.moveshootmove.com/

more demos there.

Setup for Star Tracking -Option 2

If you prefer the setup below, please visit our site,



More Tutorials to check out: https://www.moveshootmove.com/

- How to do polar alignment with Phone apps

For Nikon, Canon and Sony cameras:

Install the Rotator on your tripod.

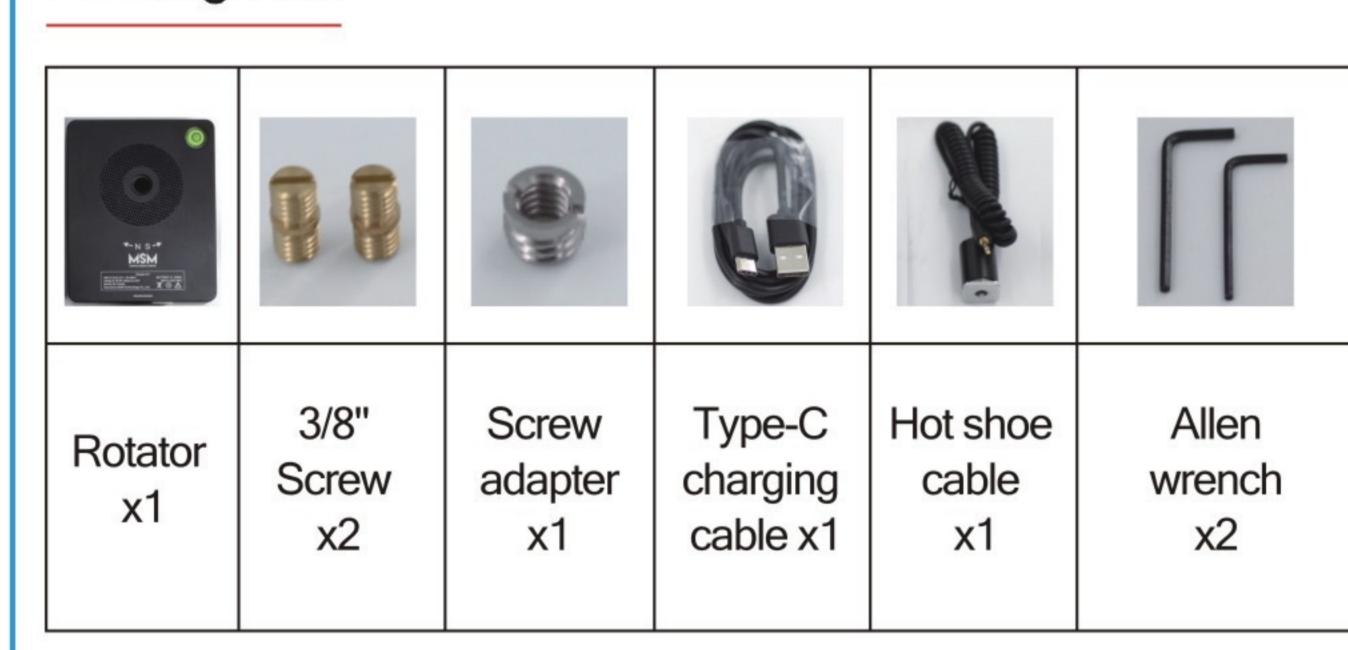
- How to do polar alignment with polar scope
- How to set ISO
- How to do post-processing

or panorama

Please follow the steps below to do move shoot move time-lapse

Move-Shoot-Move Mode for MSM Rotator

Package list



Specifications

Maximum Load: 6.6lbs(3Kg) Vertical rotating torque: 11kg/cm Minimum rotation speed: 0.05° Full-Speed star tracking: 360°/24hrs √₂ Speed star tracking: 360°/48hrs Size: 100*80*43 mm Weight: 445g Material: Aluminum alloy Surface: Anodized Operating Temperatures: -5°C ~ 45°C

Packing Size: 100*130*130 mm

Power(N/S) button:

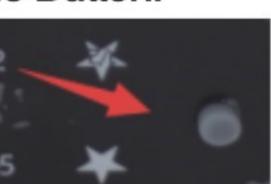


 Press and hold this button to turn the Rotator ON or OFF. All the lights will flash briefly.

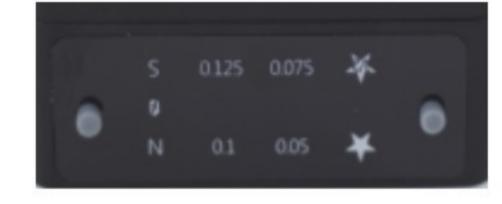
Press this button briefly to switch between the N/S modes.

N and S refers to the Rotating direction: N is for the Northern Hemisphere S is for the Southern Hemisphere

Mode Button:



Press to switch between Star Tracking and Move Shoot Move modes. **Mode Options:**



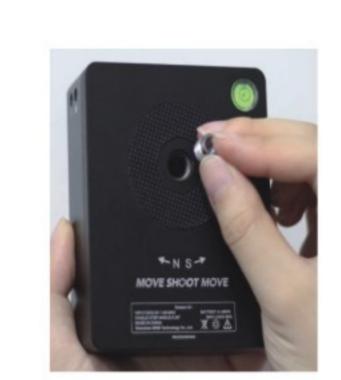
- Why are the numbers upside down? Are they wrong? - No, the numbers will be in the right direction under Move Shoot Move mode.

Setup for Star Tracking- Option 1

- Which side upward?
- This side (as the photo below) is for the star tracking mode (level bubble downward).



1. Install the screw adapter into the 3/8" screw hole (on the level bubble side):



Mount to a

2. Mount your Rotator to your tripod:

WARNING:

- Protect your eyes. Do NOT aim at planes.
- Do not keep your laser on for over 30 seconds, or it might be damaged.
- Align the laser with the Polaris.

If you can not identify the Polaris, check with app Photopills. If you are located in the Southern Hemisphere, please refer to the following Southern Hemisphere part.

6. Turn on the laser, adjust your tripod base/wedge/the bottom ballhead, to make the laser aim at the Polaris. Then you are ready to play.

With tripod	With wedge	Done for setup with ballhead

7. Once it's aligned, your are free to aim your camera in any direction you want to shoot.

Night AR

aim your phone at the sky.

1. Install the MSM Phone Mount onto the Rotator's 1/4 screw hole (or 3/8" hole on the level bubble side).



2. Adjust the phone mount to let your phone's surface is parallel with the Rotator's surface.



4. Open the app, set it to the live view mode and look for Southern Celestial Pole(SCP) with it.

is installed horizontally.



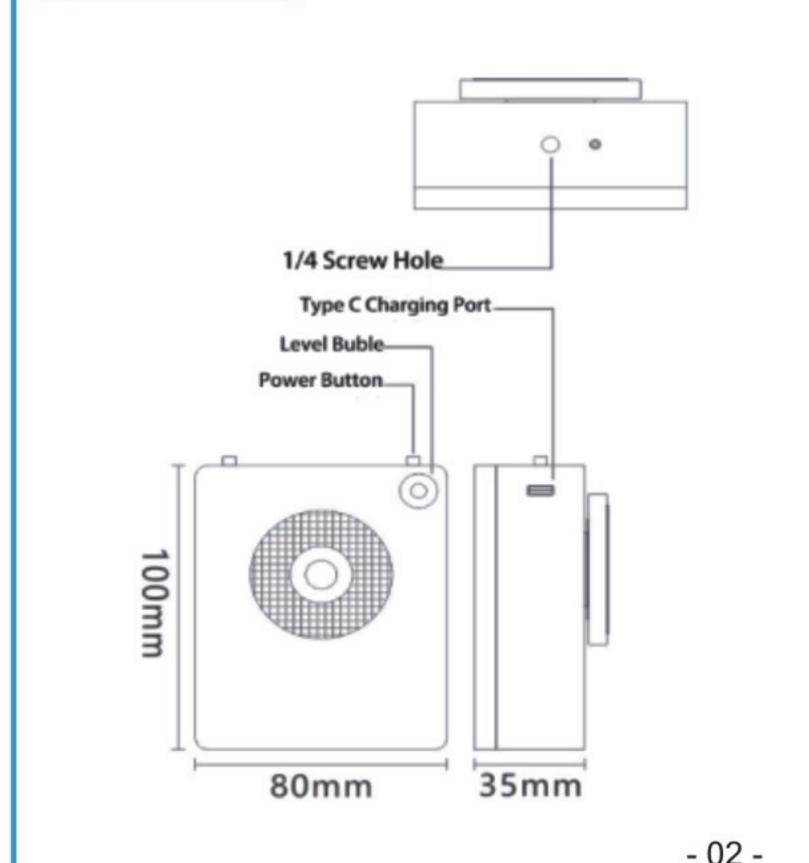
Make sure the bubble level side is upward and the rotator

2. Install the panoramic base/pan-tilt head onto the Rotator. Mount your camera on the panoramic base/pan-tilt head.

Packing Weight: 515g Input Voltage: DC5.0V 1.0A ~2.0A Charging time: 2 hours Charging light: Red LED Charged light: Green LED Battery: 6.46 Wh Battery life: 5 hrs **Unlimited Battery life:**

Able to work while charging with an external power bank.

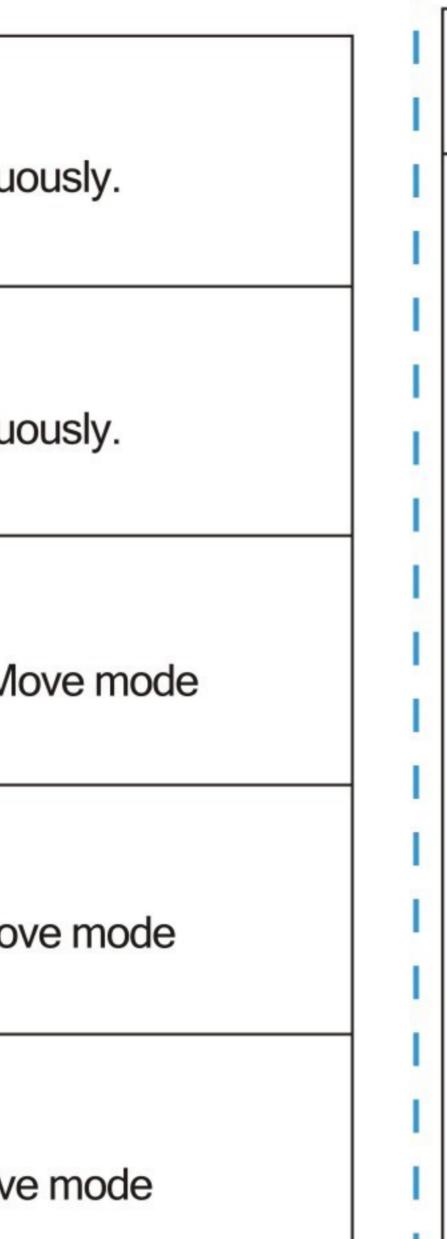
Main body

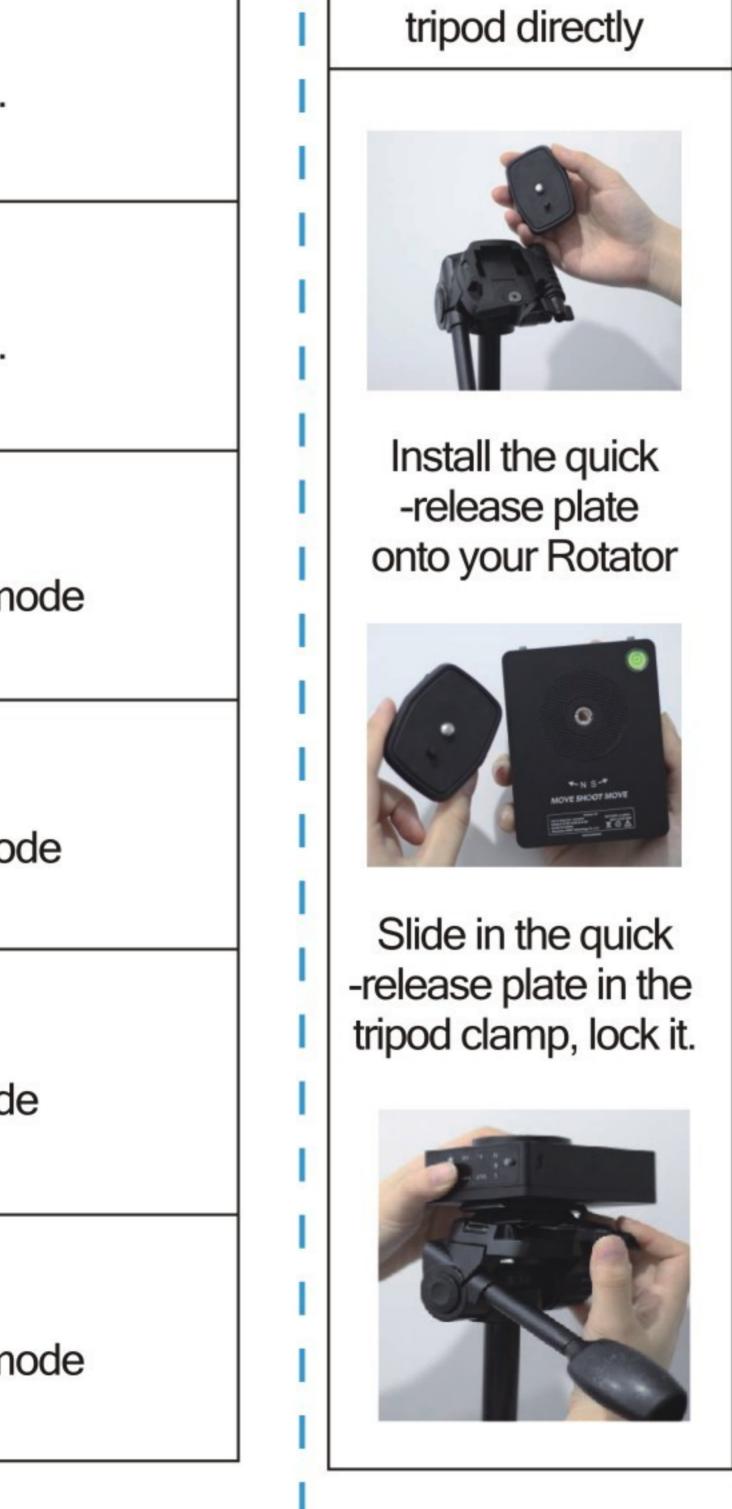


M 01 000 ¥ ★ 810.0 851.0 S Mode Button N/S (Power)Button-Sync Cable Port-Slider Port

Full Star Tracking: Rotates 360° in 24 hrs, continuously. 1/2 Star Tracking: Rotates 360° in 48 hrs, continuously. 0.075: 0.075°/step, for Move-Shoot-Move mode 0.05°/step, for Move-Shoot-Move mode

0.1°/step, for Move-Shoot-Move mode 0.125°/step, for Move-Shoot-Move mode











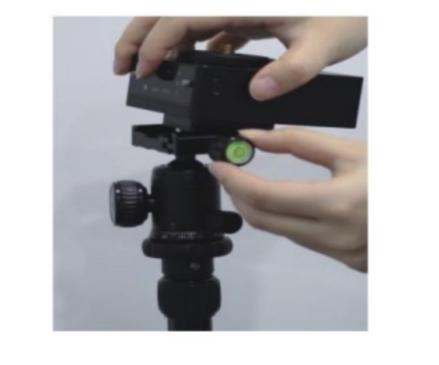


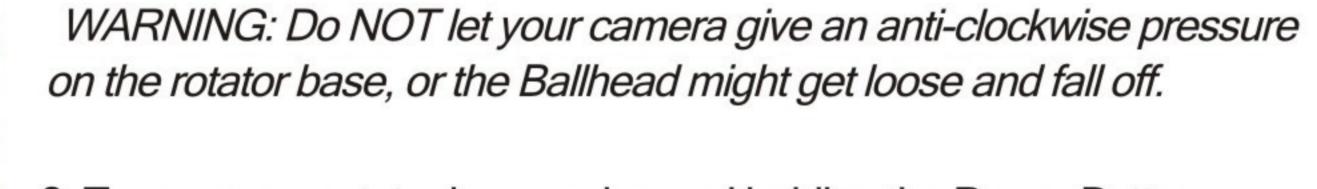
Mount to a ballhead



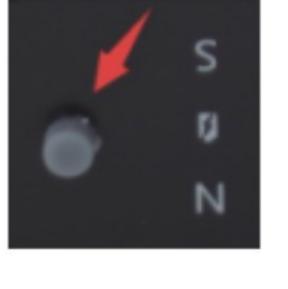
onto your Rotator

Slide in the quick -release plate in the Wedge clamp, lock it. Ballhead camp, lock it.





8. Turn on your rotator by pressing and holding the Power Button.



9. Choose "FULL STAR" speed or "1/2 STAR" speed by pressing the Mode Button.

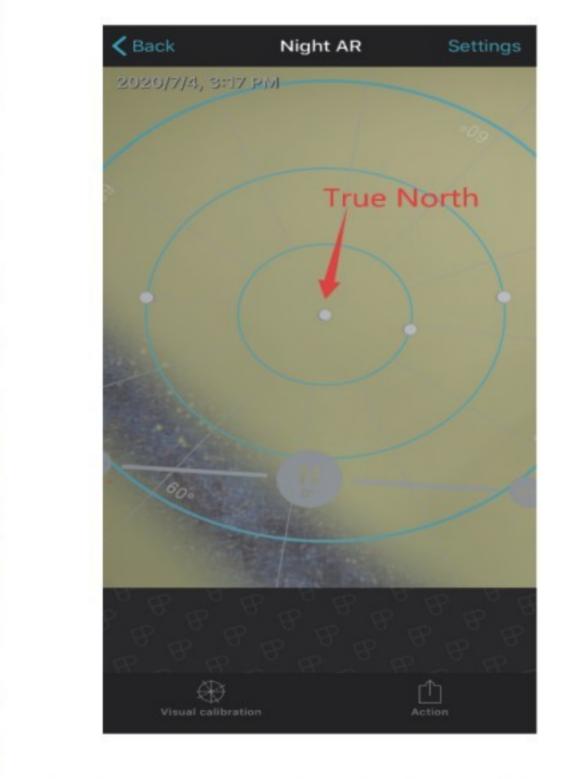


10. Choose your hemisphere by pressing briefly the N/S(Power) Button.

- 11 -



Then Happy Shooting.



(The screenshot is from Photo pills)

5. Adjust your Rotator's gesture until the SCP is centered in the app screen.

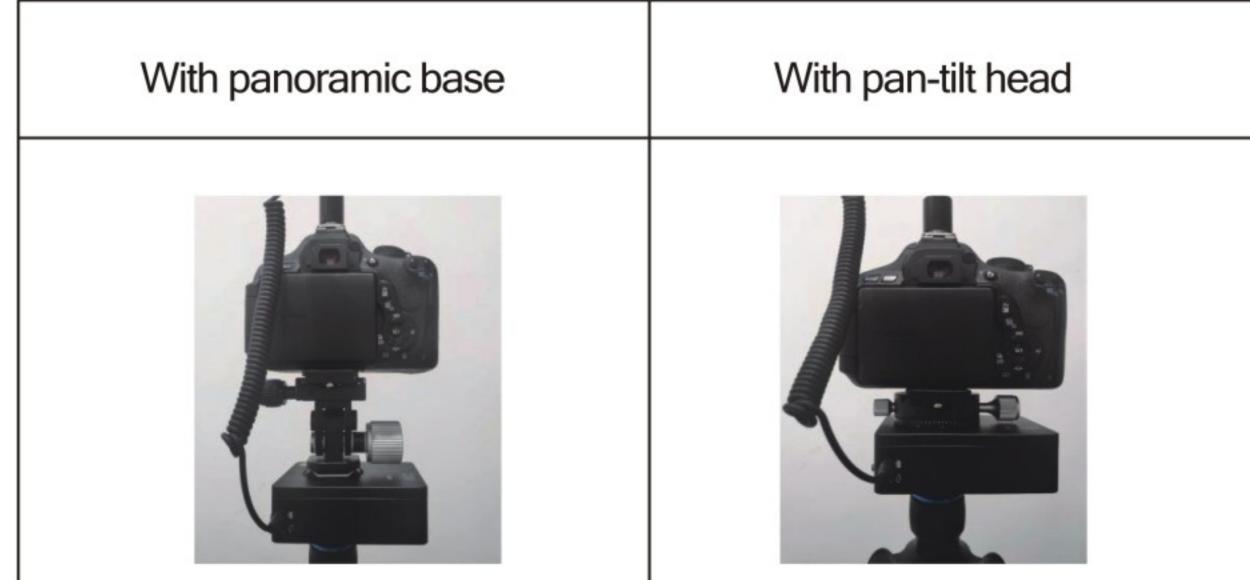


For more tutorials about the Southern Hemisphere polar alignment, please check out our site: https://www.moveshootmove.com/

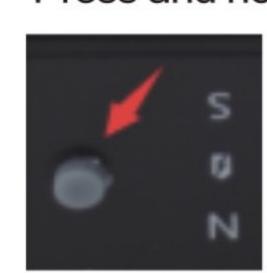
With pan-tilt head With panoramic base

3. Connect the camera's hot-shoe port to the Rotator's sync cable port with the Hot Shoe sync cable.

- 17 -



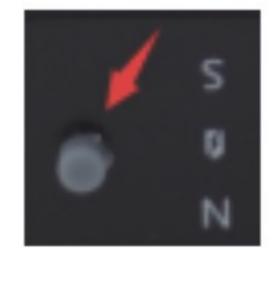
- Camera's settings:
- Turn OFF "Silent Shooting/Silent Photography".
- If your camera has a built-in time-lapse app, open the app and turn OFF "Silent Shooting/Silent Photography" there, too.
- Turn ON the camera's flash.
- Turn OFF "live view" for Canon and Nikon.
- 6. Rotator's settings (for Nikon, Sony and Canon cameras):
- Press and hold N/S button to turn the Rotator ON/OFF.



Press the Mode button to switch between different modes.



- Press the N/S button briefly to switch rotation directions.



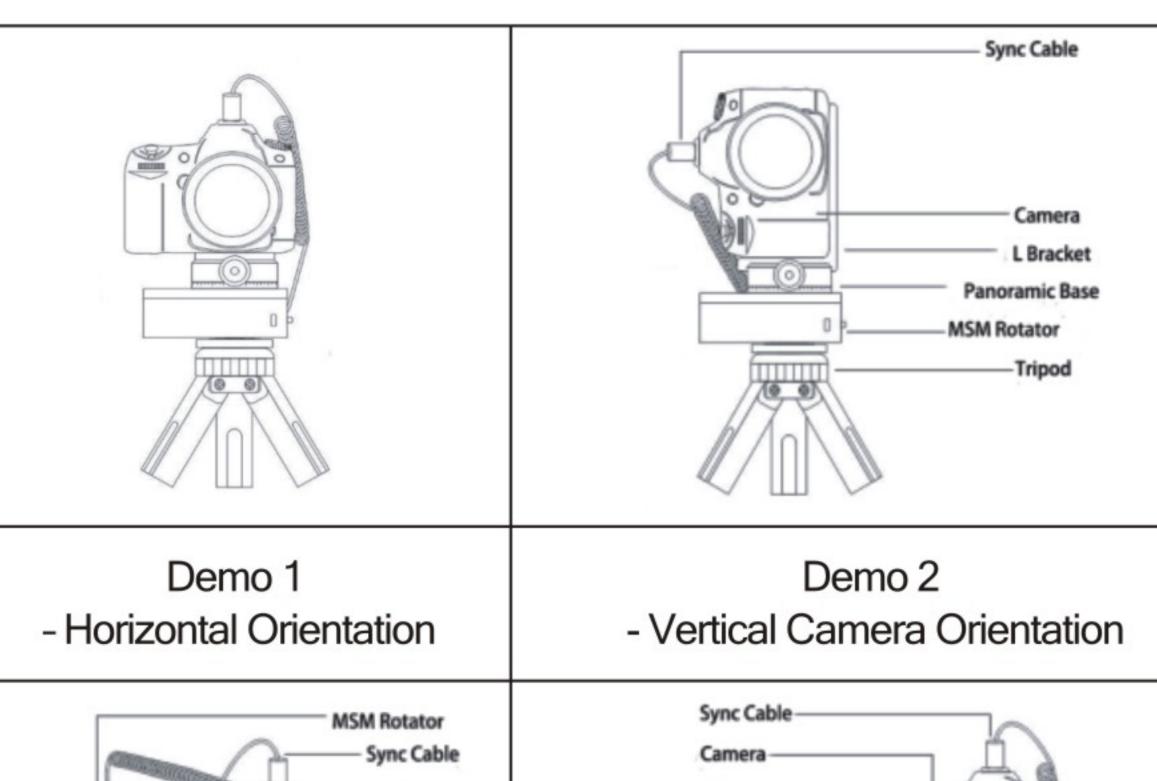
Some Setups for more fun

Vertical Rotator Orientation

7. Set your camera's shutter speed, the interval time, and total number of shots desired with an intervalometer or your camera's built-in time-lapse app.

Intervalometer	Settings on camera's built-in ap		
DELAY LONG INTV. N. DELAY	Intervalometer Take a pic every Start trigger Start after Stop after Advanced Intervalometer	5s Take a Pic 3s 484 shots	

8. The Rotator will move once after each shot has been taken.



Quick Release Plate Panoramic Base MSM Rotator —Panoramic Base Demo 3 Demo 4 - Slider For Panasonic, Fujifilm, Olympus and other cameras

Connect the gears as above, until Step 6. So below's what to do after Step 5.

First, The Rotator should be triggered by a separate intervalometer. As below photo: An intervalometer for Canon cameras, with a 2.5mm male connector.



6. Connect the intervalometer to the Rotator directly.

7. Your Rotator's intervalometer setup:

Set your intervalometer's delay time to 0.

- Set your intervalometer's exposure length to 0.

Delay, Exposure, and Interval Settings

Interval ...

The accessories you receive depends on what you order.

Attention: 1. Low-temperature environment might affect its performance.

Charging: Take out its battery, charge it with the charger and

micro-USB cable.

2. Do not turn it on for over 30sec, or it might be damaged.

Laser pointer and its charger & micro-USB cable

definition of interval time)

Shutter closes

Timer starts —

Optional Accessories

With panoramic base	With pan-tilt head
	Shoot -

This is the diagram for our intervalometer, we can check its definition

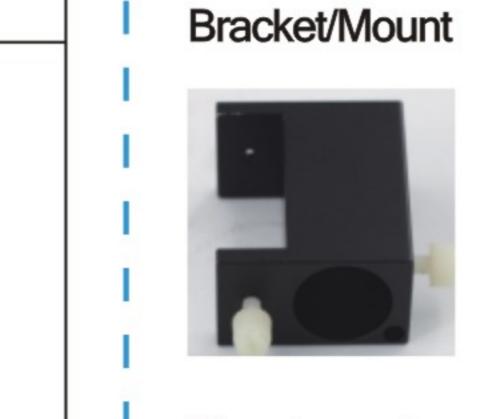
of the interval time (Attention: Different intervalometers have different

- Set your intervalometer's interval time the same as your camera's.

- Set your intervalometer's number of shots the same as your camera's.

nth frame

Timer ends ——



Mount your laser pointer or polar scope to the Rotator with it.

Its illuminator is to help lighten up the scope's reticles at night. To use it,

Polar scope and its illuminator

mount it to the end of your polar scope.

For polar alignment.



(for polar scope)

Ballhead



- Connect your camera to your Rotator with it. Adjust your camera's gesture by adjusting the ballhead.

 Connect your Rotator to your tripod. Adjust your Rotator's gesture by adjusting the ballhead.

The wedge enables you to fine-tune your Rotator's gesture. How to adjust the wedge, please check our site:

How to-Star Tracking-How to use the wedge.

Headlamp and its charging cable



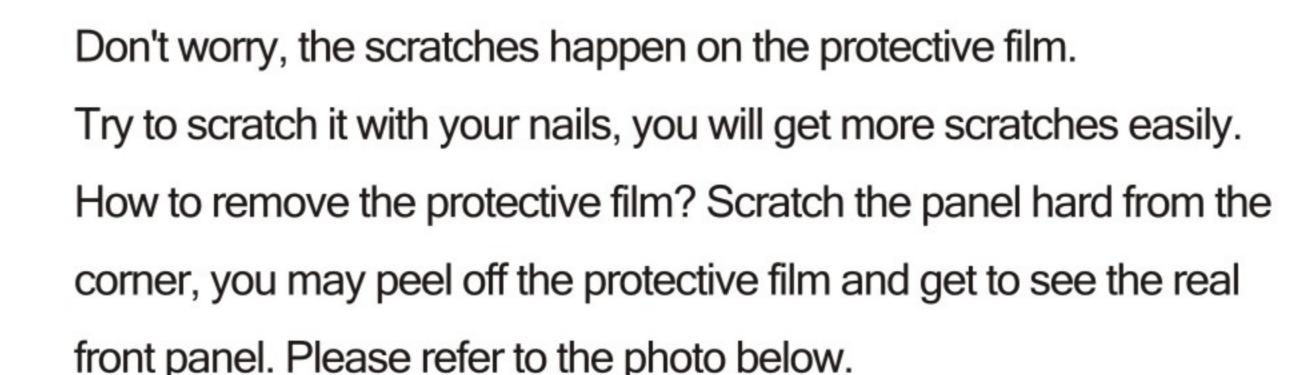


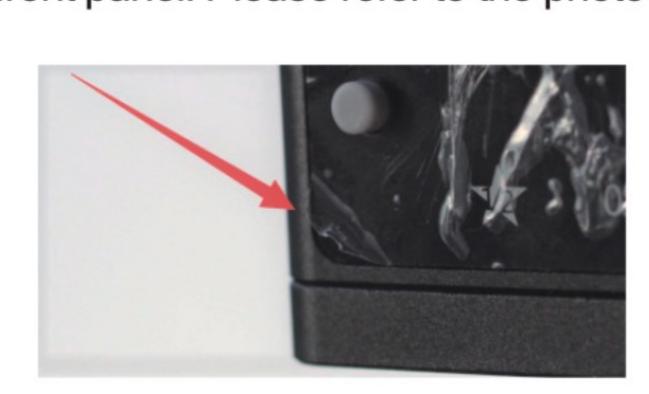
Wear it on your head at night, please make sure to choose the

0.125 0.075

20.0

1.0





Common Misunderstandings

Scratches on the rotator

How to verify my Rotator is working normally? Book align test under Star Tracking mode:



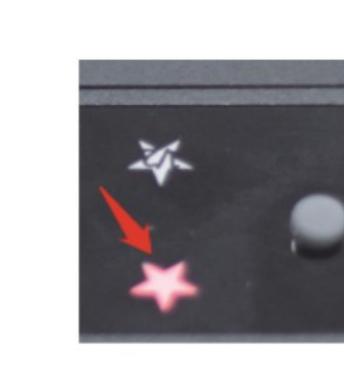






WARNING: Make sure set it to full star mode

1. Turn on the Rotator, make sure it's under "FULL STAR" mode.





2. Put a book on the rotating plate of the tracker. Align the book's edge with the tracker's edge.

3. Then wait for half an hour, it should rotate for 7.5°. One hour, 15°.

1. Connect the 2.5mm male connector with the Rotator's camera port.

Some PC/laptop may fail to charge it, because they probably have higher

output, either the current exceeds 2A, or output voltage is higher than 5V.

1. Check and make sure the Type-C cable does work. Verify the

2. Charge the Rotator/Star tracker with HOME SUPPLY (wall outlet),

Please check the rating like below photos. Most of the charging failure

and make sure the charger's rating is 5V 1A~2A.

Trouble Shooting if you can not charge it:

cable by charging other devices with it.

happens due to the output exceeds 2A.

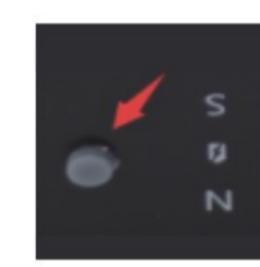
How to verify the Move Shoot Move mode:

- If you have an intervalometer for Canon camera,

with a 2.5mm male connector, then do intervalometer test as below.



2. Turn the tracker on by pressing and holding the power button.



each triggering.

due to the tiny steps.

movement on the wall.

Press the mode button to set the speed to the highest speed (1° or 0.125°)

4. Then trigger the intervalometer, the Rotator will rotate once after

Warning: You may not observe its rotation under 0.125°,

You can put your laser on it, and observe the laser beam's

Trouble Shooting

Rotator does not rotate:

Please check the book align part.

Rotator cannot be charged:

Please check the charging part. N and S LED blink at the same time:

Low battery.

4. Under Star Tracking mode, Full Star and Half Star LED blink but the Rotator does not rotate:

Internal Error.

Set to N, trigger it to rotate several 360°, at least 720°.

Choose Move Shoot Move mode.

- Switch to Star Tracking mode and check if it resumes back to normal. - If not, switch to Move Shoot Move mode again, set it to S, and trigger

it to rotate at least 720°.

- Then switch back to Star Tracking mode and check if it resumes back to normal.

5. Under Move Shoot Move mode, camera is shooting but

the Rotator not moving:

- Check the camera's setting: Turn OFF 'silent shutter', turn OFF 'live view', turn ON flash.

- Sync cable does not connect well.

6. Rotator does not work for timelapse/panorama:

- If your camera is NOT Canon, Nikon or Sony, it needs an intervalometer to trigger the rotator.

- Check the rotating function of the rotator, please check the book align part.

- Check if the camera settings are done as instructed.

If all the checks above does not work,

please contact support@moveshootmove.com.

7. Contact us anytime by Email: support@moveshootmove.com

Other Resources

Facebook user group:

https://www.facebook.com/groups/moveshootmove/

MSM site: https://www.moveshootmove.com/

Support via email: support@moveshootmove.com

Knowledge Base

YouTube:

Chasing Luminance, Alyn Wallace, Astrobackyard, Peter Zelinka Both Chasing Luminance (Alex McGregor),

and Alyn Wallace visit our closed user group and answer questions

Courses:

Peter Zelinka has a basic course which is pinned to the top and a Deep Space course. I have purchased both and recommend them.

Website:

https://www.lonelyspeck.com/astrophotography-101/ https://clarkvision.com/articles/beginning-astrophotography/

https://galleries.aaronpriestphoto.com/

How to Charge the Rotator

Attention: it's ok to work while being charged with an external powerbank.

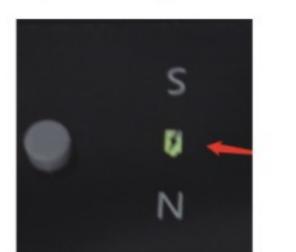
Low power indicator: N/S blinking



Charging indicator: Orange



Fully Charged indicator: Green



Charge it by

Connecting your Rotator's charging port with the enclosed type-C cable to an 5V, 1~2A power source (power bank or adapter will be ok)

(for laser pointer)





- Connect your Rotator to your tripod with it.



red light at night.