

Oasis Planetary Camera

User Manual

Version 1.1

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1. Production introduction

Oasis Planetary Camera series are designed and developed with the goal of making it easier and more comfortable for users to take stunning astrophotography pictures.

Our planetary cameras have the following features:

- 1、Rear focal plane adjustment function
- 2、Built-in 256MB DDR3 memory. Stable and smooth data transfer
- 3、Simple and generous appearance
- 4、Some models (Oasis 290M etc.) have extremely high frame rate

In addition to planetary photography, the cameras can also be used as guider camera or for deep space object lucky imaging.

2. Specifications

The camera specifications are listed in the following tables.

2.1. Oasis 290M

Sensor Specifications	
Sensor	Sony IMX290 Monochrome sensor
Frame size	1/2.8"
Diagonal length	6.46mm
Pixel size	2.9 μ m
Maximum resolution	1936x1096
ADC	12bit
QE	80%
Readout noise	3.1e~0.76e
Frame rate	82fps@12bit ADC, 183fps@10bit ADC
Full well	15.1Ke
Interfaces	
Data port	USB 3.0
Thread interface	M42x0.75 female
Converter	M42-1.25 inch converter
Back-focus length	12.5mm
Focal-plane adjustment	Rear focal-plane adjustment
Others	
Memory	256MB DDR3
Protection glass	AR protection glass
Software interface	ASCOM and SDK
Third-party software	SharpCap

2.2. Oasis 415M

Sensor Specifications	
Sensor	Sony IMX415 Monochrome sensor
Frame size	1/2.8"
Diagonal length	6.4mm
Pixel size	1.45μm
Maximum resolution	3840x2160
ADC	12bit
Readout noise	2.3e~0.86e
Frame rate	27fps@8bpp, 3840x2160
Full well	5.96Ke
Interfaces	
Data port	USB 3.0
Thread interface	M42x0.75 female
Converter	M42-1.25 inch converter
Back-focus length	12.5mm
Focal-plane adjustment	Rear focal-plane adjustment
Others	
Memory	256MB DDR3
Protection glass	AR protection glass
Software interface	ASCOM and SDK
Third-party software	SharpCap

3. Packing list

This product has the following components.



Camera Body



USB 3.0 Cable



M42-1.25" Connector



M2 Hexkey



Cover

Figure 3-1

Descriptions of each component are shown in following table.

Name	Description
Camera Body	The camera body contains modules such as image sensor, circuit boards, and focal plane adjustment module etc.
USB 3.0 Cable	USB 3.0 cable for data communication between Oasis camera and computers
M42-1.25" Converter	Convert M42x0.75 female thread to 1.25 inch interface
M2 Hexkey	For focal plane adjustment
M42 Camera Cover	When the camera is not in use, the cover can be used to prevent dust

4. Appearance and interface

Oasis planetary camera series has the same appearance and interface, as shown in Figures 4-1 and 4-2.

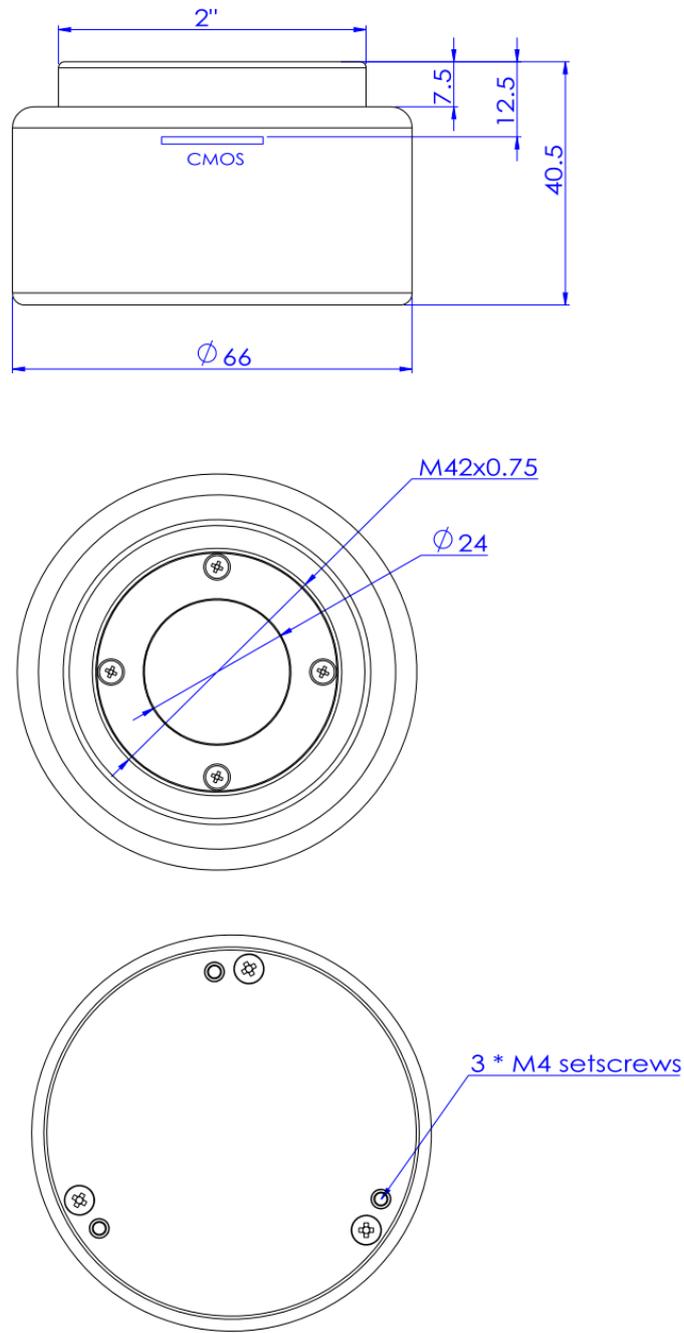


Figure 4-1



Figure 4-2

The dimension diagrams are shown as Figure 4-3.



Unit : mm

Figure 4-3

5. Software installation and usage

5.1. Software installation

For now Oasis camera supports Windows only. Oasis camera supports all software that is compatible with ASCOM interface, such as Sequence Generator Pro, NINA, MDL, etc. Oasis camera also supports SharpCap which directly calls the camera SDK. Calling the SDK directly can obtain a higher capturing frame rate, which is generally used for planetary photography.

Please install the following software before using the camera:

- 1、Oasis Camera Windows driver
- 2、ASCOM Platform
- 3、Oasis Camera ASCOM driver
- 4、Third-party software such as SharpCap

Note:

- 1、You do not need to install ASCOM Platform again on your computer if you have already installed this software.
- 2、Oasis Camera can be used in two ways. One is to directly call the Oasis Camera SDK through software such as SharpCap. This method is mainly used for planetary photography, which can obtain a high frame rate when capturing. Another way is to be called by Sequence Generator Pro, NINA, MDL and other software through the ASCOM interface, mainly used for deep space photography. If you only use software such as SharpCap for planetary photography, the Oasis camera ASCOM driver need not to be installed.

Please download and install the software from the following address:

<https://www.astroasis.com/en/download/>

5.2. Using Oasis Camera via Sharpcap

After downloading and installing Oasis camera Windows driver and SharpCap, connect the Oasis camera to the computer through a USB 3.0 (or USB 2.0) cable. Run SharpCap and click the "Camera" menu, you'll see the "Astroasis Cameras" section, which shows the connected Oasis cameras, as shown in Figure 5-1.

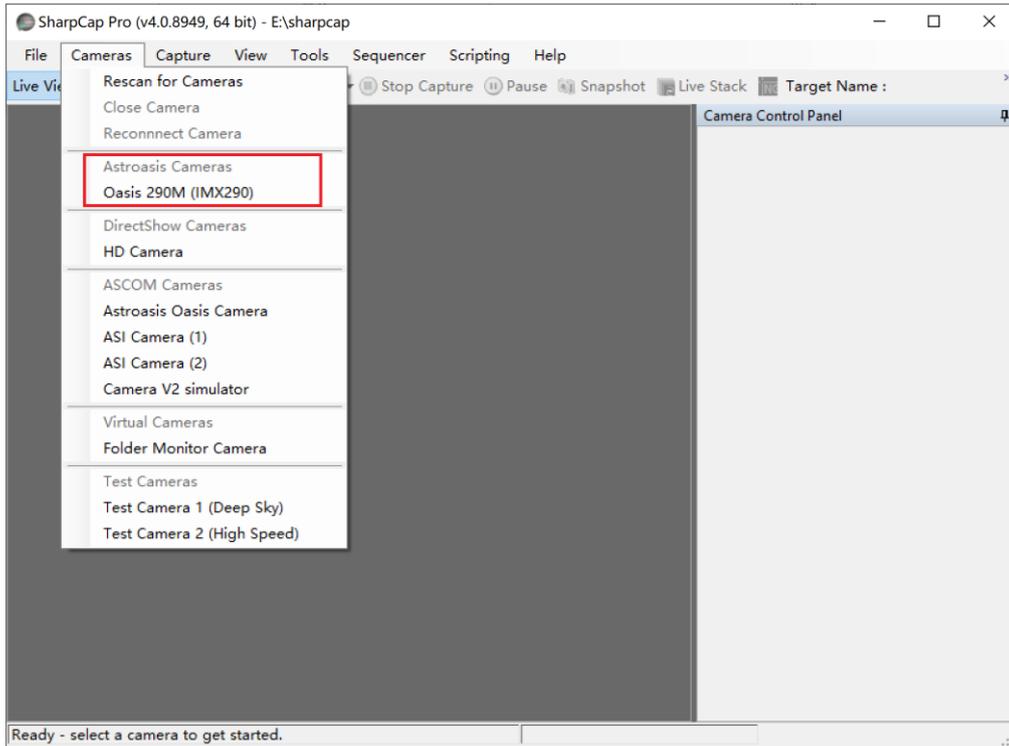


Figure 5-1

Click the connected camera in the menu and the real time images will be displayed. In the "Camera Control Panel" on the right, you can set parameters such as exposure time and gain of the camera, as shown in Figure 5-2.

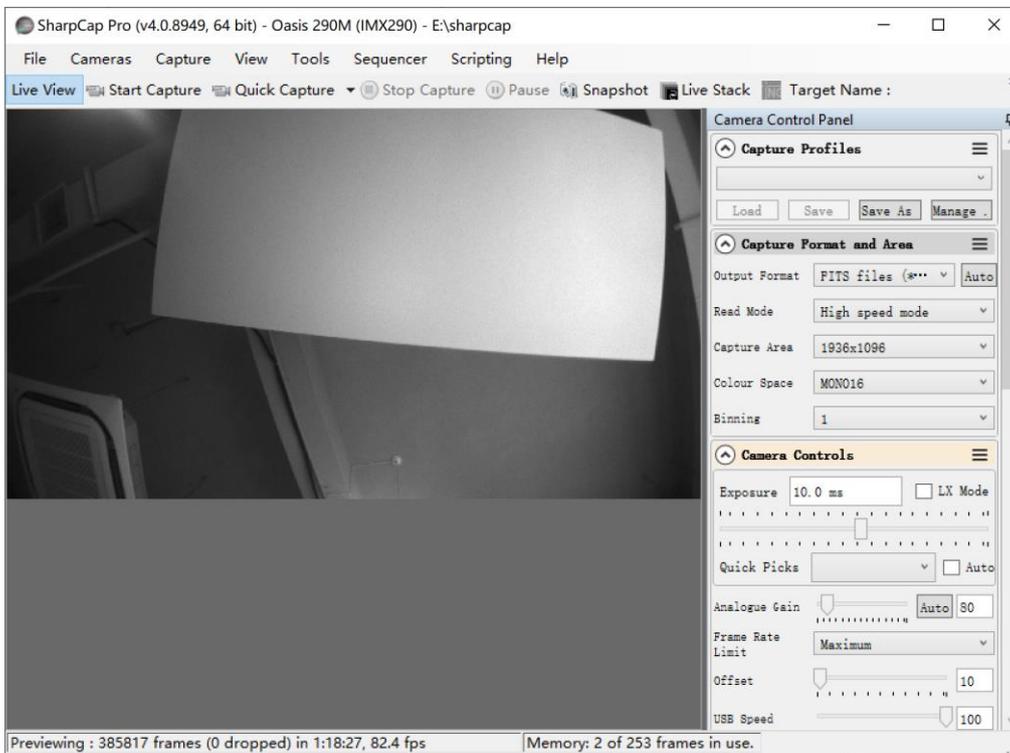


Figure 5-2

If you have already installed the ASCOM driver for Oasis Camera, you will also see "Astroasis Oasis Camera" in the "ASCOM Cameras" section of the "Cameras" menu. It is not recommended to use the ASCOM interface for planetary photography.

5.3. Using Oasis Camera via ASCOM interface

Oasis Camera can also be used via ASCOM interface.

Take NINA as an example, connect Oasis Camera to the computer through a USB 3.0 (or USB 2.0) cable, open NINA, enter the Equipment->Camera tab, and select "Astroasis Oasis Camera (ASCOM)" in the drop-down menu, as shown in Figure 5-3.

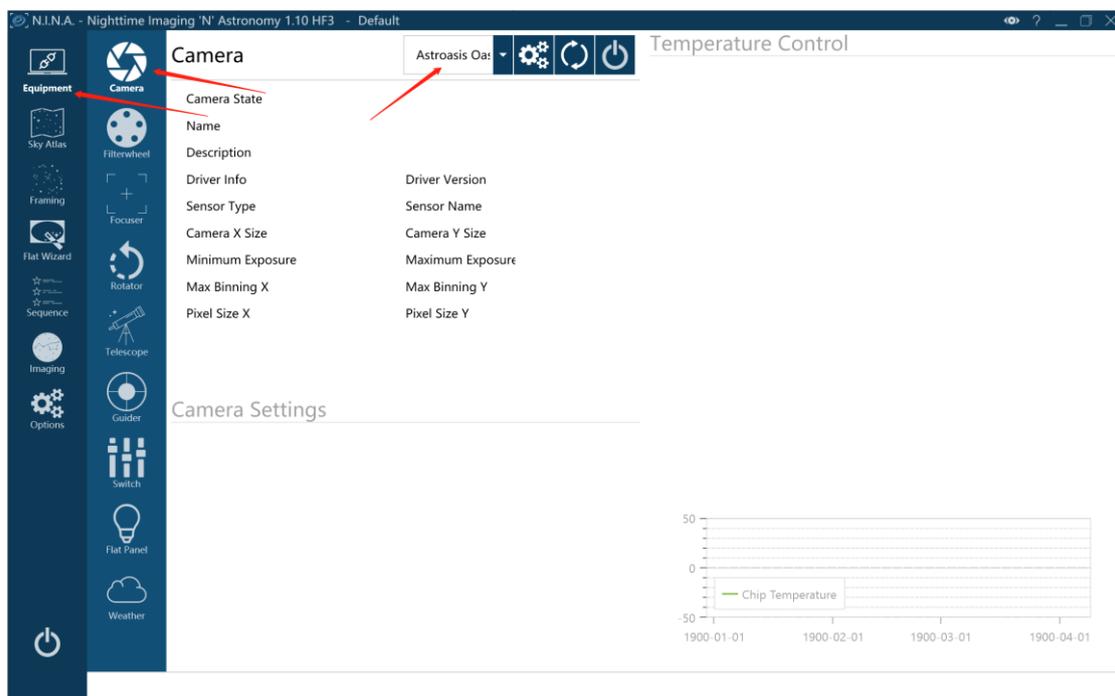


Figure 5-3

Click the Connect button to connect the camera. After that you can see some basic information of the camera, as shown in Figure 5-4.

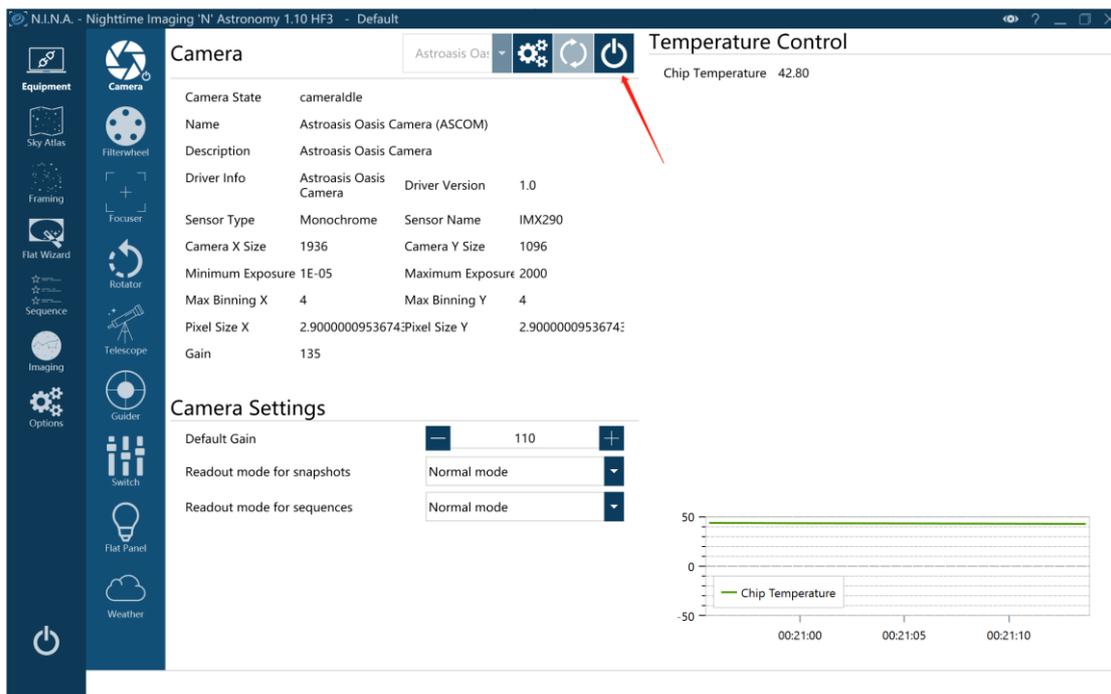


Figure 5-4

You can also click the Settings button to bring up the camera's ASCOM settings dialog box and set the camera parameters, as shown in Figure 5-5.

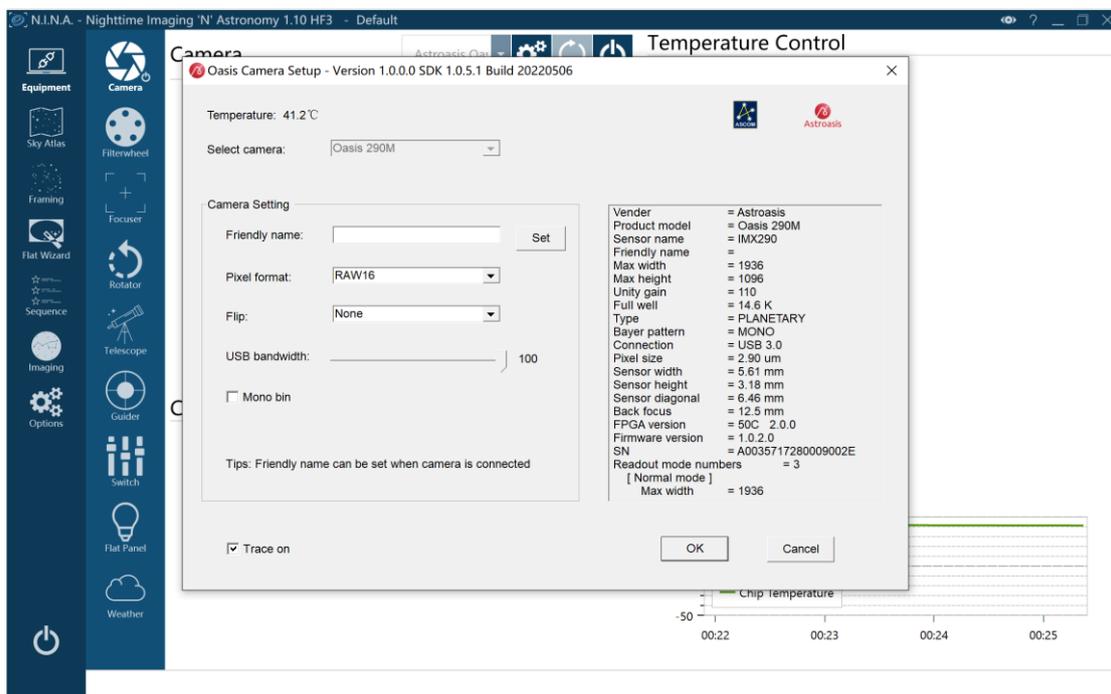


Figure 5-5

Take SGP (Sequence Generator Pro) as an example, connect Oasis Camera to the computer through a USB 3.0 (or USB 2.0) cable, open SGP, enter the Sequence dialog, and select "Astroasis Oasis Camera" in the camera selection drop-down menu, as shown in Figure 5-6.

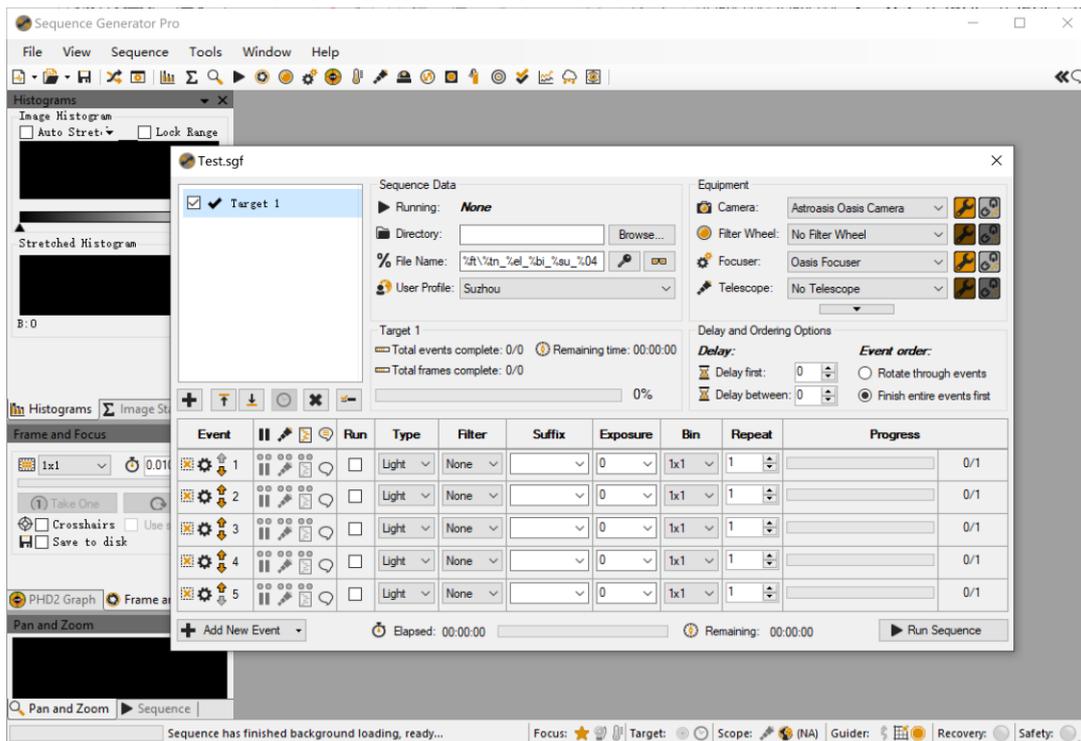


Figure 5-6

Now you can use the camera to capture frames. You can also click the Settings button to set the camera parameters, as shown in Figure 5-7.

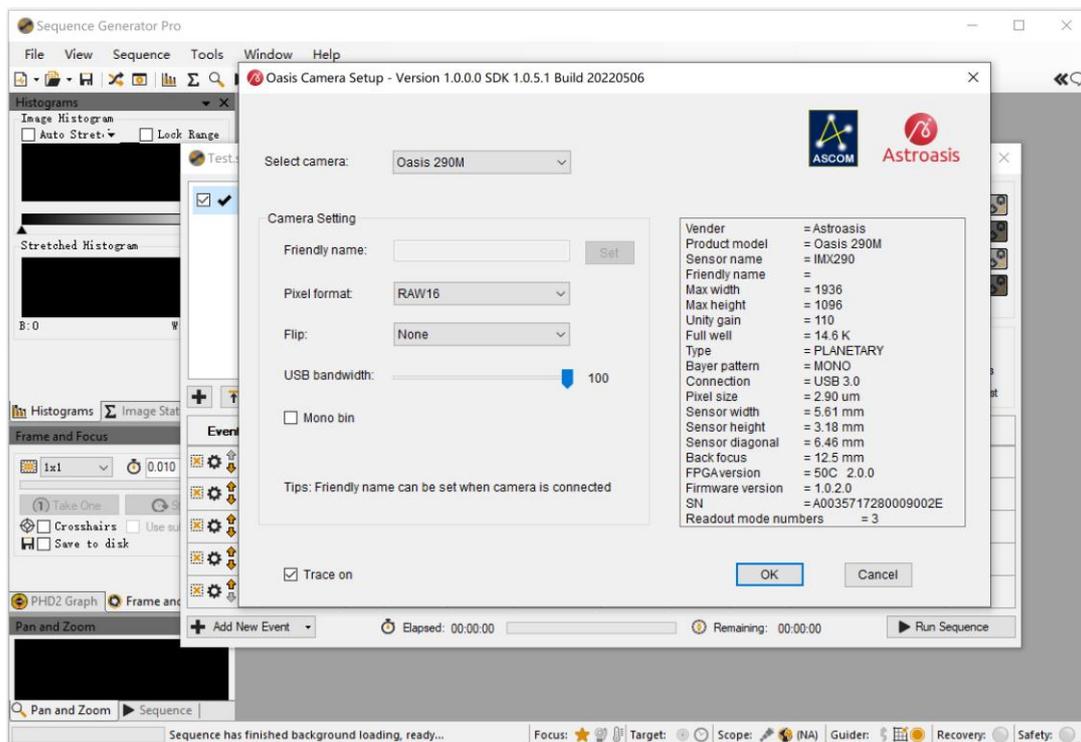


Figure 5-7

For detailed instructions on how to use NINA or SGP, please refer to their user manuals.