

ZWO ASI Planetary Cameras Quick Guide

V3.0



Thank you very much for purchasing the ZWO ASI camera. This instruction is a brief summary of the installation procedure to get you up and running with your new camera. Please be sure to read it before use.

Please head over to the ZWO website if you want more detailed information on the camera.

How to connect to the computer ? (For Windows users)

1. Move towards the ZWO site (<https://astronomy-imaging-camera.com>), click [Support] – [Software].

The screenshot shows the ZWO website's 'Software and Drivers' page. At the top, there is a navigation menu with links for HOME, PRODUCTS, EXPLORE, GALLERY, DEALERS, SUPPORT (highlighted), FORUM, and OUR STORY. Below the navigation, the page title is 'Software and Drivers'. A sub-menu includes Windows, Mac, Linux, Mobile App, Developers, and FW Update. The main content area features a 'Support' section with a 'Review' link and a 'Manuals and Guides' link. A paragraph of text explains that the page provides everything needed for ASI camera control, imaging, guiding, and processing for all ZWO devices. A 'Contact Us' link is provided for user queries.

2. Download the ASI Cameras driver ①, and ASIStudio ②. Please be mindful of the different versions of x64 and x86.

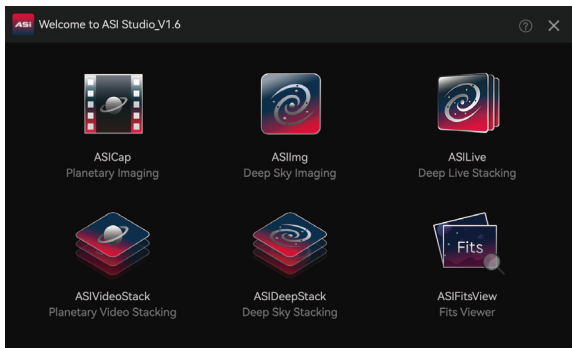
This screenshot shows the 'Software' section of the ZWO website, with two red boxes and circled numbers highlighting specific items. Box ① highlights the 'ASI Cameras' driver, which is a native driver for Windows users. Box ② highlights the 'ASIStudio' software, which is specialized for planetary imaging and includes a live stack and processing gadget. The page also lists other software like EPW, USBST4, and EAF.

Native Drivers			
ASI Cameras	This driver MUST be installed for Windows users to use ASI cameras.	v5.17 Released 9/6/2021	Download

Software			
ASIStudio	ZWO ASI Official astronomy software, specialized in planetary imaging, DSO imaging, live stack and other useful imaging processing gadget. Support: WIN7 / WIN8 / WIN10	v1.5.4 Released 11/19/2021	x64 Download x86 Download

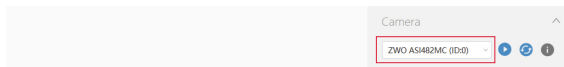
3. Double-click the files to install the ASI camera driver and ASIStudio.

4. Open ASIStudio, choose the software for planetary imaging – ASICap and open it.



5. Connect the camera to the USB 3.0 port of your computer via the USB 3.0 cable in the camera package.

Click the play button* to turn on the camera.



6. Adjust the exposure time, gain value and other settings, then start imaging

ASCAP_V2 5.4 (64bit) (ZWO ASI463MC 35.8°C)

The screenshot shows the ASCAP software interface. At the top left, a status bar displays 'ASCAP_V2 5.4 (64bit) (ZWO ASI463MC 35.8°C)'. Below this, a small red box highlights the 'Current FPS' value, which is 'Average fps:27.5, 3000 Frames:5007, dropped frames:0'. The main interface is divided into several sections:

- Image setting:** A red box highlights the 'Image' section, showing 'Format: RAW8', 'Bin: Bin1', and 'Resolution: 1100*1100'.
- Camera setting:** A red box highlights the 'Control' section, showing 'Exposure: 15', 'ISO: 100', and 'Gain: 164'.
- Save path Integration:** A red box highlights the 'Capture' section, showing 'Path: C:\Down\DropShot\ASCAP' and 'Link: Frames' and 'RAW Data'.
- Pictures and Videos:** Two buttons at the bottom right are labeled 'Pictures' and 'Videos'.

7. You can also download ASCOM Platform and the ASCOM driver if you prefer to use other imaging software other than ASISstudio.

7.1 Install the ASCOM Platform ① and the driver ②.

7.2 If everything goes smooth, you are free to use 3rd party software to control your ASI camera now, such as PHD2.

7.3 You need to install DirectShow driver ③ if you want to use any Meteor detection software.

The screenshot shows the 'ASCOM Drivers (optional)' section of a website. It contains a table with three rows, each representing a different driver or platform. Red boxes and circled numbers 1, 2, and 3 are used to highlight specific parts of the table:

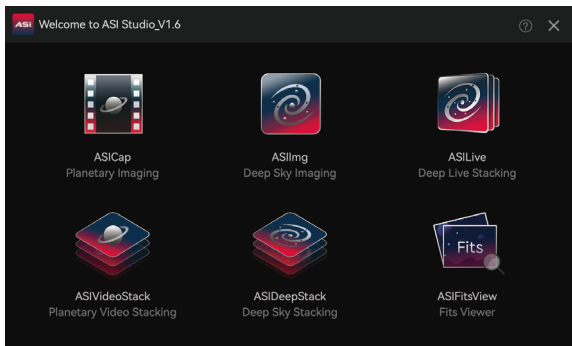
ASCOM Drivers (optional)			
ASCOM Platform	After installing the ASCOM Platform, please install below ASCOM drivers, then you can use many 3rd party astro software through ASCOM. Note: This software is not from ZWO, we just provide another download node. Official Site	v6.5	Released 11/20/2020 Download
ASCOM	ASCOM driver to support ASI Cameras, EAF, EFW and USBT4.	v6.5.1.12 Change Log	Released 11/19/2021 Download
Other Drivers (optional)			
DirectShow	This driver is optional, only needed for these software which control the camera through DirectShow.	v5.20.5 Change Log	Released 11/19/2021 Download


Red boxes and circled numbers 1, 2, and 3 are used to highlight specific parts of the table:

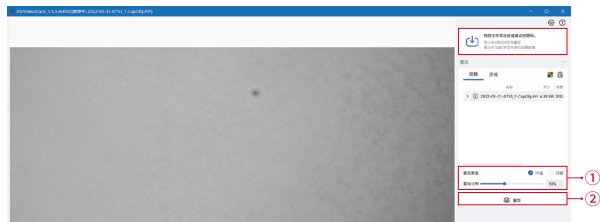
- ①: Points to the 'ASCOM Platform' row.
- ②: Points to the 'ASCOM' row.
- ③: Points to the 'DirectShow' row.

How to do post processing?

1. Open ASIStudio, choose the stacking software for planetary imaging – ASIVideoStack and open it.



2. Click the button , choose the video file that you want to stack. Or directly drag the file in the folder into this position.

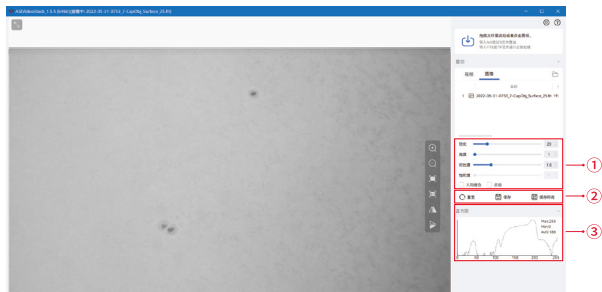


3. ① Adjust the shooting setting, choose the target type and percentage frames to stack. The higher quality the video has and the more stable it is, the larger percentage you can set.

② One click to start stacking.

4. ASIVideoStack will automatically jump to the image area once the stacking process is completed. You are now able to do following things:

- ① Adjust image settings, including sharpness, brightness, contrast and saturation.
- ② Reset the settings, or save the processed image.
- ③ Stretch the histogram.



How to connect to external devices?



Connection with
the 1/4" screw



How to connect to telescope?



1. Screw off the fisheye lens and the black adapter of the camera (if any), or take off the dustproof cover



2. Mount the T2 extender on the camera.



3. Take off the eyepiece on the telescope and install the camera.



4. Connect your camera to your computer via a USB 3.0 cable.



5. Open ASICap to bring the image, adjusting the shooting setting.



6. Do focusing.

FAQ

1. Why I can't find the camera in the software?

1.1 Please check the connection between your camera and laptop. Try to change another USB port of the laptop. Or check if the port has been broken.

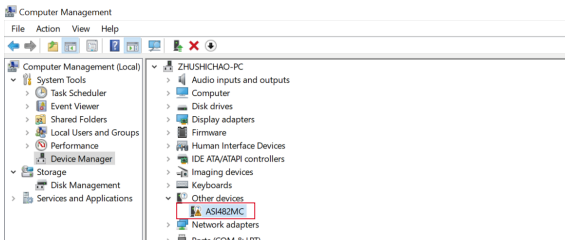
1.2 Check if the driver has been installed properly. If not installed, you may click the link below to download:

<https://astronomy-imaging-camera.com/software-drivers>



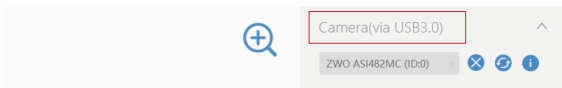
2. Why I still cannot find the camera after installing the driver?

Please check the Device Manager -> Image Device to see whether it has the ZWO camera in the list. A question mark or exclamation mark normally indicates the driver is not installed properly. Please uninstall it and close your antivirus software or firewall, re-install the driver, then restart your computer.



3. Why my camera can't reach the max FPS that ZWO claims?

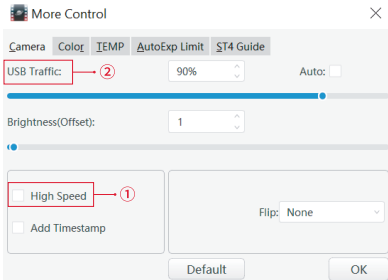
3.1 Please make sure it is the USB 3.0 port of the computer that the camera is connecting to. See the figure below.



If it shows USB 2.0 here, then it means you probably are not using a USB 3.0 cable or not connecting the camera to the USB 3.0 port of the computer.

3.2 Click the ellipsis in the work area to get more camera parameter setting options. Tick [High Speed Mode] box ①. Please note that the High Speed Mode is not encouraged to use during imaging.

3.3 Adjust the USB bandwidth ②. We recommend you set 80%~90%. You may set the value based on your computer performance. The higher the USB bandwidth you set, the higher performance your computer needs to have.



3.4 The longer the exposure time is, the lower the FPS will be. FPS indicates the frequency (rate) at which consecutive images (frames) are captured or displayed per second. Given the resolution is unchanged, frame rate = 1s/exposure time (s). If the exposure time is 1s, then the fps in this case is 1fps.



Scan to watch
operating video



Facebook Page



ZWO WEB

苏州振旺光电有限公司 SuZhou ZWO Co., Ltd.

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TW: <https://twitter.com/zwoasi>

INS: <https://www.instagram.com/zwoasi/>

FB: <https://www.facebook.com/ZwoDesign>

AstronomyCameras

Web: <https://astronomy-imaging-camera.com>