# ZWO ASI Camera Quick Guide





Thank you for purchasing a ZWO ASI camera. This guide is brief summary of the installation procedure to get you up and running with your new camera. Please be sure to read the user manual for more complete instructions.

# Driver and software installation (Windows)

 Download and install "ASI Cameras driver" from our website <u>https://astronomy-imaging-camera.com/software/</u> or CD-ROM.
 After plugging in the camera, you will see your ZWO camera model listed under the "imaging devices" category of the Device Manager if the driver is installed successfully.



2. Download and install SharpCap (image capture software) from our website or CD-ROM. Choose your camera model from the camera menu. Then you can see the preview video. Keep in mind that you will only see some brightness in the preview video without lens or scope.



More detailed user manual can be found at our website: <a href="https://astronomy-imaging-camera.com/manuals/">https://astronomy-imaging-camera.com/manuals/</a>

## Connecting the camera to the telescope

The following cameras include an all sky lens: ASI120MM/MC ASI120MM-S/MC-S ASI178MM/MC ASI290MM/MC ASI185MC ASI224MC Please remove the lens before attaching the camera to your telescope.



## **Trouble shooting:**

1. The preview image is completely white but the fps is normal.

🔘 Sha	arpCap - ZW	O ASI120M	C (via USB2)	- C:\Use	ers\Admin\De	esktop\Sha	rpCap (	Captures	—		$\times$
File	Cameras	Options	Capture	Tools	Scripting	Help					
🗐 Starl	Capture 🖷	H Quick Cap	oture 👻 🗐	Stop Ca	pture 🕕 Pa	use 🕥 Sn	apshot	E Live Stack	Object Nan	ne :	Ŧ.
							^	Camera Control Panel			
								⊘ Camera Controls ≡			
								✓ Image Controls Ξ			
								Gamma			
								Brightness	0	2	
								White Bal (R)		Auto 70	
								White Bal (B)		Auto 90	
								Timestamp Frames	Off		~
								$\bigcirc$ Misc Controls $\equiv$			
							<b>v</b>	Mono Bin	Off		~
<								Auto Exp Max		10	
Preview	ing : 2739 fra	ames (1 dro	pped) in 0:0	2:17 at 19	9.9 fps (curre	ently at 20.3	2 fps)				

The camera is over exposed, please reduce the exposure and/or gain. Keep in mind that you can only see brightness without lens or scope

2. The preview screen is black and the fps is "0".



Please try to slow down the capture speed by reducing the "Turbo USB". Also try connecting the camera to your PC directly without a USB hub or extender if reducing "Turbo USB" still does not work.

#### 3. The camera can't preview at the FPS declared in the specifications.

SharpCap - ZWO ASI178MC(0401) (via USB3) - C:\Users\Admin\Desktop\SharpCap Captures			—		×
File Cameras Options Capture Tools Scripting Help					
🖦 Start Capture 📹 Quick Capture 🧹 🗊 Stop Capture 🕕 Pause 🔬 Snapshot 🔚 Live Stack Object Name		• FX:			Ŧ
	Camera Control	Panel		_	ф
	Debayer Preview	On			~
Show USB2.0/3.0	Camera Con	trols			=
	Exposure 12.	0 ms		LX Me	ode
	Quick Picks			~ 🗆	uto
	Gain			Auto 23	30
	Frame Rate Limit	Maximum			~
	Flip	None			~
	Turbo USB		-0	Auto 9	9
	High Speed Mode	On			~
	Hardware Binning	On			~
	Temperature			9 3	3
Previewing : 9644 frames (1 dropped) in 0:03:14 at 49.6 fps (currently at 59.0 fps)		•			⊻r⊆ ∷

1) Please make sure the camera is connected to USB3.0 host if it's a USB3.0 camera. Check that the camera is recognized as "via USB3.0". Please try to update the computer`s USB Host Controller driver if not.

2) Make sure that the "High Speed Mode" is On.

3) Adjust "Turbo USB", we recommend 80-90%. This value depends on your computer, higher means faster.

4) Don't forget the exposure time affects FPS too. In general your exposure time needs to be shorter than 1/FPS rate. For example, the FPS will decrease to 1FPS when the exposure time is 1 second.

4. The camera can preview at 60fps but drops to 20fps when recording.

This is because your hard disk drive cannot match the speed of the camera. Most ASI cameras are very fast and require up to 400M/s data transfer speed. But most hard disk driver can only run at 40-50M/s. We recommend you can exchange your HDD with one fast SSD and try to capture the data in raw format instead of RGB24 if you use one color camera.

5. The camera cannot run continually on a laptop without external power

Control Panel > Hardware and Sound > Power Options >	Edit Plan Settings	<ul> <li>Power Options</li> <li>Advanced settings</li> </ul>	? ×		
Change settings for the p Choose the sleep and display setti	Change settings for the plan: Balanced Choose the sleep and display settings that you want your computer				
🔮 Turn off the display:	10 minutes ~	Balanced [Active]			
Put the computer to sleep:	30 minutes V	<ul> <li>Hard disk</li> <li>Turn off hard disk after Setting: 20 Minutes</li> </ul>	^		
🔅 Adjust plan brightness:	o – j 🧼 🔅	<ul> <li>Internet Explorer</li> <li>Desktop background settings</li> <li>Wireless Adapter Settings</li> </ul>			
Change advanced power settings Restore default settings for this pl	lan	Steep     USB settings     USB selective suspend setting     Setting: Disabled ∨     Power buttons and lid			
		PCI Express Restore plan c	v lefaults		
		OK Cancel	Apply		

This is because of the power save mode of your laptop, you need to disable power saving of USB port.

6. There is a yellow hint with the camera model name and error code 10.



You may have this problem with our USB2.0 cameras, please try another USB Port or PC, then you can upgrade the firmware of this camera on the good PC. The original firmware is more stable and faster. Download this upgrade tool from our website

http://astronomy-imaging-camera.com/software/FWTool.zip

7. Unknown device shown under the device manager after plugging in the camera.



This is because the driver in not installed or installed properly, please try to close all anti-virus software and re-install the driver.

You can also update the driver manually if re-installation still does not work.

Right click the "Unknown device", choose the "Update Driver Software" and point to the driver directory. Normally the driver directory is :

C:\Program Files (x86)\ZWO Design\ZWO\_USB\_Cameras\_driver.





# 苏州振旺光电有限公司

#### SuZhou ZWO Co,. Ltd.

Tel: +86 0512 65923102

Website: https://astronomy-imaging-camera.com

E-mail:info@zwoptical.com

Facebook: ZWO Astronomy Cameras

Forum: <u>http://zwoug.org/</u>

ZWO 天文摄影 QQ 群: 292736278



Scan to visit our website