

Micro-Manager (µManager) Setup Guide for Apogee Cameras

Applicable to Apogee camera range

Note: Only the 32-bit version of Micro-Manager is supported

This document explains how to configure Micro-Manager for use with Apogee Cameras (Alta F, Aspen and Ascent). In order for the camera to work to its full specification it is necessary to perform the installation as described in this document.

Initial considerations

Download and install the Apogee camera drivers from the Apogee Downloads section of the Andor website^[1] (Install instructions can be found in the **Apogee Driver Installation and verification test** technical document from the <u>support section</u>^[2] of the Andor website).

Configuring Micromanager

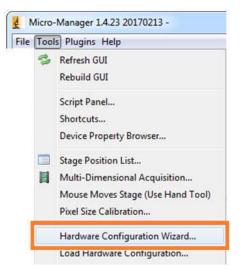
- 1. Power ON the Apogee camera.
- 2. Run Micro-Manager to start the application.

As the first time the camera will be operated on Micro-Manager, there will be no configuration files, choose *(none)* from the configuration file list.





3. To load the camera, open the Hardware Configuration Wizard by clicking Tools>>Hardware Configuration Wizard



4. On the first screen, select Create new configuration then press Next >.

ep 1 of 6: Select the configuration file	
Create new configuration Modify or explore existing configuration Browse	 Welcome to the Micro-Manager Configuration Wizard The Hardware Configuration Wizard with help you setup Micro-Manager software to work with your hardware. In this first step you can choose whether to create a new hardware configuration or modify an existing one. At the end of the wizard sequence or any time you quit the wizard, you will be given a chance to give the configuration file a name.
	< Back Next >

Technical note



5. Expand the Apogee folder, select ApogeeCamera | Apogee Alta camera Adapter and click Add...

th 1 of all woo	i or remove devices				
installed De	vices				There are an areas
Nane	Adapter/Library	Description	Status	Edit	Adding or Removing Devices
Core	MMCore/Default	Core controller	Default	Perpherals	
				Barrena	 The list above displays all of the devices that will be handled
					 be devices that will be familied by Micro-Manager in this configuration file If you are making a new configuration file for the first time, please visit the Micro-Manager website (www.micro-manager.org) an look under Devices to find
wailable De	lunas min	• • a	orgulact view		instructions for setting up all your devices.
Absc Agler Aladd	amera itLoserConbiner in			Add	 You can begin adding new devices whenever you're ready (click 'Add' butten). If you need more help with deciding
Addso Adder Adder Adder Addor An	ameria IL.seerCombiner In LaaerCombiner Shamrock ee Indonesia (Abcom Ma as	s zamen ar mådgefær		A)	devices whenever you're ready (click 'Add' button). If you

6. Add a label for the camera.

Property	Value
CameraldOne	-1
CameraidTwo	0
Interface	Discover
	CameraldOne CameraldTwo

7. Select search to return a list of available cameras, select the camera and press OK.

Name Interface Id One Id Two	7 USB 20		Broadcast 192	168 0 255
Aspm-19M usb 0 0	earch for Devices			
	Name	Interface	ld One	Id Two
Search	Aspen-16M	uib	0	0
	Search	40% # 400		



8. The Apogee camera should be listed as one of the installed device. Press *Next* to continue.

Installed Device	s:			
Name	Adapter/Library	Description	Status	Edit
Core	MMCore/Default	Core controller	Default	Peripherals
		Apogee Alta came	10000	

9. The next 3 steps allow the setup of any other hardware as required (motorised stages, shutters, etc). Continue through to Step 6, enter a name for the saved configuration file and select *Finish*.

Getting Started

The Apogee camera configuration can be setup from the Device Property Browser... within the Micro-Manager Tools menu.

	Device Property Browser	
Micro-Manager 1.4.23 20170215 - C:\Program F ile Tools Plugins Help Refresh GUI Rebuild GUI Script Panel	Show shutters Show stages Show discrete changers Show other devices	anly properties
Shortcuts	Director .	Walter
Device Property Browser	Property	Value
	ApogeeCamera-AcquisitionMode	Light
Stage Position List	ApogeeCamera-Binning	1
	ApogeeCamera-BinningX	1 •
	ApogeeCamera-BinningY	1 ()
	ApogeeCamera-CCDTemperatureSetPoint	-63.317 4
	ApogeeCamera-CameraSpeed	Normal
	ApogeeCamera-CameraTemperatureBackoffPoint	1.9865 4
	ApogeeCamera-CoolerEnable	Off
	ApogeeCamera-Exposure	100 4
	ApogeeCamera-FanSpeed	Low
	ApogeeCamera-Gain	30 4
	ApogeeCamera-IoSignal_1	User Input
	ApogeeCamera-IoSignal_2	User Input
	ApogeeCamera-IoSignal_3	User Input
	ApogeeCamera-IoSignal_4	User Input
	ApogeeCamera-IoSignal_5	User Input
	ApogeeCamera-IoSignal_6	User Input
	ApogeeCamera-LedA	Expose
	ApogeeCamera-LedB	Expose
	ApogeeCamera-LedMode	EnableAll
	ApogeeCamera-Offset	0 4 6
	ApogeeCamera-PixelType	16bit
	ApogeeCamera-ShutterMode	Internal Auto
	ApogeeCamera-TransposeCorrection	0
	ApogeeCamera-TransposeMirrorX	0
	ApogeeCamera-TransposeMirrorY	0
	ApogeeCamera-TransposeXY	0
	ApogeeCamera-TriggerMode	None

Technical note





For a continuous live view click the 'Live' button and ensure that the software trigger is selected in the Device/Property browser



To acquire a snapshot click the 'Snap' button on Acquisition/Live window.



To set up a kinetic series/time-lapse experiment, use Multi-D Acq.

Select Time points and input the number of frames/time points and the Interval required between frames.

Time points		Acquisition order	Close
Number	100	Time	Acquire
Interval 0	ms	Autofocus	Stop
Multiple po:	sitions (XY) —	Options	Load
P			Load
Ed	tit position list	Skip frame(s):	Save as.
Z-stacks (s		Summary	Save as.
	lices)		
Z-stacks (s	lices)	Set Set Set Number of time points: 100 Number of positions: 1 Number of slices: 1	Save as.
Z-stacks (s	lices)	Set Number of time points: 100 Number of positions: 1	Save as.

If you require any further assistance, please contact your local Andor Support representative ^[2].

Useful links

- ^[1] Apogee camera drivers <u>http://www.andor.com/pdfs/software/apgSwInstall-x86.zip</u>
- ^[2] Product Support <u>http://www.andor.com/ContactSupport</u>
- ^[3] Micro-Manager website <u>http://www.Micro-Manager.org</u>