AstroArt - Camera connection and image Capture

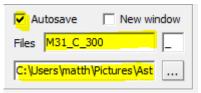
Cheat sheet

- 1) Connect all USB leads to camera, guide camera, computer etc.
- 2) Turn on DSLR and set to Manual (M on your camera wheel)
- 3) Make sure camera is in Manual mode and single shutter release NOT REMOTE SHUTTER

4)	Open AstroArt and select camera control	
5)	Select the "Setup Tab" Image Sequence Dark/Flat Focus/Guide Settings Setup	
6)	Select camera type – <u>CANNON NATIVE</u> SETUP	
7)	The select "SETUP" button	
8)	Check setting and press "CONNECT"	\times

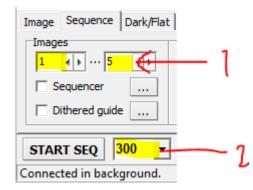
Camera should now be connected. To start imaging:

- 1) Select the "sequence" tab
- 2) Check the file save location, entre file name, and check autosave is selected



NOTE; WHEN CENTRING AND FOCUSING ON TARGET, UN-TICK "<u>AUTOSAVE</u>" TO STOP IMAGES BEING SAVED – YOU DON'T WANT THESE IMAGES. ONLY SAVE IMAGES YOU WANT.

3) (1) Set the number of exposures you want and then (2) set the exposure in seconds

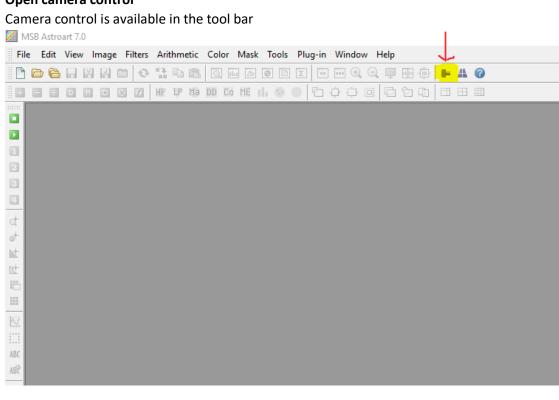


4) The press "START SEQ" button to take the images.

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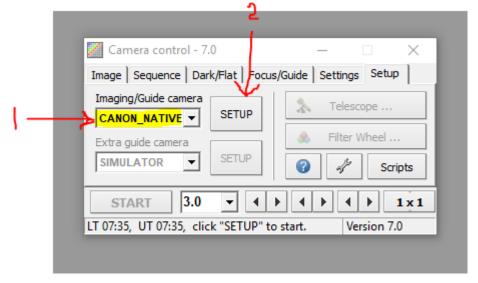
Connection procedures (example for cannon DSLR):

1) Open camera control



2) In the 'camera control' dialogue box, select "CANON NATIVE" from the drop down menu, then press "<u>SETUP</u>"

If you have connected previously then the 'canon native' may already be selected for you



3) Next, the 'setup' dialogue box opens, check the setting and press <u>"CONNECT"</u>

Check all the settings highlighted in yellow are the same as below and then press "connect", NOT the 'OK' button

BEFORE CONNECTING TO YOUR CAMERA MAKE SURE: - YOUR CAMERA IS SET TO <u>MANUAL</u> - <u>DO NOT HAVE REMOTE SHUTTER RELEASE</u> SELECTED

Camera control - 7.0 — 🗆 🗙	💽 Canon native control [1.20] — 🗆 🗙
Image Sequence Dark/Flat Focus/Guide Settings Setup Imaging/Guide camera SETUP Telescope Telescope Filter Wheel Telescope Extra guide camera SETUP Imaging/Guide Scripts Scripts SIMULATOR SETUP Imaging/Guide Scripts Scripts START 3.0 Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide camera SETUP Imaging/Guide Imaging/Guide SIMULATOR SETUP Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide SETUP Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide SETUP Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide SETUP Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide Imaging/Guide	Options Images in RAW and focus in JPEG (recommended) Use Bulb mode for short exposures Ambient temperature -5 • • Temporary folder <temp> BEFORE CONNECTION 1) Set camera to "M" mode. 2) Set manual focus ("MF"). 3) Set other options if needed.</temp>
	Connection Digic III old camera (40D 450D 1000D 1DMIII) Save images Select camera Camera and PC Camera #1 (default) Connect Disconnect

Your camera should now have successfully connected.... If not, try the following:

- Is the camera set to "manual"?
- Is the USB lead connected?
- Is the camera turned on?
- Is their sufficient battery power left in the battery to open and release shutter?

If using PHD or other guide software, the next step is to point at your object and start your guiding program. If using PHD, refer to the PHD Guiding notes.

The next steps before image capture are:

- Point your telescope at the chosen object
- Centre and focus the object
- Calibrate and start guiding

Once this is complete, you can move to image capture.

Image capture:

Once you have your camera connected, it is time to starts capturing images.

For the purposes of these instructions, we will assume you know how to point your scope at the target you intend to images and achieve pin point focus. Guiding is dealt with separately to these instructions.

Initial capture setup:

Once you have centred and focused your object, the next step prior to capturing your first image is to tell AstroArt where to save the image. You will want to open the "<u>SEQUENCE</u>" tab and select "<u>AUTOSAVE</u>"

Sequencer Fil	Autosave M31	ettings Sei	(
START SEQ 3.0 -			1x1
Connected in background.		T: -5.7	80%

At this point it is helpful to ensure the "new window" option is not selected as this will lead each image being opened in a new window which is rather annoying.

Next, you need to tell AstroArt what you are imaging and where to save it. You will do this by replacing the standard text in the "files" text box with the name of the object you are imaging and then selecting the location where to save it

Camera Simulator	- 🗆 X	Browse For Folder	×
Image Sequence Dark/Flat Focus/Gui		Temporary folder	
1 ▲ ▶ ··· 1 ▲ ▶ IV Autose □ Sequencer Files M3 □ Dithered guide C:\Temp\	1	Desktop	^
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	A States	 > Documents Downloads 	
	A Sector Sector	>) Music > 📰 Pictures	
		> 📑 Videos 🗸 🏪 Local Disk (C:)	U I
		ОК	Cancel

The below is an example location for your images, the address for this is C:\Users\matth\Pictures\Astro Pics\

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It is helpful to use a logical file name format for your image which tells you later what the image was of and how long the exposure was for. Below is an example of the format you might use:

M31_C_300

note; AstroArt will place a sequential number after your file name so final name in this case will be: M31_C_300_001

When we look at the files later this will tell use that we are capturing Messier 31_in colour_for 300 seconds.

🜠 Camera Simulator	
Image Sequence Dark/Fla	at Focus/Guide Settings Setup
1 • • • • Sequencer Dithered guide	✓ Autosave New window Files M31_C_300 C:\Temp\
START SEQ 3.0	· • • • • • • 1x1
Connected in background.	T: -5.6 80%

Now we need to tell AstroArt how many frames we need and what are sequence is. We do this by changing the number below "images" in the sequence tab:

🌌 Camera Simulator	– 🗆 X
Image Sequence Dark/Flat	Focus/Guide Settings Setup
Images 1 ↓ … 5 ↓ ↓ ☐ Sequencer … ☐ Dithered guide …	✓ Autosave New window Files M31_C_300 C:\Users\matth\Pictures\Ast
START SEQ 3.0 -	
Connected in background.	T: -5.2 80%

In the example above, we have set a sequence between 1 - 5. If we came back later and decided to add more images to this sequence, we would change the sequence to between say 6 - 10 to ensure we didn't overwrite the existing images

Note; AstroArt will warn you if you are about to overwrite existing images. Use this warning to go back and check the sequence settings and file name are correct.

Finally, we need to tell AstroArt the length of each exposure. We decided this earlier in the final name as '300' seconds (5 minutes). So, we need to put this into the exposure box as seconds:

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	🌠 Camera Simulator	– 🗆 X
_	Image Sequence Dark/Flat Focus/	Guide Settings Setup
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	1	

Now we can press "START SEQ" button to start the sequence.

Once the sequence has started, the sequence dialogue box will look like this:

Camera Simulator Image Sequence Dark/Flat	Focus/Guide Settings Setup
Images 1 • Sequencer Dithered guide	✓ Autosave New window Files M31_C_300 C:\Users\matth\Pictures\Ast
STOP 300 -	20% 23%
Exposure 1/5	T: -4.3 80%

We can see from the dialogue box that we are capturing 1/5 (1 of 5) images. The green percentage bar represents the percentage of the sequence complete and the blue bar represents the percentage of the current exposure complete. Later on in the sequence it might look like this:

Later:

🖉 Camera Simulator			×
Image Sequence Dark/Flat Fo	cus/Guide 9	Settings Setu	
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STOP 300 -	<mark>4</mark> 0%	4%	
xposure 2/5		T: -4.3 8	0%

Camera Control tabs

Image Tab

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Image Sequence Dark/Flat Focus/Guide Settings Setup
Dark frame No filter wheel
FITS data: Object, Comment
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Sequence Tab

Camera Simulator	- X
Image Sequence Dark/Hat Images Images Images Images	Autosave New window Files M31 C:\Users\matth\Pictures\Ast
START SEQ 3.0 -	
Connected in background.	T: -5.5 80%

Dark/Flat Tab

🌌 Camera Simula	itor	– 🗆 X		
Image Sequence	Dark/Flat	Focus/Guide Settings Setup		
Automatic dark fra	ame correcti	on Select image		
Automatic flat field	d correction	Select image		
START 3.0 • • • • • • 1 × 1				
Connected in back	ground.	T: -5.6 80%		

Focus/Guide Tab

🌌 Camera Simulator		– 🗆 X		
Image Sequence Dark/Flat	Focus/Guide	Settings	Setup	
Imaging camera	Guider ca		0.3 🜗 s	
🔲 Dark frame 🔲 Hot pixels	🗖 Dark	frame 📘	Hot pixels	
FOCUS GUIDE	Foci	IS	Guide	
START 3.0 - + + + + + 1x1				
Connected in background.		T: -5.6 80%		

Settings Tab

🌠 Camera Simulator	– 🗆 X			
Image Sequence Dark/Flat Focus/Guide	Settings Setup			
Binning Subframe: Size [%] Offset [%]				
1X1 • X 100 • • 0 •	Full image			
Pause 0 • • Y 100 • • 0 •	From selection			
START 3.0				
Connected in background. T: -5.7 80%				

Setup Tab

🌌 Camera Simulator	– 🗆 X			
Image Sequence Dark/Flat Focus/Guide Settings Setup				
Imaging/Guide camera	🚴 Telescope			
Extra guide camera SIMULATOR	Filter Wheel			
START 3.0 -				
Connected in background.	T: -5.6 80%			