



QUANTUM SCIENTIFIC IMAGING

700 Series User Guide



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Introduction

Congratulations on your purchase of a QSI 700 series camera. This manual will help you get the most out of your QSI Camera, so please take the time to read it thoroughly and you'll soon be ready to discover new worlds.

QSI Cameras provide exceptional value for money, superior performance, and unparalleled ease of use. They are the result of extensive research and development, each one designed and built with the requirements of the most demanding end users in mind. Your QSI camera incorporates state-of-the-art design using high-quality materials and will be your trusted imaging companion for many years to come. The camera contains a Sony IMX backlit CMOS sensor with 3.78 μ m pixels and a full well size of 51 Ke-.

Further Information

For easy installation instructions and useful information about how to take your first image, please refer to the Quick Start Guide included with your camera. Additional information about our software can be found in our documentation PDFs, which are copied to your computer during the software installation (Start Menu > QSI > Docs).

Key Features

- **Superior Performance:** High-quality images with excellent sensitivity and low noise.
- **Ease of Use:** User-friendly design and comprehensive software support.
- **High-Quality Construction:** Built with durable materials to ensure long-term reliability.
- **Advanced Sensor:** Equipped with a Sony IMX backlit CMOS sensor, 3.78 μ m pixels, and a well size of 51 Ke-.

By following the guidance in this manual and the Quick Start Guide, you will be well on your way to capturing stunning astronomical images with your QSI 700 series camera. For more detailed instructions and advanced features, please refer to the documentation PDFs installed on your computer.



What's in the Box

Your QSI 700 series camera comes in a protective case and includes:

- **QSI 700 series CMOS camera**
- **M54 dust cap**
- **M54 to 2" eyepiece adapter**
- **USB3 cable**
- **Allen keys** for filters and front plate adjustment
- **Screws and washers** for unmounted filters
- **Power supply unit** and secure adaptor
- **12-volt adaptor lead**



Getting to Know Your Camera

Connections

On the rear of the camera, you will find several important connections:

- **12-Volt Power “In” Socket:** Connect your camera to the angled 2.5 / 5.5 mm plug supplied with your camera. Ensure to screw the outer ring for a solid connection. The other end of the supply cable can be connected to the output cable of the 12-volt power supply adaptor that came with your camera or an alternative 12-volt 5 amp supply with a 2.5 / 5.5 mm center positive socket.
- **12-Volt Power “Out” Socket:** This output socket is designed to power an external guide camera or similar accessory. Ensure that the current draw does not exceed 2 amps from this socket.
- **USB 3.1 In Socket:** This socket is for connecting the camera to your computer, providing high-speed data transfer.
- **Two-Port USB 2 Hub:** Located on the camera for connecting accessories such as a guide camera.



Sensor

The QSI 700 series camera features a Sony IMX type CMOS sensor.

Optical Window

The optical window is made of quartz with BBAR coatings on both sides to prevent reflections in your images.

Analog to Digital Converter (ADC)

The QSI 700 series camera utilizes 16-bit analog to digital converters.

Power Consumption

QSI 700 series cameras are designed for low power consumption to enhance performance in the field. If you need to run the camera from a 110/220V mains supply, ensure it is of high quality with a 2.5 mm / 5.5 mm type plug with at least a 9mm long outer sleeve, centre positive, and capable of supplying a minimum of 5 amps.

WARNING: Mains power adapters are intended for indoor use only. Using the adapter in damp environments poses a risk of electric shock. If in doubt, do not use the adapter and consult a trained electrician.

USB Port

The QSI 700 series camera is compatible with both USB 3.0 and USB 2.0 cables with type A to B male plugs. It comes with a USB 3.0 cable, but any good quality USB 2.0 cable, A to B type will work, providing flexibility based on your setup and imaging requirements.

- The camera features a 512MB DDR III image buffer to ensure fast image transfer from the sensor to memory and low amp glow.
- The type of USB connection (2.0 or 3.0) determines the speed of transfer from the buffer to the PC. USB 3.0 provides higher speeds, while USB 2.0 offers a lighter, more flexible cable option without affecting image quality.
- USB 3.0 transfer speeds are only achievable when connected to a USB 3.0 port on your PC.

Cooling

The QSI 700 series camera has a regulated cooling system that maintains the CMOS sensor at your desired temperature throughout an imaging session. This feature also facilitates taking dark frames at the same temperature as light frames.

- The cooling delta of the QSI 700 series is -45°C , meaning it can cool to 45°C below ambient temperature. The optimal imaging temperature depends on your environment. Using a repeatable, stable temperature is recommended over simply the maximum the camera can reach on a given night.
- After turning on the camera, allow up to 5 minutes for the temperature to stabilize before taking images.
- At the end of an imaging session, turn off the cooling and wait a few minutes before disconnecting the camera to complete its warm-up sequence.

Dark Frames

To maximize the performance of your QSI 700 series camera for astrophotography, it is recommended to use dark frames in your image processing workflow.

- **Capturing Dark Frames:** Take dark frames by covering the front of the camera with a lens cap. Ensure that dark frames are taken at the same temperature, exposure length, gain, and offset settings as your light frames.
- **Processing Dark Frames:** Generate a master dark by averaging a large number of individual dark frames. Subtract the master dark from the individual image sub-frames during processing. Refer to the manual of your image processing software for detailed instructions on using dark frames. Note that dark frames are not required for high-speed imaging.

Software

Installing the Drivers

For the most up-to-date version of the software, news, and guides, please visit our website at [QSI Imaging](#).

To Start

1. **ASCOM Platform:** Ensure the latest version of the ASCOM platform is installed on your system. You can download it from [ASCOM Standards](#).
2. **Install Camera Drivers:** It is crucial to install the camera drivers before connecting your camera.
 - Go to [QSI Drivers and Software](#) to download the latest version of the software.

Installation Steps

- 1. Run the Installer:**
 - Select `QSIInstaller.exe` to start the installation.
 - A confirmation window will appear to ensure you intend to launch the setup file.
- 2. Installation Process:**
 - You will be presented with a window where you can select the necessary components.
 - Select all the tick boxes for the components you require.
 - Click `Next` to proceed with the installation.
- 3. Completion:**
 - Once the installer has completed, you will see a final window.
 - Select `Finish` to complete the installation.

Your QSI camera drivers and software should now be successfully installed, and you can connect your camera to your system.



Confirming the Installation and Operation of Your Camera

Steps to Confirm Installation and Test Camera Operation:

1. **Complete Installation:**
 - Ensure the camera and all associated software are fully installed.
2. **Connect Power and USB Leads:**
 - Connect the power lead to the camera.
 - Connect the USB lead from the camera to your computer.
3. **Power On the Camera:**
 - Turn on the power to the camera.
4. **Test Camera Operation with SGP:**
 - Open Sequence Generator Pro (SGP) or the software application of your choice.
 - Select the “Connect” button to link the camera to the software.
5. **Verify Camera Functionality:**
 - Ensure that the camera connects successfully and is recognized by the software.
 - Test basic camera operations such as capturing a test image to confirm functionality.

By following these steps, you can quickly confirm that your camera is correctly installed and operational. If using SGP, refer to additional tutorials and support resources available on the [Main Sequence Software Support page](#) for more detailed guidance.

Getting Started with Sequence Generator Pro (SGP)

This basic guide will help you set up and start using Sequence Generator Pro (SGP) with your camera. Note that these steps also apply to other control software when connecting through ASCOM.

Steps to Get Started:

1. **Download and Register SGP:**
 - Download Sequence Generator Pro from the link provided on the card included with your camera.
 - Register the software using the serial number on the card.
2. **Open Sequence Generator Pro:**
 - Launch SGP after installation. You will see the main screen as shown below.
3. **Connect Your Camera:**
 - Ensure your camera is connected via USB and powered on.
 - In SGP, navigate to the "Equipment" tab.
 - Click "Connect" to establish a connection between your camera and the software.
4. **Configure Your Camera and Filter Wheel:**
 - Set up your camera in ASCOM if not already done.
 - For the filter wheel, click on the settings button to locate and configure it.

5. Set Up Your Imaging Sequence:

- Choose a save path for your images in the directory box.
- Make sure the “Run” box is ticked on the first line of the sequencer.
- Set your desired exposure time.

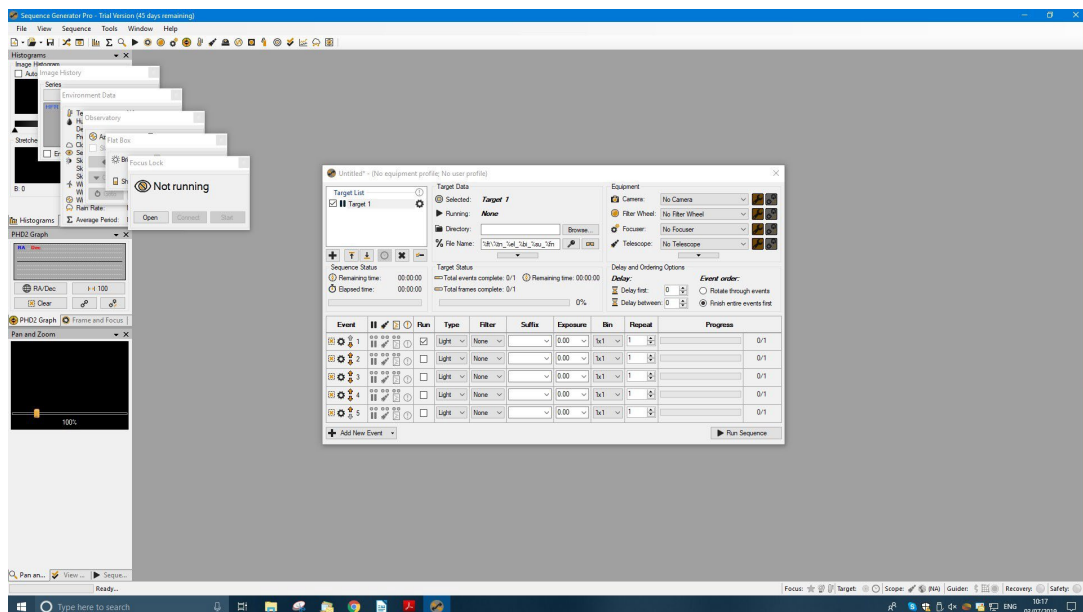
6. Capture Your First Image:

- Click "Run Sequence" to start capturing images.
- Inspect the captured images to ensure proper focus and exposure settings.

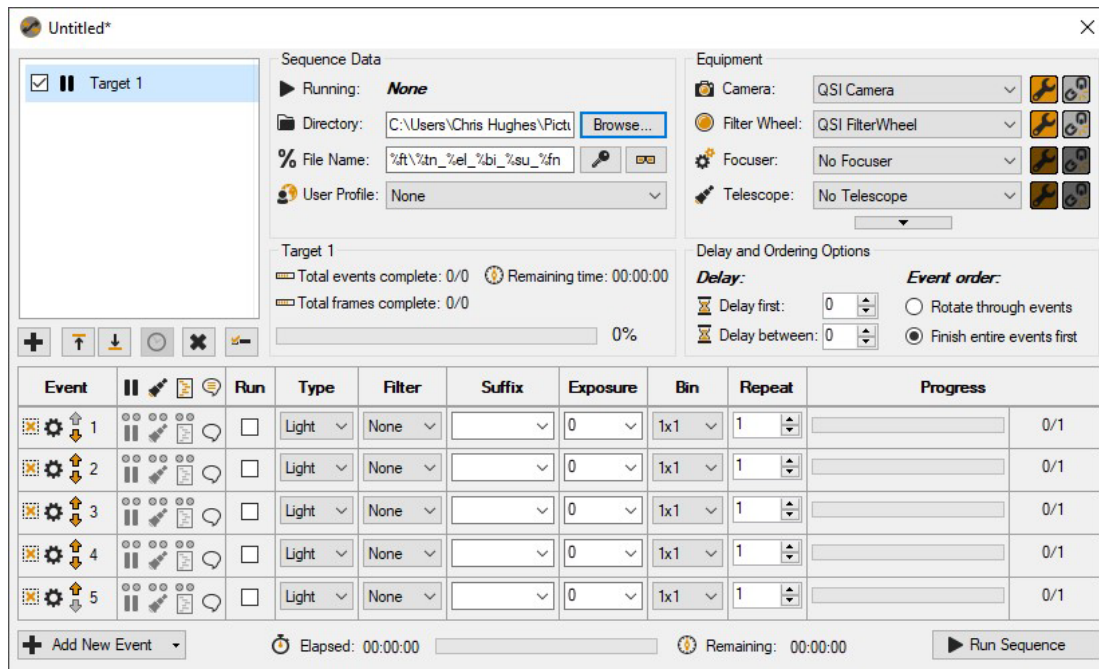
Tips and Additional Resources:


- **Learning More:** Sequence Generator Pro offers many advanced features. For comprehensive tutorials and helpful videos, visit the [Main Sequence Software Support page](#).
- **Image Format:** Your images will be saved in standard 16-bit FITS format, compatible with most astronomical processing software.

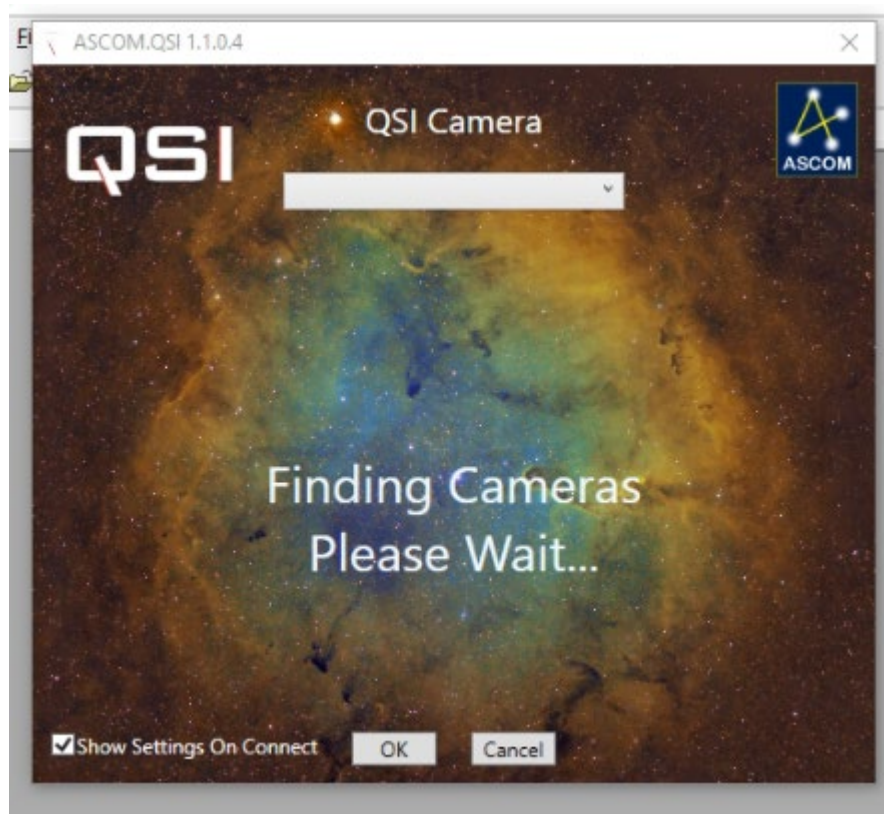
By following these steps, you will be able to connect your camera, configure necessary settings, and start capturing images with Sequence Generator Pro. For more detailed guidance and troubleshooting, refer to the resources available on the Main Sequence Software Support page.



Select QSI Camera and QSI Filter Wheel as shown below and power your camera on if it isn't already on.



Select the settings icon.  You will be presented with the screen below.



Once the camera has been correctly identified it will be named as the connected camera in the pull-down box. Please select the camera and click on OK.



Setting Up Your Camera and Filter Wheel in ASCOM with SGP

Steps to Connect and Configure Your Camera and Filter Wheel:

- 1. Boot Up the Camera:**
 - Power on your camera and wait for it to boot up successfully.
- 2. Connect the Camera to SGP:**
 - Open Sequence Generator Pro (SGP).
 - Click on the “Connect” button to link the camera to the software.
- 3. Set Up the Camera in ASCOM:**
 - Ensure that your camera is properly configured in the ASCOM platform.
 - Follow any specific prompts or settings required for your camera model.
- 4. Set Up the Filter Wheel:**
 - Click on the settings button for the filter wheel in SGP.
 - Once the filter wheel has been located, you will be presented with a configuration screen.

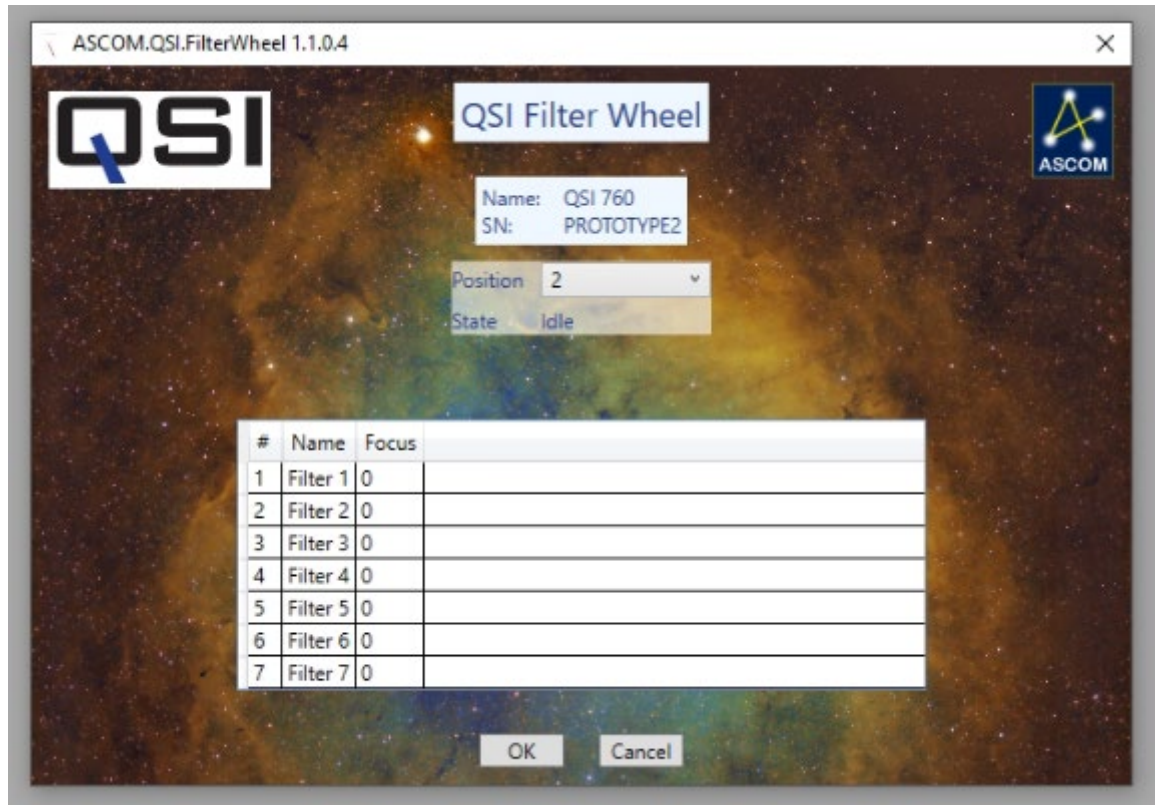
Configuration Screen:

- **Filter Wheel Location:**
 - Ensure the filter wheel is correctly identified and located by the software.
 - Adjust any settings as needed to match your specific setup.
- **Testing and Verifying:**
 - Test the connection by selecting different filters to ensure the filter wheel is responding correctly.
 - Make any necessary adjustments in the settings to ensure smooth operation.

Additional Information:

- **Using SGP:**
 - Sequence Generator Pro is a comprehensive image acquisition software.
 - For detailed tutorials and videos on using SGP, visit the [Main Sequence Software Support page](#).

By following these steps, you can successfully connect and configure your camera and filter wheel in Sequence Generator Pro, ensuring optimal performance for your astrophotography sessions.



Connecting the Filter Wheel and Capturing Images in Sequence Generator Pro (SGP)

Steps to Connect and Capture:

1. **Connect the Filter Wheel:**
 - Open Sequence Generator Pro (SGP).
 - Click on the “OK” button to proceed.
 - Connect your filter wheel to the software.
2. **Set Up Your Sequence:**
 - Select a save path in the directory box where you want to store your images.
 - Ensure the “Run” box is ticked on the first line of the sequencer.
3. **Configure Exposure Settings:**
 - Set the desired exposure time for your image.

4. **Run the Sequence:**
 - Start the sequence to take your first image.

Additional Information:

- **Image Format:**
 - Your images will be saved in a standard 16-bit FITS format.
 - This format is compatible with all astronomical processing software for image processing and calibration.
- **Learning More About SGP:**
 - Sequence Generator Pro is a fully featured image acquisition software with many advanced features.
 - For tutorials and helpful video files, visit the [Main Sequence Software Support page](#).

By following these instructions, you can efficiently connect your filter wheel and capture images using Sequence Generator Pro. For more in-depth guidance and to leverage all the advanced features of SGP, explore the resources available on the Main Sequence Software website.

Gain and Offset

Your QSI 700 series camera allows you to adjust gain and offset settings, similar to adjusting the volume on a radio.

- **Gain Settings:** Higher gain increases sensitivity to faint signals but may reduce detail in brighter areas.
- **Pre-sets:**
 - **Low:** Best for normal imaging with high dynamic range and detail in brighter objects.
 - **Medium:** A compromise between low and high, useful for unguided mounts requiring shorter exposures.
 - **High:** Best for sensitivity to dim objects, sacrificing detail in brighter parts.
 - **Custom:** Experiment with custom settings, with gain ranging from 0 to 420 and offset from 0 to 4095. Gain settings up to 300 are useful, but above this, the full well depth decreases significantly.
- **HCG Mode:** Automatically activates at a gain of 60 or above. At a gain of 75, read noise drops significantly to around 1.8 e- with a full well capacity of 21k.

Top Tip

Changing Gain Settings

For added convenience, you can change the gain settings on the fly without disconnecting the camera:

- **Show on Connect:** Tick the “Show on connect” box in the settings. This allows you to adjust the power modes and gain settings dynamically while the camera remains connected.

This feature provides flexibility and ease of use, especially during an imaging session, enabling quick adjustments to optimize performance based on real-time needs.



Installing Your QSI 700 Series Camera on a Telescope

The QSI 700 series cameras (760 and 726) come with a front plate adaptor featuring an M54 x 0.75 mm threaded connection. This guide will help you install your camera correctly, depending on your telescope and setup.

Telescope Requirements:

- **QSI 760:** Requires a telescope capable of illuminating a 44 mm imaging circle.
- **QSI 726:** Requires a telescope capable of illuminating a 29 mm imaging circle.

Standard Installation:

1. **Attach the Camera:**
 - Use the provided 2” eyepiece adaptor to fit the camera directly into a telescope's 2” draw tube.

- The 2” eyepiece adaptor includes an internal M48 x 0.75 mm thread to accommodate 2” mounted filters.

Using the Optional OAG Unit:

1. Remove the M54 Front Plate Adaptor:

- Unscrew and remove the M54 front plate adaptor from the camera.

2. Install the OAG Unit:

- **For Guide Cameras with 7 mm Back Focus:**

- Install the OAG unit directly to the camera front plate using the shorter screws provided.

- **For Guide Cameras with 12.5 mm Back Focus:**

- Use the M54 front plate adaptor as a spacer.
- Install the OAG unit to the camera front plate with the M54 adaptor in between.

Summary:

- Ensure your telescope meets the required imaging circle specifications for your specific camera model (760 or 726).
- For standard installation, use the 2” eyepiece adaptor to connect the camera to the telescope.
- When using an OAG unit, adjust the setup based on the back focus of your guide camera (7 mm or 12.5 mm) to ensure proper focus.

By following these instructions, you can effectively mount your QSI 700 series camera to your telescope, ensuring optimal performance and imaging results.



Replacing the Desiccant in Your QSI 700 Series Camera

Your QSI 700 series camera includes a high-performance molecular sieve desiccant tablet to prevent condensation inside the sensor chamber. Over time, this desiccant may need recharging. Follow these steps to recharge the desiccant:



Steps to Replace and Recharge the Desiccant:

1. **Remove the Desiccant Tablets:**
 - Unscrew the 4 screws securing the desiccant cover top plate.
 - Carefully lift off the top plate to access the desiccant tablet.
2. **Recharge the Desiccant Tablet:**
 - Preheat an electric oven to 200°C (392°F).
 - Place the desiccant tablet in the oven and bake it for 2 hours.
 - **Caution:** The tablet will be extremely hot. Use appropriate tools to handle it and allow it to cool completely before proceeding.
3. **Reinsert the Desiccant Tablet:**
 - Once the tablet has cooled, place it back in the camera.
 - Replace the desiccant cover top plate and tighten the screws.
4. **Drying Period:**
 - Leave the camera in a warm, dry environment with the port open while the desiccant is recharging to ensure any residual moisture dries out.
 - Wait 24 hours before reconnecting and using the camera.

Additional Notes:

- **Filter Inside the Desiccant Chamber:**
 - The filter prevents contamination of the chamber when replacing the desiccant.
 - It is fragile and should not be touched to avoid damage.

Levelling Plate Adjustment for QSI 700 Series Camera

The QSI 700 series camera comes with an adjustable nose adaptor featuring an M54 x 0.75 mm female thread for connecting to telescopes and accessories. This adjustable front plate is pre-set during manufacture to align accurately with the sensor, usually requiring no further adjustment. However, if you encounter issues such as misshapen stars at the edges and corners of your images, this adjustment method can help correct those problems.

Important Notes:

1. **Make only the tiniest adjustments:** Adjust one set of screws at a time.
2. **Adjustment Mechanism:**
 - **Headed screw:** Turning clockwise will "pull" the front plate towards the camera.
 - **Grub screw:** Pushing will move the front plate away from the camera.
3. **Convenience:** Adjustments can be made while the camera is still mounted on the telescope, allowing for real-time inspection.

Adjustment Process:

1. **Take an Initial Image:** Capture an image with your current setup.
2. **Inspect the Image:** Check for any misshapen star shapes, particularly at the edges and corners.
3. **Make Adjustments:**
 - Identify the set of screws to adjust.
 - Turn the headed screw clockwise to pull the plate in, or adjust the grub screw to push it out.
4. **Take Another Image:** After making the adjustments, capture another image.
5. **Inspect the Changes:** Compare the new image with the initial one to see if the star shapes have improved.
6. **Repeat:** Continue this process until the desired results are achieved.

By following this method, you can fine-tune your QSI 700 series camera to work optimally with your optical system.



Installing Filters on QSI 700 Series Camera

To install filters on your QSI 700 series camera, follow these steps based on the specifications for your specific camera model (760 or 726 APS):

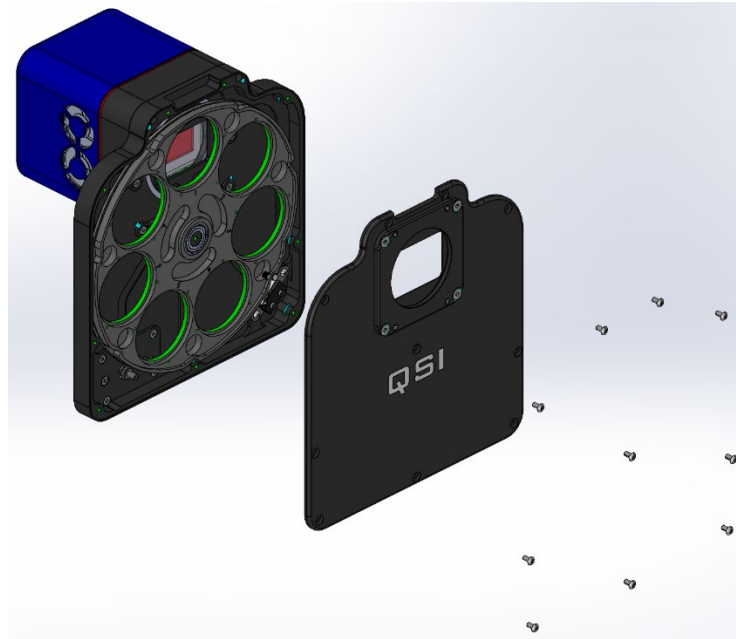
Required Tools:

- 2 mm Allen key (supplied with the camera)

- Filters (either 2” mounted filters or 36 mm unmounted filters depending on sensor size)
- Front plate of the camera
- Illustration (refer to your camera's manual for the specific diagram)

Step-by-Step Guide:

- 1. Prepare for Installation:**
 - Ensure you have the correct filters suitable for your camera's sensor size (full frame 760 or APS-sized 726).
 - Locate the 3 mm Allen key that came with your camera.
- 2. Refer to the Illustration:**
 - Consult the illustration in your camera's manual that shows the location of the 10 M3 screws holding the front plate.
 - This illustration will guide you on the exact placement and arrangement of the screws.
- 3. Remove the Front Plate:**
 - Using the 2 mm Allen key, carefully unscrew and remove the 10 M3 screws that secure the front plate of the camera.
 - Keep the screws in a safe place to avoid losing them.
- 4. Access the Filter Slot:**
 - Once the screws are removed, carefully lift off the front plate of the camera.
 - Set aside the front plate in a clean and safe area.
- 5. Install Filters:**
 - With the front plate removed, you now have access to the filter slot(s) inside the camera.
 - Depending on your camera model:
 - **For QSI 760 (full frame sensor):**
 - Insert up to 7 - 2” mounted filters or 7 - 50.8 mm filters into the designated slots.
 - **For QSI 726 APS (APS-C size sensor):**
 - Insert up to 7 - 36 mm unmounted filters or 5 - 2” mounted filters into the designated slots.
- 6. Replace the Front Plate:**
 - Carefully position the front plate back onto the camera, aligning it correctly with the housing.
 - Ensure all filter slots are properly aligned with the openings in the front plate.
- 7. Secure the Front Plate:**
 - Insert and tighten the 10 M3 screws using the 2 mm Allen key.
 - Tighten the screws evenly to secure the front plate back onto the camera body.
- 8. Final Inspection:**
 - Once all screws are securely tightened, inspect the camera to ensure everything is properly aligned and fitted.
 - Check that filters are correctly seated and there are no gaps or issues with the installation.



Mounting Unmounted Filters

For attaching unmounted filters to your QSI 700 series camera, follow these steps:

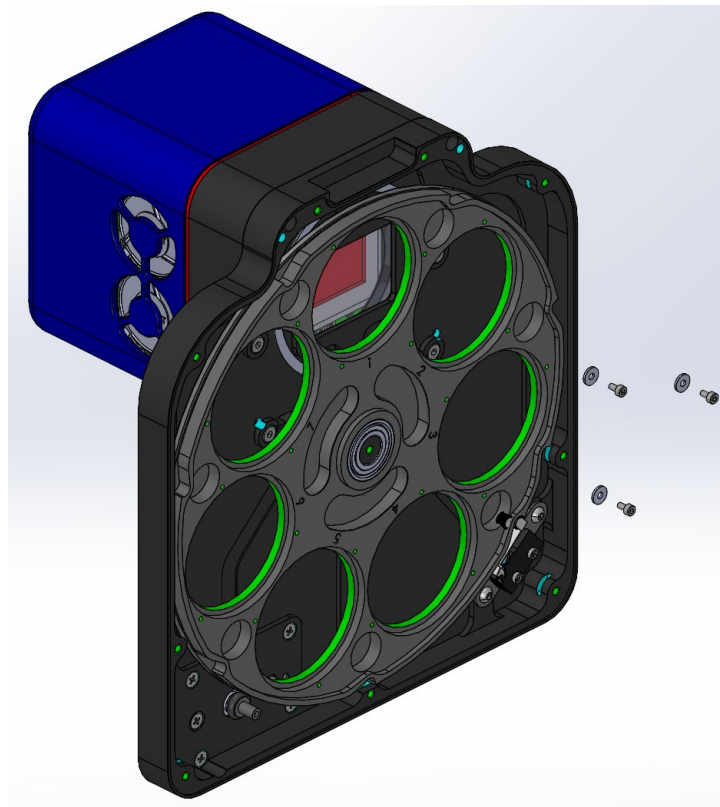
Required Components:

- M2 screws (supplied with the camera)
- Washers (supplied with the camera)
- Screwdriver or Allen wrench (appropriate for M2 screws)
- Filters
- QSI 700 series camera
- Illustration (refer to your camera's manual for the specific diagram)

Step-by-Step Guide:

1. **Prepare the Filters and Mounting Hardware:**
 - Gather the unmounted filters you intend to use.
 - Ensure you have the M2 screws and washers that came with your camera.
2. **Reference the Illustration:**
 - Locate the illustration in your camera's manual that shows the correct positioning of the screws and washers for mounting the filters.
 - Ensure you understand the placement and orientation as shown in the diagram.
3. **Position the Filter:**
 - Place the unmounted filter in the designated slot or holder on the camera.
 - Make sure the filter is aligned correctly according to the illustration.
4. **Attach the Washers:**
 - Place a washer over each M2 screw.
 - The washers help to distribute the pressure evenly and secure the filter without causing damage.
5. **Secure the Filter with M2 Screws:**

- Insert the M2 screws through the washers and into the mounting holes as shown in the illustration.
 - Use the screwdriver or Allen wrench to carefully tighten the screws.
 - Ensure that the screws are tightened securely, but avoid over-tightening to prevent damaging the filter or the camera.
6. **Verify Alignment and Security:**
- Check that the filter is firmly in place and aligned properly.
 - Make sure there are no gaps or loose parts.
7. **Final Inspection:**
- Inspect the entire setup to ensure that all screws and washers are properly installed.
 - Ensure there are no obstructions or loose components that could interfere with the camera's operation.



Installation Guide for the Optional Off-Axis Guider (OAG)

The Off-Axis Guider (OAG) is a critical tool for astrophotography, aiding in guiding the telescope mount during long exposure deep-sky imaging sessions. Here is a step-by-step guide for installing the OAG on a QSI 700 series camera:

Step 1: Preparation

- 1. Gather Tools and Components:**
 - OAG
 - Guide camera
 - Suitable guiding software
 - M54 spacer (if required)
 - Foam washers
 - Allen headed bolts (provided with the OAG)
 - Longer screws (provided with the OAG)
 - Screwdriver or Allen wrench
- 2. Assess Back Focal Length Requirements:** Determine if the M54 spacer is necessary based on the back focal length of the guiding camera.

Step 2: Remove Existing Components

- 1. Remove M54 Front Nose Adapter:**
 - Locate the 4 screws securing the M54 front nose adapter to the main camera cover.
 - Use the screwdriver or Allen wrench to carefully remove these screws.

Step 3: Install the OAG

- 1. Position the OAG:**
 - If the M54 spacer is required, place it on the main camera cover first.
 - If the M54 spacer is not required, place the OAG directly on the main camera cover.
- 2. Ensure Proper Placement of Foam Washers:**
 - Check for foam washers under each rear surface of the components.
 - Ensure these washers are intact and properly positioned to block stray light.
- 3. Secure the OAG:**
 - Align the OAG (and M54 spacer if used) with the screw holes on the main camera cover.
 - Use the provided allen headed bolts to secure the OAG in place.
 - If the M54 spacer is used, utilize the longer screws to secure the OAG and spacer.
 - Avoid using screws that may protrude into the filter carousel area to prevent damage to the filter wheel.

Step 4: Final Checks

1. Check Tightness:

- Ensure all screws are tightened properly to secure the OAG without over-tightening.

Test Setup:

- Attach the guide camera to the OAG and run a preliminary check with your guiding software to ensure everything is functioning correctly.

By following these steps, you will successfully install the OAG on your QSI 700 series camera, optimizing your setup for long-exposure deep-sky imaging while minimizing mount loading and potential flexure.

Focusing of the OAG Guide Camera

Focusing of the guide camera to make it parfocal with the main imaging camera can be achieved by adjusting the blue-coloured fine focusing ring. Due to the slim design of the QAG unit, holes have been included in the fine focusing ring to allow for a dowel to assist with adjustment, such as the small allen key supplied with the camera.

Focusing Procedure

1. Focus Main Imaging Camera:

- Ensure the main imaging camera is focused on a star field using the luminance filter.
- Install the OAG on the main camera according to the setup instructions, matching your guide camera back focus as shown in the illustrations on page 31.

2. Prepare the OAG Unit:

- Loosen the focus lock grub screw on the side of the OAG unit.

3. Initial Guide Camera Exposure:

- Take a short exposure with the guide camera. You should see defocused stars in the resultant image.

4. Adjust Focus Using the Blue Fine Focusing Ring:

- Use the blue-coloured fine focusing ring to adjust the focus.
- The holes in the fine focusing ring can be accessed with a dowel, such as the small allen key supplied with the camera.
- Turn the blue ring clockwise or anti-clockwise to adjust the position of the guide camera.

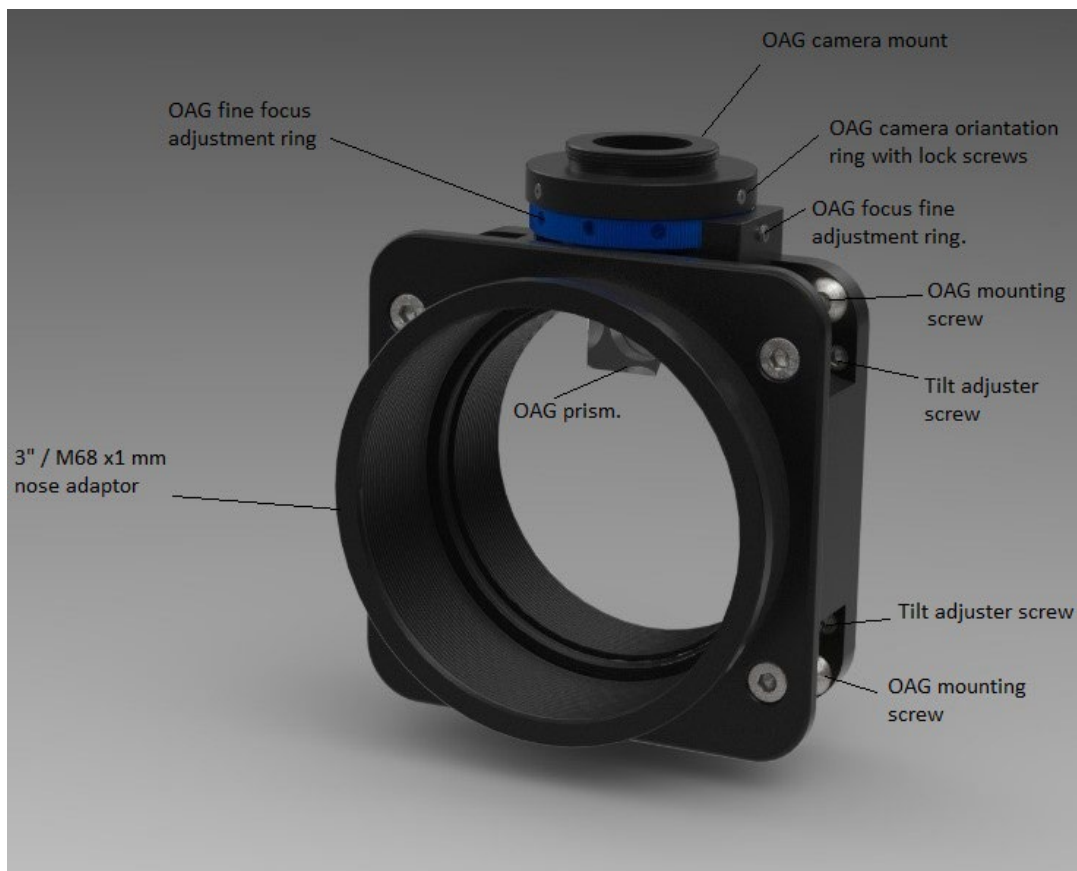
5. Fine-Tune the Focus:

- Take another short exposure to check the focus.
- Repeat the adjustment of the blue focusing ring and take short exposures until the stars are properly focused.

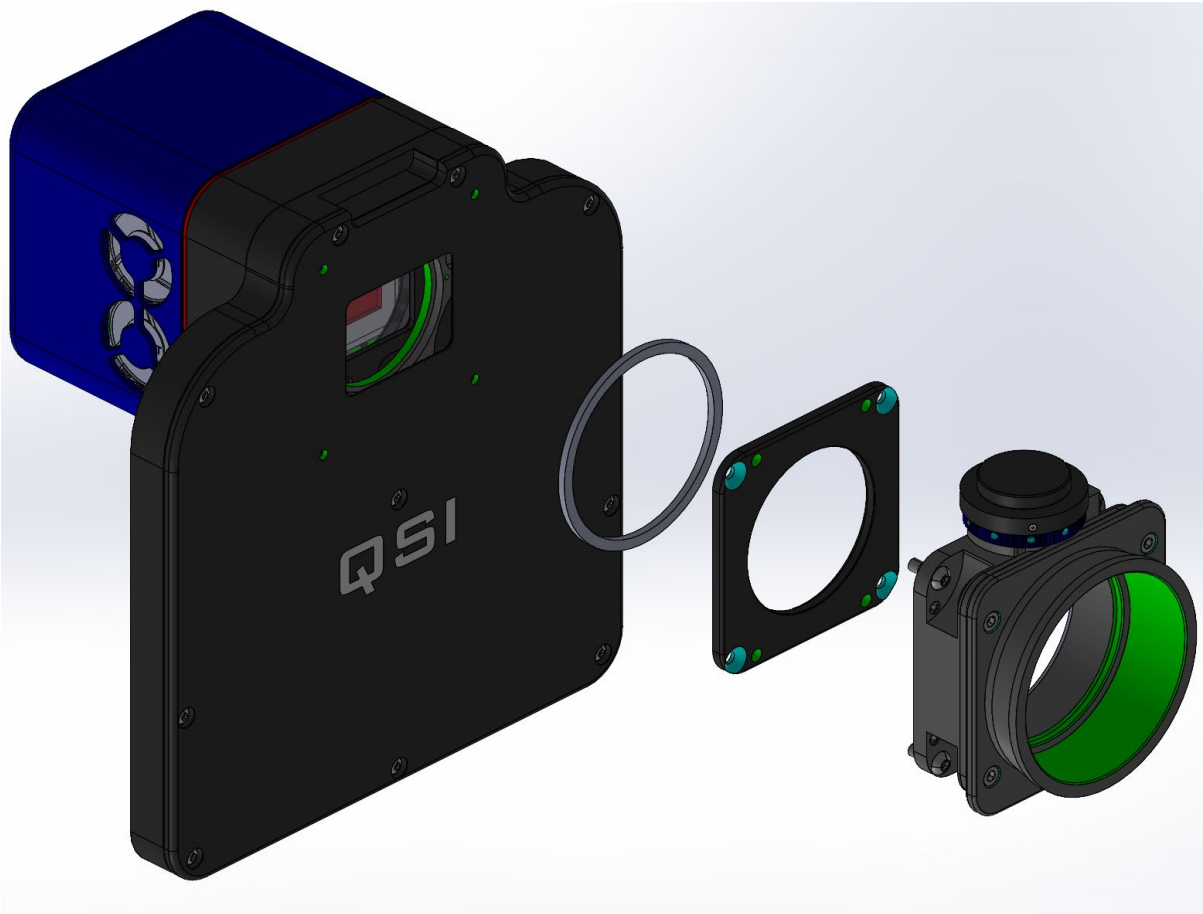
6. Ease Tension on the Focus Ring:

- If necessary, lift the guide camera slightly away from the main camera body to ease tension on the focus ring and make adjusting the focus easier.
7. **Secure the Focus:**
- Once the desired focus is achieved, tighten the focus lock grub screw to secure the guide camera in place.

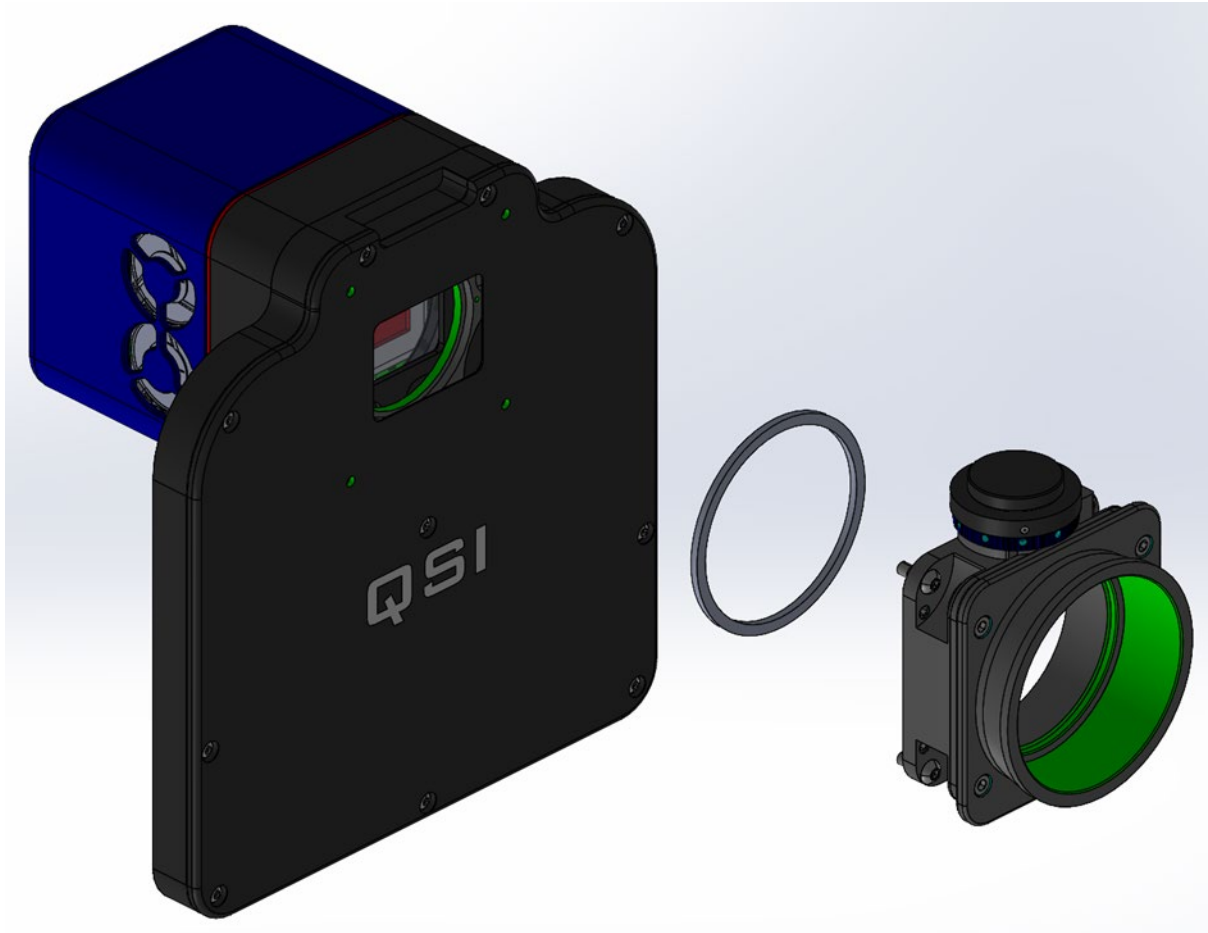
Off-Axis Guider unit components.



Setting up your QSI 700 series camera for use with a guide camera that has a back focus requirement of 12.5 mm



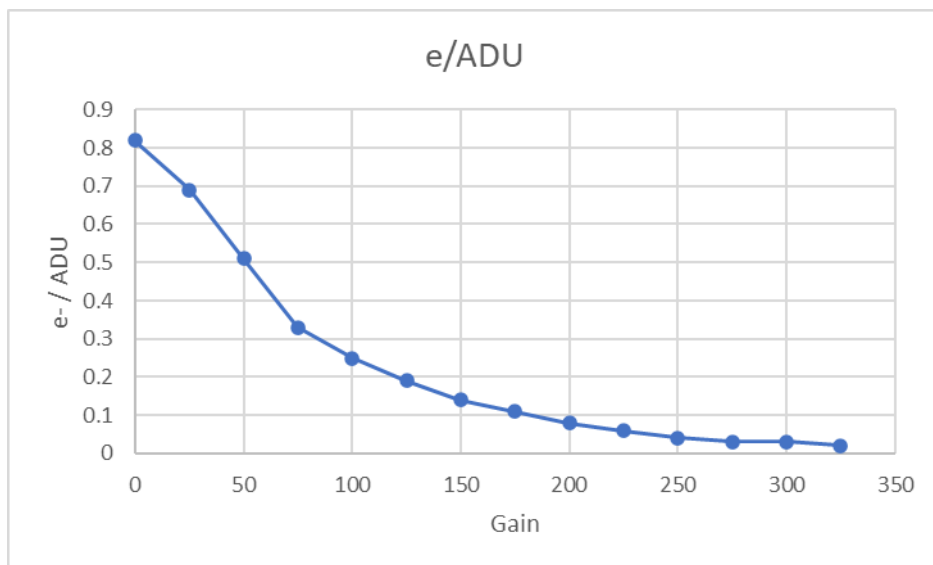
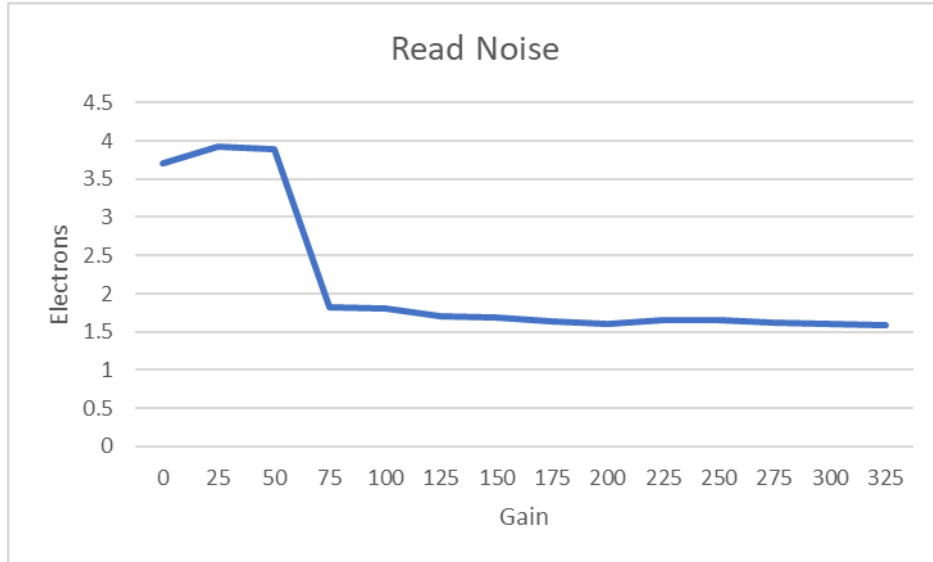
Setting up your QSI 700 series camera for use with a guide camera that has a back focus requirement of 7.5 mm

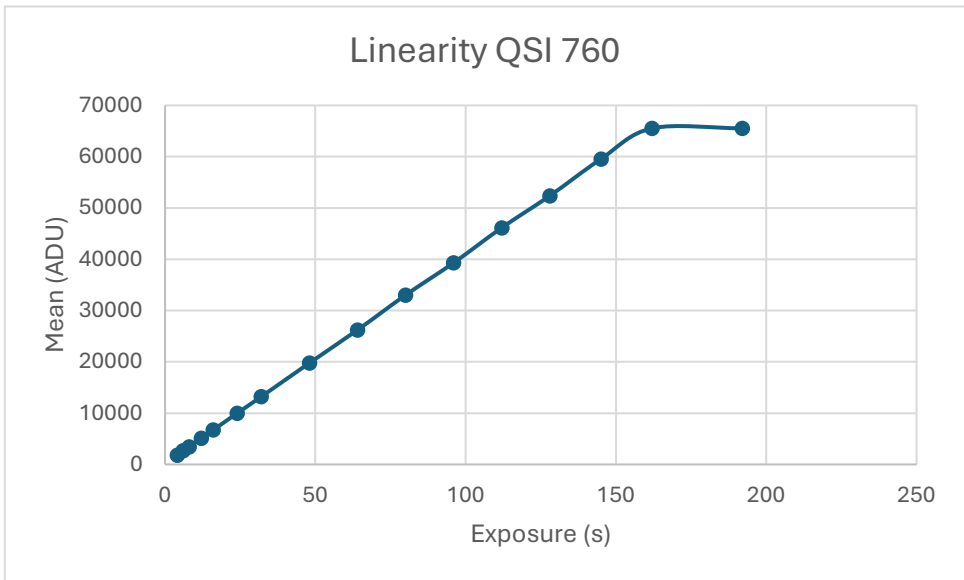
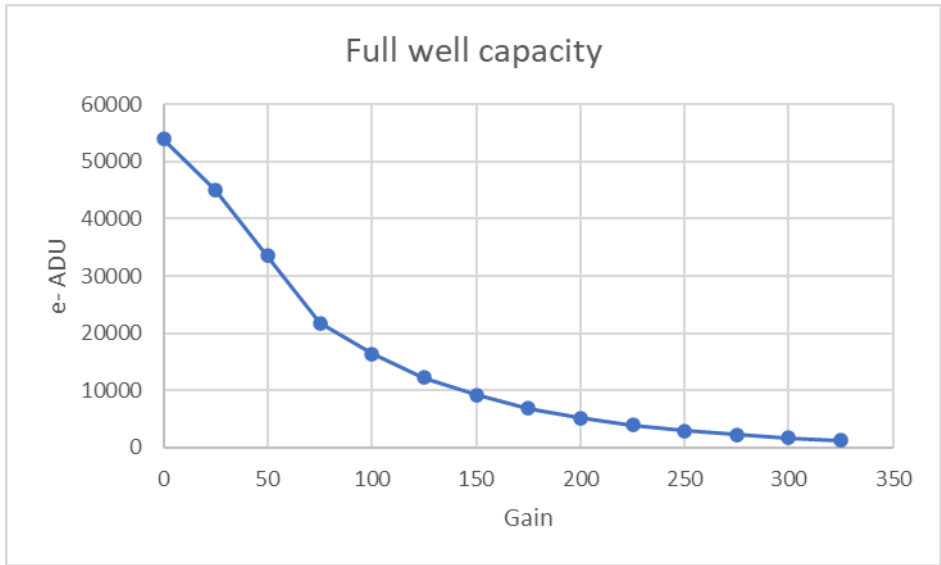


QSI 700 series technical specification.

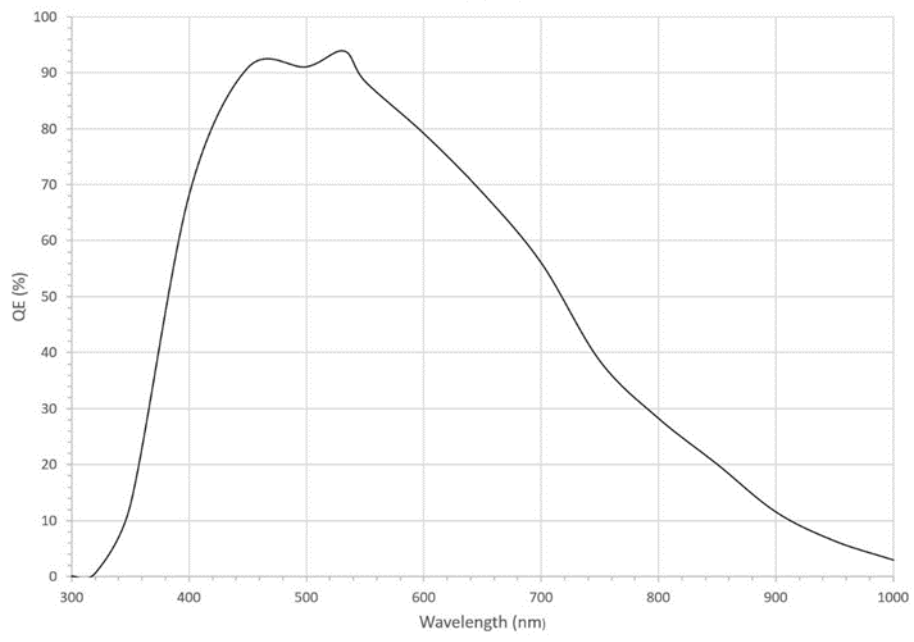
	760	726
Image Sensor	Sony IMX455 mono CMOS sensor	Sony IMX571 mono CMOS sensor
Resolution	9576 x 6380	6244 x 4168
Pixel Pitch	3.76 μm	3.76 μm
Sensor Size	43.3mm diagonal (36mm x 24mm)	28.3mm diagonal (23.5mm x 15.7mm)
Full Well	51,000 e-	51,000 e-
Read Noise	1.2 e-	1.7 e- (typical)
Set Point Cooling at an ambient of 20 C	-25 °C	-25°C
Frame Rate	2 FPS (Full Frame image)	4FPS (Full Frame image)
Mount Type	M54 x 0.75	M54 x 0.75
ADC	16 bit	16 bit
Backfocus Distance	31mm	31mm
Reading Mode	Rolling shutter	Rolling shutter
Exposure Range	1 ms - 24 hours	1 ms - 24 hours
Dark Current	0.005 e-/p/s	0.0008 e-/p/s
Filter Wheel Mechanical indexing for reproducible flats	Filter wheel for 2" or unmounted 50mm filters, 5 or 7-position	Filter wheel for 2" or unmounted 50mm/ 36mm filters
Accessories	Off-Axis guide unit	Off-Axis guide unit
Computer System Requirements	Windows 10+ Linux USB 3.0 8GB Ram 64-bit Operating System.	Windows 10+ Linux USB 3.0 8GB Ram 64-bit Operating System.

QSI 760 performance graphs June 2024





Quantum Efficiency (QE) of QSI 760



Mechanical drawings of the QSI 760

The drawing includes three main views of the camera module: a front view on the left showing the lens and QSI logo, a side view in the middle showing the lens barrel and depth, and a rear view on the right showing the sensor and connectors. Dimensions are provided in millimeters for various features. A 3D perspective model of the camera is shown in the bottom right corner.

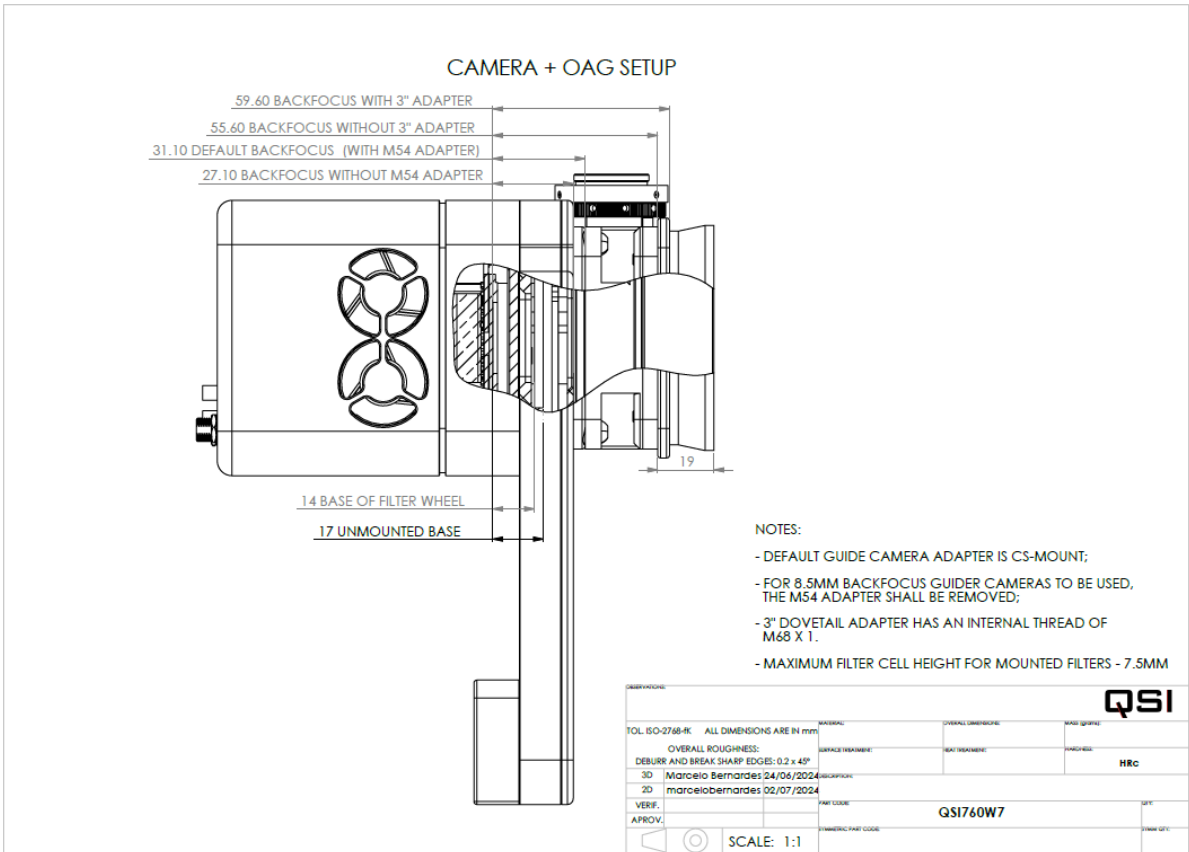
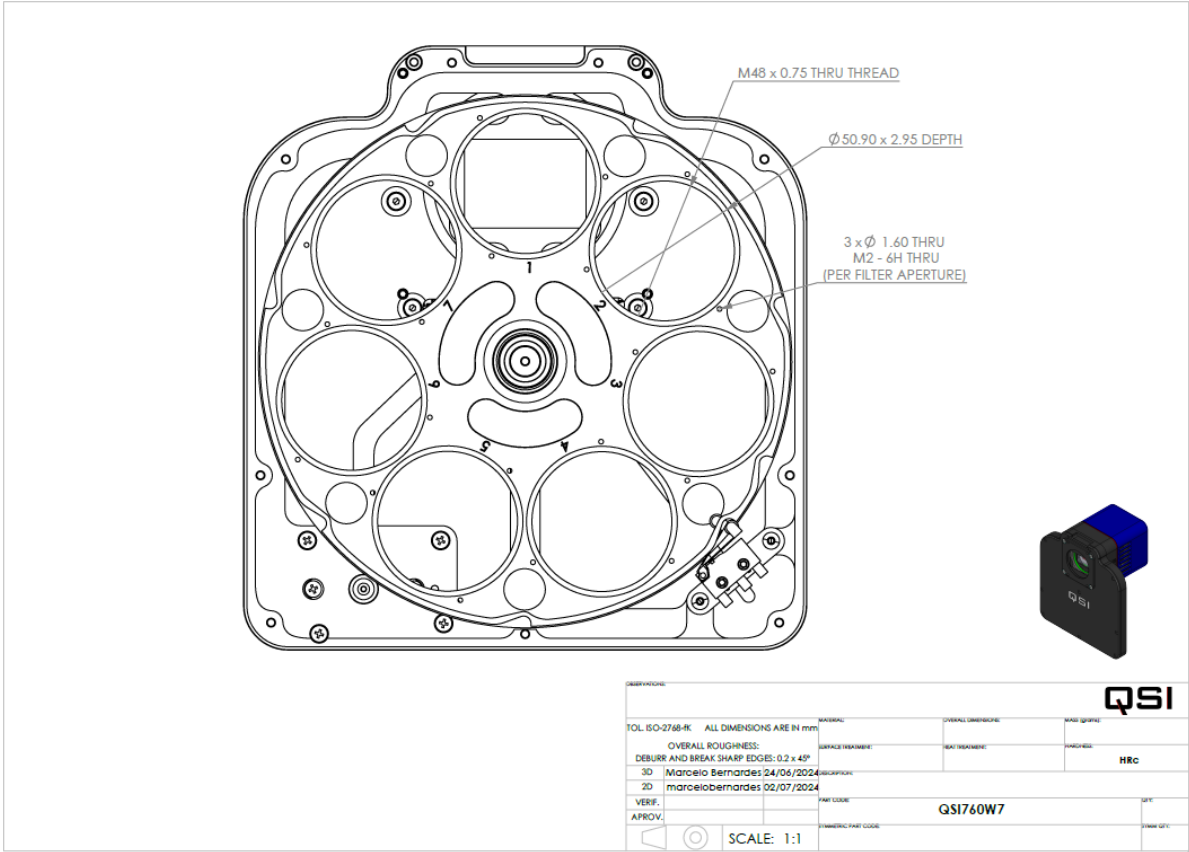
REVISION		
REV.	DESCRIPTION	DATE

Dimensions:

- Front View: 190 (width), 204 (height), 46.50, 37.50, 20, 0, 20, 37.50, 46.50, M54 x 0.75 Ψ 4.
- Side View: 131.10, 124.10, 49.10, 47.10, 22.10, 4, 0, 31.10 (DEFAULT BACKFOCUS DISTANCE), 37.50.
- Rear View: 0, 24, 61.05, 62.45, 76.55, 77.50, 77.55, 93, 48.50, 64, 86.75, 102.25, 103.85, 117.15, 126, 141.50, 175, 190.

QSI

OBSERVATIONS			
TOL ISO-2768-K	ALL DIMENSIONS ARE IN mm	MATERIAL	OVERALL DIMENSIONS
OVERALL ROUGHNESS: $\sqrt{0.2}$	DEBURR AND BREAK SHARP EDGES: 0.2 x 45°	FINISH TREATMENT	POST TREATMENT
30	Marcelo Bernardes 24/06/2024	DESCRIPTION	HRC
20	marcelobernades 02/07/2024	PART CODE	QSI760W7
APPROV.	SCALE: 1:2	FINISH TREATMENT	POST TREATMENT



Declaration of Conformity

EU Declaration of Conformity

This product carries the CE Mark in accordance with the related European Directive. CE marking is the responsibility of:

QSI Cameras Unipessoal Lda. R. Horta de Bacelos, 15
2690-390 SANTA IRIA DE AZOIA
Santa Iria da Azoia, Portugal



Critical Applications

This product is not designed for any “critical applications”. “Critical applications” means life support systems, medical applications, connections to medical devices, commercial transportations, nuclear facilities or systems or any other applications where product failure could lead to injury to persons or loss of life or catastrophic property damage.

This product is not a toy.

This is a class-A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Disposal of the Camera

When no longer required do not dispose of this electronic device with general household waste. To minimise pollution and protect the environment the camera should be recycled. Local recycling drop-off points available under the Waste from Electrical and Electronic Equipment (WEEE) regulations which will accept the camera. For further information contact Perseu SA at the above address, or the shop from which the camera was bought.



Servicing and Repairs

Repairs, servicing, and upgrades are available through your local dealer or by emailing our technical support team through our contact page <https://qsimaging.com/contact-us/>

Please note that modifications to the camera and/or accessories undertaken without the manufacturer’s written permission will void the warranty.

Warranty

The equipment is guaranteed against defective design, manufacture or materials for a period of one year from the date of purchase.

This means that QSI Cameras will repair or replace the equipment at its sole option, at no charge to the purchaser for parts or for labour, if the fault is reported within the guarantee period, provided however that QSI Cameras is able to duplicate the defect or problem at its facilities. This warranty does not apply to damage that occurred as a result of abuse or misuse, abnormal service or handling, damage which may have been caused either directly or indirectly by another product, or if the equipment has been altered or modified in any way, or if the damage was caused by repairs or service provided or attempted by anyone other than QSI Cameras. This warranty does not include or provide for incidental or consequential damages.

To exercise your rights under this warranty, you must return the equipment to the dealer from whom it was purchased together with proof of purchase and a clear description of the fault. If it’s not possible to return the equipment to your dealer, you should contact QSI Cameras. Equipment returned to QSI Cameras must be sent in appropriate packaging and at your expense (insurance is recommended), together with proof of purchase, a return address, and a clear description of the fault.

This does not affect your statutory rights