



## **Atik 16200 User Manual**

Version 1.1 – March 2016



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## **1. Introduction**

Congratulations on your purchase of an Atik 16200 Camera. This manual will help you get the most out of your Atik camera so please take the time to read it thoroughly and you'll soon be ready to discover new worlds.

Atik Cameras provide exceptional value for money, superior performance and unparalleled ease of use. They are the result of extensive research and development, each one having been designed and built with the requirements of the most demanding astroimager in mind. Your Atik camera incorporates state-of-the-art design and materials, and will be your trusted astrophotography companion for a long time to come.

### ***1.1 Further information***

For installation instructions and other useful information please refer to the Quickstart guide which was shipped with the camera. Information on the software is given in the ArtemisCapture guide, a PDF file of which is copied to your computer hard drive by the software installer. Further information, including a number of 'Getting Started' tutorial videos, is available on our website at <http://www.atik-cameras.com>.

## 2. Pack Contents

The pack contains:



- 1- Atik Cameras 16200 Camera
- 2- USB cable
- 3- Car lighter type power cable
- 4- CD-ROM with Software and manuals
- 5- Quick start guide

### 3. Getting to know your Camera

#### 3.1 Camera Parts



1. 2.1mm centre-positive 12V DC input
2. USB port
3. Purging port screw

**WARNING:** Please do not tamper with the purging port screw or valve as this may compromise your camera's cooling ability

#### 3.2 Sensor

The sensor inside your camera is a KAF-16200.

#### 3.3 Optical Window

The optical window used in front of the CCD is quartz with BBAR coatings on both sides ensuring that no reflection will appear in your image.

#### 3.4 Analog to Digital Converter (ADC)

The Analog to Digital Converter (ADC) is a 16bit ADC. This means that your Atik camera will allow you to record subtle levels of gray providing you with enhanced dynamic range when capturing an image.

### ***3.5 Shutter***

The 16200 is fitted with a mechanical shutter but, as is inevitable with shuttered cameras, this imposes some constraints on the minimum advisable exposure length owing to the time it takes for the shutter to open and close. A minimum exposure time of at least 200ms is recommended in order to minimize the effects of vignetting.

### ***3.6 Power Consumption***

Your Atik camera was electrically and electronically designed in order to have low power consumption so your autonomy is enhanced one step further. Versatility is a very important feature since the (centre-positive) DC input used by Atik cameras can be plugged into almost any suitable supply. We recommend using a minimum 12V/3A supply to power your Atik 16200 camera.

**WARNING:** If you have purchased the optional mains power adaptor, please note that it is for indoor or observatory use only. There is a risk of electric shock if the adaptor is used in damp environments or outside. If in doubt, do not use the adaptor and consult a trained electrician.

### ***3.7 USB Port***

The Atik 16200 uses a USB 2.0 high-speed interface, allowing for a full-frame download in approximately 18 seconds. A higher speed “preview” mode is also available, providing roughly twice the speed.

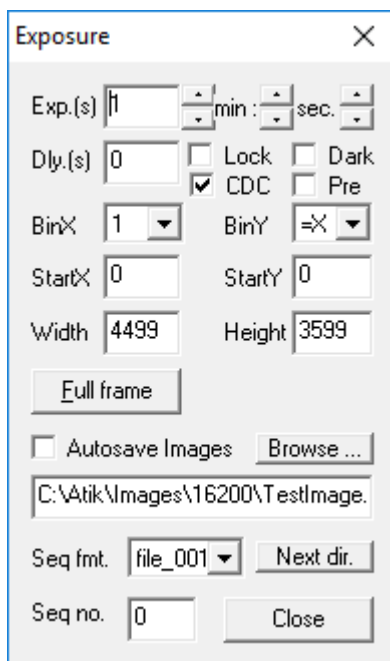
### ***3.8 Cooling***

Atik cameras are thermally stabilized in a way that your CCD will output the best result that it can deliver. This information often appears with the indication  $\Delta T = -x$  where  $x$  is the cooling capacity. This means that the CCD’s temperature will drop approximately  $x^\circ$  C below outside temperature. This is a thermoelectric process and therefore in order to obtain the best results you should wait 2 to 5 minutes until thermal stabilization is achieved. This fact also depends on the outside temperature so, higher environment temperatures will demand more time for the CCD to stabilize.

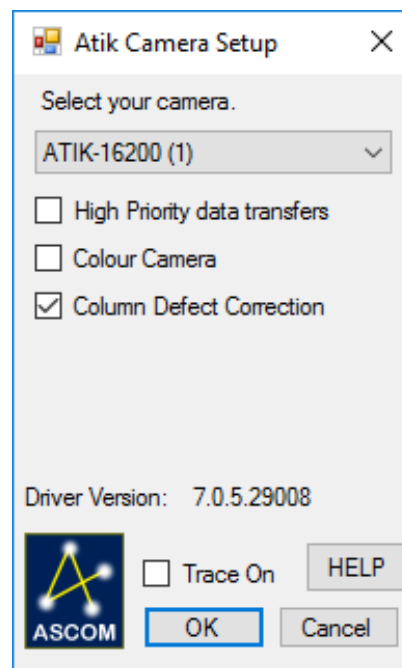
### 3.9 Column Correction

The ON Semiconductor KAF16200 is a large and sensitive CCD with a high full well depth. However, like many ON Semiconductor sensors, it can have a number of column defects. These are most commonly one of two types. Bright columns are typically partial columns where there are one or more saturated pixels at the top, and the remaining pixels have slightly higher values than their neighbouring pixels. Dark columns have pixel values at the bias level (~250) regardless of the illumination. Both can be processed using dithering or defect mapping techniques.

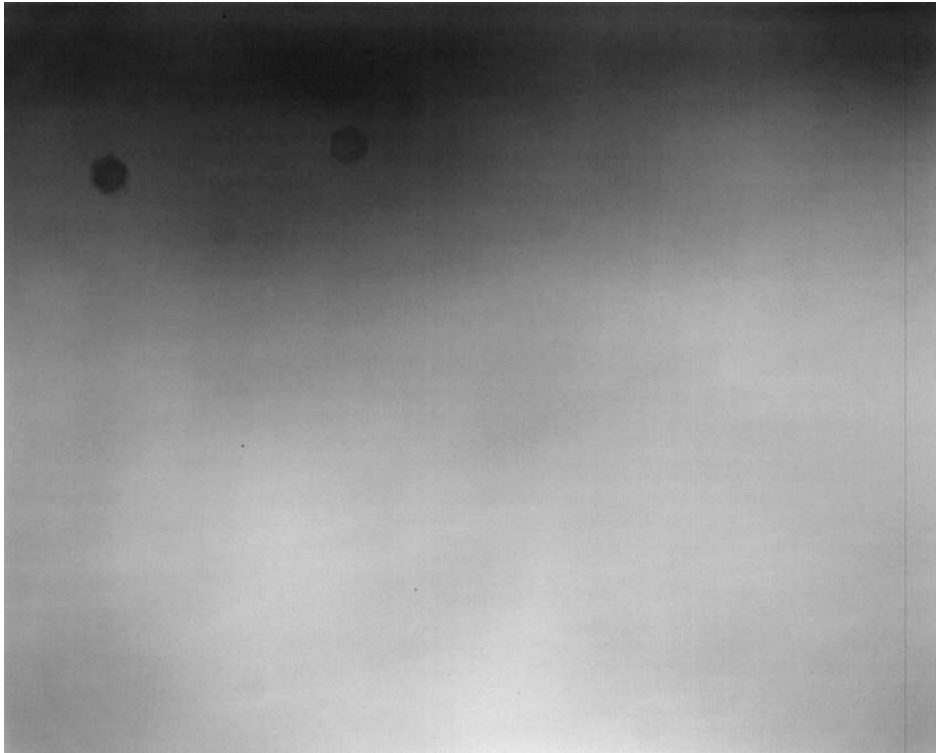
Alternatively, the column can be repaired in software. By default, only the dark columns are recorded during camera production. To repair these in Artemis Capture, tick CDC check box in the exposure dialogue. For software using the ASCOM driver, the setting is in the camera setup dialogue.



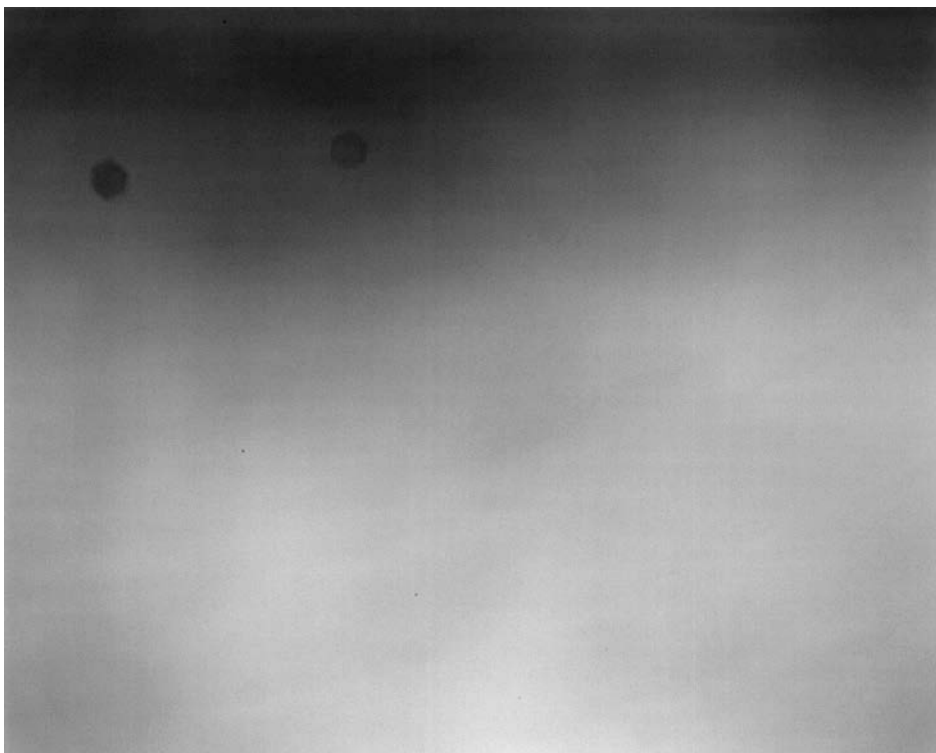
*CDC checkbox in Exposure dialogue of Artemis Capture*



*Column Defect Correction option in ASCOM Atik Camera Setup*



*Flat field from 16200 showing column defect before correction*



*Flat field from 16200 after column defect correction*

To add or subtract columns marked for repair, you can use the 16200 column repair tool included with our core software.



#### 4. Technical Information

	383L+
Image sensor	KAF-16200
Resolution	4499 x 3599
Pixel size (um)	6 x 6
ADC	16 bit
Readout noise (Typ.)	9e
Cooling Delta	Max. -50, Typ. -45
Regulated cooler	Yes
Water assist	No
Maximum exposure	Unlimited
Minimum exposure	0,2s
Maximum Frame Rate	N/A
PC Interface	USB2
Power requirements	12VDC, 2.5A
Backfocus distance	19.5mm ±0.5
Thread on front	M54x0,75
Weight	1.3 Kg
Mono or OSC	Either

## 5. 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:

Perseu, SA  
R. Dr. Agostinho Neto, 1D  
2690-576 Sta 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.

### 5.1 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.





## 6. Servicing and Repairs

Repairs, servicing and upgrades are available through your local dealer or by emailing [support@atik-cameras.com](mailto:support@atik-cameras.com)

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

## 7. 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 Atik Cameras will repair or replace the equipment as 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 Atik 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 Atik 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 Atik Cameras. Equipment returned to Atik 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.