

# Electronic Filter Wheel 2 - User's manual

Thank you for purchasing the Atik Electronic Filter wheel 2 (EFW2) with USB. With it, you will be able to easily change filters without touching the telescope. This is specially important when imaging, as it often happens that, when using manual wheels, autoguider tend to lose their guide star, due to shaking and/or backlash. With the Atik EFW2, you can change filters without disturbing autoguiding. Additionally, and when using Atik Capture software or the Ascom driver, filter changing can be fully automatic, allowing for unattended imaging sessions. Optional filter disks are available in different configurations, from 1.25" to 50.8mm, and can be easily interchangeable by the user. Also, the optional Off-axis Guider module can be directly attached to the wheel itself.

## Knowing your wheel

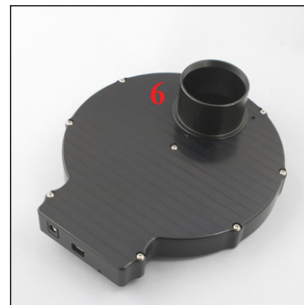
The EFW2 was designed to be easy to use. Adding filters is very simple as well as changing the internal disks. Additionally, you can rotate the camera to the desired position without the need for extra adapters that add to the back focus distance. The following pictures provide an overview of the EFW2 components:



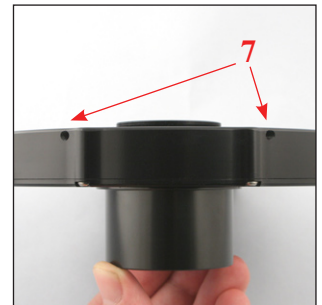
1- Camera adapter; 2- Motor



3- Power input; 4- USB socket;  
5- Motor tension adjustment

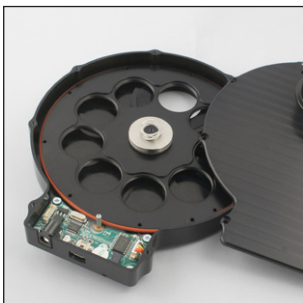


6- 2" adapter

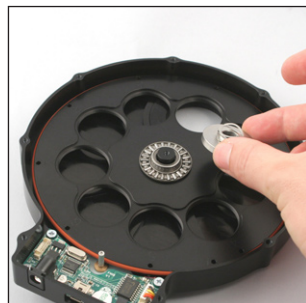


7- Camera adapter locking screws.

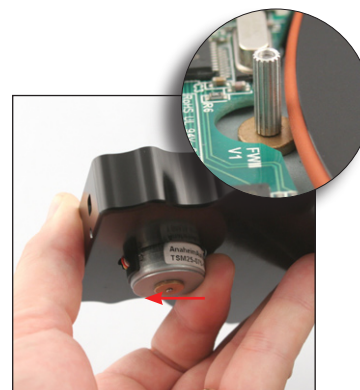
## Loading filters and changing disks



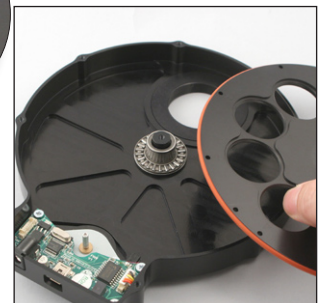
Unscrew the screws and take the cover off. Install filters in the numbered slots.



To remove the disk, take the spring, metal bushing and bearing off.



Push the motor in the direction of the USB socket. Note that the shaft will detach from the rubber.



Take the disk off while pushing the motor. To install the new disk, repeat the process in reverse. *Make sure the cover is put back in place in an up-down motion, to avoid bending the central spring.*

## Attaching your camera to the EFW2



Take the camera adapter off the EFW2 and attach it to your camera.



Insert the camera with the adapter into the EFW2 and screw in the two retaining grub screws.



If camera rotation is needed, slightly unscrew the two retaining screws, rotate and tighten again.

## Powering up

Power the wheel using the supplied 12V car lighter type plug. In case you want to use your own power cable or AC adapter, the socket is a 2.1mm type, and the wheel draws a maximum of 300mA. On power up, the wheel will turn twice. The first turn is to detect the disk type, and the second will position filter number 1 in the opening. At this point the wheel is ready to accept commands.

**⚠ WARNING:** Mains power adaptors are intended 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 an adaptor and consult a trained electrician.

## Software Installation

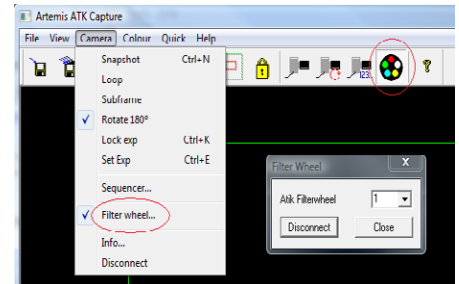
All the software required to control the filter wheel is included on the CD. Simply execute the SetupArtemisUniversal installer and follow the prompts. Please check the Atik website at <http://www.atik-cameras.com> for software updates. The software comprises the three components described below.

## ArtemisCapture

ArtemisCapture is a standalone program providing control of both a camera and a filter wheel. By default it will be installed in the ArtemisCCD program group folder.

The filter wheel control dialog can be launched either by selecting the "Filter wheel..." option in the "Camera" menu or by clicking on the filter wheel icon on the toolbar, as shown on the picture on the left.

For further instructions on using ArtemisCapture please refer to ArtemisCapture.pdf on the CD.

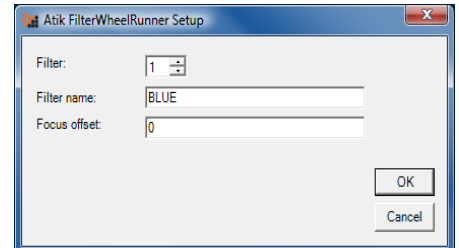
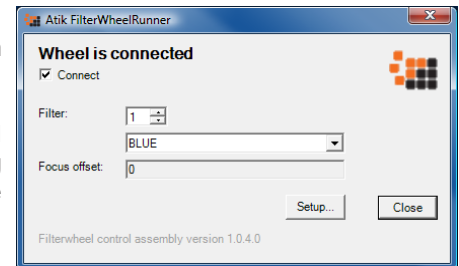


## FilterWheelRunner

This standalone program is installed alongside ArtemisCapture in the ArtemisCCD program group folder, and it provides a simple means of controlling the filter wheel.

Click on the "Connect" checkbox to connect/disconnect the filter wheel. The filter wheel can be moved incrementally using the spin control, or a named filter can be selected using the dropdown list. The filter names and focus offsets can be changed by clicking on the "Setup..." button, which launches the dialog shown on the left.

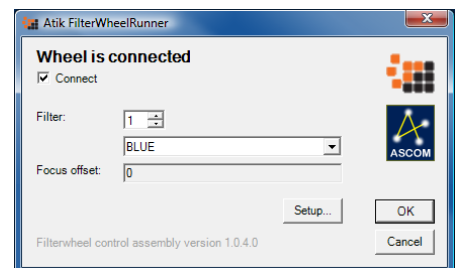
Select a filter position using the spin control at the top, and change the filter name and/or focus offset as appropriate. The filter names provide the means for imaging programs to allow filters to be selected by name and for filter names to be recorded in image headers automatically. Similarly the focus offsets provide the means for imaging programs to apply automatic focus adjustments when changing filters, in order to allow for the different optical thicknesses of the filters. The filter names and focus offsets are made available through the ASCOM interface (see below). If you are using an imaging program which does not support these capabilities, or if you do not know the optical thicknesses of your filters or just wish to keep things simple, these values can be left at zero.



## ASCOM

The ASCOM driver allows the filter wheel to be controlled using third-party imaging programs which support ASCOM, such as Astroart and MaxIm DL. In such programs, select the ASCOM filter wheel option, then select "Atik Filterwheel EFW2" in the ASCOM FilterWheel Chooser dialog. Once the filter wheel has been selected, clicking on the "Properties..." button in the Chooser dialog will launch an ASCOM-compliant version of the FilterWheelRunner program. Use of this program is the same as for the standalone version described above. **You will need ASCOM 5.5 to properly control the wheel.**

For further details of how to control a filter wheel using ASCOM, please refer to the instructions of the particular program you are using or visit the ASCOM website at <http://ascom-standards.org/>.



## 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.

**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.

