

Installation and Setup Instructions

FeatherTouch ASCOM Driver

Use the instructions in this manual to download, install, setup and test the FeatherTouch ASCOM Driver. We strongly urge you to read the entire manual before you begin installation.

This is a preliminary document, version 1.0. Please check www.starlightinstruments.com periodically for additional documentation and updates.

Software Installation

Download and install the most current ASCOM platform from the ASCOM download web site at:

<http://ascom-standards.org/downloads.html>

Download and install the most recent FeatherTouch ASCOM driver from our Downloads page:

<http://StarlightInstruments.com/downloads.htm>

We also strongly recommend the Automatic Focus Control program FocusMax, Available free from

<http://users.bsdwebsolutions.com/~larryweber/>

To fully use the advanced autofocus capabilities of FocusMax, you will need one the following popular Camera control programs:

MaxIm DL/CCD from [Diffraction Limited](#)

CCDSOFT from [Software Bisque](#)

If you do not wish to control autofocus through FocusMax for any reason, Maxim DL does provide native support for ASCOM.

Users of CCDSOFT will need to install and run FocusMax to act as bridge to the FeatherTouch ASCOM driver.

After the software installation(s) are completed, the next step is to perform the ASCOM driver Setup.

ASCOM Driver Setup

The purpose of the setup is to configure the driver software to your specific focuser installation. Performing the setup will configure the driver to the focuser travel limits, the step resolution and direction etc.,

You must re-run the Setup if:

The software is installed again on a different PC

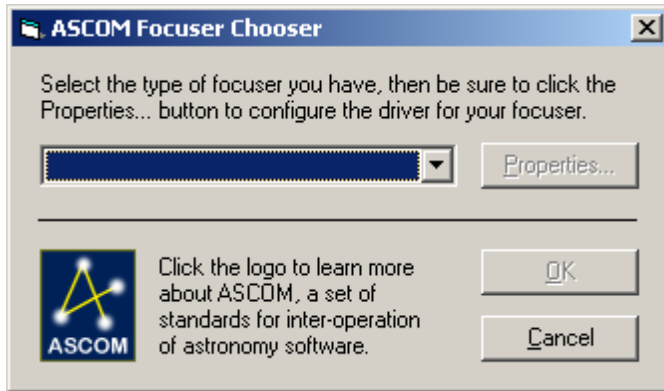
If the focuser is switched to a different FeatherTouch model

Before starting, ensure that the Mechanical assembly, Software Installation and Electrical hookups are completed.

Entering the driver setup

If you use FocusMax:

Startup FocusMax. If no focuser was previously selected, the ASCOM Focuser Chooser is displayed:



If this dialog is not displayed, click on the **System** tab in the main FocusMax window, then under **Focuser**, click the **Select** button

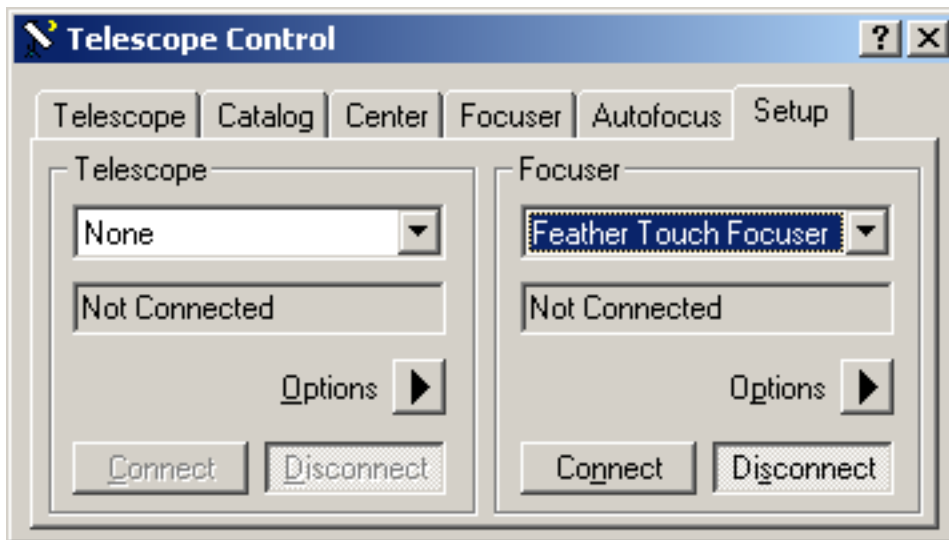
Select **Feather Touch Focuser** from the drop-down and click the **OK** button.

Invoke the setup dialog by clicking the **Setup** button under **Focuser** in the main FocusMax window (System Tab).

Proceed to **Feather Touch Setup** below (Page 4)

If you use Maxim DL

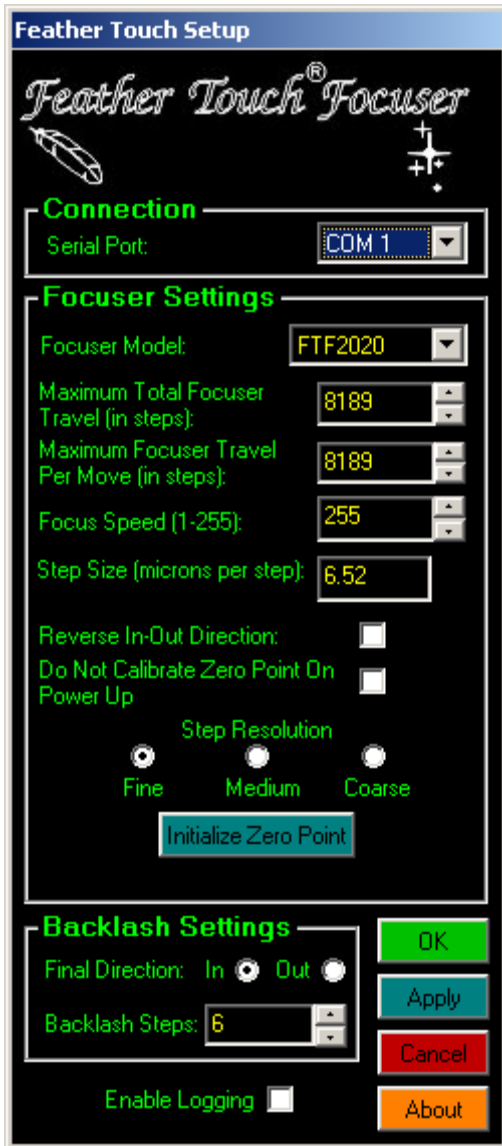
Click on the Telescope icon (or Select View | Telescope Control Window in the Menu bar). Select the Setup Tab, and pick **Feather Touch Focuser** from the drop down under **Focuser**



Click on Options, then **Setup**.

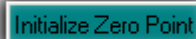
This should bring up the Feather Touch Setup Window.

Proceed to **Feather Touch Setup** below (Page 4)



Select the Focuser Model (FT2020 shown)

Click on Initialize Zero Point



The button may change to yellow while the driver searches for the COM port where the Focuser is plugged in:



Wait till the port is detected and the focuser starts moving **IN**. (If it moves **OUT** instead, see **NOTE 1** below).

Depending on the Step Resolution and focuser model, the focuser will continue to move **IN** (the button changes to **STOP** while it is moving) until the mechanical stop is reached, after which you may hear the motor working against friction indicated by a clicking noise.

Note that this will not cause any damage to the focuser. The procedure is used to let the driver determine the zero point. If you are sure that the focuser has in fact reached the end of its outward travel, click the **STOP** button to complete this step. Alternatively, you can wait till the focus motor stops by itself.

NOTE 1 : If the focuser starts moving **OUT** instead of **IN** during the initialization, check **Reverse In-Out Direction** and repeat the Initialize Zero point procedure.

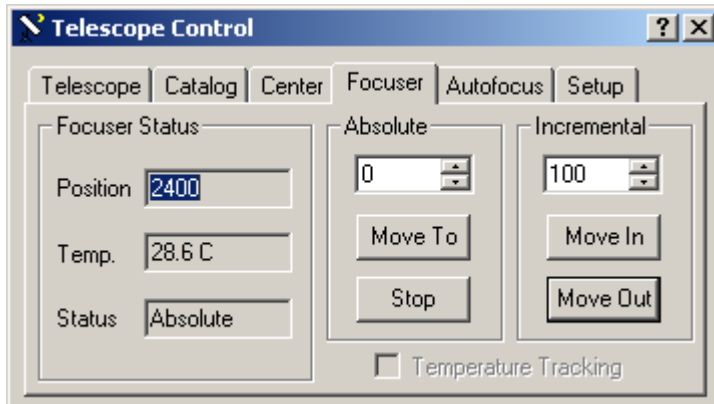
The innermost position of the focuser establishes the zero point. All subsequent positive movements of the focuser will move the focuser outward. When the focuser type is selected in the drop down, the total available travel and other parameters are set based on the model and selected resolution.

It is now possible to test the Focuser **IN/OUT** movement:

If you have performed the setup starting from Maxim DL:

In Telescope control, under the **Setup** tab – **Focuser** - click on **Connect**.

Click on the **Focuser** tab.



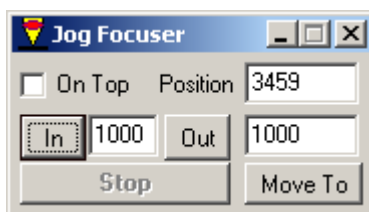
Enter a value, say 300 in the **Incremental** box, and click the **Move Out** button while watching the focuser.

After clicking the **Move Out** button a few times and confirming the focuser movement, try clicking the **Move In** button to verify that the focuser moves **IN**.

If you have performed the setup starting from FocusMax:

Click on the Jog button in the FocusMax main window.

The Jog Focuser Windows appears:



Enter a value, say 1000 next to the **Out** button, and click the **Out** button while watching the focuser.

After clicking the **Out** button a few times and confirming the focuser movement, try clicking the **In** button to verify that the focuser moves **IN**.

Additional Notes:

When you exit Setup by clicking OK, the driver saves the settings and restores them the next time you startup – You do not have to repeat the Setup procedure unless you change the focuser model, install the driver on a different PC, or change the Serial Port.

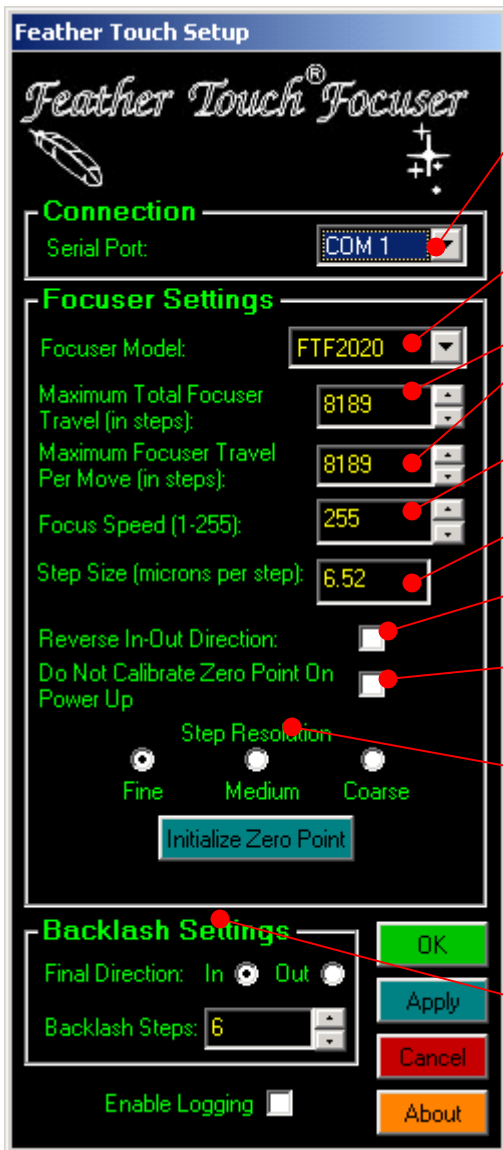
If you have already established a specific focuser position where you have achieved correct focus, say at position 3269, and you shut down the system and power down the focuser this position will be saved internally. When you next power up the focuser and startup the driver (FocusMax, Maxim DL), the focuser will advance all the way **IN** (and in fact step several steps beyond, depending upon where it started out, then step **OUT** to position 3269.

If you are sure that the relative mechanical position of the focuser will not be altered significantly between power cycles, you can check:



The driver will then skip the zero-in and set the step counter to the last value it held at the time the system was shutdown. This will reduce your setup time, and in most cases your point of best focus would not have shifted more than a few counts.

Refer to the figure below (Page 7) for an explanation of the various items on the Setup display.



Serial Port detected by driver

Focuser Model – If you choosing "Other" then the Travel Parameters must be set.

The first parameter represents the step count allowable for the total travel of the focuser – the second represents the single longest move

Generally left alone at 255 for max speed – If moving a heavy load, could minimize the effects of inertia by reducing this number.

Shows the distance traveled per step count, depending on Focuser type and Step Resolution (below)

Check this to reverse the direction of IN/OUT movement

When the focuser is powered down at the end of a session, on the next power up it will automatically re-zero by default and move **OUT** to the last position held at the previous shutdown. Checking this box will skip this action. The counter value, however, will be restored to the last held value.

Setting the Step Resolution to Fine allows the smallest movement of the focuser per step. While this gives a higher resolution in step counts, you may wish to try the Medium or coarse steps to achieve focus over a shorter range of step counts. For example, if you notice that a large number of steps are required to observe a perceptible change in focus, reduce the resolution to Medium or Coarse.

When moving heavy loads, the Backlash setting ensures that repeatability is maintained by ensuring that the motor will always work against the load in the final part of the move. The default settings will work in most situations.

This completes the Driver Setup and verification procedure.

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FocusMax is freeware, by Larry Weber and Steve Brady. www.focusmax.org

ASCOM refers to the ASCOM Standards Initiative – see details at <http://ascom-standards.org>

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