

INSTRUCTION MANUAL

Addendum to the Orion® SteadyStar™ Manual: Plug-In for MaxIm DL #53076, #53077, #53081

Overview

The SteadyStar Plug-In for Cyanogen's MaxIm DL allows the Orion SteadyStar to be operated from MaxIm DL. This plug-in works with any version of the SteadyStar software.

This plug-in can be used with any camera supported by MaxIm DL.

System Requirements

Operating System

Windows XP SP3, Windows Vista x32/x64 and Windows 7 x32/x64

Prerequisites

The standard Orion SteadyStar application should be installed before this plug-in. This ensures that all prerequisites are already installed and that the configuration directory already exists.

MaxIm DL

This plug-in requires MaxIm DL Pro or Pro Suite version 5.19 and later.



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Installation

Please run the provided setup file and follow the prompts (Figures 1-3).

Setup will determine your MaxIm directory. If for some reason this cannot be determined, please browse to the path, as seen in Figure 2.

Configuration

Camera Setup

The SteadyStar plug-in uses the new MaxIm DL AO Adaptor. On the guide camera setup, select “AO Adaptor” on the drop list (Figure 4).

Then click the “Advanced ...” button and the dialog in Figure 5 will be shown.

Select your guide camera in the “Autoguider Model” drop list. Then select “Orion SteadyStar” for “AO Model”.

Guide Relays

There are three ways to command the mount from within the plug-in.

1. Use the SteadyStar guide port
2. Use the Guide camera guide port
3. Use the MaxIm Autoguider Output

To use the SteadyStar Guide port, the plugin determines when a mount bump is required. It sends the bump

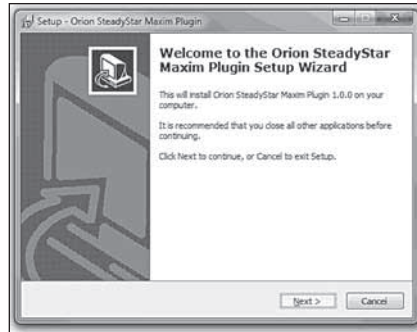


Figure 1.

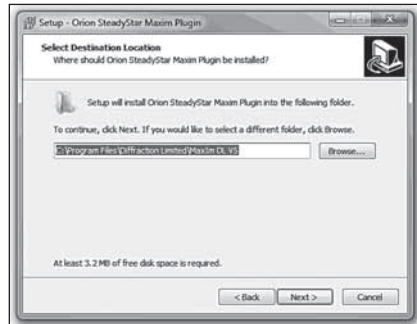


Figure 2.

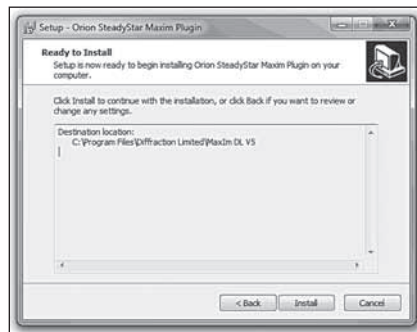


Figure 3.

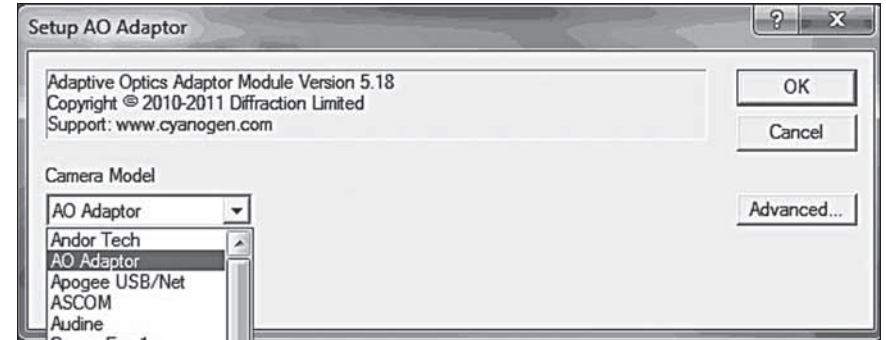


Figure 4.

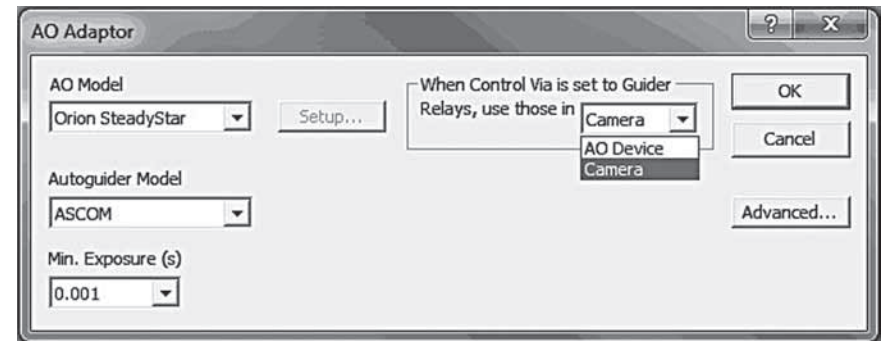


Figure 5.

notification back to MaxIm. Depending on the Autoguider Output settings, MaxIm can issue the bump in many different ways. For example, it can use the telescope interface or Shoestring adapter. Or it can redirect the bump to the “Guider relays”. But the guider is the AO Adaptor. So to distinguish between the guide camera guide port and the SteadyStar guide port, go to the AO Adaptor setup dialog and select “AO Device” or “camera” on the “When Control Via is set to Guider Relays, use those in...” (Figure 6).

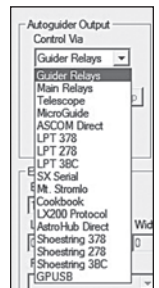


Figure 6.

Operation

Locate Tab

After a successful connection, the plug in dialog is shown. On the right, the exposure time and binning can be changed. Using the “Locate” mode, a suitable star can be chosen. The “Continuous” checkbox maintains an exposure loop during location, useful for focusing or framing.

The plug in will load the latest calibrations, if they exist. The AO calibration only needs to be done once or when the guide camera is rotated in respect to the AO.

The mount calibration has to be redone for different areas of the sky, especially after a meridian flip.

Figure 7 shows a mount calibration in progress. As the window is small, the plug in auto zooms to the measured calibration points. This is a good way to check if the mount is receiving the impulses and the output should be similar to the one shown (perpendicular axis).

The “More >>” button shows a log list. As this plug in accepts automation commands from MaxIm, normal message boxes with information could not be shown, so all relevant information is displayed here, including calibration output result.

Track Tab

The Track tab (Figure 8) is where guiding takes place. The exposure time can be set at any moment, even during guiding. The aggressiveness works as the normal SteadyStar software aggressiveness control. The “More >>” button displays a mini graph to monitor guiding and bumps.

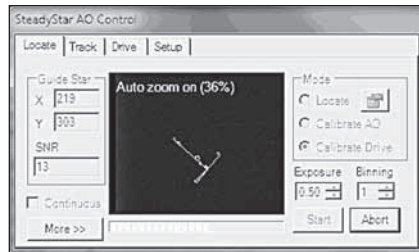


Figure 7.

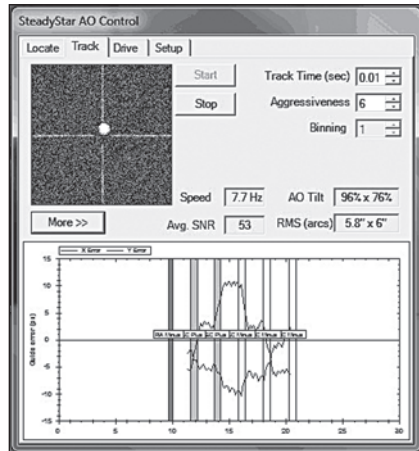


Figure 8.

Drive Tab

The Drive tab (Figure 9) has the settings for the mount calibration, as in the normal SteadyStar software.

Setup Tab

The Setup tab (Figure 10) allows several configurations of AO operation.

The Exercise tool allows for a test of SteadyStar motor condition. The glass tilts between all 4 extreme positions, stopping for one second at each position and allows a visual inspection on the motor state.

The dithering is activated each time a new main camera exposure is complete.

The Track Box size is by default 140x140 pixels. This is suitable for long focal length telescopes, where a strong wind gust might shift the guide star for several pixels. The SteadyStar algorithm is quite fast, so reducing box size will only reduce camera download time.

Automation

The SteadyStar MaxIm plug-in implements the MaxIm automation script interface. This allows a complete control without user interface handling.

Rotator

This plug-in supports SteadyStar with Rotator. The AO plug-in must be connected first. Then the rotator can be connected through the ASCOM interface, even on a different program. The SteadyStar Rotator ASCOM driver was updated to improve compatibility with this plug-in. Please uninstall the previous version of the ASCOM driver before installing the new version.

The new version number is 1.2.0 and it is provided with the installation package of the plug-in.

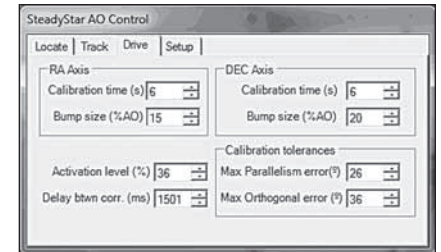


Figure 9.



Figure 10.

One-Year Limited Warranty

This Orion SteadyStar Adaptive Optics Guider is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076. If the product is not registered, proof of purchase (such as a copy of the original invoice) is required.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mis-handled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, 89 Hangar Way, Watsonville, CA 95076; (800) 676-1343.



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