

# PRESS RELEASE

NEAF 2011 – April 16, 2011

## Optec Introduces the **FastFOCUS** SMFS (Secondary Mirror Focusing System)

Optec has developed a new digital focuser for the Fastar<sup>®</sup> compatible Celestron Edge HD Schmidt Cassegrain Telescopes. Unlike classical SCT's, the Edge HD telescopes have a fixed design focal length with approximately 147 mm of optical back-focus (measured from the telescope backplate) limiting the overall range of effective focus. Focus is typically achieved using the coarse focus knob at the rear of the telescope. With this limited back-focus, using a Crayford style precision focuser such as the Optec TCF-S requires expending precious back-focus space needed for cameras, filter wheels, off-axis guiders, and adaptive optics units. There simply is not enough space for the entire imaging train. Aside from the back-focus issue, Celestron mirrors are notorious for undesirable mirror shift. The new **FastFOCUS** system allows locking the primary mirror and having a rigid, fixed imaging train to absolutely minimize flexure.

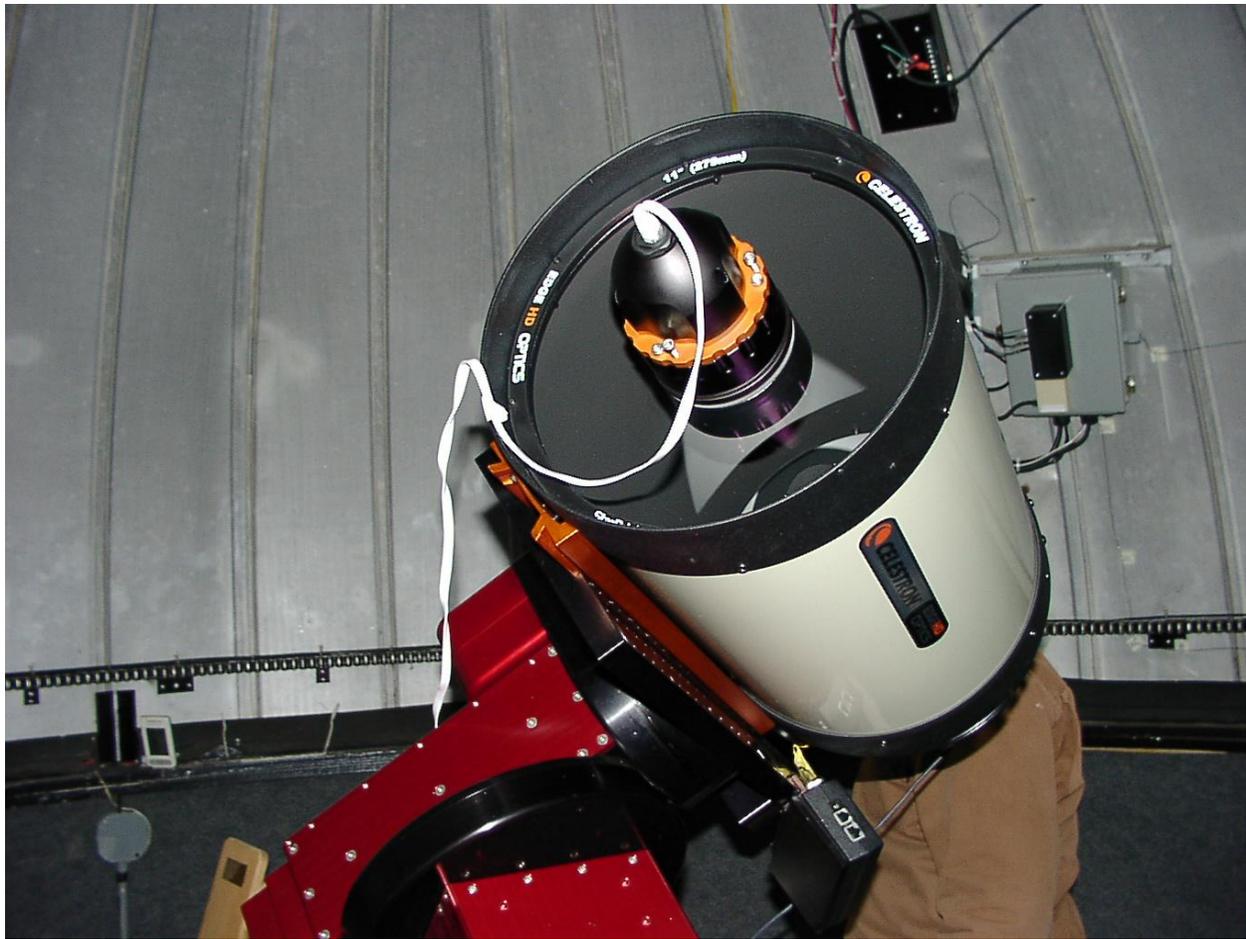
Using the principle applied by most professional 2-mirror and catadioptric telescopes, the new **FastFOCUS** system allows the C1100 Edge HD owner to easily re-mount the secondary mirror and perform focus by slightly moving the secondary mirror along the optical axis. Using a trio of push-pull collimation bolts, manual collimation is actually easier than with the original three spring tensioning adjustment screws. Dual linear bearings in the motor/mirror housing ensure a rigid secondary system that will not move in any direction other than along the optical axis. With an overall travel of 15mm, the prototype **FastFOCUS** gear reduction provides 1.2 micron steps. Because of the amplification provided by the f/2 primary - f/5 secondary, only a small portion of the overall travel is required. To increase resolution, the production models will use a 25:1 gearhead stepper motor for an incredible 300nm step resolution. During testing, the 1.2 micron steps of the original prototype was shown to operate suitably with FocusMax<sup>®</sup> auto-focusing software.

Initially available for the C1100 HD, it is expected that **FastFOCUS** packages designed for the C1400 Fastar systems will follow along with Meade telescopes offering removable secondary mirrors. OEM telescope manufacturers are encouraged to inquire with Optec for integration of this major improvement in telescope focusing into their designs.

Focus Control is provided with Optec's new **FocusLynx** control system. As with the most recent Optec TCF-S focus controllers, backlash compensation is designed into the **FocusLynx** controller. Also like the TCF-S, the new **FastFOCUS** provides full temperature compensation for the entire scope. **FocusLynx** software includes ASCOM control of two focusers by implementing the ASCOM local server model. Impedance matched stepper control circuitry for all Optec focusers, Feathertouch focusers, and many custom stepper motor focus systems is designed in from the start. Both unipolar and bipolar stepper motors can usually be accommodated and controlled through **FocusLynx**.

Unique to **FocusLynx** is the way in which the controller communicates with the observatory control PC. Communication connectivity can be through serial, USB, Ethernet, and wireless 802.11 protocols. A wireless iPhone and Android application was demonstrated at the NEAF 2011 show with an easy-to-use and fully functional focus application available for most new mobile devices. Introductory pricing of the complete **FastFOCUS** and **FocusLynx** system will be \$1,495 and available late summer 2011.

Contact Optec at [sales@optecinc.com](mailto:sales@optecinc.com) for additional information.



Prototype **FastFOCUS** system shown on Celestron C1100 Edge HD telescope.