

LUNA 0.4B GUIDER/IMAGER

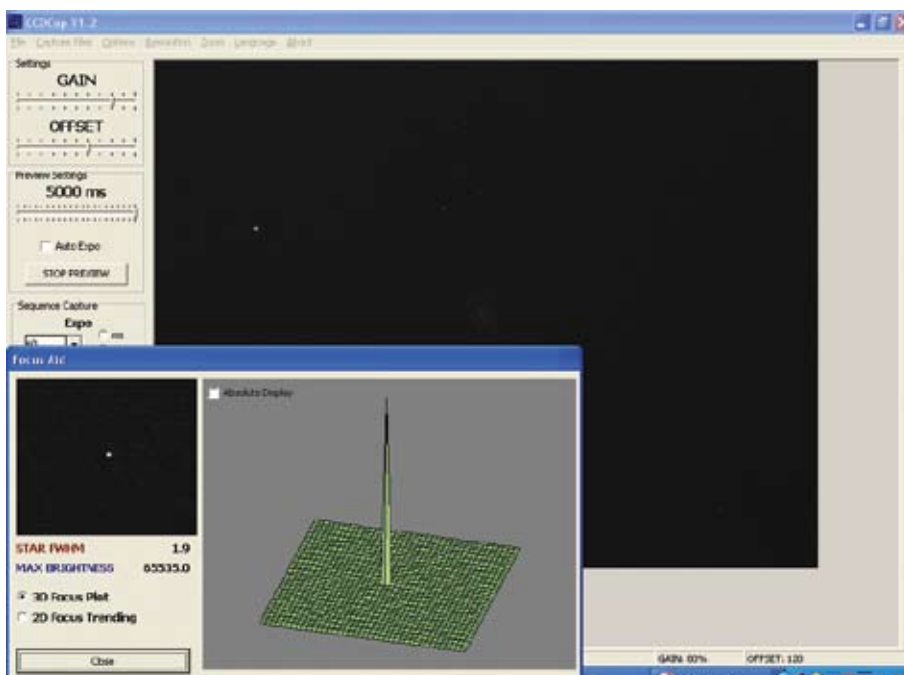


SPECIFICATIONS:

Size: 60x60x45mm
Weight: 300gms
CCD Sensor: ICX259AL Exview Mono
Interline CCD
Pixel Size: 6.5 x 6.25 microns
Chip Size: 6.0 x 4.96mm
Effective Pixels: 752x588
Exposure Range: 1/1000sec to 10000sec.
AD: 16 bit/pixel
Gain Control 0-13dB
Readout Noise: 6-7 e-
Anti Blooming gate
System Gain: From 0.5 e-/ADU to 0.1e-/ADU
TEC Cooling: To -30C below ambient
Built in Guide Port (6 pin RJ12)
Binning: 1x1, 2x2
USB2.0 High Speed

Telescope is not included.

Focussing with the Luna 0.4B and CCDCap software is assisted by intensity plots of stars.



just another low cost CCD camera.

We were wrong!

The Luna 0.4B is a 752 x 582 pixel array monochrome camera utilising a sensitive Sony ICX259AL Exview CCD chip. The camera not only boasts TEC cooling to approximately 30 degrees below the ambient temperature, but also includes an autoguider output, compatible with ST4 type guide ports.

With the availability of sensitive CCD chips at lower cost, more and more cameras intended for astronomical use are

coming to the market and the Luna 0.4B guider/imaging camera from Lunatico Astronomia S.L. at first appeared to be

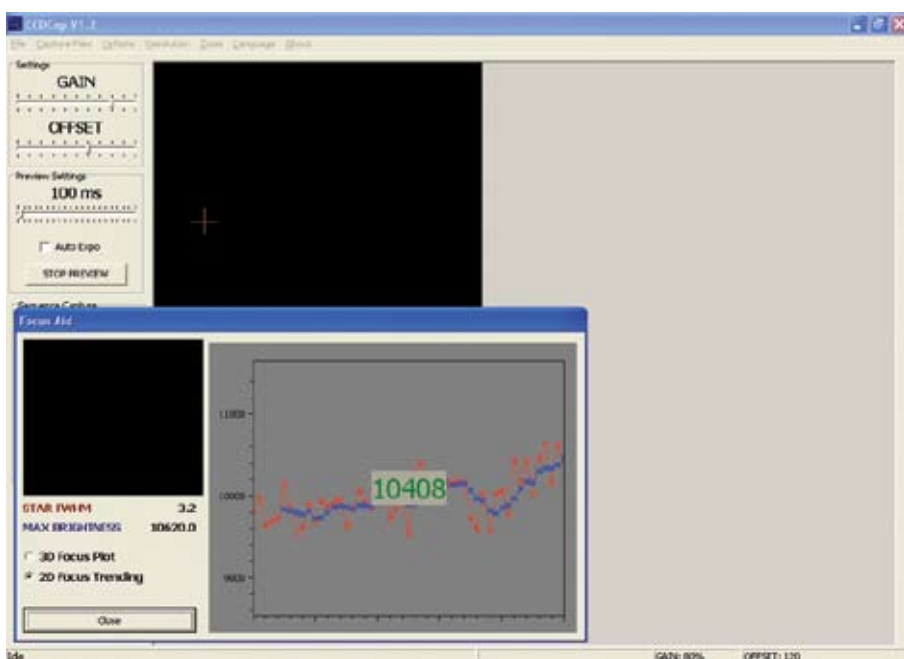
IN THE BOX

The camera is very nicely packaged in a rigid, sturdy black hard plastic case with carrying handle which can be used for transporting the camera. There are three cables supplied; a 300cm USB cable, which is long enough to reach from the telescope to the PC, a power cable with a cigar lighter type socket for powering the cooler and an RJ12 'ST4' compatible autoguider cable. Inside the case is also a CD ROM containing the operating software, software plugins and operating manual (in PDF format).

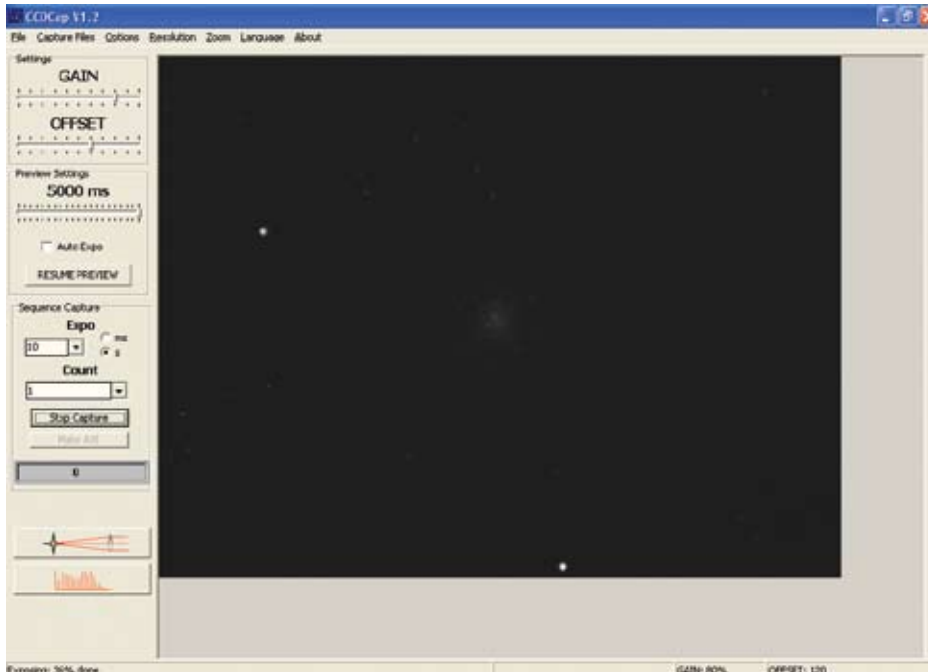
The camera has a standard 1.25 inch nosepiece adaptor and is much lighter than it looks, weighing just 300gms.

A word of caution; the camera will only work with USB2.0 and is

A second method of focussing is to use the maximum brightness values in CCDCap.



CCDCap capture software is simplicity itself and was very intuitive to use.



heat away from the electronics, and during testing, no obtrusive vibration was noticed.

FOCUSSING

Focussing is a breeze with the CCDCap software and two modes are available; a '3D Focus Plot' which uses the FWHM measurement of a star to provide an intensity profile and a '2D Focus Trending' method which uses the maximum ADU of a star. Both of these focussing methods worked extremely well, resulting in excellent focus.

best installed on a PC running Windows XP.

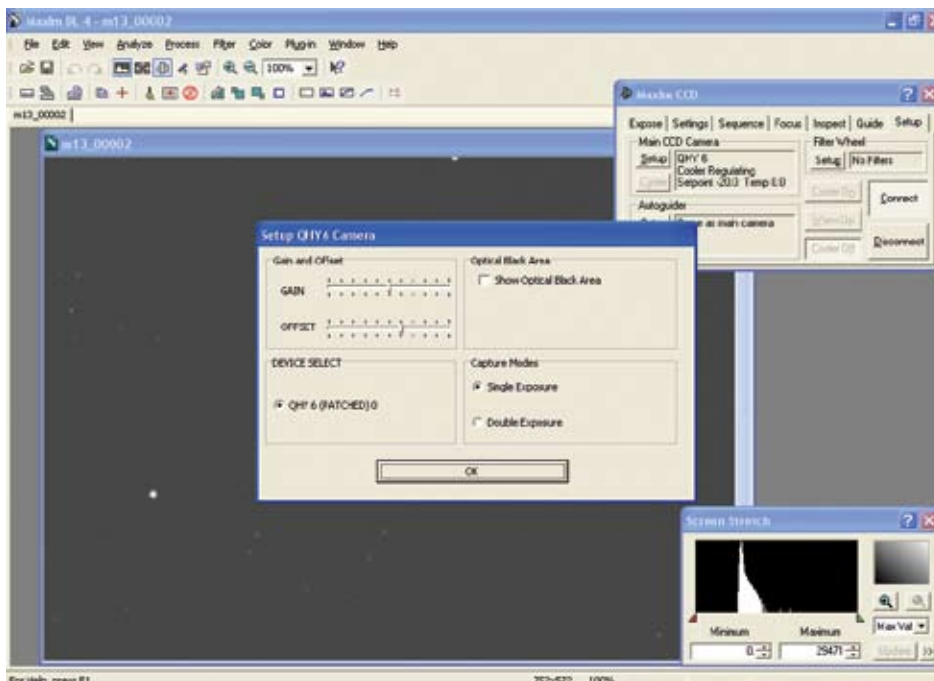
The camera capture software installation was straightforward and the camera is live as soon as it is plugged in, being powered from the PC through the USB cable. This does not power the cooler though,

which draws up to 2 amps, and is powered from a separate 12 volt DC power source. The camera will operate with or without the cooler.

There is an efficient and (virtually) silent fan on the back of the camera which helps to draw unwanted

CAPTURE SOFTWARE

The gain and offset of the camera was set to the recommended values by using a simple on screen slider and never adjusted after that point.



Connecting the camera for use with MaximDL was easy with the supplied drivers.

The file format for saving files is the FITS format for still images and AVI for continuous imaging, although the image currently displayed can be saved as a simple BITMAP file.

The brightness of the image can be adjusted with an onscreen histogram adjustment, and these settings are not recorded in the final FITS file, they are only for visual inspection of the image on screen.

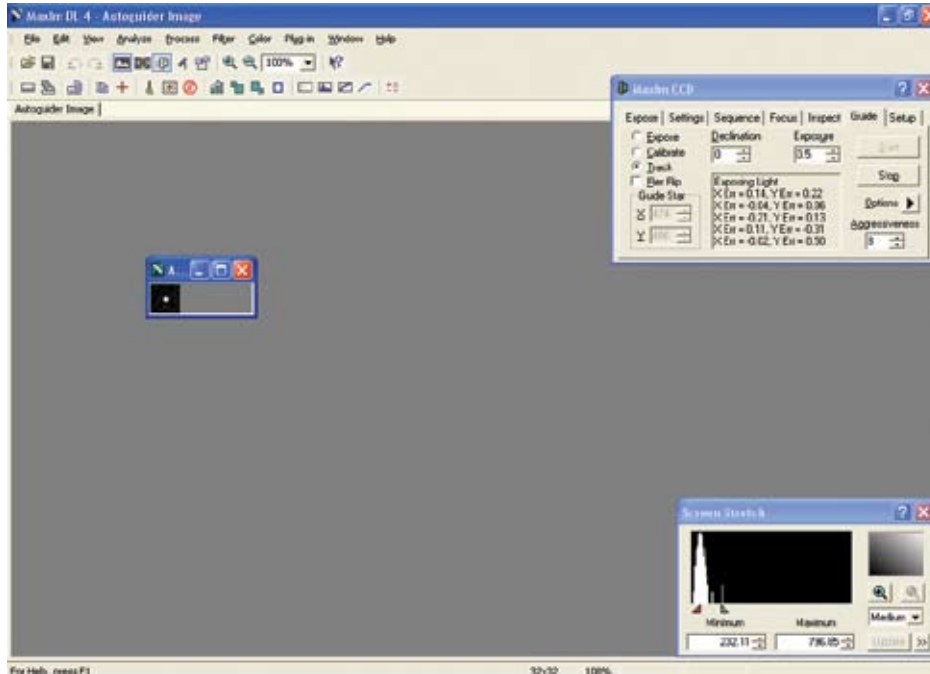
And that sums up the capture software; extraordinarily simple in layout and use, we

were 'up and running' in just a few minutes.

Once focussed, the 'Count' or number of exposures is set into the software along with the exposure duration and that's it; the camera will faithfully record images until the number required has been reached or the sequence is interrupted.

The CD ROM also has plugins for MaximDL and AstroArt, and these can be used for either imaging or autoguiding.

Although the manual



The Luna 0.4B is an excellent autoguider. The additional cooling allowed for guiding on fainter stars.

An entry level camera you'll keep forever



www.lunaticoastronomy.com



INTRODUCTORY PRICE
£265
VAT INCLUDED

Camera shown with optional IR filter

Offer good while goods last

For more details and options, please visit www.lunaticoastronomy.com

Luna 0.4 B

Featuring a Sony ICX259AL CCD sensor, TEC cooling, high sensitivity, low noise, fast downloads... The Luna 0.4 B camera is perfect for:

- Galaxy imaging
- Autoguiding (guide port included)
- Narrow band shooting

Main features

Sensor ICX259AL Exview CCD Mono
752*582 pixels, pixel size 6.5um*6.25um
Exposure Range 1/1000sec to 10000sec
16 bit AD, 7 e- typical readout noise
USB 2.0 High speed (<1 sec. full frame download)
TEC cooling - approx 30°C below ambient
Live video mode (10fps)
Anti Fog Cold Finger + Room for silicon gel
2*2 Binning

Tracking just got easier...

Perfect for DSLRs and small refractors

Mount on a standard photo tripod

Setup in seconds

2 hours high accuracy tracking

Weighs less than 1.3 kg

10 kg instrument capacity

astrotrac.com



For information please contact:
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states that the cooler is not necessarily required for guiding (which is true), we found that the lower noise levels with the cooler on allowed us to guide on slightly fainter stars, and there was never a problem finding a suitable guide star with exposures up to four seconds.

LOW NOISE

Images produced with the camera in the uncooled configuration exhibited low noise characteristics, which were even less apparent with the TEC cooler plugged in. Images could be used straight from the camera with no dark



Above: An image of M13 with the Luna 0.4B and a 60mm f/6 refractor. 40 x 120 second exposures combined.

Below: An image of part of NGC7000, the North America Nebula with the Luna 0.4B and a 6nm Ha filter. 130mm f/6 refractor - 45 x 120 seconds.



frames, although our personal preference is to always use them.

The camera performed well with an Ha filter fitted into the nosepiece (which is threaded to accept standard 1.25 inch filters) and we have no doubt that excellent results will be the reward for anyone wishing to attach the camera to a filter wheel and capture tri colour images.

For such a simple package, there is also the availability to image with the pixels binned 2 x 2, and also a function to enable capture of an AVI file at 5 frames per second.

KEEPING IT SIMPLE

Lunatico have not tried to make the camera or software too complicated by adding any image processing functionality other than histogram adjustment, and by keeping it simple made it a joy to use.

This camera will suit those wishing to start in astrophotography as well those just wanting a sensitive guide camera with a large field of view. Add the TEC cooling factor

in and you also have a cooled CCD camera suitable for the intermediate imager.

We could find no fault at all with the camera or the software. It really was exceptionally easy to use which made it all the more fun.

With a price tag of around €395/£265, it represents extremely good value.

The Luna 0.4B is available from:
Lunatico Astronomia S.L.
Spain
www.lunatico.es

Part of the pelican Nebula with the same setup used for NGC7000. 45 x 120 seconds combined.



Below: We connected the camera to an LX200R 8 inch f/10 telescope for this larger image scale of M57. 30 x 120 seconds combined.

Below: The camera has three ports; USB, Cooler Power and Autoguider although the camera will work just fine with just the USB connection..

