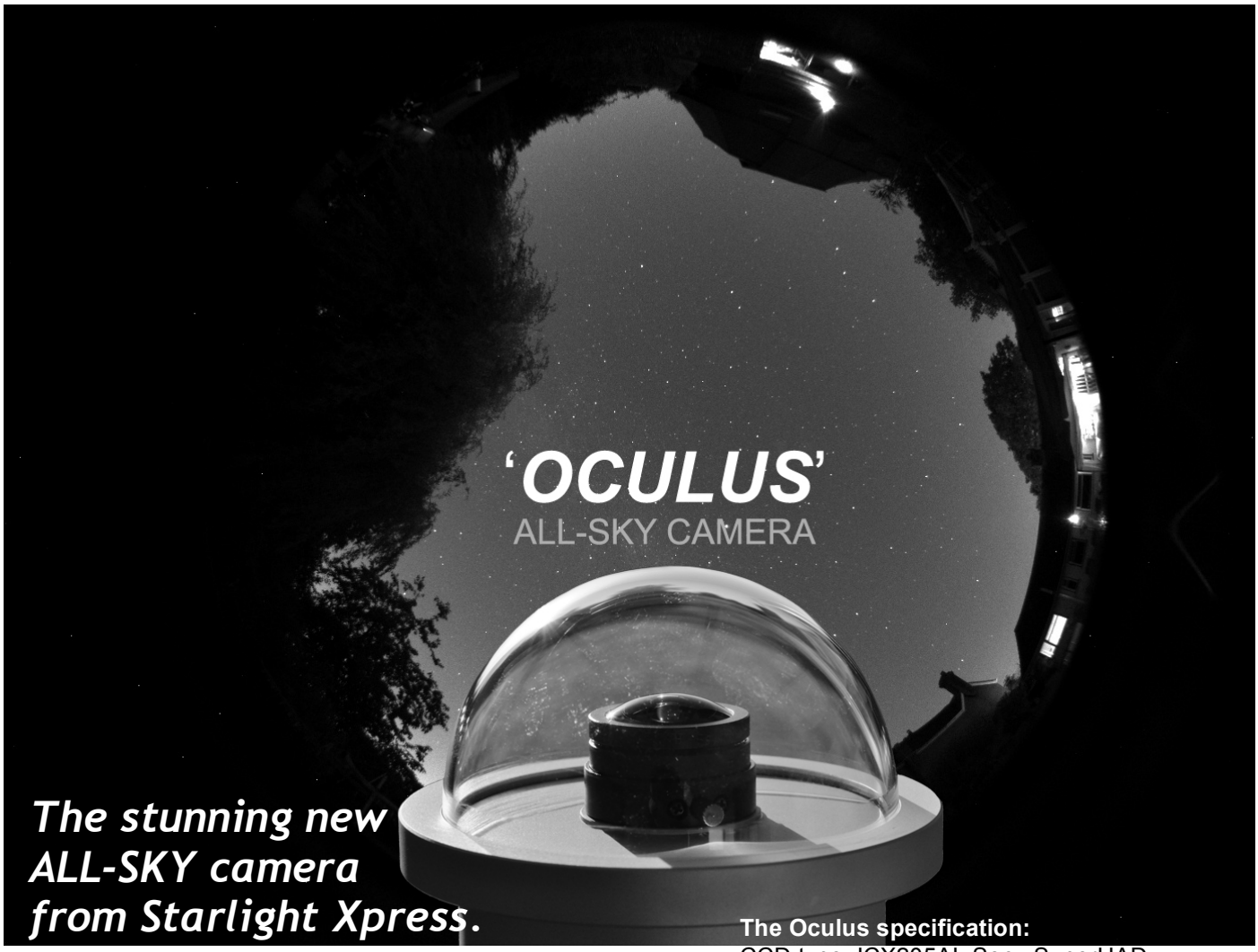
# Oculus

1/2"" Format All-Sky CCD Camera

## 1.45 Million Pixels




# *The stunning new ALL-SKY camera from Starlight Xpress.*

Oculus is the latest introduction to the innovative portfolio of Starlight Xpress products.

The Oculus uses a SuperHAD CCD from Sony which has all of the wonderful benefits of an interline Sony CCD, such as incredibly low thermal noise and very fast electronic shutter (no need for mechanical shutters). With exceedingly low noise electronics and a fast f/2 180 degree fisheye lens, capturing the night sky is an absolute dream.

The Oculus is USB powered and driven but does require a 12dc input to drive the built in anti-dew heaters. The software supplied allows you to capture a series of exposures and add them together to create a dramatic avi movie of the night sky.

This is the perfect camera for imaging meteor showers, viewing the weather conditions at a remote observatory and imaging the night sky in a spectacular way.

Key Points:

- Extremely low noise (thermal and readout)
- Compact and light-weight
- Remarkably Low Power consumption
- Outstanding build quality

**The Oculus specification:**

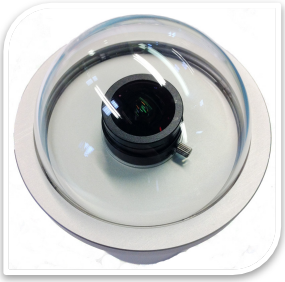
- CCD type: ICX205AL Sony SuperHAD interline CCD with low dark current and vertical anti-blooming.
- CCD Full resolution pixel data: Pixel size: 4.65uM x 4.65uM, Image format: 1392 x 1040 pixels
- CCD quality: Grade 1
- Spectral Response: QE max at 520nM (~50%), 30% at 420nM and 670nM.
- Readout Noise: RMS - typically only 7 electrons.
- Full-well capacity: Greater than 15,000 e- (unbinned)
- Anti-blooming: Overload margin greater than 1000x.
- Dark current: Less than 0.1 electrons/second @ + 10C ambient.
- Data format: 16 bits.
- Lens details: 1.55mm FL F/2 180 degree 'Fish Eye'
- Computer Interface: Built-in USB 2.0
- Image download time: Typically 0.6 seconds at full resolution using USB 2.0.
- Power requirements: Camera is USB powered, dew heater requires 12v at 1 amp max.
- Input connection: 'Mini B' USB socket for USB2.0 and a 2.1mm jack for +12v heater supply.
- Cooling system: Ambient air cooling.
- Overall size: 150mm tall x 95mm diameter, including the polycarbonate weather dome.


## Efficient Lens System

The lens used in the Oculus is a high quality, multicoated fisheye lens with a 180 degree field of view. With a very low F/2 focal ratio, the light gathering capacity of this small lens is incredibly good and imaging the night sky is very simple.

## Weatherproofing

Permanently mounting electronic equipment outside in all weathers is always a concern. With the Oculus, great care has been taken during the design process to incredibly reduce weather affects on the camera. Four drain holes have been machined into the outer flange at the base of the dome allowing water to simply run off the dome and down the outside of the housing. The housing has a beautiful bead blasted, clear anodised finished which is hardwearing and looks stunning.



## Dome Construction

The dome is a quality, highly polished polycarbonate 3" dome with the lens positioned at the optimum point in the dome to ensure there is no distortion in the star field.

## Mounting & Rear Panel

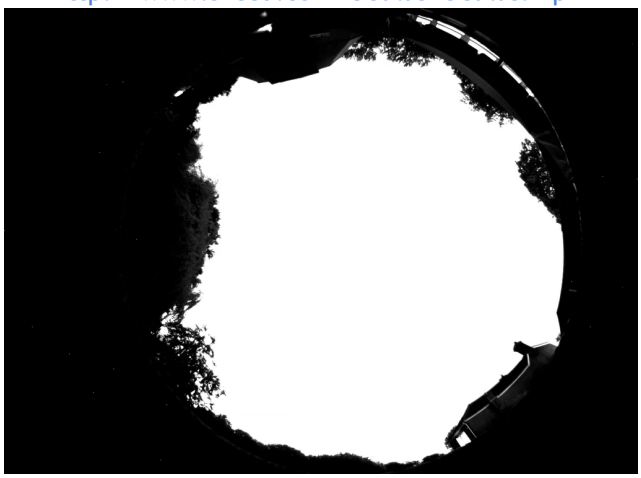
The Oculus comes with a right angled aluminum tripod bracket to secure it to the side of your dome or building. This has the standard ¼" tripod thread on the base but can also be easily drilled and adapted for other mounting options.

The USB cable comes fitted to the Oculus and can be extended using powered USB2.0 hubs. The Oculus also has a 2.1mm power socked in the rear to allow the supplied power supply to connect and power the heaters in the Oculus to ensure the dome does not dew up during

Copy and paste the link below into your Internet Browser to view the Oculus Video.

(Requires internet connection)

http://www.sxccd.com/Oculus/Oculus.mp4



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*Leaders through innovation*

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