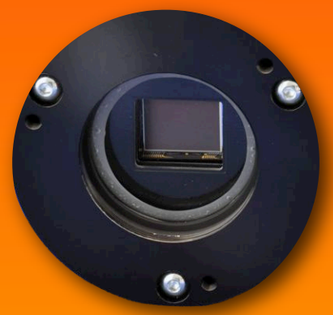
Efficient Cooling System

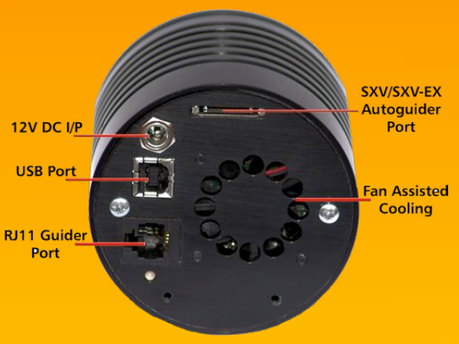
The cooling system is designed for the most efficient cooling possible in a compact package. The CCDs are Peltier cooled, with the extracted heat being removed by air drawn through holes in the cooler plate, and then expelled out the rear of the camera by the fan.

A specially manufactured fused silica window, with a 7 layer anti-reflective coating, is fitted to all of our SXVR Cameras. This offers exceptional strength and heat transfer characteristics to ensure there is less chance of dewing of the front window during humid weather.



Unique Tilted Camera Front

This unique feature of the camera design allows the front plate of the camera to be tilted to ensure that the CCD and the focal plane are parallel to each other. This enables the user to adjust for any collimation issues with the optical train to ensure pinpoint stars across the field.



Rear Panel of SXVR Camera

Technology at work for you

LEADING EDGE CAMERAS FOR THE LEADING ASTRONOMERS

Starlight Xpress Ltd. have been at the forefront of innovative camera and optical designs since their inception 21 years ago. The SXVR range of cameras is a testament to the company's philosophy of creating compact, lightweight designs with quality electronics to deliver outstanding imaging performance.

Continuing this drive towards excellence, Starlight Xpress have turned their expertise to other aspects of imaging. Our outstanding patented Active Optics Unit is a quantum leap forward in precision guiding, especially at long focal lengths. It turns a poor telescope mount into a precision instrument, and enables you to capture pin-point stars under challenging conditions. Combine this with one of our high performance autoguiders, with incredibly low noise and high sensitivity, and struggling to find a guide star becomes a thing of the past!

To complete your imaging system, we have designed a wonderfully lightweight, very slim, and ingenious filter wheel which is not only controlled but also powered through the USB connection. With a whole host of different size filter carousels and threaded fixings, this filter wheel can meet all of your filtered imaging needs, whichever camera you own.

USB UNIVERSAL FILTER WHEEL

The USB filter wheel is unique in that it does not require a separate power supply when used with USB control - the high performance DC gearmotor runs entirely from the USB supply and consumes less than 100mA. It is also capable of operation from a serial input, or from a switched hand controller, both of which power the wheel from a small dry battery.

The wheel is light and slim, with an easy change system of thumbscrews to swap filter disks without tools. A variety of threaded adaptors is available to couple it to your optical system. The adaptors can be swapped by using a small screwdriver to release three stainless screws and lifting off the adaptor flange.

The wheel is very quiet in operation and the Hall-Effect 3 bit encoded positioning gives absolute filter locations (not serially sequential) so you can easily swap between any filters without accidentally losing the wheel position.

* **Multiple control options - USB/Serial/Hand Controller.**
* **Filter disks for 7 x 32mm, 7 x 36mm unmounted, 5 x 48mm filters & 5 x 50.8mm unmounted.**
* **Very low profile - only 29mm total back focal length.**
* **No external power supply - powered by control input.**
* **Absolute filter positioning.**
* **Bi-directional rotation.**

ACTIVE OPTICS SYSTEM

- **Image tracking and stabilisation using a high speed tip-tilt optical window**
- **Fast tracking speed of 5mS per increment**
- **Overcomes rapid gear errors to stabilise even difficult mounts**
- **Mount control output for correcting large drive errors whilst maintaining AO stabilisation**
- **Image shift factor independent of optical system or camera back-focus spacing**
- **Off-axis guider assembly (optional) for use with an SXV guide camera**
- **STAR2000 guiding compatible**
- **May be used to image stabilise many other makes and types of camera, given suitable control software**
- **Clear aperture of 58mm for up to 35mm full-frame size chips**
- **Short optical length - 70mm with OAG, 38mm without.**
- **Very low light loss (~2%) from the multicoated optics**
- **Filter threads for adding 48mm narrow band. IR blocking or pollution rejection filters without affecting the guide camera sensitivity**
- **Low power consumption. Less than 600 mA at 12v DC when moving - 50mA quiescent current**
- **Compact and lightweight - only 132mm in diameter x 32mm long - less than 700 grams load on the 'scope**

AUTOGUIDERS & GUIDING ACCESSORIES

The LODESTAR is a revolutionary 'Stand-alone' Autoguider from Starlight Xpress. It is driven and powered through the USB port of your computer, so no extra power supplies are required. The rear of the Lodestar has a standard 'ST4' guider port with visual indicator and a mini 5-pin USB socket.

More derivatives of the Lodestar are now available, including a single-shot colour version that can be used as an entry level imaging camera as well as a guider. We also have the low-cost CoStar which utilises the MT9M001 CMOS sensor. Although not as sensitive as the Lodestar, we have developed a methodology to significantly reduce the noise in the image allowing it to outperform rival guiders using the same sensor.

2012 sees the release of the new SuperStar which is a high resolution version of the Lodestar. Using the Sony ICX205 CCD, this is a very capable guider and also an excellent entry level uncooled imaging camera. ALL of these autoguiders have incredibly low noise and are no larger than a standard 1.25" eyepiece.

Our Slimline-OAG is rapidly becoming the must-have accessory. With the introduction of our excellent and very sensitive autoguiders, there is a transition taking place as more and more imagers move towards 'Off-Axis' guiding rather than through a separate guide telescope. The Starlight Xpress Slimline-OAG is perfect as it can connect directly to our Universal Filter Wheel with the addition of only 13mm of back focus. This can also used directly on to the front of a camera, with an additional extension tube to achieve the correct back focal distance for the guider.