



Buyers Guide

Product Focused

With a focus on continuous innovation, Diffraction Limited's leading-edge, state-of-the-art, low-light camera systems—along with a complete range of accessories and software—are the benchmark relied on by the world's most renowned astronomers, physicists, photometrists, and astrophotographers.

SBIG® STC-428-P

The STC-428-P is a CMOS Active Pixel Sensor camera designed for photometric measurements. With our StackPro™ in-camera stacking capability, the STC-428-P has an enormous dynamic range and much greater sensitivity than comparable CCD cameras. It internally combines native 12-bit images into low-glow 16-bit FITS images. In addition, the package includes an eight-position filter wheel, configured with one slot acting as a shutter for dark frame collection. The wheel is compatible with 36 mm filters. The package also includes adapters for five 1-1/4" mounted filters to support third-party UBVRI filters.

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ALUMA[®] CCD Series

SBIG[®] ALUMA CCD 47-10, CCD694, CCD814, and CCD8300

Our mid-size, high-performance ALUMA CCD Series cameras offer capabilities and features not available in other scientific-grade imaging cameras. Lightweight (2.2 lb) and compact (4.5" x 4.5" x 4" with handles), these cameras include up to 50°C two-stage air cooling, USB interface, ultra-reliable even-illumination shutter, and fast low-noise readout. In addition, all ALUMA CCD series cameras do proper CCD binning and operate at 16-bit.

The **ALUMA CCD814** features a low-noise 9 megapixel CCD sensor with 3.69 micron pixels, with native 16-bit operation, better than competing inexpensive CMOS cameras. This is well suited to most refractors and many Schmidt-Cassegrain telescopes.

SBIG ALUMA CCD814

The **ALUMA CCD694** is the choice of many professional astronomers with a high-sensitivity, low-noise 6 megapixel CCD sensor with larger 4.54 micron pixels.

SBIG ALUMA CCD694

The **ALUMA CCD47-10** is the highest-performance premium detector with over 93% peak Quantum Efficiency and large 13um pixels. It features a superb 1K x 1K Teledyne e2v sensor, ideal for people who want the very best for photometry for longer focal length telescopes. ALUMA CCD77-00 has huge 24 micron pixels in a 512x512 array.

SBIG ALUMA CCD47-10

The **ALUMA CCD8300** The ALUMA CCD8300 is available for a limited time until the remaining CCDs are sold. This is the large 22mm diagonal sensor with big 5.4 micron pixels and 54% QE. Our most popular sensor with the best cooling ever in this size camera.

SBIG ALUMA CCD8300



ALUMA[®] AC Series

SBIG[®] ALUMA AC2020BSI and SBIG ALUMA AC4040

The SBIG ALUMA AC Series represents the state-of-the-art Advanced Scientific CMOS cameras for astronomical imaging systems. Its advanced design permits high-speed download via the USB 3.0 connection to the control computer. In addition, the ALUMA AC series has powerful two-stage cooling, supports optional water cooling, and can be operated directly from a 12VDC 8A power supply.

SBIG ALUMA AC2020BSI

SBIG ALUMA AC4040



The **ALUMA AC2020BSI** uses the Gpixel GSENSE2020BSI™ CMOS sensor with 4 million pixels at 6.5 microns in a 2048 x 2048 array. The sensor measures just over 13.3 mm square. Similar in detector size but lower in cost than the ALUMA CCD47-10.

The **ALUMA AC4040** uses the Gpixel GSENSE4040™ CMOS sensor with 16.8 million pixels at 9 microns. The sensor measures almost 37 mm square, the equivalent of the legendary STX-16803 CCD that is no longer available.

SBIG® AFW Filter Wheels

SBIG AFW Filter Wheels are Diffraction's latest ultra-thin filter wheels for large format cameras. They add minimal back focus to your system with a thickness of only 0.55" (14 mm). In addition, the AFW series wheels are compatible with all SBIG cameras using our "STX" style adapter plates. This includes our popular ALUMA® AC Advanced CMOS models and our legacy STX and STXL models.

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MaxDome II Observatory Dome Control System

The MaxDome II dome controller provides flexible, fully integrated observatory dome control. Features include:

- Support for Automadome
- Slave dome rotation to your telescope
- Rotation-only and full shutter-and-rotation systems are available
- Single or dual shutter operation, with sequencing
- Wireless shutter control – no unreliable sliding contacts
- Direct confirmation of shutter open/closed state
- Auxiliary auto-close inputs for Boltwood Cloud Sensor or other observatory protection hardware
- Easily adapted to custom or commercial observatory domes
- Directly compatible with Sirius Observatories
- Reliably replaces Foster and other control systems
- Drivers for most software and platforms



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Boltwood Cloud Sensor III

The newly designed Boltwood Cloud Sensor III is the must-have weather monitoring device for astronomical observatories. Designed to protect your most valuable equipment from weather damage, the Boltwood Cloud Sensor III can sense wind, rain, and more while enabling automatic observation scheduling through your favorite observatory control applications.

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MaxIm DL™ | Astronomical Imaging Software

Cyanogen Imaging® MaxIm DL™ is the complete integrated solution for all of your astronomical imaging needs. Whether collecting and analyzing photometric data or making beautiful portraits of the night sky, MaxIm DL Pro includes everything you need. It can control virtually any ASCOM-compatible camera, telescope, focuser, rotator, or dome and includes autosave sequences and automatic shutdown.

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MaxPoint™ | Telescope Pointing Correction

Cyanogen Imaging® MaxPoint™ measures and corrects for errors in your telescope mount and its alignment. If you're wasting dark skies hunting around looking for your target, MaxPoint is the simple and effective solution that puts your object right in the center of the field.

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Questions about Diffraction Limited solutions for your astronomy needs?

Contact Diffraction today.

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DIFFRACTION

ASTRONOMY + SCIENTIFIC IMAGING SOLUTIONS

For more than 25 years, Diffraction Limited has been the global leader in Astronomy and Scientific Imaging Solutions—continually delivering unsurpassed products, software and services to a multitude of industries including research, education, spectrometry, astro-imaging, unique optical laboratory applications, and more.

