DIFFRACTION
ASTRONOMY + SCIENTIFIC IMAGING SOLUTIONS

SBIG® ALUMA® CCD

RESEARCH-GRADE CCD CAMERAS

The SBIG ALUMA CCD series are the perfect research-grade cameras for photometry or image acquisition and astrophotography for telescopes with a 24mm or larger image circle and focal lengths from 600mm to 6000mm. Sensors are available from 24um to 3.69um pixels with high performance coatings.

The SBIG ALUMA CCD cameras offer a choice of sensors allowing you to select the right pixel size and imaging array to match your application and budget. Sensor options range from from 1-megapixel to 9.1-megapixel arrays from 24µm to 3.69µm square pixels. Peak quantum efficiency (QE) ranges from 75 to 93%.

The advanced ALUMA® architecture features an on-board processor, custom logic, and field-upgradable firmware. It's SmartCooling™ dual-fan design provides rapid cool-down and thermal stability using only ambient air. Like most large SBIG cameras, the ALUMA CCD-series features an even-illumination electromechanical shutter for easy dark frames and precise exposure control.

ACHIEVE YOUR VISION

Monochrome CCD sensor	High dynamic range and maximum resolution using 16-bit ADC
Even-illumination Electromechanical shutter	Convenient dark and bias frames, ideal for robotic automation
SmartCooling™ intelligent thermal management	Thermoelectric Cooling ΔT ~50°C below ambient with dynamic fan speed for rapid cool-down and thermal stability
USB 2.0 interface	Supports longer cable lengths than USB 3.0
Auxiliary control port	External trigger and control of optional filter wheel, adaptive optics
ASCOM Standard and DL Imaging drivers Software Development Kit available	Windows 10 and 11 compatible
Cyanogen Imaging® MaxIm LT Imaging software	Get up and running immediately with the included image acquisition and processing software. Upgradable to MaxIm DL Pro for robotic automation, telescope and observatory control.

ORDER THE SBIG SCIENTIFIC CAMERA OF YOUR DREAMS THIS YEAR FROM OUR WORLDWIDE NETWORK OF DEALERS

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SBIG MODEL NAME	ALUMA CCD77-10	ALUMA CCD47-10	ALUMA CCD694	ALUMA CCD814	ALUMA CCD8300
Active pixels	512 x 512	1024 x 1024	2750 x 2200	3388 x 2712	3326 x 2504
ADC resolution	16-bit	16-bit	16-bit	16-bit	16-bit
Anti-blooming (N = best for photometry)	N	N	Y	Y	Y
Dark current (e-/p/s)	0.7 @ -30°C	0.2 @ -30°C	0.025 @ 0°C	0.025 @0°C	0.15 @0°C
Full well capacity (e-)	300 000	100 000	18 000	15 000	25,000
Illumination	Back	Back	Front	Front	Front
Peak quantum efficiency	93%	93%	75%	77%	56%
Pixel size	24µm	13µm	4.54µm	3.69µm	5.4µm
Read noise	7e-	5e-	4.5e-	4.5e-	10e-
Sensor	Teledyne e2v CCD77-00	Teledyne e2v CCD47-10	Sony ICX-694	Sony ICX-814	KAF-8300
Sensor diagonal (mm)	17.4	18.8	19.4	16.0	22.5
Sensor dimensions (mm)	12.3 x 12.3	13.3 x 13.3	14.6 x 12.8	12.5 x 10.0	17.96 x 13.52
Sensor type	Full frame	Full frame	Interline	Interline	Full frame

UV, Midband, and Broadband coatings are available for the 47-10. Midband coating available for the 77-00.

OPTIONAL ACCESSORIES

Adaptive Optics Unit:
AO-8A

Filter wheel:
FW8S-ALUMA with 8-position carousel, AFW-16-36R with AFW to Small Format Camera Adapter

Guiding Camera:
SBIG StarChaser SC-2 off-axis guiding camera

Optical filters:
36mm round, optional 1.25” threaded

Spare molecular desiccant cartridge:
DESICCANT-AL

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Specifications subject to change without notice – December 2022