

SBIG® ALUMA® CCD47-10

A HIGHER STANDARD IN SCIENTIFIC CMOS CAMERAS



Our high-performance Aluma® CCD Series cameras offer capabilities and features not available in any other scientific-grade imaging camera. This lightweight (2.2 lbs) and compact (4.5" x 4.5" x 4" with handles) camera includes two-stage cooling, USB 2.0 High Speed interface (480 Mb/s), ultra-reliable even-illumination shutter, and fast low-noise readout.

The Aluma CCD series supports the AFW-16-36R filter wheel, with a total of 16 positions for 36mm unmounted filters, or the AFW-16-36T tall filter wheel for 36mm round unmounted 4-5mm thick filters, or 1.25-inch threaded filters using optional 10105 inserts. When used with an AFW-filter wheel, we recommend the ACC14 adapter, and you have the choice of 2-inch or 3-inch nose pieces to mount on the filter wheel.

The Aluma CCD47-10 has an extremely high 93% peak quantum efficiency on a 1 megapixel back-illuminated CCD sensor with 13.3 micron pixels. These are research-grade cameras designed for instruments with longer focal lengths, typically with apertures greater than 40 cm.

Aluma CCD47-10 is ideal for precision photometry and exoplanet detection. Ideal for campus observatories, it is the best high-performance mid-sized 16-bit CCD detector available. Using E2V's best-in-class research-grade back-illuminated sensors, the Aluma CCD47-10 gives you the high sensitivity, low noise, and high well-depth needed for the most demanding research applications.



The Aluma AC CCD cameras feature:

Monochrome CCD sensor	High dynamic range and maximum resolution using 16-bit ADC
Even-illumination Electromechanical shutter	Photometric accuracy and no odd image artifacts. Convenient dark and bias frames, ideal for robotic automation
SmartCooling™ intelligent thermal management	Thermoelectric Cooling $\Delta T \sim 50^{\circ}C$ below ambient with dynamic fan speed for rapid cool-down and thermal stability
USB 2.0 interface	Maximum 3m cable length, downloads as quickly as the sensor can be digitized
Auxiliary control port	External trigger and control of optional filter wheel
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.

TECHNICAL SPECIFICATIONS

Active pixels	1024 x 1024
ADC resolution	16-bit
Anti-blooming (N = best for photometry)	N
Dark current (e-/p/s)	0.2 @ -30°C
Full well capacity (e-)	100 000
Illumination	Back
Peak quantum efficiency	93%
Pixel size	13µm
Read noise	5e-
Sensor	Teledyne e2v CCD47-10
Sensor diagonal (mm)	18.8
Sensor dimensions (mm)	13.3 x 13.3
Sensor type	Full frame

OPTIONAL ACCESSORIES

Model	Description
ACC14	Small Format Camera Adapter
ACC09	Nosepiece for 3-inch draw tube
ACC06	Nosepiece for 2-inch draw tube
10018	Adapter for 3-inch x 24tpi thread
AFW-16-36R	Filter wheel with 16 position 36mm round filters



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