

## 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 24um to 3.69um 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.

## FEATURES AND BENEFITS

|  |   |
|--|---|
| Monochrome CCD sensor  | High dynamic range and maximum resolution using 16-bit ADC  |
| Even-illumination<br>Electromechanical shutter                           | Convenient dark and bias frames, ideal for robotic automation   |
| SmartCooling™<br>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  | 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®<br>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

| 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

**DIFFRACTION LIMITED**

59 Grenfell Cr., Unit B  
Ottawa, ON K2G 0G3  
Canada  
+1-613-225-2732  
[diffractionlimited.com](http://diffractionlimited.com)