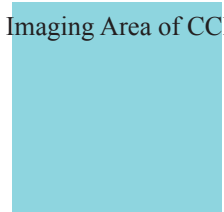


High Performance Cooled CCD Camera System ALTA U42-UV



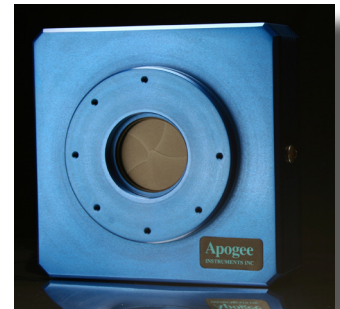
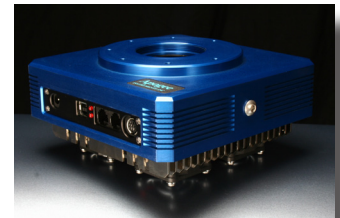
The Alta U42-UV has a back-illuminated full frame 4-megapixel CCD with sensitivity down to 200 nm. This CCD does not operate in MPP mode, so has much higher dark current than other E2V CCDs.

Imaging Area of CCD



- 2048 x 2048 array, 13.5 x 13.5 micron pixels
- 2 MHz 12-bit and 700 kHz 16-bit digitization
- 32Mbyte camera memory
- USB 2.0 interface: no plug in cards or external controllers
- Programmable, intelligent cooling to 45°C below ambient (D07 housing) / 60-65°C below ambient (D09 housing)
- Binning up to 8 Horizontal x 2048 Vertical
- Subarray readout and fast sequencing modes
- Precision time delayed integration (TDI) and kinetics mode readout
- Programmable fan speed for low / zero vibration
- Two serial port outputs for control of peripheral devices
- General purpose programmable I/O port
- External triggering and strobe controls
- ActiveX drivers included with every system
- Field upgradeable firmware
- Fused silica windows
- Runs from single 12V supply with input voltage monitor
- Compact enclosure
- Programmable status indicators

- Astronomy
- Radiology
- Optical testing



CCD SPECIFICATIONS

CCD	E2V CCD42-40
Array Size (pixels)	2048 x 2048
Pixel Size	13.5 x 13.5 microns
Imaging Area	27.6 x 27.6 mm (764 mm ²)
Imaging Diagonal	39.1 mm
Video Imager Size	2.44"
Linear Full Well (typical)	100K electrons
Dynamic Range	82 dB
QE at 400 nm	57%
Peak QE (570-680 nm)	65%
Anti-blooming	none

For complete CCD specifications, including cosmetic grading, see data sheet from manufacturer.



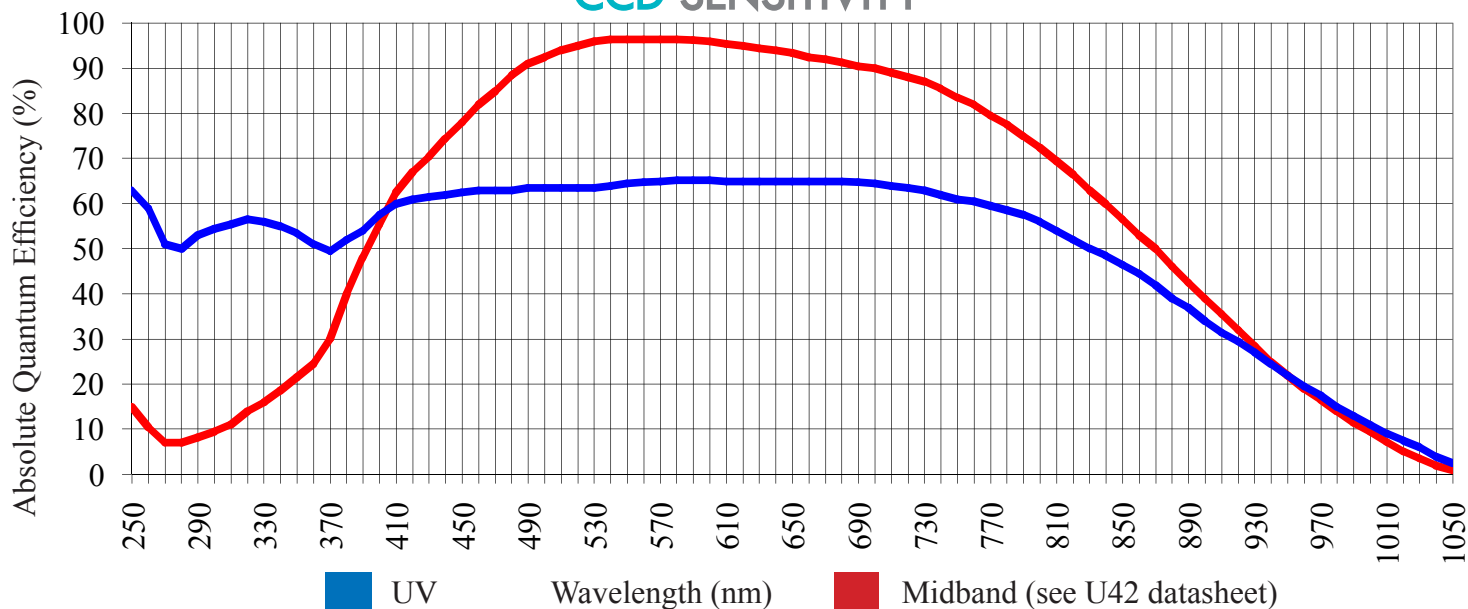
151 N. Sunrise Ste 902
Roseville CA 95661 USA
tel 916 218 7450
fax 916 218 7451
www.ccd.com



ALTA U42-UV Camera System Performance

PC Interface	USB 2.0
Max. Cable Length	5 meters between hubs; 5 hubs maximum (max. total of 30m)
Digital Resolution	16 bits at 700 kHz and 12 bits at 2 MHz
System Noise (typical)	10-12 e ⁻ RMS at 700 kHz and 2 counts at 2 MHz
Pixel Binning	1x1 to 8 x 2048 on-chip
Exposure Time	30 milliseconds to 183 minutes (2.56 microsecond increments)
Image Sequencing	1 to 65535 image sequences under software control
Frame Sizes	Full frame, subframe, focus mode
Cooling (typical)	Thermoelectric cooler with forced air. Maximum cooling 45°C below ambient temperature (D02 housing); 60-65°C below ambient temperature (D09 housing).
Dark Current (typical)	100-200 e ⁻ /pixel/sec (-25°C). 30 eps for High Cooling D09 housing (preliminary).
Temperature Stability	± 0.1°C
Camera Head Size	D02. Low profile: D06. Aluminum, hard blue anodized. 6" x 6" x 2.5" (15 x 15 x 6.35 cm) Weight: 3.1 lb. (1.4 kg). Wide Angle: D13. High Cooling: D09 (17.8 x 17.8 x 8.9 cm. 1.9 kg).
Mounting	3.5" bolt circle. 2" 24 tpi thread. Optional Nikon F-mount or Canon FD or EOS/EF mount.
Back Focal Distance	Standard: 1.025" (2.60cm). Low profile: 0.460" (1.17 cm). D09: 1.40" (3.56cm). [optical]
Operating Environment	-22° to 27°C. Relative humidity: 10 to 90% non-condensing.
Cable Length	Standard: 15 ft (4.5m)
Power	40W maximum power with shutter open and cooling maximum. AC/DC "brick" supply with int'l AC input plug (100-240V, 50-60 Hz). Alternate 12V input from user's source.
Shutter	Standard: Melles Griot 43mm. Low profile: no shutter. D09: Melles Griot 63mm.
Remote Triggering	LVTTL input allows exposure to start within 25 microseconds of rising edge of trigger

CCD SENSITIVITY



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