

High Performance Cooled CCD Camera System ALTA U30-OE



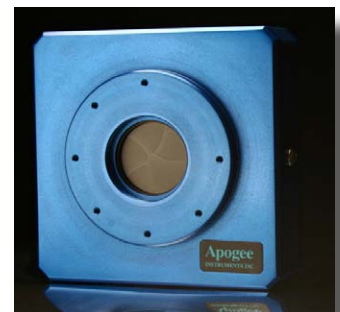
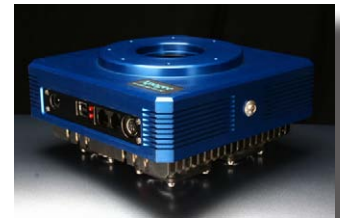
The Alta U30-OE has a front-illuminated open electrode spectroscopy format CCD with sensitivity down to 200nm. Unlike back-illuminated CCDs, the 30-OE does not have fringing (aka "etaloning") in the near-IR.

Imaging Area of CCD



- 1024 x 256 array, 26 x 26 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 50-55°C below ambient (D02 Housing) / 70-75°C below ambient temperature (D09 housing).
- Binning up to 8 Horizontal x 256 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

- Spectroscopy
- TDI Imaging



CCD SPECIFICATIONS

CCD	E2V CCD30-11
Array Size (pixels)	1024 x 256
Pixel Size	26 x 26 microns
Imaging Area	26.6 x 6.6 mm (177 mm ²)
Imaging Diagonal	27.4 mm
Video Imager Size	1.7"
Linear Full Well (typical)	300K electrons
Dynamic Range	96 dB
QE at 400 nm	24%
Peak QE (770 nm)	59%
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

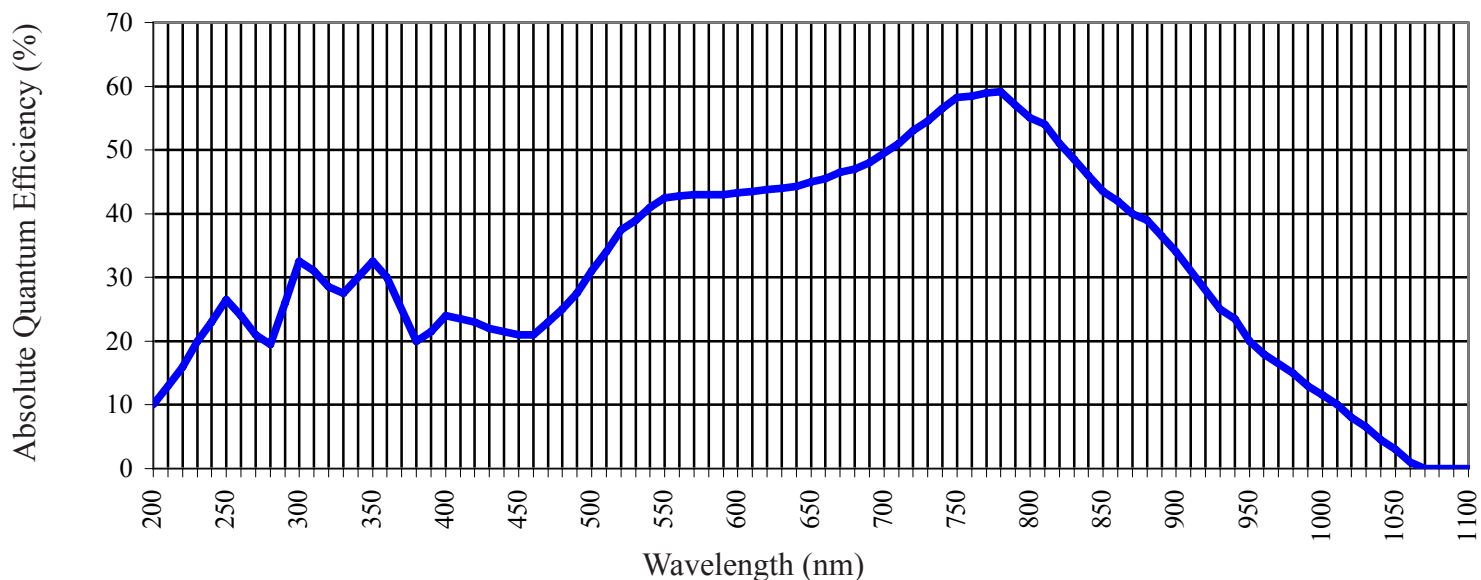


ALTA U30-OE

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)	18 e ⁻ RMS at 700 kHz and 2 counts at 2 MHz
Pixel Binning	1x1 to 8 x 1024 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 50-55°C below ambient temperature (D02 housing); 70-75°C below ambient temperature (D09 housing).
Dark Current (typical)	1 e ⁻ /pixel/sec (-20°C). <0.1 eps for High Cooling D09 housing.
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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