High Performance Cooled CCD Camera System
ALTA U8300 & U8300C

The Alta U8300 uses a medium format 8-megapixel Kodak Blue Plus sensor, ideal for applications requiring a large field of view with a smaller pixel. The U8300C uses the color version of the CCD (non-removable uncoated cover glass only).

Imaging Area of CCD

- Sky surveys
- Bioarray readers

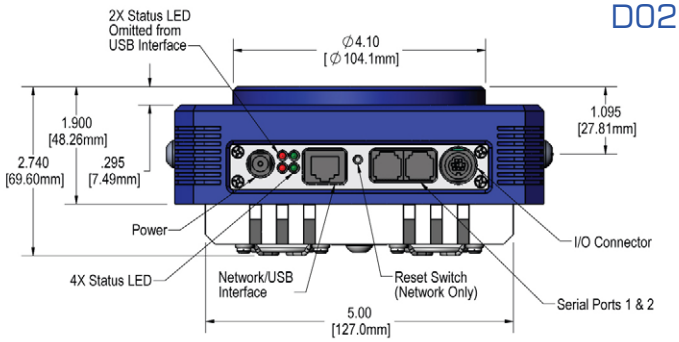
- 3326 x 2504 array, 5.4 micron pixels
- 5 MHz 12-bit and 1 MHz 16-bit digitization
- 32Mbyte camera memory
- USB 2.0 interface: no plug in cards or external controllers
- Programmable, intelligent cooling to 50-55°C below ambient (D02 housing)/ 70-75°C below ambient (D09 housing) (preliminary)
- Binning up to 8 Horizontal x 2504 Vertical
- Anti-blooming to 1000X saturation
- 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

CCD SPECIFICATIONS

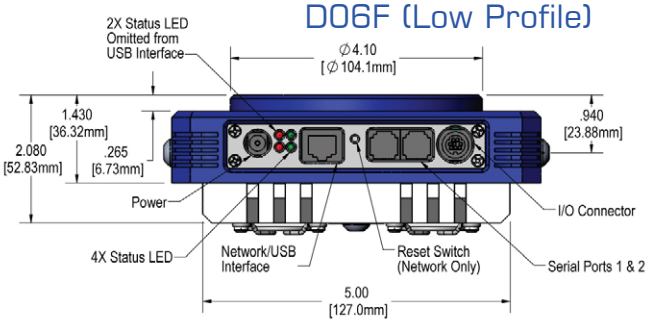
CCD	Kodak KAF-8300 or KAF-8300CE
Array Size (pixels)	3326 x 2504
Pixel Size	5.4 x 5.4 microns
Imaging Area	18 x 13.5 mm (243 mm2)
Imaging Diagonal	22.5 mm
Video Imager Size	1.4”
Linear Full Well (typical)	25.5K electrons
Dynamic Range	64.4 dB
QE at 400 nm	30%
Peak QE (580, 660 nm)	60%
Anti-blooming	1000X
Available versions: Microlensed monochrome with no cover glass; microlensed color with sealed uncoated cover glass	

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

D02F



D06F (Low Profile)



AIS Apogee IMAGING SYSTEMS

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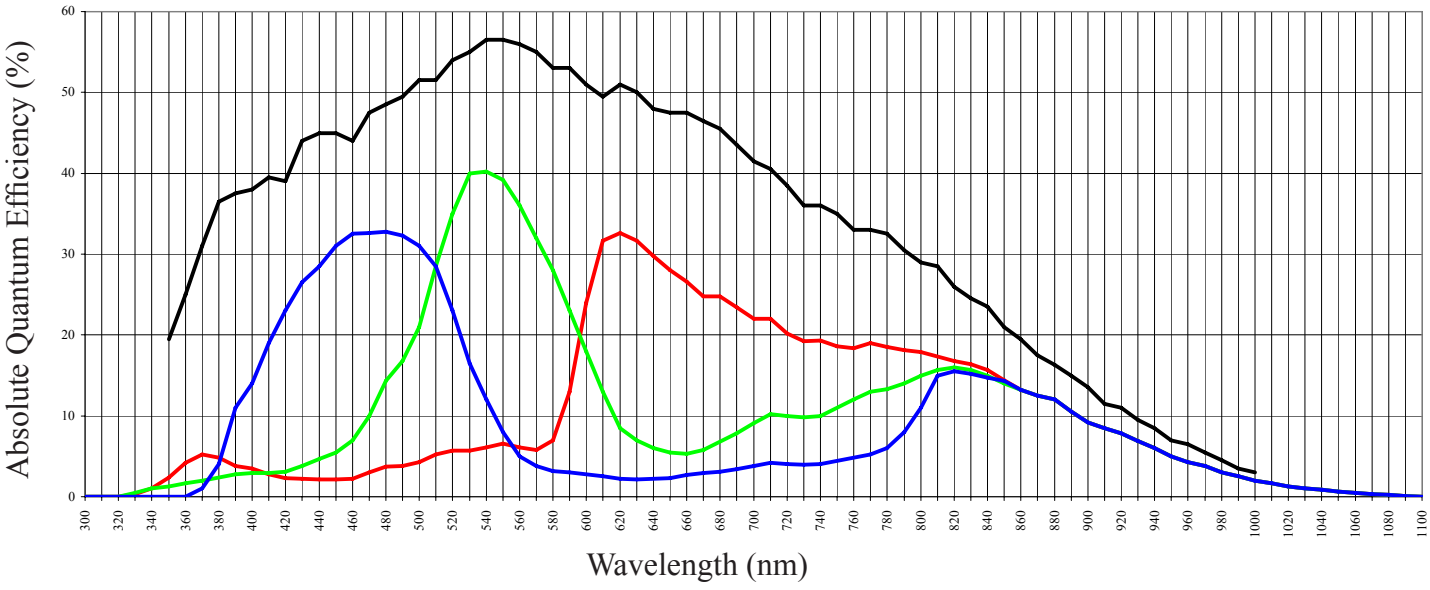
ALTA U8300 & U8300C
Camera System Performance

PC Interface	USB 2.0
Max. Cable Length	5 meters between hubs; 5 hubs maximum (max. total of 30m)
Digital Resolution	16 bits at 1 MHz and 12 bits at 5 MHz
System Noise (typical)	9 e^- RMS at 1 MHz and 2 counts at 5 MHz
Pixel Binning	1x1 to 8 x 2504 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. 70-75°C below ambient temperature (D09 housing) (preliminary).
Dark Current (typical)	0.02 e^-/pixel/sec (-30°C). <0.002 eps for High Cooling D09 housing.
Temperature Stability	± 0.1°C
Camera Head Size	D02. Aluminum, hard blue anodized. 6" x 6" x 2.5" (15 x 15 x 6.35 cm) Weight: 3.1 lb. (1.4 kg) Low profile: D06. 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: 0.461" (1.171 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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