

High Performance Cooled CCD Camera System ALTA U43



The Alta U43 uses an exceptionally large format monochrome 4-megapixel full frame front-illuminated sensor. Its large pixels give it very high full well capacity, making it ideal for applications high dynamic range.

Imaging Area of CCD

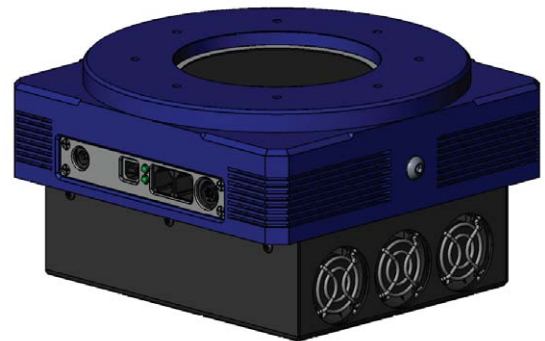
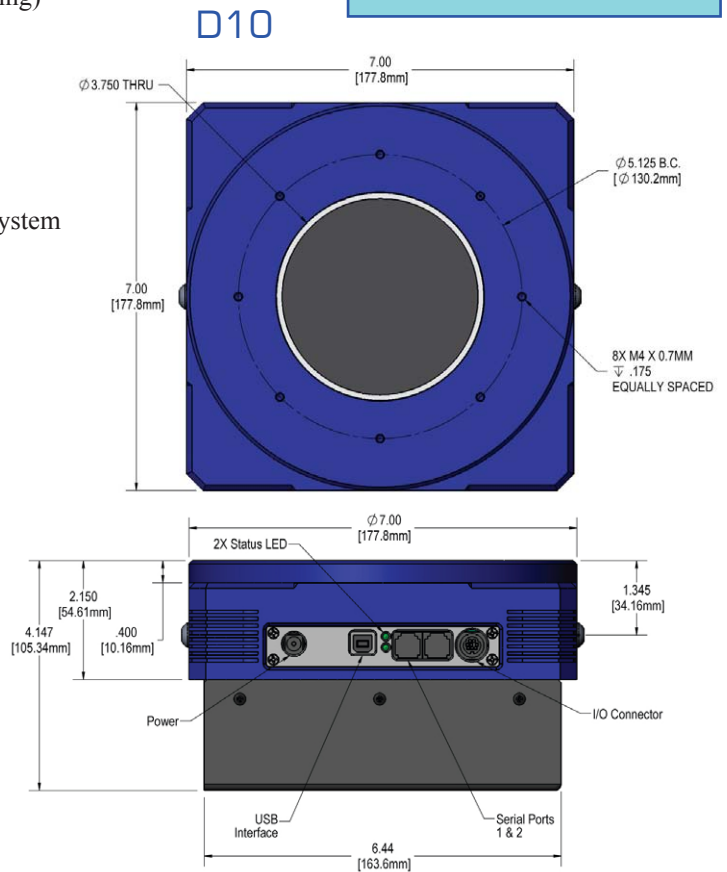
- Astronomy
- Radiology
- Non-destructive Testing

- 2048 x 2048 array, 24 x 24 micron pixels
- 16-bit digitization at 1 MHz; 12 bits at 5 MHz
- 32 Mbyte camera memory
- USB 2.0 interface: no plug in cards or external controllers
- Programmable, intelligent cooling to 50°C below ambient (D10 housing)
- Binning up to 8 Horizontal x 2048 Vertical
- Subarray readout and fast sequencing modes
- 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 and MaxIm DL/CCD software 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-4320
Array Size (pixels)	2048 x 2048
Pixel Size	24 x 24 microns
Imaging Area	49.1 x 49.1 mm (2415 mm ²)
Imaging Diagonal	69.5 mm
Video Imager Size	4.3"
Linear Full Well (typical)	500K electrons
Dynamic Range	88 dB
QE at 400 nm	39%
Peak QE	72%

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



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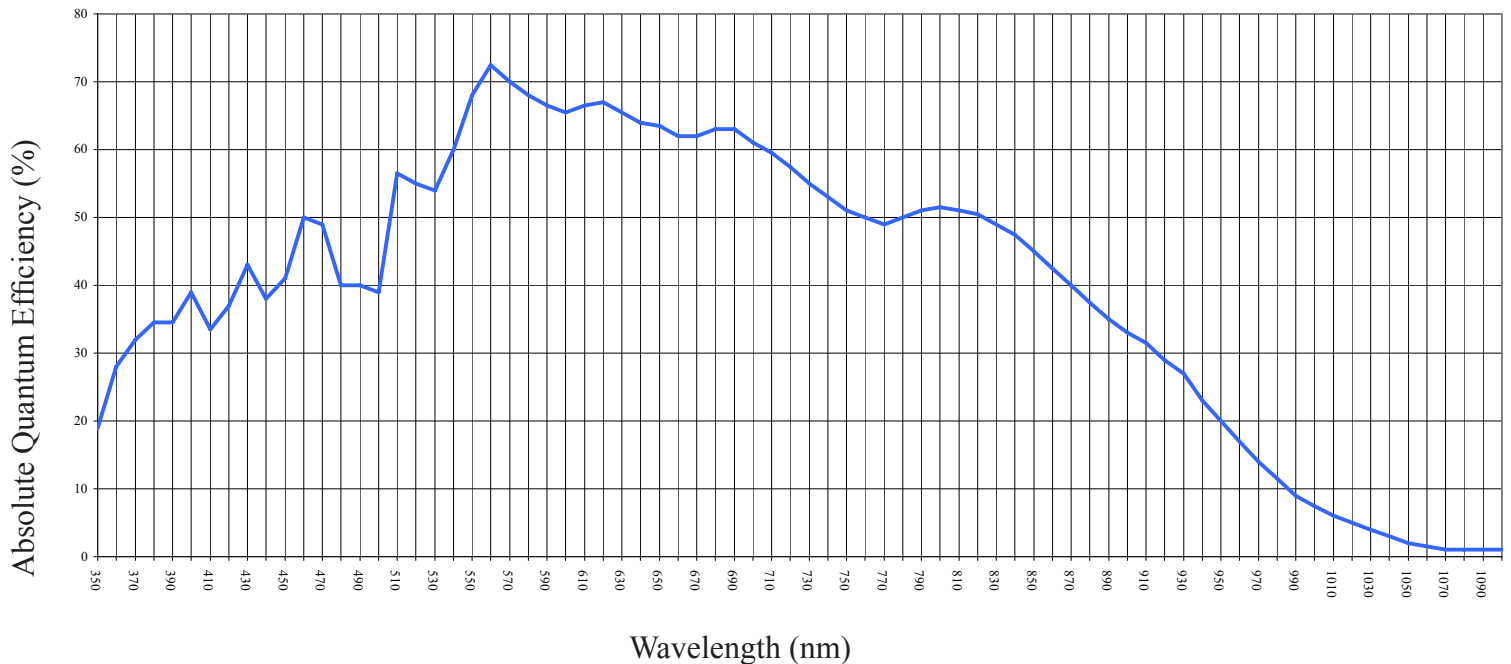


ALTA U43

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; 12 bits at 5 MHz.
System Noise (typical)	12 e ⁻ RMS (preliminary)
Pixel Binning	1x1 to 8 x 4095 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°C below ambient temperature.
Dark Current (typical)	2 e ⁻ /pixel/sec (-30°C).
Temperature Stability	± 0.1°C
Camera Head	D10. Aluminum, hard blue anodized. 7" x 7" x 4.14" (17.8 x 17.8 x 10.5 cm) Weight: 7.5 lb. (3.4 kg)
Mounting	5,125" bolt circle. Optional Nikon F-mount or Canon FD mount.
Back Focal Distance	1.22" (3.1 cm). Optional wide angle housing D12 (no shutter): 0.70" (1.78 cm) [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	D10: Vincent 90mm. D12 Wide Angle: no shutter.
Remote Triggering	LVTTL input allows exposure to start within 25 microseconds of rising edge of trigger

CCD SENSITIVITY



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