



Alta[®] U4

High Performance Cooled CCD Camera System



The Alta U4 uses a very large format 4-megapixel full frame sensor, ideal for applications requiring large field of view, such as sky surveys and radiology.

- 2048 x 2048 array, 9 x 9 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 45C below ambient
- Binning up to 10 Horizontal x 2044 Vertical
- Subarray readout and fast sequencing modes
- Precision time delayed integration 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 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

Imaging area
(actual size)



- Astronomy
- Radiology
- Optical testing
- Non-destructive testing

CCD Specifications

CCD	Kodak KAF-4202
Array Size (pixels)	2032 x 2044
Pixel size	9 x 9 microns
Imaging area	18.29 x 18.40 mm (336.4 mm ²)
Imaging diagonal	25.94 mm
Linear Full Well (typ.)	100,000 e ⁻
Dynamic Range	> 76 dB
QE @ 400 nm	2%
Peak QE (560, 820 nm)	38%

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



11760 Atwood Road, Suite 4 Auburn CA 95603 USA

Tel 530 888 0500 Fax 530 888 0540 www.ccd.com



PC Interface	USB 2
Max. Cable Length	5 meters between hubs; 5 hubs maximum (max. total of 30m)
Digital resolution	12 bits at 5 MHz and 16 bits at 1 MHz
System Noise (typ.)	2 counts at 5 MHz; 15 e ⁻ RMS at 1 MHz
Pixel Binning	1x1 to 10 x 2044 on-chip
Exposure Time	20 milliseconds to 183 minutes (2.56 microsecond increments)
Image Sequencing	1-65535 image sequences under software control
Frame Sizes	Full frame, subframe, focus mode
Cooling	Thermoelectric cooler with forced air. Maximum cooling 40-45° C below ambient temperature
Dark Current (nom.)	0.1 e ⁻ /pixel/sec (-25° C)
Temperature Stability	±0.1° C
Camera Head Size	Standard: D2. Low profile: D6. Aluminum, hard black anodized. 6" x 6" x 2.5" (15 x 15 x 6.25 cm). Weight: 3.1 lb. (1.4 kg).
Mounting	3.5" bolt circle. 2" 24 tpi thread. Optional Nikon or Canon lens mount.
Back focal distance	Standard: 1.33" (3.378 cm); Low profile: 0.515" (1.308 cm) [optical]
Operating Environment	Temperature: -22° to 27°C. Relative humidity 10 to 90% noncondensing
Cable Length	Standard: 15 ft. (4.5m)
Power	40W maximum power with shutter open and cooling maximum. Power supplied by AC/DC "brick" supply with international AC input plug. Alternate 12V input for user's source.
Shutter	Standard: Melles Griot 43mm. Low profile: no shutter.
Remote Triggering	LVTTL input to camera allows exposure start within 25 microseconds of rising edge of trigger

CCD Sensitivity

