



Alta[®] U32

High Performance Cooled CCD Camera System



The Alta U32 has a 3-megapixel Kodak Blue Plus full-frame sensor with very high quantum efficiency and excellent dynamic range. Low noise and small pixels are ideal for OEMs and microscopy.

- 2184 x 1472 array, 6.8 x 6.8 micron pixels
- 7 MHz 12-bit and 1 MHz 16-bit digitization
- 32Mbyte camera memory
- Fast focus mode: multiple subframes per second
- USB 2.0 interface: no plug in cards or external controllers
- Programmable, intelligent cooling to 50C below ambient
- Binning up to 10 Horizontal x 1472 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
- Self-test capability with data simulators
- Fused silica windows
- Runs from single 12V supply with input voltage monitor
- Compact enclosure
- Programmable status indicators

Imaging area
(actual size)



- Fluorescence microscopy
 - Bioarray readers
 - Optical testing
- Laser beam analysis
 - Astronomy

CCD Specifications

CCD	Kodak KAF-3202ME
Array Size (pixels)	2184 x 1472
Pixel size	6.8 x 6.8 microns
Imaging area	14.85 x 10.01 mm (148.7 mm ²)
Imaging diagonal	17.91 mm
Linear Full Well (typ.)	55,000 e ⁻
Dynamic Range	77 dB
QE @ 400 nm	53%
Peak QE (610 nm)	86%

Camera Frame Rates

Full Frame 1x1: 1.7 fps
Full Frame 2x2: 2.6 fps
Full Frame 3x3: 3.6 fps
256 x 256 ROI: 4.9 fps
128 x 128 ROI: 6.3 fps
64 x 64 ROI: 7.2 fps

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

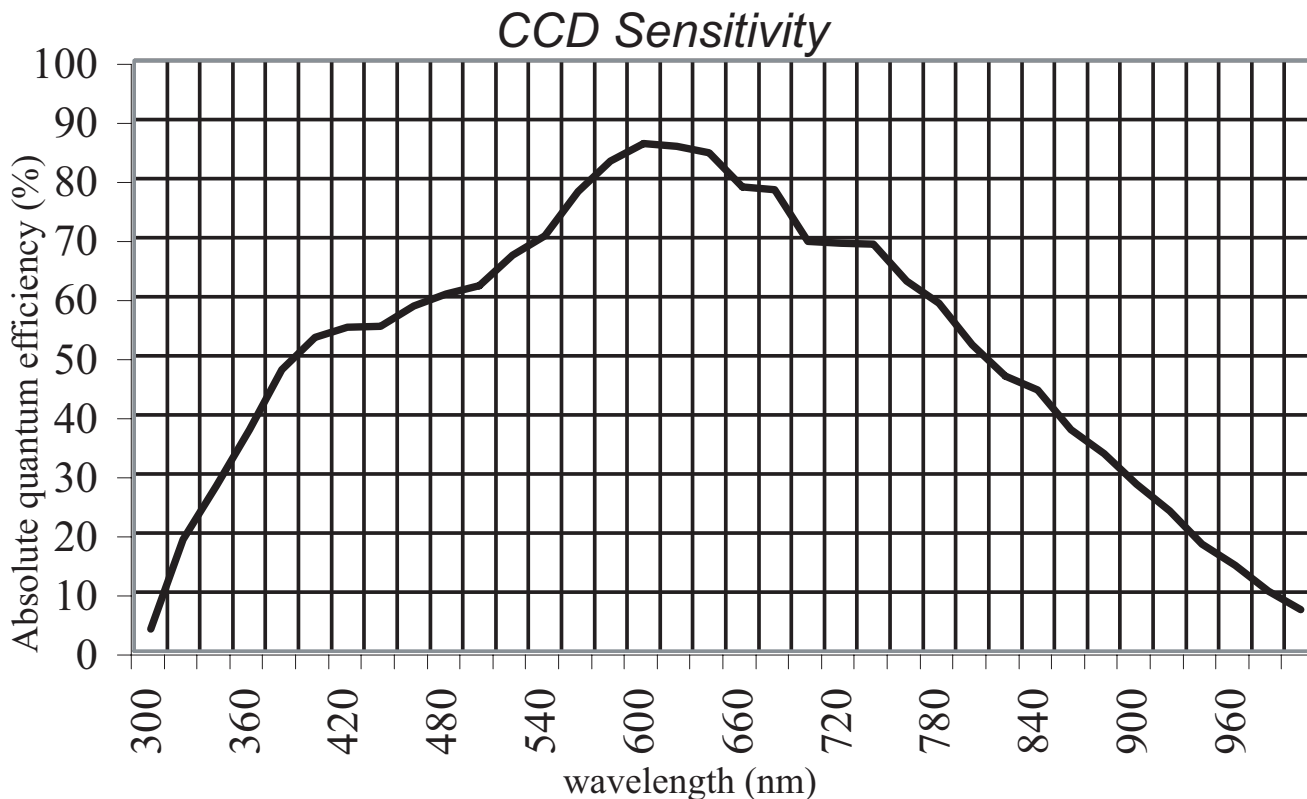


11760 Atwood Road, Suite 4 Auburn CA 95603 USA
Tel 530 888 0500 Fax 530 888 0540 www.ccd.com

Alta[®] U32

Camera System Performance

PC Interface	USB 2.0
Max. cable length	5 meters between hubs; 5 hubs maximum (max. total of 30m)
Digital resolution	12 bits at 7 MHz and 16 bits at 1 MHz
System Noise (typ.)	2 counts at 7 MHz; 8 e ⁻ RMS at 1 MHz
Pixel Binning	1x1 to 10 x 1472 on-chip
Exposure Time	10 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 50° C below ambient temperature
Temperature Stability	±0.1° C
Dark Current (typ.)	0.05 e ⁻ /pixel/sec (-30° C)
Camera Head	Standard: D1; Low profile: D5. Aluminum, hard blue and black anodized. 6" x 6" x 2.1" (15 x 15 x 6.25 cm). Weight: 3.1 lb. (1.4 kg)
Mounting	3.5" bolt circle, 8-32 thread. C-mount (1" 32 tpi thread). Optional Nikon or Canon lens mount.
Back focal distance	Standard: 0.69" (1.75 cm). Low profile: 0.46" (1.22 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: Vincent 25mm. Low profile: no shutter.
Remote Triggering	LVTTL input to camera allows exposure start within 25 microseconds of rising edge of trigger



11760 Atwood Road, Suite 4 Auburn CA 95603 USA
 Tel 530 888 0500 Fax 530 888 0540 www.ccd.com