

CORDIN

SCIENTIFIC IMAGING

HIGH SPEED ROTATING MIRROR CCD CAMERA

Model 580

- **Very high resolution:** 8 megapixel (3.2K x 2.4K) at all capture speeds
- **High dynamic range:** 14 bit ADC
- **Very high framing rate:** 4 million fps
- **Very high image quality**
- **Software control:** easy control of exposure and timing parameters for each channel through user-friendly software
- **Image alignment software:** post processing software for precise alignment of images for animation and analysis
- **Laser and pulsed flash illumination synchronization**
- **Built-in time delay functions**



The **Cordin Model 580** high-speed rotating mirror CCD camera achieves the highest combination of speed and resolution of any imaging technology available. The Cordin 580 captures images in a burst mode at frame rates of up to 4 million frames per second and at 8 mega-pixel resolution. The system uses a rotating mirror optical system, which does not require reading out sub-arrays of the image to achieve higher framing rates. It also allows for much higher frame counts and no image degradation relative to MCP based high speed camera systems, and enables color imaging. The ADC dynamic range for this camera system is a 14 bits and images are captured at full frame size 3.2K x 2.4K at all speed ranges. The camera is available in a 20, 40 or 78 frame configuration. Frames can be either black and white or color. Systems purchased with fewer frames can be upgraded to more frames at a later date.

The Model 580 camera can be triggered by the event being photographed, and can accept triggers in advance or for some time after the event of interest. It can also provide the trigger to initiate the event.

The standard high speed mirror-drive is driven by compressed air or nitrogen at lower to medium speeds, and with helium at higher speeds. The camera can also be configured with a brushless electric driven mirror operating at slower speeds, for more convenient operation when high framing rates are not required.

The system comes complete with a computer and control software. Post processing image alignment software that provides precise alignment of images for animation and analysis is also included. Data may be saved in a wide variety of 8 bit file formats. Full 14 bit images are saved in 16 bit tiff file format.

OPTIONS

Customized front optics

Micro or Macro lens options

C- Mount Adapter

Cordin Enlarging ~5X lens

Illumination Sources Models 605, 607

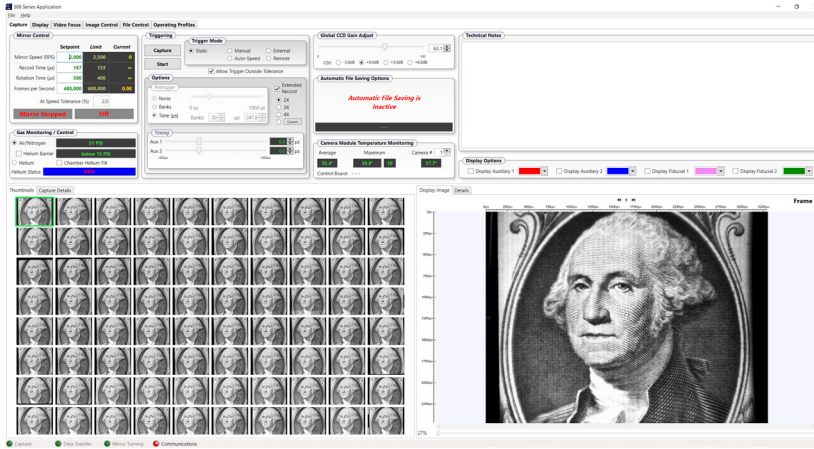
Mobile camera stand

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Screen shot of the Model 580 user interface

SPECIFICATIONS

Number of Frames	20, 40 or 78	Pixel size	5.5 x 5.5 μm
Maximum Framing Rate	4 million fps (78 frames)	ADC Dynamic Range	14 Bit
Front Optics	Single objective lens system (no parallax)	Device Type	Full resolution progressive scan Black and white standard Color optional
Objective Lens	Nikon F-mount	Interface	Gigabit Ethernet for camera control and image transfer
Resolution	3.2K x 2.4K pixels, 1.6K x 2.4K pixels with binning		

CONFIGURATIONS

	20	40	78
Gas Turbine Drive Configuration			
Maximum Framing Rate (fps)	1,000,000	2,000,000	4,000,000
Minimum Interframe time	1 μs	500 ns	250 ns
Minimum Exposure Time	220 ns	220 ns	220 ns
Electric Drive Configuration			
Maximum Framing Rate (fps)	150,000	300,000	600,000
Minimum Interframe time	6.6 μs	3.3 μsec	1.7 μsec
Minimum Exposure Time	1.46 μs	1.46 μs	1.46 μs

