CORDIN
SCIENTIFIC IMAGING

HIGH SPEED ROTATING MIRROR STREAK CAMERA

Model 131

- **Very high spatial resolution,** 3,250 pixels
- **Fast temporal resolution,** down to 1.4 ns
- **Software control** of exposure and timing parameters
- **Laser and pulsed flash illumination synchronization**
- **Long record length,** up to 28,300 pixels
- **Re-triggerable within seconds**
- **14 bit image depth**
- **Programmable time delay functions**
- **Captures external electronic fiducial inputs** on common time base
- **Electronic shuttering** prevents image overwrite

The **Cordin Model 131** rotating mirror streak camera is the ideal analytical tool for continuously measuring one dimension over time for a given event. The rotating mirror architecture provides long record length and very high resolution compared to other streak capture methods. Combining rotating mirror and CCD technology provides users with access to digital streak image information in seconds. This allows the researcher to record data ready for subject adjustment, analysis, or presentation. A unique opto-mechanical design provides a continuous digital streak record, without gaps, blemishes, and with negligible distortion. Image information is captured at very fast rates without a photon-electron conversion. This means dynamic range is very high and image noise is very low.

The Model 131 streak image is 3,250 pixels in the spatial axis, and 14,000 pixels along the temporal axis. Optional extended record configurations offer up to 28,300 pixels on the temporal axis.

The Model 131 has large pixels at 7.4 micron pitch. This allows for better dynamic range, as the saturation threshold of the pixels is relatively high. The Model 131 is offered with two alternative rotating mirror turbines: the standard 1209 turbine operates to 5,000 rps and the optional 1231 turbine operates to 7,500 rps. The turbines can reach 50% of full speed using compressed air or nitrogen. Helium is required to reach full speed.

The writing rate is determined by the speed of the rotating mirror, which is software controlled. At top speed, using the 1209 turbine the recording rate is 1,700 pixels per microsecond. The 1231 turbine at top speed yields a recording rate of 2,500 pixels per microsecond.

Two fiducial inputs are provided for precise image synchronization. Two programmable delayed outputs are also provided. An intuitive PC-based user interface allows for easy setup, acquisition, alignment, analysis and saving of data.

OPTIONS

Extended record length to 28,300 pixels
High speed turbine (Model 1231)
Optical fiducial mark generator
Custom objective optics
Custom slit configurations
Laser field of view alignment tool

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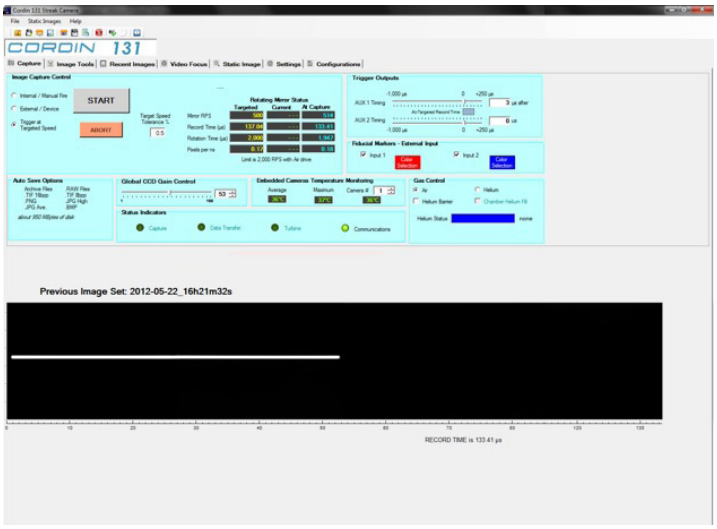

Screen shot of the Model 131 user interface

SPECIFICATIONS

Record Width	3,250 pixels
Record Length	14,300 pixels standard
Extended Track Length	28,300 optional
Minimum Temporal Feature	3.4 pixels at 25 micron slit width
ADC Dynamic Range	14 bit
Radius of Image Arc	
Subtended Angle of Arc	
Objective Lens	Nikon F-mount standard
	Other objective optics available
Pixel Size	7.4 x 7.4 microns
Device Type	16 MPixel full resolution progressive scan
	Black and white standard
Data Interface	Gigabit Ethernet

Trigger Inputs	+5V, +5V isolated, analog and optical with threshold
Fiducial Inputs	Two independent channels captured on common time base
Delay Outputs	Two programmable delay channels on common time base

Turbine	**MODEL 1209**	**MODEL 1231**
Max Mirror Rotation	5000 rps	7500 rps
Temporal Resolution	2.0 ns	1.4 ns
Maximum Writing Rate	1,700 pix/µs	2,500 pix/µs