



## ROSS 5100D Airbox Streak Camera

The ROSS 5100D Airbox Streak Camera is Sydor Instruments' optical streak camera integrated into a Diagnostic Instrument Manipulator (DIM) compatible vacuum-tight airbox. It includes all of the features of our ROSS submodules including extensive mu-metal shielding and robust streak tube to CCD coupling. All ROSS Streak Cameras come bundled with Sydor's ROSS Remote Application and Analysis Software which provides full control of streak camera, acquisition and display of streak image, image processing, file storage and file export.

SYDOR ROSS 5100D	KEY PERFORMANCE PARAMETERS (Specifications subject to change)
<b>STREAK TUBE</b>	Photonis P510 Series (other options available)
Temporal Resolution	5 picoseconds
Spatial Resolution	10 lp/mm at 70% contrast
Photocathode Size (effective)	20 mm – 27 mm
Photocathode Type	S20 on sapphire window (others available)
Accelerating Electrode Type	Slot
Photocathode Gating	Optional
Spatial Magnification	~ 1.3
Screen Phosphor	P43 on fiber optic faceplate
<b>ELECTRONICS</b>	
Sweep Speeds	Multi speed sweep modules available for pico, nano and microsecond timescales
Sweep direction	User defined
Trigger Input Voltage Level	TTL
Trigger Input Rise Time	<10 ns
Trigger Jitter < 25 ps RMS	Trigger Jitter < 25 ps RMS
Hold-off Time (Streak Retrace) 25 ms	Hold-off Time (Streak Retrace) 25 ms
Trigger Input Width	300 ns < Trigger Width < 1 ms
Voltage Stability	0.02% closed loop (-15kV Cathode Supply) ±0.1% closed loop (Bias & Sweep Supplies)
<b>RECORDING SYSTEM</b>	SI-1000 TE cooled with 1:1 fiber relay, KAF16801 chip, 4096 x 4096 pixels @ 9µm <sup>2</sup>
Dark Current	< 0.1 electrons/pixel/second at -20 deg C
System Noise	< 12 electrons per pixel
Full Well	100,000 electrons, unbinned

SYDOR ROSS 5100D		KEY PERFORMANCE PARAMETERS (Continued)
<b>CAMERA SYSTEM PERFORMANCE</b>		
Dynamic Range	DR (sweep) 175 (2ns), 405 (6ns), 855 (12ns)	
System Gain	~50 CCD electrons per photocathode-electron	
Contrast	70% at 10 lp/mm	
CCD Alignment	± 2 pixels	
<b>OPTICAL MODULE</b>		
Input optics	None	
Fiber fiducials	Two	
<b>PHYSICAL DATA</b>		
Dimensions	36" L x 13" W x 8.25" H (NIF DIM Compatible)	
Input Voltage	+28 VDC, 10A	
Shielding	Extensive mu-metal EMI shielding	
Computer Interface	MTRJ fiber duplex or Serial RS232	
Internal Light Management	No light emitting sources internal to Airbox during standard operation	
Flow Switch Cutoff	Minimum flowrate 0.3 gallons per minute	
Airbox Leak Rate	<0.386 psig/day	
Spool Coupling Leak Rate	<0.250 psig/day	
<b>SOFTWARE</b>	ROSS_App	
Computer OS	Windows 7 32-bit or 64-bit	
Functions, Features	Full control of streak camera, acquisition and display of streak image, image processing, file storage and file exportation (see software manual)	
Scripting		

## Optional Products & Services Offered

- Instrument & accessory storage cases
- Service, installation, & technical support
- Extended warranty programs
- Analytical software packages and development
- Accessories for interfacing with other instrumentation
- Electrical and fiber optic cables made to your specifications

**For more information about our products, contact us today.**

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