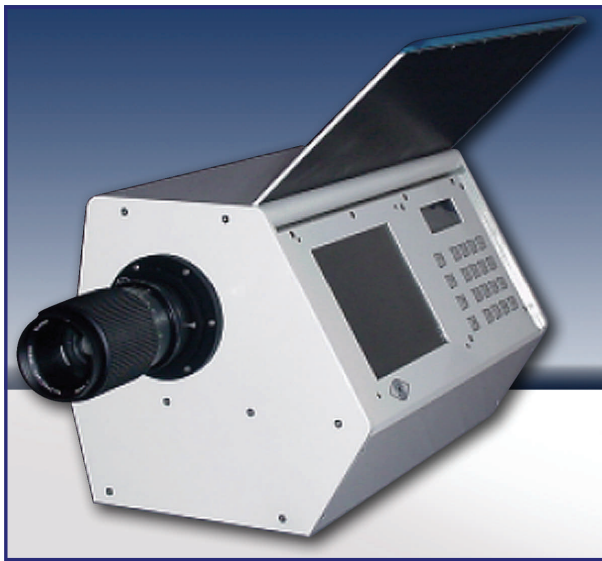




**Get the measure of  
your image**

## **XTREME HIGH SPEED SINGLE-IMAGE CAMERA**

The Xtreme High Speed Single Image Camera captures superb images with precision timing and allows accurate, repeatable measurements for discerning engineers.



### **FEATURES**

- High gain and high resolution image versions
- Electronic shuttering down to 20ns
- Comprehensive trigger facilities
- Multiple flash triggers
- Multiple exposure for trajectory analysis
- Compact, fully ruggedized design (IP54)
- Intuitive operation
- Computer controllable via standard Ethernet link

The Photo-Sonics Xtreme High Speed Single Image camera, with its rigid, all-metal bodywork is one of the most rugged cameras on the market. The camera is designed to withstand harsh environments and to provide high reliability and superior image quality. The integral TFT display shows real-time images from the sensor, thus allowing users to easily optimize focus and lighting ensuring spectacular results. All imaging functions can be controlled from the intuitive local keypad for setup, while full remote operation is achieved over standard Ethernet network cabling making this one of the easiest systems to integrate into any imaging environment.

There are two versions of this camera, a high-gain version using a 40mm MCP image intensifier for use in low-light applications, and a high resolution version using a GEN 1 image intensifier to provide a superior spatial resolution. Comprehensive operational software provides simple control of imaging parameters and extensive measurement tools to accurately analyze results. Image archiving in a wide range of industry standard file formats is supported. For situations with more complex instrumentation requirements, several cameras can be operated from a single control computer with timings for all cameras linked to the same control screen.

• **Ballistics**

• **Detonics**

• **Plasma**

• **Impact Studies**

### **Photo-Sonics, Inc.**

*LEADERS IN HIGH-SPEED PHOTOGRAPHIC MOTION ANALYSIS SYSTEMS*

820 South Mariposa Street Burbank CA 91506 U.S.A.

TEL 818-842-2141 FAX 818-842-2610

[www.photosonics.com](http://www.photosonics.com)

Request Information: [mail@photosonics.com](mailto:mail@photosonics.com)

# SPECIFICATIONS

OPTICAL	
Number of channels	1
Lenses	Nikon F-mount 50-600mm focal length
System Aperture	f 2
Shutter	Electro-mechanical
Distortion	Nominally zero
Coupling	MCP to CCD via relay optics
Intensity variation	Better than 1% across the image

TIMING PARAMETERS	
System Clock	100MHz, quartz crystal controlled.
Inherent Delay	<100ns
Exposure Mode	Single exposure or multiple exposures (Max. 16)
Exposure Time	20ns – 10ms in 10ns steps independently variable
Delay to 1st exposure	100ns - 10ms in 10ns steps independently variable
Flash outputs	20ns - 1ms in 10ns steps independently variable
Separation	30ns - 20ms in 10ns steps independently variable

ENVIRONMENTAL	
Storage temperature	-10°C to +50°C
Operating temperature	-5° to +40°C
Humidity	10 – 90% RH non condensing
Vibration shock	10 – 40Hz Max. 10g in any direction
EMC	Meets all EC harmonized standards

INPUT/OUTPUT SIGNALS	
Triggers	Electrical signal (BNC connector)
	Threshold variable from 2 - 50V
	Positive or Negative polarity
	Make/Break
	50Ω or 1KΩ termination
	Optical signal (ST connector) - Optional
Re-trigger	Electrical signal (BNC connector)
	Threshold variable from 2 - 50V
	Positive or Negative polarity
	Make/Break
	50Ω or 1KΩ termination
	Optical signal (ST connector) - Optional
Monitor Pulse Output	Pulse width and position user programmable minimum width 5ns
	TTL into 50Ω
Flash Output (Max. 4)	Pulse width and position user programmable minimum width 5ns
	TTL into 50Ω
Focus Monitor	6.5" TFT LCD display monitor
	Keypad control with integral LCD screen
Camera Interface	Data and command transfer via 100TX ethernet
	Cable length 100m (standard), other lengths available.
	100FX fiber optic ethernet link (up to 2Km) - optional
Software	Bespoke software compatible with Windows NT, 2000 and XP for camera, control, image data reduction and archiving in various file formats. Custom software development capabilities available.



MODELS	SIR-HG	SIR-HR
Image Sensor	KAF 1602E	KAF 4202
Active CCD Pixel	1536 (H) x 1024 (V)	2048 (H) x 2048 (V)
Pixel Size	9µm (H) x 9µm (V)	9µm (H) x 9µm (V)
Dynamic Range	12 bits	12 bits
Intensifier	40mm High-Resolution MCP	25mm High-Resolution
Tube	Input window Fused Silica	Input window Fused Silica
	Output window fiber optic	Output window fiber optic
	Photocathode S25 (Other photocathodes are available upon request)	Photocathode S25 (Other photocathodes are available upon request)
	Phosphor screen P20	Phosphor screen P20
Dynamic resolution	>25 lp/mm	>40 lp/mm

