

Detailed Specifications

SIR3



THE QUEEN'S AWARDS
FOR ENTERPRISE:
INNOVATION
2011



BS EN ISO 9001:2008 FM 87429



specialised
imaging

Specifications subject to change without notice

OPTICAL

Number of Channels	1
Lenses	Nikon F-mount (ruggedized mounting system)
System Aperture	f 2
Shutter	Electro-mechanical
Distortion	Nominally zero
Coupling	CCD to MCP via FO
Vignetting	<3%
Intensity variation	Better than 5% across the image
Optical Viewfinder	Optional

INTENSIFIER/CCD

	SIR3-18D	SIR3-25D	SIR3-40D
Image Sensor	ICX285AL	KAI4021M	KAI11002M
Active CCD Pixel	1360 (H) x 1024 (V)	2048 (H) x 2048 (V)	4008 (H) x 2688 (V)
Pixel Size	6.45 μm (H) x 6.45 μm (V)	7.4 μm (H) x 7.4 μm (V)	9 μm (H) x 9 μm (V)
Dynamic Range	12 bits	12 bits	12 bits

TIMING PARAMETERS

System Clock	200MHz quartz crystal controlled.
Inherent Delay	<130ns
Imaging Mode	Single or Double image
Exposure Modes (each image)	Single exposure or multiple exposures (Max. 16 - subject to imaging conditions).
Exposure Times	10ns – 10ms in 5ns steps independently variable
Delay to 1st exposure	130ns – 10ms in 5ns steps independently variable
Flash output	20ns to 1ms in 5ns steps independently variable
Separation	30ns to 20ms in 5ns steps independently variable

INPUT/OUTPUT SIGNALS

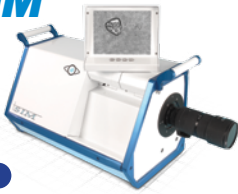
Trigger 1	Electrical signal (BNC connector) Threshold variable from $\pm 25\text{V}$ Positive or Negative polarity, Make/Break 50 Ω or 1K Ω termination
Trigger 2	Electrical signal (BNC connector) Threshold variable from $\pm 25\text{V}$ Positive or Negative polarity, Make/Break 50 Ω or 1K Ω termination
Flash Trigger Output	Pulse width (min. 10ns) and position user programmable. TTL into 50 Ω
Camera Interface	Data and command transfer via Gigabit Ethernet Cable length 100m (standard) 1000FX fibre optic Ethernet link (up to 2Km) - optional
Software	Custom software compatible with Microsoft Windows Operating Systems for camera control, image data archiving in various file formats.

ENVIRONMENTAL

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

High Resolution Multi-Channel / Multi-Spectral Framing Cameras

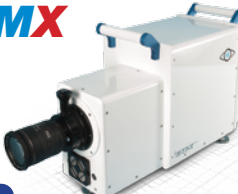
SIM



SIM02



SIMX



SIMD



Capable of up to 1 Billion Frames Per Second.

Using ultra high-resolution image intensifiers and no-compromise optical design, takes image quality to the next level.

The ULTIMATE High-Speed Video Camera

Kirana

924 x 768

180 frames

5 Million fps



The ultimate High-Speed video camera that combines the flexibility of video technology with the resolution of the ultra high speed framing camera.

Flight Follower System

Tracker²



- Large lightweight SiC mirror
- Sturdy 3-axis mount
- Ultra High Precision controls
- Multiple operation modes
- Custom control and analysis software

HR Still Camera / 11mp

SIR3



SIR cameras are designed to withstand the harsh outdoor environment and to provide high reliability and superior image quality.

Scientific CCD Camera

T-Cam



- Up to 4008(H) x 2688(V) 12 bit images
- Shuttering speed down to 1µs
- Comprehensive triggering controls
- Ethernet control

Image Intensifier System

SIL2



- High gain & high resolution image intensifier
- Up to 1,000,000 fps / shuttering down to 50ns
- Suitable for most type of high speed video camera.

Camera Trigger

SI-OT3



- Detection of projectiles >0.7mm diameter
- Interchangeable objective lens to ensure at least 1/20 obscuration of the field of view.

Velocity Trigger System

SI-VT-SYS



- Store 15,000 time intervals
- Capable of capturing 200,000 rounds per minute
- 4 Independent output channels

Laser Illumination System

SI-LUX 640



- Variable Pulse width
- Suitable for Shadowgraph & Schlieren imaging
- Minimises speckle & fringe effects

Multi Head Framing Camera

Cerberus

WORLD FIRST



- 1360 x 1040px
- upto 128 frames
- upto 64 camera heads
- upto 200 Million fps
- 3D Stereo Imaging

High Power Flashes

SI-IF 300



SI-AD 500



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