

The Specialised Imaging Ballistic Range Camera, with its rigid, all-metal bodywork is one of the most rugged cameras on the market. The camera is designed to withstand the harsh environment of the proofing ground and to provide high reliability and superior image quality.



Courtesy of ISL Franco/German Research Institute

The integral TFT display shows real-time images from the sensor, thus allowing users to easily optimise 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 variant using a 40mm MCP image intensifier for use in low-light applications, and a high-resolution variant using a 25mm image intensifier to provide superior spatial resolution. Comprehensive operational software provides simple control of imaging parameters and extensive measurement tools to accurately analyse 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.

Features

- High gain & high resolution Image variants
- Electronic shuttering down to 20ns
- Comprehensive triggering facilities
- Multiple flash triggers
- Multiple exposures for trajectory analysis
- Compact, fully ruggedised design(IP54)
- Intuitive operation
- Computer controlled via standard ethernet link

specifications



| | | |
|------------------------------|---|-------------------------------------|
| OPTICAL | | |
| Number of Channels | 1 | |
| Lenses | Nikon F-mount | |
| System Aperture | f 2 | |
| Shutter | Electro-mechanical | |
| Distortion | Nominally zero | |
| Coupling | Intensifier to CCD via relay optics. | |
| Vignetting | <3% | |
| Intensity variation | Better than 5% across the image | |
| INTENSIFIER/CCD | | |
| Image Sensor | HRMCP | HG |
| | KAF 4202 | KAF 1602E |
| Active CCD Pixel | 2048 (H) x 2048 (V) | 1536 (H) x 1024 (V) |
| Pixel Size | 9µm (H) x 9µm (V) | 9µm (H) x 9µm (V) |
| Dynamic Range | 12 bits | 12 bits |
| Intensifier | 25mm High Resolution Intensifier Tube | 40mm High Gain Intensifier Tube |
| Dynamic resolution (Typical) | Input window Fused Silica | Input window Fused Silica |
| | Output window Glass | Output window Glass |
| | Photocathode S20, others on request | Photocathode S20, others on request |
| | Phosphor Screen P43 | Phosphor Screen P43 |
| | 42 lp/mm | 32 lp/mm |
| TIMING PARAMETERS | | |
| System Clock | 100MHz quartz crystal controlled. | |
| Inherent Delay | <130ns | |
| Exposure Modes | Single exposure or multiple exposures (Max. 16). | |
| Exposure Times | 20ns – 10ms in 10ns steps independently variable | |
| Delay to 1st exposure | 130ns – 10ms in 10ns steps independently variable | |
| Flash output | 20ns to 1ms in 10ns steps independently variable | |
| Separation | 30ns to 20ms in 10ns steps independently variable | |
| INPUT/OUTPUT SIGNALS | | |
| Trigger 1 | Electrical signal (BNC connector) Threshold variable from 2-50V Rising or falling edge Positive or Negative polarity Make/Break 50Ω or 1KΩ termination | |
| Trigger 2 | Electrical signal (BNC connector) Threshold variable from 2-50V Rising or falling edge Positive or Negative polarity Make/Break 50Ω or 1KΩ termination | |
| Timing Monitor Pulses | Pulse width and position user programmable minimum width 10ns TTL into 50Ω | |
| Flash Trigger Outputs | Pulse width and position user programmable minimum width 10ns TTL into 50Ω | |
| Focus Monitor | 6.5" TFT LCD display monitor | |
| Local Controls | Intuitive membrane keypad | |
| Local Status Display | 16 x 2 character LCD Backlit | |
| Camera Interface | Data and command transfer via standard Ethernet link Cable length 100m (standard) 100FX optical Ethernet - optional. Controllable by laptop p.c. | |
| Software | Bespoke software compatible with Windows NT, 2000 and XP for camera control, image analysis and archiving in various file formats. Custom software development capabilities available. | |
| ENVIRONMENTAL | | |
| Storage temperature | -10°C to +70°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 | |



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