

## Multi-head Intensified Camera System



**Up to 8 camera heads per control module**

**1360 x 1024 pixel, 12-bit sensor resolution**

**Single or double image capture**

**5ns minimum shutter**

The Specialised Imaging CERBERUS camera system offers framing camera image capture performance with the addition of multiple camera control.

Each camera head can capture either one or two 1.4 MegaPixel 12-bit images with exposure times down to 5ns.

A maximum of 8 Control modules can be connected to allow a total of 64 cameras controlled from a single PC.

The CERBERUS system is flexible enough to allow multiple 3D/Stereoscopic image pairs or sequential images with a 5ns interframe time, equating to 200 Million Frames/second.

### FEATURES

- Control up to 64 camera heads
- Adjustable exposure down to 5ns
- Head to Head adjustable interframe time down to 5ns
- Nikon lens mount fitting
- Ethernet communications
- Compact and rugged design

### OPTICAL

|                     |  |
|---------------------|--|
| Lenses              | Nikon F-mount (ruggedized mounting system) |
| Shutter             | Electro-mechanical                         |
| Distortion          | Nominally zero                             |
| Intensity variation | Better than 5% across the image            |

### INTENSIFIER / SENSOR

|                    | <b>X-HEAD</b>              | <b>D-HEAD</b>                  |
|--------------------|----------------------------|--------------------------------|
| Image Sensor       | ICX285AL (Intensified)     |                                |
| Active CCD Pixel   | 1360 (H) x 1024 (V) pixels |                                |
| Pixel Size         | 6.45 µm (H) x 6.45 µm (V)  |                                |
| Dynamic Range      | 12 bits                    |                                |
| Intensifier        | 8mm High resolution MCP    |                                |
| Input window       | Fused Silica               |                                |
| Output window      | Fibre Optic                |                                |
| Photocathode       | S25, others on request     |                                |
| Phosphor screen    | P43                        | P46                            |
| Gain               | Variable up to 10,000      |                                |
| Dynamic resolution | 50lp/mm                    | >36lp/mm                       |
| Images             | Single                     | Two<br>(550ns interframe time) |

### MECHANICAL

|                      |  |
|----------------------|--|
| Dimension mm (w/d/h) | <b>Head (without lens)</b><br>9.4cm x 21cm x 9.4cm (3.7" 8.2" x 3.7")<br><b>Controller</b><br>19" rack mount 3U case |
| Weights              | <b>Head</b><br>3kg (6.6lbs)<br><b>Controller</b><br>7kg (15.4lbs)  |
| Tripod Mount         | 3/8-16 UNC Female in head base   |

### ENVIRONMENTAL

|                       |  |
|-----------------------|--|
| Housing               | 19" Rack Mount 2U case                 |
| 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 UKCA/EU harmonised standards |

### TIMING PARAMETERS

|                                |   |
|--------------------------------|---|
| System Clock                   | 200MHz quartz crystal control                                 |
| Inherent Delay                 | 500ns   |
| Exposure Mode (each head)      | Single exposure or multiple exposures (Max. 8) per head       |
| Exposure Time                  | 5ns – 10ms in 5ns steps                                       |
| Interframe Time (head-to-head) | 5ns – 20ms in 5ns steps                                       |
| Delay to 1st exposure          | 500ns – 10ms in 5ns steps                                     |
| Flash Outputs                  | 5ns to 1ms in 5ns steps                                       |
| Separation Time                | 30ns – 20ms in 5ns steps (multiple exposures on same channel) |

### INPUT / OUTPUT SIGNALS

|                         |   |
|-------------------------|---|
| Trigger 1 (BNC)         | Electrical signal<br>Threshold variable from ± 25V<br>Positive or Negative polarity, Make/Break<br>50Ω or 1KΩ termination   |
| Trigger 2 (BNC)         | Electrical signal<br>Threshold variable from ± 25V<br>Positive or Negative polarity, Make/Break<br>50Ω or 1KΩ termination   |
| Timing Monitor Pulse    | Pulse width (min. 5ns) and position user programmable TTL into 50Ω  |
| Flash Trigger Outputs   | Pulse width (min. 5ns) and position user programmable TTL into 50Ω  |
| Remote Camera Interface | Data and command transfer via custom 10m cable.   |
| Camera head control     | Data and command transfer via 100Mbps Ethernet cable length 10m (standard), other lengths up to 100m available 100FX Fibre optic Ethernet link (up to 2Km) - optional |
| Software                | Custom software compatible with Microsoft Windows Operating Systems for cameracontrol, image data archiving in various file formats.                                  |
| Electrical input        | Mains 100-240V AC 50-60Hz   |

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