



Making the invisible visible



25mm Format High Power High Speed Video Camera Intensifier

The Invisible® Vision UVi series of camera accessory intensifiers are designed to add low-light, extended spectral range (from UV to NIR) and fast gating in a compact and all inclusive, easy to use lens coupled package. Typical applications are in combustion, electric discharge, biomedical and ultra-high speed stroboscopic or shuttering techniques in conjunction with high speed or conventional video cameras.



The UVi 2550B models are designed for higher power output applications as typically required with high speed video cameras with frame rates in excess of 50,000 fps. Similar to a conventional 3 stage design in terms of output power and performance but with an improved inter-stage proprietary fast phosphor and a full custom designed intensifier, the 2550B series suffer less from inter-stage concatenating phosphor decays than conventional designs. This custom designed intensifier is fully optimized for use with modern high speed video cameras offering very high system gain and a fast P46 output phosphor in 25mm image format.

The UVi is easily programmed by its integral menu driven LCD display/control panel or via its USB interface and software to synchronize to an external TTL or video signal; offering multiple, digitally programmed gain, delays and exposures (options from 5ns upwards in 5 or 10ns steps) at input trigger/frame rates to >> 500,000 per second and up to 20,000,000 per second in burst mode.

The 25mm intensifier output is collected by a high performance internal relay optics and via an externally adjustable 50mm F mount lens efficiently coupled at 1:1 magnification (25mm) to the users camera system.

Advanced features such as a fully user programmable output shutter monitor and an independent output strobe complement the system along with extensive built in protection mechanisms.

Alternative UVi models, optimized for specific spectral responses, phosphors, intensifier formats or faster shuttering speeds are also available.

Intensifier

Input Window
Photocathode

Output Window
Phosphor
Luminous Gain
Output Diameter
Gating
Resolution

Full Custom, integral MCP design with booster

Quartz.
S20, 200nm to > 800nm nominal (UV to Visible) fast gating.
Peak response typically > 40 mA/W - see response curve below.
Typical white light response between 180uA to 220µA/lumen.
Fibre-optic.
Output stage P46, Intermediary stage proprietary phosphor.
Maximum typically 1,000,000.
25mm (alternative 18mm format also available. 40mm on request).
10ns Minimum (faster 5ns units available upon request).
Typical 25 lp/mm.

Optics

Input
Internal
External

Output Image Format

F – mount.
Integral f/1.2 lens system.
Mated 50mm f/1.4 lens as standard for 25mm diameter output.
Alternatives available upon request.
Maximum usable diameter 24.5mm with standard lens.

System

Modes
Exposures
Delays
Burst mode / Multiple Exposure
Gain Control
Triggering

Outputs

Protection

All electronics/controls included within unit.
Menu driven LCD control panel / indicators.
USB port and graphical user interface s/w.
Crystal controlled timing accuracy.
Continuous (DC), Single (trigger), Run (re-triggering) and Burst
10ns to > 1ms in 10ns steps. 5ns option available
30ns > 10ms in 10ns steps.
Up to 100 programmed delays/exposures per input trigger.
User programmable 0 to 100% (12 bits).
TTL Positive, TTL Negative.
Make / Break (self-powered).
Composite video frame / field synchronization.
User Programmable TTL shutter monitor.
User Programmable TTL 'strobe' output.
Automatic over-brightness (user controlled).

Environmental

Dimensions (approximate)
Weight
Power
Temperature
Construction
Mounting
Documentation and Software
Packaging

113 x 85 x 225mm - including output lens.
< 1.5 Kg.
16W (16V DC @ 1A max.) via supplied adapter (90-264VAC).
0°C to 40°C, non-condensing humidity.
Aluminium housing.
1/4-20 UNC thread on base.
Supplied on CD.
Flight box.

CE and RoHS (Pb free)

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