



*Making the invisible visible*



# 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 with high speed or conventional video cameras.

The UVi 1850B models are designed for higher power output applications as typically required with high speed video camera 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 1850B suffers less from inter-stage concatenating phosphor decays than conventional designs.



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 (from 10ns in 10ns steps) and at framing rates up to 10M fps in burst mode.

The custom designed boosted intensifier is optimized for use with modern high-speed video cameras offering high gain and a fast P46 output phosphor. The intensifier output image is collected by the high-performance internal relay optics matching onto an externally adjustable 50mm F mount (18mm diagonal image) supplied lens to the coupled camera system. Alternative image formats may be selected by differing coupling lenses.

Advanced features such as a fully user programmable output shutter monitor and an independent output strobe complement the system.

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 (UV to Visible).  
Peak response typically > 40 mA/W - see response curve below.  
Typical white light response between 100 to 150µA/lumen.  
Fibre-optic.  
Output stage P46, Intermediary stage proprietary.  
Maximum typically 1,000,000  
18mm.  
10ns Minimum (faster 5ns units available upon request).  
27 lp/mm.

## Optics

Input  
Internal  
External  
Output Image Format

F – mount.  
Integral f/1.4 lens system.  
Mated f/1.4 lens.  
Maximum usable diameter 17.5mm.

## System

Modes  
Exposures  
Delays  
Burst mode / Multiple Exposure  
Gain Control  
Triggering

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.  
50ns > 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).

Outputs

Protection

## Environmental

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

130 x 85 x 180mm - 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)**

Invisible Vision reserves the right to modify specifications without notice.

The Invisible logo is a trademark of Invisible Vision Ltd.

© Invisible Vision Ltd. 2015. All rights reserved.

