



**nitamericas**  
INCORPORATED

**FEATURES**

- 200 Million frames per second
- 5ns Gating
- Up to 24 Independently Programmed Frames
- Megapixel Performance
- Intensified
- Optical viewfinder
- GigE PC Interface
- IVV Imprint PC software for control/analysis
- Compact, rugged design
- Versatile triggering including 'Synchro' mode
- Photocathode options: S20 (UV biased, UV to Visible) or S25 (Visible biased, UV to NIR)

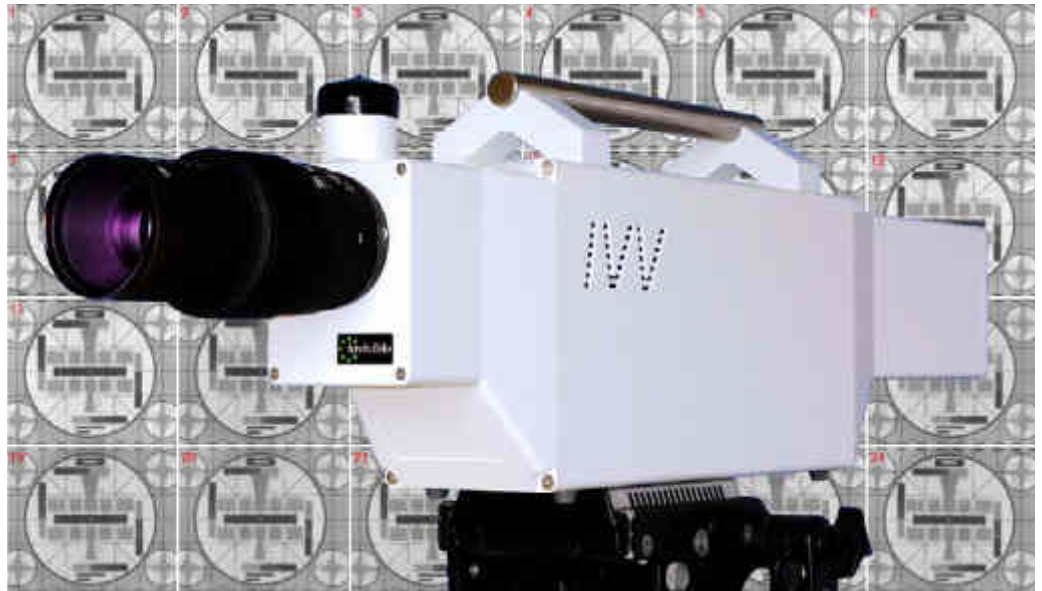
# Ultra UHSi 12/24

Ultra High Speed Framing Camera

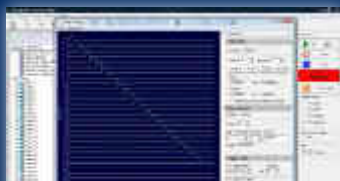


## The Ultra UHSi 12/24

- 200M FPS
- Up to 24 Frames
- Megapixel Performance



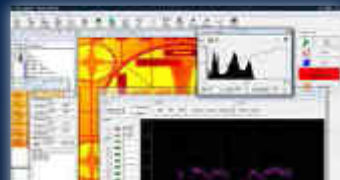
**CONFIGURE**



**TIMING**



**CAPTURE**



**ANALYSE**

The Invisible® Vision Ultra UHSi series of compact ultra high speed framing cameras are designed to capture up to 24 mega-pixel performance frames of the very fastest events. The Ultra UHSi 12/24 provides a researcher unparalleled flexibility to capture an event. The Ultra UHSi 12/24 makes use of an imbedded image intensifier which provides fully independently programmable exposures and delays down to 5ns, and framing rates up to 200 Million fps. Camera versatility is further enhanced by its multiple triggering capabilities, which include "synchro" mode, or "frame-by-frame" triggering.

Typical applications are in combustion, electric discharge, biomedical, detonics, impact, somi-luminescence, fluoroscopy, shock physics and material studies.

The Ultra UHSi is easily controlled with the included IVV Imprint® PC software running on a laptop via a GigE connection. For ease of use, an optical viewfinder is also available to aid set-up and alignment. Simplicity being a virtue, the camera provides a simple

single programmable input trigger (which can be multi-pulsed for 'synchro' frame by frame modes) as well as a manual software trigger mode. Four programmable output strobes plus a shutter monitor are provided for external synchronization of further cameras, experiment triggering and / or flash systems. An internal programmable velocity trap trigger mode is also included.

Rugged and compact, the camera is designed for ease-of-use with a minimum of service requirements.

At the heart of the Ultra UHSi is a unique high resolution beam-splitter with optional UV capability. This is complimented with an unbridled Ultra 'segmented' intensifier and 16M pixel GigE linked CCD.

The Ultra UHSi 12/24 has flexible proven control and timing electronics plus powerful system software. Together they combine to form an elegant, reliable, yet cost effective 21st century ultra high speed imaging system.

# Ultra UHSi 12/24 Ultra High Speed Framing Camera



Making the invisible visible

<b>Intensifier</b> .....	Custom Design, Patented.
Input Window .....	Glass (UV option). Visible biased UV to NIR
Photocathode .....	S25, 400nm to > 850nm (S20 UV option). S25 typically > 300µA/lumen (white light). Option: Customer can specify S20 (UV biased, UV to visible) photocathode at time of order
Gain .....	Typically set to maximum of 5000.
<b>Optics</b> .....	Custom Design, Patented.
Input .....	Standard Nikon F-mount.
Beam-splitter .....	Custom Made 12+ way, visible with UV option. f/2.
View-finder .....	Automatic optical viewfinder / capping shutter.
<b>CCD</b>	
Pixels .....	4872 (h) x 3248 (v) with 7.4µm pixels
Dynamic Range.....	65dB – Digitized to 12 bit
<b>System</b>	
Frames.....	12 + 12 (12 images @ 200M fps + further 12 @ 200M fps).
Resolution.....	24 Frames @ 1000 x 860 pixels per image. System dynamically resolves > 350 TV lines per picture height.
Timing /Trigger Jitter .....	200MHz (5ns period) system clock. Trigger jitter to clock ± 2.5ns.
Framing Rate .....	200M fps
Exposures .....	5ns to > 1ms in 5ns steps. Multiple exposures allowed.
Delays.....	From input trigger : 50ns to > 10ms in 5ns steps. Interframe times : 0 to > 10ms in 5ns steps. 10µs nominal between frames 12 and 13.
Gain Control .....	User programmable 0 to 100% (12 bits).
Triggering .....	TTL Positive, TTL Negative, Make & Break (self powered). 'Synchro' mode – frame-by-frame (separate trigger per frame). Velocity Trap - Measures velocity on-the-fly & automatically triggers.
Outputs.....	User Programmable TTL Gate monitor. 5ns timing steps Four User Programmable TTL 'strokes'. 5ns timing steps
Interface .....	Gigabit Ethernet (1000Mb/sec - GigE) direct to PC.
<b>Environmental</b>	
Dimensions (excluding objective lens).....	106mm (wide) x 215mm (height) x 696mm (long)
Weight (excluding objective lens).....	9.9Kg (21.8 lb - avoirdupois pounds)
Power.....	35W max (90-264VAC).
Temperature .....	0°C to 40°C, non-condensing humidity.
Construction .....	Solid aluminium housing with large carrying handle.
Mounting .....	2 x 3/8-16 UNC thread on base.
Documentation and Software.....	Supplied on CD.
Packaging .....	Heavy duty IP65 flight box.
CE and RoHS (Pb free)	
<b>Software</b> .....	IVV Imprint® PC software as standard. Software seamlessly allows for full multi-camera control, capture, image analysis and file export for all current IVV camera types.



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