HELIOS WELDING VISUALIZATION SYSTEM

Advanced, all-in-one, user-friendly & affordable.

UNPARALLELED ILLUMINATION

Capture every intricate detail of your welding process with exceptional clarity. Designed for high-speed cameras, our Helios System minimizes shadows, glare, and flickering, guaranteeing pristine slow-motion welding footage. Whether you're working in a welding lab or a small workshop, this portable setup is easy and quick to set up and operate, allowing you to take it anywhere your projects take you.

HELIOS WELDING LIGHT

CHRONOS 1.4 HIGH-SPEED CAMERA

INTUITIVE & **EASY TO USE**

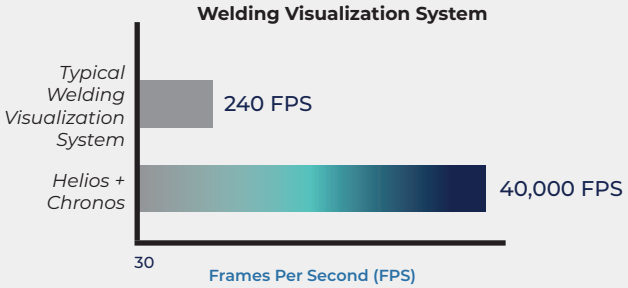
- **Touchscreen Display**
- No PC Setup Required

HIGH **FRAME-RATE**

- **1,000-40,000 FPS**
- Scales With Resolution

CRYSTAL CLEAR **VISUALIZATIONS**

- **1,000 W Peak Power**
- Allows For Clear Review And Analysis



SUGGESTED KIT PRICING

ITEM	$USD
Helios Light (3x)	$3,300
Chronos 1.4 32GB Monochrome High-Speed Camera (1x)	$5,600
Microscope Lens (1x)	$299
Liquid Cooling	N/C
Supporting Cables + Hard Case	N/C
Total Kit Price	**$9,199**

WHY HELIOS?

Easily Diagnose Problems: Capture your welding process in high definition, allowing for thorough analysis and precise adjustments.

Optimize Processes: Quickly analyze high-contrast, slow-motion videos on-site to improve automated welding processes.

No Laser Safety Required: Helios is an LED-based solution, removing the need for laser safety training and extra protective equipment.

APPLICATIONS

- Quality Control
- Weld Monitoring
- Welding Pool Visualization
- Laser Cutting Analysis
- Welding Education & Training
- Process Improvement

TYPES OF WELDING SUPPORTED

Capture intricate details and improve your welding process. Check out demo videos here.

Kron Technologies Inc

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SPECIFICATIONS

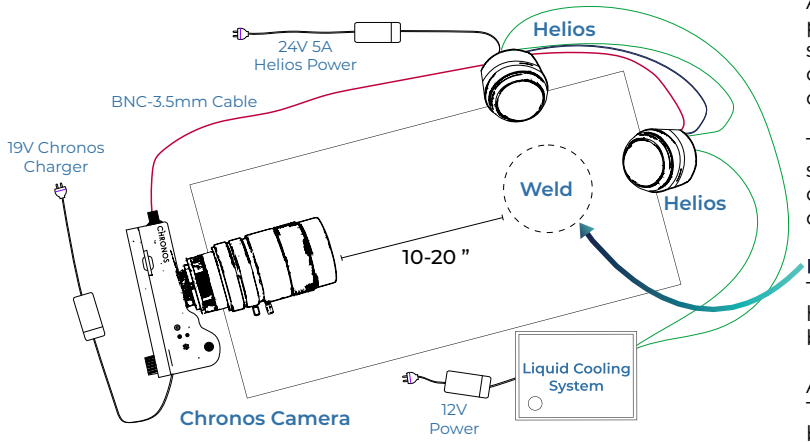
CHRONOS CAMERA	
Imaging	**1.4:** 1280x1024 1069FPS / **2.1-HD:** 1920x1080 1000FPS
Memory	8GB, 16GB, or 32GB
Record Time (in seconds)	**1.4:** 2.7 (8GB), 5.5 (16GB), 11 (32GB) / **2.1-HD:** 4 (8GB), 8 (16GB), 16 (32GB)
Lens Mount	CS/C mount (included) Options available
Display	5" 800x480 capacitive touchscreen, 1000 nit daylight visible
Dimensions	155mm x 96mm x 67.3mm (6.11" x 3.78" x 2.65") w/o lens
Weight	1.06 kg (2.34 lbs) without lens
VIDEO FORMATS	
H.264	Industry-standard mp4 (MPEG-4) files at bitrates up to 60Mbps
Cinema DNG Raw	Standard Adobe CinemaDNG raw files
TIFF	Standard TIFF raw files with timestamps
Storage Devices	SD, USB, SSD, or SMB/NFS network drives
BATTERY	
Type	EN-EL4a
Runtime	**1.4:** 1.5 hour recording / **2.1-HD:** 1 hour recording
Charge Time	2 hours (0-80%) with in-camera charger
INPUTS/OUTPUTS	
Power Input	17-20V 40W (5.5/2.5mm barrel jack, positive tip)
Network	Gigabit Ethernet
Trigger	2 trigger inputs/frame strobe outputs (BNC & Aux) Adjustable input threshold 0 to 6.6V Electrically isolated trigger input (Aux connector)
Video	HDMI output 720p or 1080p (default) @ 60FPS

INPUTS/OUTPUTS CONTINUED	
USB	USB type A (host) and micro-B (device)
SATA	eSATA 3Gbps to SATA 2.5" III SSD (5V power)
TRIGGER PORTS	
BNC	Female BNC connector
AUX	Phoenix 1778890 8-pin terminal block connector, including isolated trigger input.
NETWORK CONTROL	
Network Control	Through web page or REST interface with USB or CAT ethernet cable
ENVIRONMENTAL	
Operating Temperature	-20 °C to +40 °C (-4 °F to +104 °F)

HELIOS LIGHT*	
Peak Power	1000 W (Pulsed)
Memory	445nm, Royal Blue
Power Input	24 Volt DC Power Input / Output
Signal	Pulse Signal Input / Output
Cooling	Air or Liquid Cooling Depending on Application
Temperature	Built-in overtemperature protection
Glass Lens	User-replaceable disposable glass lens
Dimensions	56mm (Back to lens) x 57mm diameter 71mm w/ watercooling nozzles
Weight	0.217 kg (0.48 lbs)
Mounting	M4 and 1/4" 20

** Preliminary specifications, subject to minor changes.*

HELIOS SETUP



LEGEND
- Power
- SYNC
- Water Cooling (6mm Tubing)

HOW IT WORKS:
Helios lights use custom LEDs to generate a narrow-band, ultra-high intensity light centered at a wavelength of 445nm, visible to humans as a royal blue color.

A matching 445nm narrow-band filter in the Chronos camera passes most of the light produced by the Helios lights, while simultaneously blocking the unwanted light from the welding operation (the process light). This results in a uniquely clear view of the welding process.

The Helios lights are pulsed in synchronization with the camera's shutter, enabling peak illumination intensities unattainable with continuous illumination, as well as reducing the heat imparted onto the subject from the illumination source.

HELIOS LIGHT WORKING DISTANCE:
The distance from each Helios light to the process area is highly dependent on the amount of process (unwanted) light being emitted from the process site.

As a general rule, the closer the lights, the better the results. The number of lights used can also compensate for the lights being placed further away from the process site.

CHRONOS HIGH-SPEED CAMERA WORKING DISTANCE:
Using the recommended Computar 12.5-75mm zoom lens in conjunction with the Chronos 1.4 high-speed camera allows for approximately 10"-20" (25cm to 50cm) of working distance between the process site and the camera lens.

Other lenses can be used to adjust the working distance as required for your application.

Learn more and see demo videos here

KRON TECHNOLOGIES
HIGH-SPEED IMAGING