Photron

Ruggedized Multi-Head High-Speed Camera System

FASTCAM MH6 is designed to provide high resolution full HD high-speed imaging in challenging automotive safety and defence testing environments were equipment must be ruggedized to withstand high shock and vibration and operate in severely space limited locations.

The system allows up to six sub-miniature (35mm x 35mm x 36mm) camera heads to be connected to a single processor / control unit. The unique MH6 camera head design and robust and highly flexible connecting cables can be adjusted to provide flexibility of desired viewing angle and mounting location.

The FASTCAM MH6 system uses an advanced CMOS image sensor optimized for light sensitivity and high image quality that is unique to Photron. A 6.6 micron pixel pitch gives a full resolution image sensor size of 12.7 x 7.12mm (diagonal 14.6mm). The system is compatible with readily available 1-inch C-mount ruggedized lenses.

System features include automated image download to built-in non-volatile SSD data storage and operation via optional keypad with LCD display. In addition to a standard Gigabit Ethernet network interface the system provides a USB3 connector to allow local downloading of image data.

Built-in 3 axis / 1kHz acceleration sensor allows waveform data to be saved alongside recorded images. This sensor can be used to provide a record trigger signal if measured acceleration exceeds user pre-set threshold values. Thermal information from a built-in temperature sensor is also recorded alongside images.

FASTCAM MH6

2 Megapixel CMOS Image Sensor:
1920 x 1400 pixels at 750fps
1920 x 1080 pixels at 1,000fps
1280 x 800 pixels at 2,000fps
1280 x 348 pixels at 5,000fps

Class Leading Light Sensitivity:
ISO 12232 Ssat Standard
ISO 5,000 color
ISO 10,000 monochrome

Global Electronic Shutter:
4μs independent of frame rate

Dynamic Range (ADC):
24-bit color
8-bit monochrome

Ultra-Compact and Lightweight:
Processor:
210mm x 70mm x 150mm, weight 2kg (4.41 lbs.)
Camera Heads:
35mm x 35mm x 36mm, weight 100g (0.22 lbs.)

High-Speed Interface:
Control and image download to network via fast Gigabit Ethernet or USB3 interface for local image download

Memory Backup to Internal SSD:
Automated download to non-volatile 512GB built-in SSD

High-G Rated:
Suitable for application in high-G environments; Operation tested to 160G, 10ms, 6-axes, 1,000 times

Built-in Acceleration Sensor:
Acceleration data saved with image, threshold values can be set to provide record trigger input

Camera Performance Specifications

Model	FASTCAM MH6
Full Frame Performance	750 fps 1920 x 1400 pixels
Example Frame Rates	1,000fps 1920 x 1080 pixels 2,000fps 1280 x 800 pixels 5,000fps 1280 x 348 pixels
Minimum Exposure Time	Global electronic shutter to 4µs selectable independent of frame rate
Dynamic Range (ADC)	8-bit monochrome, 24-bit color
Memory Capacity	24GB divided equally between up to 6 connected camera heads with non-volatile memory back-up feature.
Sensor Size / Pixel Size	12.7 x 9.5mm (diagonal 14.6mm), 6.6um square pixel
Input / Output	Input: Trigger (TTL/Switch), sync, ready, event, IRIG Output: trigger, sync, ready, rec, exposure
Camera Control Interface	High-speed Gigabit Ethernet and USB3
Data Storage Media	Built-in 512GB SSD with autosave function
Supported OS	Microsoft Windows operating systems including: 7, 8, 8.1, 10 (32/64-bit)

Mechanical and Environmental Specifications

Mechanical	
Lens Mount	C-mount provided
Camera Head Cable Length	7m or 10m
External Dimensions	
Controller/Processor (size / weight)	210mm (H) x 70mm (W) x 150mm (D) / 2kg (4.41lbs)
Camera Head (size / weight)	35mm (H) x 35mm (W) x 36mm (D) / 100 grams (0.22lbs)
Environmental	
Operating Temperature	-10 to 40C, 14˚ to 104˚F
Storage Temperature	-20 to 60C, -4˚ to 140˚F
Humidity	85% or less (non-condensing)
Operational Shock	160G, 10ms, 6-axes, 1,000 times

* Specifications subject to change without notice.