

Digital high speed camera

HAS-U2

USB 3.0 bus power

5M 2,592 × 2,048 100 frames / second

Embedded memory / DMA hybrid model



HAS-U2 is a high-speed camera with 1-inch CMOS sensor and 2,592 × 2,048 effective pixels that can shoot 100 fps at full resolution, 1,000 fps at VGA, and up to 7,500 fps by limiting the pixel area.

**Perfect for multiple high-speed camera imaging,
with embedded memory, in one compact solution.**

- Good balance between high resolution and high frame rates.
- It can be used in embedded 2GB memory mode or direct memory access mode with USB 3.0 as the situation demands.
- Fully synchronized multiple high-speed cameras with just one laptop PC.
- Full spec operation available above USB 3.0 max data transfer speed.
- Large volume of memory by using 64-bit OS.
- The low power consumption design, made for USB 3.0 bus power, simplifies your cabling layout.
- Internal / External sync
- 10-bit A / D
- Data transmission rate is approx. 506 MB / sec (embedded memory mode) and 303 MB / sec (DMA transfer mode)
- Unit weight approx. 240 g, unit size (W × H × D) 44.8 × 44.8 × 81.8 mm

Perfect for all kinds of research / production engineering in behavior, fluid, sports science, biomechanical, robotics, machine vision, crash test, droplet, microscopy, trouble shooting, and more.

Product

- Camera unit
- USB 3.0 cable
- Control software



Palm-sized body



Frame rate and pixel size

Pix	H	320	320	240	320	320	576	512	640	800	1024	1280	1024	1280	1600	1920	2592	
Fps	V	20	120	180	240	320	256	480	480	600	768	768	1024	1024	1200	1080	2048	
7500	●																	
5000	●																	
4000		●																
3000		●	●															
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150												●	●	●				
100													●	●	●			
60															●	●	●	●

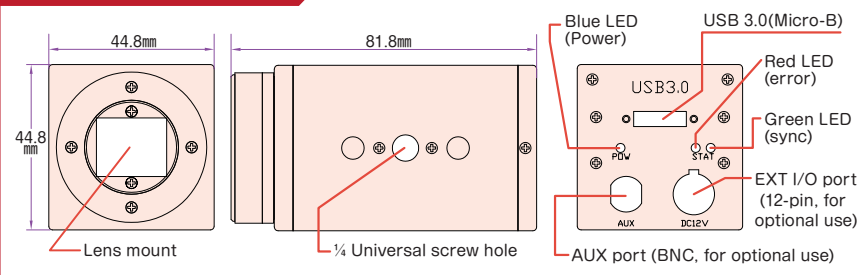
★ Only for embedded memory mode

● Available for both embedded memory mode and DMA mode

Frame number, resolution and recording duration table

Fps	Resolution	Recording frames (at 2 GB)	Recording time (at 2 GB)
100	2,592 × 2,048	399 f	4 sec
250	1,920 × 1,080	1,030 f	4.1 sec
500	1,280 × 768	2,178 f	4.3 sec
1,000	640 × 480	6,982 f	6.9 sec

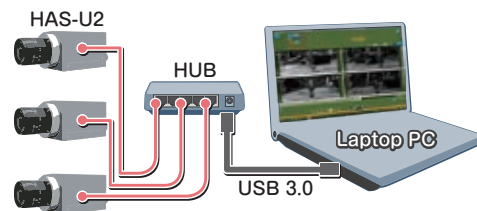
HAS-U2 Dimensions



Connection diagram

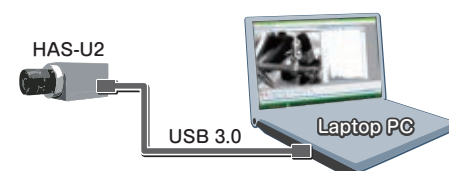
Embedded memory mode

Multiple cameras with one PC. The full spec operation speed is above the USB 3.0 max data transfer speed.



DMA transfer mode

A large volume of RAM can be used with 64-bit OS. Frame rate and resolution will be limited by USB 3.0 max data transfer speed.



Specifications

Camera	
Camera type	Mono (HAS-U2M) Color (HAS-U2C)
Sensor type	CMOS
A / D	10-bit
Effective resolution	2,592 × 2,048 (5 MP)
Sensor format	1-inch
Lens mount	C
Recording mode	Embedded memory / DMA transfer
Memory size	2 GB
Data output	USB 3.0
Interface	Micro-B
Shutter(exposure)	Minimum 1/100,000 (10 μ)
Sensitivity(at 550nm)	7.5 V / lux.s
Power input	5 V
Power delivery	USB bus power / 12pin
Electric requirement	Under 4.5 W
Weight	Approx. 240 g
Size	44.8 × 44.8 × 81.8 mm
Control software	
Trigger mode	Start / End / Variable
(optional)	(3.3 V TTL or contact signal)
Aux function	Histogram, Guide line, Focus peeking, Live image rotation, Time stamp, Trimming, Text
Image format	AVI, WMV, BMP / Jpeg, RAW
Supported OS	Windows 7, Windows 8/8.1, Windows 10/11

*Specifications and external appearance may be subject to change without notice.



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