



These images are taken from a high-speed video sequence originally recorded with the ultima 512 at 4,000 frames per second and with a 10 microsecond shutter to ensure the images are sharp and blur free. These images also show the clarity that latest generation CMOS cameras like the ultima 512 can achieve in low lighting conditions.

ultima 512

FASTCAM

Lightweight rugged camera provides superb sensitivity at 2,000 fps and 512 x 512 resolution.

Utilizing a highly sensitive CMOS sensor, the ultima 512 offers a realistic alternative to 16mm high-speed film recording where mega pixel resolution is not essential.

Providing 512 x 512-pixels operation to 2,000 frames per second (fps) and reduced resolution operation all the way to 32,000 fps, the ultima 512 offers a lightweight camera head connected to a rugged and compact processor unit via a 16-foot (5m) single flexible cable allowing operation in hostile, inaccessible and space-confined locations. Both the camera head and processor have been fully qualified for High-G operation.

The ultima 512 system incorporates Photron's latest unique operation feature, Dual Speed Recording™ with initial stages of an event recorded at one frame rate, and subsequent frames at a different rate.

The ultima 512 can be operated remotely under different protocols: either by Ethernet, IEEE1394 (FireWire), or for long-distance operation via the Photron Gigabit Optical Network.

BENEFITS

Proven alternative to 16mm high-speed film recording, qualified for High-G operation

Lightweight tethered camera head for easy access to hard-to-reach locations

Full 512 x 512-pixels resolution up to 2,000 fps

Up to 32,000 fps at reduced resolution

Dual Speed Recording™ allows different recording rates within scenes

IRIG or GPS timing recorded in real time on every frame – not appended later

Can be used independently of a PC through the handheld keypad and optional LCD viewfinder or video monitor

12V DC requirement means the 512 can be powered by a 12V battery for greater portability



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SPECIFICATIONS

Frame Rate (fps)	Max. Resolution		Record Time (seconds)		Record Time (frames)	
	Horizontal	Vertical	670MB	2.0GB	670MB	2.0GB
60	512	512	34.10	102.40	2,048	6,144
125	512	512	16.25	48.76	2,048	6,144
250	512	512	8.20	24.58	2,048	6,144
500	512	512	4.10	12.30	2,048	6,144
1,000	512	512	2.05	6.16	2,048	6,144
1,000	256	256	8.20	24.5	8,192	24,576
2,000	512	512	1.02	3.07	2,048	6,144
2,000	256	256	4.08	12.24	8,192	24,576
4,000	512	256	1.02	3.07	4,096	12,288
4,000	256	256	2.04	6.14	8,192	24,576
8,000	512	128	1.02	3.07	8,192	24,576
8,000	128	128	4.08	12.2	32,768	98,304
16,000	512	64	1.02	3.07	16,384	49,152
32,000	512	32	1.02	3.07	32,768	98,304

Sensor	512 x 512-pixels ultra-high sensitivity/speed CMOS 10-bit monochrome (1,024 steps), 30-bit color (Bayer system color, single sensor)
Shutter	Global electronic shutter from 16.7ms to 3.7 μ s, independent of frame rate
Saved Image Formats	JPEG, AVI, TIFF, BMP, RAW (compressed or uncompressed) and RS170 video output. Images can be saved with or without image or comment data
Phase Lock	Enables cameras to be synchronized precisely together to a master camera or external source
Triggering	Selectable positive or negative TTL 5Vp-p, switch closure
Lens Mount	C-mount standard. Optional High-G block mount
Camera Cable	16.4' (5m) 10m option available
Data Display	Frame Rate, Shutter Speed, Trigger Mode, Date or Time (switchable), Status (Playback/Record), Real Time, Frame Count, and Resolution
Video Output	NTSC or PAL. Live video during recording. Ability to zoom, pan and tilt within image via keypad
Dual Speed Recording™	Enables the recording speed to be changed up or down during a recording
Timing	Internal clock or external source such as IRIG or GPS. Indicators show current status of timing source
Event Markers	Ten user-entered event markers are available to mark specific events within the image in real time. Immediately accessible through software
Recording Modes	Start, End, Center, Manual, Random, Random Reset, Random Center, Random Manual, and Dual Speed Recording™
Partitioning	Up to 64 memory segments for multiple recordings in memory
Camera Control	Through supplied keypad and RS-422A. And either via the Photron Gigabit Optical Network, Ethernet or FireWire
Shock	100G @ 10ms any axis
Dimensions and Weight	Camera Head: (no lens mount): 3.54" (90mm) H x 3.07" (78mm) W x 2.22" (56.3mm) D Weight: 1.1 lb (0.5 kg) Processor: (no handle): 4.3" (109.2mm) H x 3.54" (90mm) W x 9.25" (235mm) D Weight: 3.9 lb (1.76 kg)

Specifications subject to change without notice

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