Photron's super sensitive high-speed camera records a scalpel puncturing a water filled balloon. These images are a selection from the original sequence recorded at 4,000 frames per second with a 25 microsecond shutter. The images clearly show the balloon tearing while the water retains the original balloon shape even after the scalpel has passed right through it.

512 PCI
FASTCAM-X

Latest generation CMOS sensor provides high-speed digital imaging with exceptional sensitivity from your PC.

Recording at 2,000 frames per second (fps), with full 512 x 512-pixels resolution and reduced resolution up to 32,000 fps, Photron's **512 PCI** connects directly to a single PCI card for easy installation in any desktop PC. Supplied with the system is Photron Motion Tools™ software, offering a variety of data capture and expanded analysis tools.

High light sensitivity is achieved using a 10-bit monochrome (30-bit color) CMOS sensor with a large 16µm pixel size. The **512 PCI** system incorporates Photron's latest unique operating feature, Dual Speed Recording™. This enables the user to program the system to record the initial stages of an event at one frame rate, and the later stages at a different frame rate, achieving the best possible combination of recording speeds and available memory.

Expandable memory means you can purchase a system that is configured to your precise requirements; still more proof that Photron is committed to providing users with an unmatched range of practical high-speed digital imaging solutions. Additionally, the system offers exceptional color fidelity and an electronic global shutter.

BENEFITS

Superior CMOS sensor provides excellent light sensitivity meaning less lighting is required and faster shutter speeds can be used

Full resolution, 512 x 512-pixels, operation to 2,000 fps and reduced resolution up to 32,000 fps

Global electronic shutter, ranging from 10ms to 4µs removes motion blur for crisp sharp imagery regardless of object speed

Expandable memory configurations for longer recording times such as over eight seconds at 1,000 full resolution frames per second

Uses only a single PCI slot, regardless of memory configuration

Supplied with complete camera control, image playback and automatic motion analysis software and comprehensive SDK

Four or more 512 PCI systems can be installed and operated by a single PC. Available optional expansion modules include:
- External data capture
- Automatic video and data download
- Enhanced motion analysis
- IRIG/GPS time code capture
- Image annotation

SLOW MOTION IMAGING SOLUTIONS

Photron®

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512 PCI
FASTCAM-X

SPECIFICATIONS

Frame Rate	Max. Resolution		Record Time (seconds)		Record Time (frames)	
(fps)	Horizontal	Vertical	1.3GB	2.6GB	1.3GB	2.6GB
60	512	512	68.3	136.5	4,096	8,192
125	512	512	32.8	65.5	4,096	8,192
250	512	512	16.4	32.8	4,096	8,192
500	512	512	8.2	16.4	4,096	8,192
1,000	512	512	4.1	8.2	4,096	8,192
2,000	512	512	2.0	4.1	4,096	8,192
4,000	512	256	2.0	4.1	8,192	16,384
8,000	512	128	2.0	4.1	16,384	32,768
16,000	512	64	2.0	4.1	32,768	65,536
32,000	512	32	2.0	4.1	65,536	131,072

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 4µs independent of frame rate
Saved Image Formats	AVI, JPEG, PNG (10-bit), TIFF, FTIF (10-bit), BMP, and Bayer and RS-170 Video output. Images can be saved with or without image or comment data
Phase Lock	Enables cameras to be precisely synchronized together to a master camera or external source
Triggering	Selectable positive or negative TTL 5Vp-p, switch closure
Lens Mount	C-mount
Camera Cable	16.4' (5m) supplied, can be increased through optional cable repeaters
Data Display	Frame Rate, Shutter Speed, Trigger Mode, Date or Time (switchable), Status (Playback/Record), Real Time, Frame Count and Resolution
PC Specifications	**CPU:** Pentium 4, 2.4 GHz recommended, 512MB of RAM or more, 64MB minimum of VRAM, 20GB hard drive
	OS: 2000 Professional/Windows XP
Timing	Internal clock or external source such as IRIG or GPS (optional module). Indicators show current status of timing source
Recording Modes	Start, End, Center, Manual, Random, Random Reset, Random Center, Random Manual, and Dual Speed Recording™
Partitioning	Up to 8 memory segments for multiple recordings in memory
PCI Card Specifications	PCI Standard Specification Rev. 2.1 Standard full-size (with memory installed) - 25W Power Consumption
Dimensions and Weight	**Camera Head:** 3.54" (86mm) H x 3.4" (86mm) W x 2.2" (56mm) D **Weight:** 1.37 lb (620g) plus cable
Environmental	0 C (32 F) to 40 C (104 F)
Software	**Photron Motion Tools™** is a powerful suite of tools intended to compliment Photron's PC-based high-speed systems. Optional modules include:

- Data Acquisition – records external ASCII data synchronized with video
- Motion Analysis – automated tracking of up to 32 points of interest
- Auto-Download – Automatic download of video and data to a networked drive
- IRIG/GPS – records times codes from satellite signals
- Image Annotation – Enables individual frames or entire sequences to be labeled

Photron FASTCAM Viewer (PFV) and dedicated **SDK**

Specifications subject to change without notice

TECH IMAGING

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