

**Photron APX: the new standard  
in speed, sensitivity and versatility**



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The Photron APX sets new standards for high-speed imaging by offering a completely new and highly light-sensitive mega-pixel CMOS sensor. With over one million enormous 17.5µm pixels, the APX enjoys a receptivity to light that until now only older, lower resolution CCD sensor technologies could achieve. This feature makes it ideal for lower-light applications or those that required expensive, hot lighting setups. The APX's sensitivity to light enables fast shutter speeds that prevent motion blur.

In addition to the ability to function under lower lighting conditions at very high speeds, the APX retains all the benefits long associated with Photron's existing CMOS cameras, including exceptional anti-blooming, an easy-to-operate approach and mega-pixel resolution. The APX provides full resolution up to 2,000 frames per second (fps), and reduced resolution all the way up to a phenomenal 100,000 fps.

The APX comes standard with a 20-foot (6m) cable or with the optional 52-foot (16m) camera cable, or as a single-piece unit with the camera and processor combined into one compact housing.

Each APX is supplied with full control and image download software for those who prefer to operate multiple cameras via PC as well as an intuitive handheld control unit for easy operation where a computer is not required.

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**PHOTRON™**

F E A T U R E S

- Full, 1,024 by 1,024 pixel resolution, up to 2,000 frames per second (fps)
- 10-bit monochrome, 30-bit color CMOS sensor with large pixels for increased sensitivity
- Recording at frame rates up to 100,000 fps
- Global electronic shutter to 4µs
- Memory segment feature – enables 64 different recordings to be made in one session
- IRIG or GPS timing is recorded in real time on every frame – not appended later
- Lightweight tethered camera head enables easy access to hazardous or hard to reach locations
- Camera can be controlled via Photron Gigabit Optical Network, Ethernet, FireWire and Keypad
- Image memory can be expanded to 8 Gigabytes to facilitate 3 second record duration at maximum resolution and 2,000 fps or 6 seconds at 1,000 fps



Frame Rates in frames per second

60+	500	1,000	2,000	4,000	6,000	8,000	12,500	15,000	24,000	30,000	40,000	50,000	87,600	100,000
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Resolution 10-bit monochrome (1,024 steps), 30-bit color

Frame Rate (fps)	Resolution Max		Resolution 2		Resolution 3		Resolution Min	
	H	V	H	V	H	V	H	V
60 to 2,000	1,024	1,024	1,024	512	512	512	128	32
4,000	1,024	512	512	512	512	256	128	32
6,000	512	512	512	256	256	256	128	32
8,000	1,024	256	512	256	256	256	128	32
12,500	512	256	256	256	256	128	128	32
15,000	1,024	128	512	128	256	128	128	32
15,000	256	256	256	128	128	128	128	32
24,000	512	128	256	128	128	128	128	32
30,000	256	128	128	128	128	64	128	32
40,000	512	64	256	64	128	64	128	32
50,000	256	64	128	64	64	64	128	32
87,600	256	32	128	32	-	-	64	32
100,000	128	32	-	-	-	-	64	32

Record Time in seconds and frames

Frame Rate (fps)	Standard 2.6 GB		Expanded 8 GB	
	Max. Res.	Min. Res.	Max. Res.	Min. Res.
2,000	1s (2,048)	262s (524,288)	3s (6,144)	786s (1,572,864)
4,000	1s (4,096)	131s (524,288)	3s (12,288)	393s (1,572,864)
12,500	1.3s (16,384)	41.9s (524,288)	3.9s (49,152)	125s (1,572,864)
24,000	1.36s (32,768)	21.8s (524,288)	4s (98,304)	65s (1,572,864)
50,000	2.6s (131,072)	10.4s (524,288)	7.8s (393,216)	31s (1,572,864)
100,000	5.2s (524,288)	5.2s (524,288)	15.7s (1,572,864)	15s (1,572,864)

- Sensor** CMOS (Bayer system color, single sensor) with 17.5µm pixel and 4µs global electronic shutter
- Saved Image Formats** JPEG, AVI, TIFF, BMP, RAW (compressed or uncompressed) and RS170 video output
- Phase Lock** Enables multiple cameras to be synchronized precisely together to a master camera or an external source such as IRIG-B, GPS or other suitable time code
- Triggering** Switch closure, open collector, TTL and automatic
- Lens Mount** F-mount, C-mount and high-G 'block' mount available
- Camera Cable** 19.68' (6m). 52.49' (16m) optional
- Data Display** Frame Rate, Shutter Speed, Trigger Mode, Date or Time (can be switched), Status (Playback/Record), Real Time, Frame Count and Resolution
- Video Output** NTCS or PAL. Live video during recording. Ability to zoom, pan and tilt within image via keypad
- 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 sequence in real time
- Recording Modes** Start, End, Center, Random and Segment (64 segments available)
- Connectivity** Photron Gigabit Optical Network, Ethernet, FireWire and supplied keypad
- Shock** 100g @ 10 ms any axis, 50g @ 100 ms any axis
- Dimensions and Weight** Processor: 4.55" (115.6 mm) W x 4.69" (119.2 mm) H x 11.6" (294.7 mm) D  
Camera: 4.33" (110 mm) W x 4.72" (120 mm) H x 3.34" (85 mm) D. - without lens mount

Specifications subject to change without notice.

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