Chronos 1.4 is a 1.4 gigapixel-per-second handheld high-speed camera. Completely self-contained, you can take high-speed imaging with you anywhere. It records 1280x1024 video at 1057fps, and can record at up to 38 500fps at lower resolution. Video is saved in compressed h.264 or uncompressed RAW format to removable media. You can shoot for hours, saving hundreds of shots on a single card.

Main Features

1.4Gpx/s, 1.3 megapixel image sensor captures 1280x1024 @ 1057fps, and up to 38500fps at lower resolution. Available in color and monochrome. The monochrome option has higher effective resolution and is twice as sensitive as color.

8GB, 16GB and 32GB memory options for 4, 8 and 16 second record time respectively.

High sensitivity of ISO 320-5 120 (Color), 740-11 840 (Monochrome) enables shooting with modest lighting.

Completely standalone, untethered operation with 1. 5hr internal battery. Runs indefinitely on AC adapter.

"Run-n-Gun" record mode allows you to forget about saving. Take bursts of video by holding the shutter button, and the video is automatically saved to card. You can continue to shoot and view live video while saving, no waiting for the save to complete as long as buffer is available.

Continuous record mode records normal rate video (60fps) continuously to storage devices while simultaneously recording bursts of high-speed video.

Focus peaking highlights sharp edges for quick and perfect focus. Zebra lines help you set correct exposure.

Resolutions and Frame rates

Resolution	Max FPS	Record time (sec) (8GB)	Record time (sec) (16GB)	Record Time (sec) (32GB)
1280 x 1024	1 057	4.13	8.26	16.52
1280 x 720	1 502	4.13	8.27	16.54
1280 x 512	2 111	4.14	8.27	16.54
1280 x 360	2 999	4.14	8.28	16.56
1280 x 240	4 489	4.15	8.30	16.6
1280 x 120	8 923	4.17	8.35	16.62
1280 x 96	11 119	4.19	8.38	16.76
1024 x 768	1 771	4.11	8.22	16.44
1024 x 576	2 359	4.11	8.23	16.46
800 x 600	2 873	4.15	8.30	16.6
800 x 480	3 587	4.15	8.31	16.62
640 x 480	4 436	4.20	8.40	16.8
640 x 360	5 903	4.21	8.42	16.84
640 x 240	8 816	4.23	8.45	16.9
640 x 120	17 424	4.28	8.56	17.12
640 x 96	21 649	4.30	8.61	17.22
336 x 252	15 200	4.43	8.87	17.74
336 x 190	20 020	4.47	8.94	17.88
336 x 120	31 192	4.53	9.07	18.14
336 x 96	38 565	4.60	9.20	18.4

Full Specifications

Camera	*Imaging*	1280x1024 1057fps, see resolution table for details
	Memory	8GB, 16GB, or 32GB
	Record time	4 seconds (8GB), 8 seconds (16GB), 16 seconds (32GB)
	Lens mount	CS mount, C mount with included adapter
	Backfocus	Field adjustable
	IR Filter	650nm, user removable, 18 x 18 x 1.1mm
	Display	5" 800x480 capacitive touchscreen
	Enclosure	Anodized CNC machined aluminum
	Cooling	Active cooling, variable-speed fan
	Dimensions	155mm x 96mm x 67.3mm (6.11" x 3.78" x 2.65") without lens
	Weight	1.06kg (2.34 lbs) without lens
Video formats	*H.264*	Industry-standard mp4 files at bitrates up to 60Mbps
	cinemaDNG Raw	Standard Adobe cinemaDNG raw files

Continued

Image Sensor	*Resolution*	1280x1024 @ 1057fps
	Speed	1.4Gpx/s - Full throughput down to 336 pixel image width
	Dimensions	8.45 x 6.76mm
	Pixel pitch	6.6um
	Sensitivity (ISO)	Color - ISO 320 to 5 120 Mono - ISO 740 to 11 840
	Shutter	Electronic global shutter, 1/fps to 1us (1/1 000 000 s)
	Dynamic range	56.7 dB
	Bit depth	12-bit
Battery	*Type*	EN-EL4a
	Runtime	1.5 hours recording
	Charge time	2 hours (0-80%) with in-camera charger
IO	*Power Input*	17-20V 40W 5.5/2.5mm barrel jack, positive tip
	*Network**	Gigabit Ethernet
	Trigger	Two Trigger inputs/frame strobe outputs (BNC and Aux) Adjustable input threshold 0 to 6.6V Electrically isolated trigger input (Aux connector)
	*Audio**	Microphone/Line input, headphone output
	*Video**	HDMI output, video or video+menus
	USB	Two USB host ports (one on mini-B via USB OTG cable)
	SATA	eSATA 3G
	*Analog input**	1MSa/s 12-bit, 200kHz bandwidth, +/- 1V full scale
Trigger modes	*Normal triggered*	Camera records until a defined delay after a trigger
	Triggered start	Camera starts recording a defined delay after a trigger
Trigger Sources	*Electrical*	0-6.6V threshold, optional button debounce and pullup
	*Audio**	Trigger on loud sounds
	*Acceleration**	Trigger on camera motion, tilt or shock
	*Image**	Trigger on image changes
Recording modes	*Normal*	Records into the circular buffer. Once a trigger occurs, video can be reviewed and saved
	Segmented	RAM is divided into segments, each recording as in the Normal mode above. Number of segments is user selectable.
	*Continuous**	Video is saved continuously at up to 60fps to mp4 files on removable storage. Operates like a normal video camera.
	*Run-n-Gun**	Bursts of video are saved to RAM while holding down the shutter button. Video is saved to storage devices automatically. More bursts can be captured simultaneously while video is saving.
	Gated burst	Frames are captured while trigger is active
	*Normal + continuous**	High-speed video is recorded to the RAM buffer while simultaneously 60fps videos is saved to removable storage

Continued ⤸

Shutter timing	*Normal*	Frame rate and exposure time are controlled by camera
	Edge triggered	A single frame is captured on each rising or falling edge of an external input. Exposure is controlled by camera
	Shutter gating	Image sensor shutter is directly controlled by an external input, exposing while the input is active
Assistive	*Focus Peaking*	Highlights sharp edges to aid focusing
	Zebras	Rolling diagonal lines indicate clipped (overexposed) areas
	Focus Aid	Zooms in to allow easier focusing

*These features are fully supported in the camera's hardware, but are not yet supported in software. They will be added in a free software update after the camera's initial release.