PHANTOM
CineStation IV
CineMag 5e

WORKFLOW SOLUTIONS

Fast, secure non-volatile recording media for
Phantom high-speed cameras
CineMag 5e is the newer version of CineMag V

FEATURES & BENEFITS

Phantom CineMag recording media is designed to manage large amounts of data, enhancing a high-speed imaging workflow in multiple ways:

- **Efficiency:** At speeds up to 1.4 Gpx/sec the CineMag 5e is the fastest data transfer solution for Phantom cameras.
- **Reliability:** Non-volatile memory protects data in the event of a power loss. A write-protect switch prevents accidental data reformatting.
- **Hot-swappable:** Interchange CineMags during the shoot to maximize image capture, then download later or on a separate dedicated workstation using a CineStation IV
- **Portability:** Eliminates the need to connect the camera directly to a computer workstation

Two recording modes:

- **Loop Mode:** Record into camera RAM, review and upload the recording to the CineMag in a matter of seconds. Use with Multi-Cine and auto-save for a fully automated record process.
- **Direct Recording:** If your application demands longer record times, the camera can be set to Run/Stop (R/S) mode, allowing for several minutes of record time directly to the CineMag at lower frame rates.

FRAME RATE CHART

Example Direct Record (R/S mode) frame rates at select resolutions. Throughput varies slightly by camera model. Record time is for the frame rate shown for given resolution.

Resolution (H x V)	8TB CineMag V or 5e (~7500 GB Capacity) Max frame rate R/S - FPS (record time - minutes)	2TB CineMag V or 5e (~2500 GB Capacity) Max frame rate R/S - FPS (record time - minutes)
Flex4K		
4096 x 2304	145 (72)	96 (35)
4096 x 2160	150 (72)	100 (35)
2048 x 1152	590 (72)	380 (35)
2048 x 1080	630 (72)	400 (35)
2048 x 720	940 (72)	640 (35)
T-4040		
2560 x 1664	320 (80)	210 (35)
2560 x 1280	420 (80)	270 (35)
2048 x 1152	590 (80)	380 (35)
2560 x 800	680 (80)	440 (35)
1024 x 1024	1330 (80)	860 (35)
T-2410, T-3610		
1280 x 800	1360 (70)	880 (30)
1280 x 640	1690 (70)	1100 (30)
1280 x 480	2240 (70)	1470 (30)
768 x 768	2330 (70)	1530 (30)
1024 x 512	2610 (70)	1720 (30)
TMX		
1280 x 800	1,350 (72)	880 (36)
1280 x 704	1,540 (72)	1,000 (36)
768 x 768	2,320 (72)	1,530 (36)
768 x 480	3,720 (72)	2,450 (36)
1280 x 256	4,140 (72)	2,760 (36)

CINEMAG 5e SPECIFICATIONS

Product Detail	CineMag 5e is the latest version CineMag, with exactly the same features and performance as the CineMag V. There is an internal difference that will cause the newer 5e model to not be recognized on a camera or CineStation running firmware earlier than version 169.
Available sizes*	2TB (~2500 GB capacity) 8TB (~7500 GB capacity)
Product Compatibility	Standard config: Phantom Flex4K, Flex4K-GS, CineStation-IV With MAG option: Phantom TMX, UHS (v2512, v2640), T-Series CineMag 5e requires minimum firmware level phfw.169 for compatibility
Throughput	CMV-2TB = 900 Mpx/sec CMV-8TB = 1.4 Gpx/sec *Varies slightly by camera type and resolution*
Recording Format	Cine RAW, P10 (Packed 10)
Maximum Cines	512
Download	via Cinestation-IV or camera body, using Gb or 10Gb Ethernet (camera dependent)

* Capacity indicated is the expected displayed value based on the calculation of GB in Windows OS

CINEMAG FEATURES

Loop Mode	Capture to the camera's RAM at the highest frame rate, then quickly transfer to the CineMag. For example, a 64 GB file will transfer in less than 1 minute.
Run/Stop (R/S) Mode	Direct Record to the CineMag, bypassing RAM for longer record times at reduced frame rates. Refer to frame rate table for examples.
Auto-Save	Images in RAM are immediately saved to the CineMag when camera is triggered. Use with multi-cine for maximum reduction of downtime.
Video Playback	Review contents of CineMag using the camera's video output and playback controls.
Write-protection Switch	When lock is enabled contents can not be deleted.

CINEMAG 5e MECHANICAL SPECIFICATIONS

Size	3.5 x 4.5 x 0.4 (88 x 113 x 11mm)
Weight	0.6 lb (0.3 kg)
Power	20W (supplied by camera)
Operating Temperature	Loop mode (all models) -10 - 50C R/S mode T-Series, UHS, TMX: -10 - 40C R/S mode Flex4K: -10 - 45C

CONTROL

Software	Phantom PCC for control and download is included. During PCC installation, ensure the latest Phantom 10G Ethernet driver is selected in order to use the 10Gb network. Network setup and download process is identical to using a Phantom camera.
Operating System	PCC is windows-only. 3rd party Mac software download solutions are available separately.
Working with 10Gb Ethernet	Take advantage of faster save times using a PC with a compatible 10Gbase-T PCIe card or a laptop with Thunderbolt port. A 10Gb Ethernet to Thunderbolt adapter will make the 10Gb network connection available on the laptop for a fast, portable solution. Ensure the drives saving the data are fast enough to sustain 10Gb transfer rates - fast SSD drives are recommended.

CINESTATION IV SPECIFICATIONS

Compatibility	CineMag 5e, CineMag V**, IV** and IV-PRO** (**discontinued products)
Power	AC power required, 40W power supply is included
Ethernet	Gigabit and 10Gb Ethernet are standard (separate connectors) both via standard RJ45 Copper interface

CINESTATION IV MECHANICAL SPECIFICATIONS

Size	6.5 x 5.7 x 1.5" (16.5 x 14.6 x 3.8 cm)
Weight	Weight: 1 lb (0.45 kg)
Power	12-28VDC. 40W Power supply included.
Operating Temperature	-10 - 40C

CineStation IV connectors

GLOBAL SUPPORT NETWORK

Phantom CineMag and CineStation products are supported by Vision Research's Global Service and Support network, offering PhantomCare service from multiple sites around the globe. Maximize the value of your Phantom camera with professional support services designed to meet your needs.

Learn more about our service offering at
www.phantomhighspeed.com/Support

ABOUT VISION RESEARCH

Focused. Since 1950, Vision Research has been designing, and manufacturing high-speed cameras. Our single focus is to invent, build, and support the most advanced cameras possible.

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