

DATA SHEET

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Subject to change Rev April 2016



*Shown with optional Canon EF mount,
CineMag® interface and On-Camera Controls*

Phantom® v642 Broadcast

Ultra-Slow Motion for Live
Sports and Events

Key Features:

Frame rates for up to 90X ultra-slow motion supporting
2k, 1080p and 720p resolutions

PL mount standard with custom B4 mounts available
depending on resolution

Multi-matrix color correction for fast and accurate color
matching to conventional broadcast cameras

ISO (ISO-12232 SAT method):
Color: 1600 T and 1600 D

Versatile Dual HD-SDI, two HD-SDI ports for dual-link 4:4:4
or 2x 4:2:2 independent video outputs

Multi-cine recording capability

Remote Replay Camera Control

EVS integration for camera control and playback

1 μ s minimum exposure times for sharp images of fast
moving events

Internal mechanical shutter for hands-free / remote
black referencing

8 GB, 16 GB or 32 GB built-in high-speed memory

12-bit pixel depth

Key Benefits:

WHEN IT'S TOO FAST TO SEE, AND TOO IMPORTANT NOT TO®

The Phantom v642 is the third-generation sports broadcast camera built upon Vision Research's Emmy® award winning technology. It retains the **unique ability to both record and playback ultra-slow motion footage simultaneously**, while adding the capability to **accurately color match conventional broadcast cameras**.

By segmenting the camera's internal memory the camera can record an ultra high-speed event to one segment while playing back a previous segment directly from the camera. This feature gives the v642 flexibility to support environments with and without playback server support. The v642 can be connected to a controller in the studio or OB truck which can access the camera's memory for playback while the camera operator is framing and recording the live action.

The v642 is equipped with a 4-megapixel 2.5K sensor that can record up-to 1450 frames-per-second (fps) at full resolution, and up-to 2560 fps at 1080p.

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Phantom® v642 Broadcast



Phantom v642 Broadcast
Back View

ISO SAT			
Mono		Color	
ISO SAT T	ISO SAT D	ISO SAT T	ISO SAT D
16,000	6400	1600	1600

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.



100 Dey Road
Wayne, NJ 07470 USA
+1.973.696.4500

www.phantomhighspeed.com

Leading slow-motion solution providers have chosen Phantom cameras as the core of their broadcast-ready camera systems. Here are some of the features that make the Phantom v642 so unique:

Extremely high frame rates at HD resolutions enables playback speeds as much as 90X times slower than live action. (For example, at 720p, the maximum recording speed is 5850 fps. Play that back at 60 fps to achieve a slow-down of 97 times.) Catch what the eye cannot see in live action. Marvel at the amazing skills of an athlete, watch muscles ripple and eyes focus with intense concentration. Ultra slow motion playback tends to evoke an emotional reaction in viewers.

Excellent control of HD-SDI image quality. The Phantom v642 image lends itself perfectly to the high-standards of the Live Sports Broadcast industry. The v642 now supports **multi-matrix color correction allowing for accurate color matching to normal frame rate cameras** leveraging independent adjustments of saturation and hue of each of the 16 axes.

Excellent light sensitivity. Rated at 1600T ISO, the v642 has enough light-gathering capability to deal with high frame rates, short exposure times and unpredictable lighting conditions.

Multi-cine support. Enable multiple memory partitions to ensure one segment is always continuously recording the live action. When an important event takes place, trigger that segment to save the recording. The live recording automatically moves to the next segment. During camera operation, recorded clips can be viewed, trimmed, and queued for playback from the camera or from servers on truck.

Versatile Dual HD-SDI. The multi-cine capability is supported with a dual independent video port architecture. The “live” image is always played through one of the two HD-SDI ports and viewfinder, while the second HD-SDI port can be used to simultaneously playback saved clips. Either or both of these outputs can be fed to an external recorder or clip server. The camera operator continues to frame the live action during remote playback.

EVS support via UltraMotion. EVS software supports the v642 natively, enabling all these features from an OB truck. An operator in the truck can segment memory, start recording live images, trigger the camera, view any saved clip, scrub through the clip, trim it and queue it for playback – all without the need to first download the clip.

AMETEK Vision Research's digital high-speed cameras are subject to the export licensing jurisdiction of the Export Administration Regulations. As a result, the export, transfer, or re-export of these cameras to a country embargoed by the United States is strictly prohibited. Likewise, it is prohibited under the Export Administration Regulations to export, transfer, or re-export AMETEK Vision Research's digital high-speed cameras to certain buyers and/or end users.

Customers are also advised that some models of AMETEK Vision Research's digital high-speed cameras may require a license from the U.S. Department of Commerce to be: (1) exported from the United States; (2) transferred to a foreign person in the United States; or (3) re-exported to a third country. Interested parties should contact the U.S. Department of Commerce to determine if an export or a re-export license is required for their specific transaction.