

Phantom v12

High-Definition, 1280x800 pixels, 1 million fps, sub- μ s shutter, and Phantom CineMag™ compatible, the new v12 is here now!

One million is the new benchmark in high-speed imaging. Introducing the Phantom v12, a megapixel camera capable of taking 1,000,000 pictures-per-second. With the Phantom v12 camera, Vision Research breaks the high-speed digital imaging speed barrier...again!



Take the wide view with our custom-designed high-definition 1280x800 megapixel CMOS sensor. The wide aspect ratio of the v12 allows you to see more of the event you are recording with a "widescreen" view.

Get 6,242 frames-per-second (fps) at full resolution. At lower resolutions, you will get even higher frame rates, up to 1,000,000 fps (optional).

With an active pixel size of 20 microns and improved quantum efficiency, the Phantom v12 camera has sensitivity superior to our acclaimed v7.3. So, even if you are using our sub-microsecond shuttering, you'll get the highest sensitivity possible with the lowest noise possible.

That's right. You can eliminate blur and see the most minute detail by using our optional sub-microsecond shuttering. Down to 300 nanoseconds.

Each camera supports 8- and 12-bit pixel depth. Smaller bit-depth gives you more recording time and smaller files. Greater bit-depth gives you more gray levels and finer detail. With the greater latitude of 12-bit, you can pull more detail out of the image.

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Phantom

owners & users, new software is here now!

Download it here! **663**

We have just released version 663 of the Phantom camera control software. We recommend that most customers upgrade.

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View a short online movie about how high-speed imaging can give you insight into your products and processes and save you money!

The v12 has a high-resolution timing system. A highly stable internal clock yields a timing resolution of 20ns. Frame rate, sync and exposure accuracy are all improved over previous generations of high-speed cameras. This makes the camera perfect for PIV applications with a 500 nanosecond straddle time and no image lag.

Of course, the v12 offers our unique Extreme Dynamic Range (EDR) feature giving you the ability to get two different exposures within a single frame. And, with auto exposure, the camera adjusts to changing lighting conditions automatically.

The v12 comes with 8GB of high-speed dynamic RAM standard, but 16GB or 32GB versions can be ordered as an option. Our segmented memory allows you to divide this into up to 64 segments so you can take multiple shots back-to-back without the need to download data from the camera.

Or, record directly and repeatedly to our Phantom CineMag™ non-volatile, hot-swappable memory magazines. They mount directly on the CineMag compatible version of the camera.

Continuously record full resolution cines into non-volatile memory at up to 1000 fps. That's up to 256 seconds into the 256GB CineMag or 512 seconds into the 512GB CineMag. Or, record at higher speeds into camera RAM (up to 32GB), then manually or automatically move your cine to the CineMag. With CineMag storage you get maximum data protection and an ideal storage medium for secure environments.



Move the CineMag from the camera to a CineStation™ dock connected to a PC and view, edit, and save your cines using the Phantom Software supplied with the camera. Keep them in their original cine raw format, or convert them to TIFF, QuickTime, AVI, or a number of other formats. Move the files from the CineStation to a disk or tape deck via Gb Ethernet, or dual HD-SDI, or Component Video outputs.

A video-out port on the camera allows you to connect to a component video monitor and view your recordings immediately in a variety of formats including NTSC, PAL, SDI and high-definition 720p. And, there are two HD-SDI ports available for additional system flexibility.

The v12 is controlled by the feature-rich Phantom Software. If you've used any Phantom camera before, you will know how to run the v12. And, we'll ship you a trial version of Image System's TEMA Starter for Phantom for motion analysis applications.

Key Features:

- **Resolution:** 1280x800
- **Continuously Adjustable Resolution (CAR):** 128 x 8
- **Frames-per second at full resolution:** 6,242 fps
- **Maximum Frame Rate:** 680,000 fps, optional 1,000,000 fps
- **Minimum exposure:** 1 µsecond standard, optional 300ns
- **Built-in Memory:** 8GB, 16GB or 32GB
- **ISO (ISO12232 standard):** 6400 mono, 1600 color



This product is on a GSA Schedule, Contract # GS-02F-0086R, expires 31 March 2010

- **Non-volatile memory:** Phantom CineMag
- **Memory segmentation:** up to 64 segments
- **Pixel bit-depth:** 8 and 12 bits
- **Camera trigger and signals:** Trigger, Aux (IRIG-out or Strobe), Ready, FSync, IRIG-in, Video
- **Ethernet:** Gb Ethernet
- **Analog Video Out:** PAL, NTSC & HD, Component (720p)
- **HD-SDI:** 720p
- **Lensing:** F-mount
- **Size:** H = 5.0" (7.5" w/handle), W = 5.0", L = 11.5" (w/o lens)
- **Weight:** 11.5 pounds without lens
- **Power:** 60 Watts
- **Operating temperature:** 10°C to 40°C

You can view the resolution/speed charts for the v12 by downloading the datasheet found at the upper right of this page.

(The v12 comes in two base models, either with or without a CineMag interface. The base models operate at up to 680,000 fps and 1us. An option is available to enable 1,000,000 fps and 300ns exposure. All models come in either color or monochrome configurations.)