

# v7.0

## Specifications



### Features

Auto exposure  
"EDR" Extreme Dynamic Range™  
High-g configuration  
Optional Continuous data streaming to 2,000pps (3Q03)  
Range data input  
Continuous recording  
Pre-trigger recording  
Post-trigger recording  
On chip global shuttering  
Strobe sync  
Segmented image memory (4Q03)  
Continuous color video output  
IRIG-B timing capture with phase shift  
FireWire™ digital interface  
10/100 Ethernet (1 Gbit 3Q03)

**Sensor:** 800 x 600 pixel SR-CMOS monochrome, or 24 bit color array, optional 12 bit monochrome available

**Sensitivity:** 4800 ISO/ASA monochrome, 1200 ISO/ASA color

**Pictures per Second (PPS):** Full sensor: to 4,800pps, or 512x384 to 10,000pps

**Allocated formats:** to 160,000pps with "CAR" (Continuously Adjustable Resolution) feature

**Exposure Time:** Variable, independent of sample rate (pps), to 2 microsecond (1 microsecond sec. option)

**Trigger:** Continuously variable pre/post

**Imager Control:** Via FireWire™, 10/100 Ethernet, or RS232 serial interface (1 Gbit Ethernet 3Q03)

**Preview and Focusing:** Via computer monitor or continuous video out

**Lens Mounts:** Nikon mount standard. Many other lens mounts available, including C-mount

**Inputs/Outputs:** (via integrated quick-release connector):

**Trigger:** Rising/falling TTL pulse w/filter, or switch closure

**Sync Image:** TTL pulse

**Event Marker:** TTL pulse or switch closure

**Ready Signal:** TTL pulse

**IRIG-B Timing:** IRIG-B code, modulated or unmodulated input, with IRIG-B output, lock, and variable phase shift

**Range Data Input**

**Strobe Sync:** TTL pulse

**Network:** Via FireWire™ digital interface (IEEE 1394) and 10/100 Ethernet (1 Gbit Ethernet available 3Q03)

**Video out:** NTSC, PAL or Serial Digital Video (SDI)

**Power:** 24VDC/1.5 Amp

### MEMORY

**Standard:** 1024 Megabytes integral image memory. Records 1,400 images for .3 second of continuous recording at 4,800pps, full format. Longer recording times for lower sample rates and allocated formats. (example: 14.4 seconds at 100pps)

**Optional:** 2048 Megabyte integral image memory continuously records 2,800 images (.6 sec.) at 4,800pps full frame, and the 8192 Megabyte option will record 11,200 full frame images (2.4 sec.) at 4,800pps full frame.

**Optional:** Non-Volatile Flash Memory, up to 4 gigabytes (3Q03)

### ENVIRONMENTAL

100g up to 10 millisecond  
50g up to 100 millisecond  
Three axis

### SOFTWARE

*Phantom® operates in a Windows™ environment with familiar commands found in familiar places. Standard functions include:*

**Acquisition:** Image capture, IRIG-B timing capture & standard time annotation. Field of view & focus. Sample rate & aspect ratio selection. Shutter speed. Histogram. Brightness & contrast, gamma adjust. Trigger modes. Continuous record. Save & recall setups.

**Analytical playback:** Immediate playback of ciné. Variable playback speeds in forward or reverse, including freeze frame & endless loop. Random Go-to-Image. View single images at random from any ciné. Tile/cascade multiple images on one screen. Timing data displayed with each image. Ciné editor. Multi Ciné Viewer.

**Measurements:** Linear or angular measurements. Displacement. Velocity. RPMs. 100 data points per image. English and metric units. Generate measurement reports. Report files & images are compatible with spread

sheet software, and image analysis software such as TrackEye®, Image Express®, or Falcon®.

**Image processing:** Smooth, sharpen, pseudocolor, negative image, and edge detection. Brightness, contrast & gamma adjust. 3x3 and 5x5 filter matrix for custom image processing.

**File management:** Organize, save, compress and export cinés, or single images. File formats are compatible with most word processing, desktop publishing, and presentation software.

### DIMENSIONS

**Size:** 4.3 x 4.0 x 9.5 inch (HWD)  
(12.5 x 11 x 25 cm) (HWD)

**Weight:** 7 lbs (3.2kg)

**Power:** 24VDC/ 1.5Amp

**Mounting:** 1/4-20 inch and four 10-32 threaded hole pattern in base and top

**Mounting Axis:** Any position

**Material & Finish:** Machined aluminum housing, powder coat finish

**Country of Origin:** The United States of America

### STANDARD ACCESSORIES

Phantom® software. Single user license\*  
1024 Megabyte integral image memory\*

FireWire® digital interface, Ethernet. Sync output pulse, trigger, pretrigger, video out, and IRIG-B

110/220VAC-28VDC International Power Adapter. 12 foot (3.7 m) power cord

One year warranty.

### QUESTIONS?

For technical assistance, systems integration, custom options, or information on imaging techniques, please call us toll free:

1 .800.RESOLUTION

(USA & Canada 1.800.737.6588)

For the most up-to-date information, specifications and options, please visit our website:

[www.visibleolutions.com](http://www.visibleolutions.com)

**vision**  
R E S E A R C H

*Specifications and features subject to change without notice.*

(\*Other options available.) Phantom is manufactured in the USA under US patent Number 5625412 and patents pending. Phantom®, EDR®, and Memory Gate® are registered trademark of Vision Research Inc. FireWire® and the FireWire Logo are registered trademarks of Apple Computer Inc. Windows™ and the Windows logo are trademarks of MicroSoft Corporation.

Vision Research, Inc. • 190 Parish Drive • Wayne, New Jersey 07470 USA • (973) 696-4500 Fax (973) 696-0560

Rev. 8/02/03