

# Press Release

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## **High-Speed Video Camera Hyper Vision HPV-X Explosions, shock waves, machining processes**

**The world's fastest sensor with 10 million frames per second /  
Analysis of ultra-high-speed phenomena in far more detail than  
ever before /  
For applications in science, technologies, micro-scale fields and  
production**

Shimadzu, one of the world leaders in analytical instrumentation, has released the Hyper Vision HPV-X video camera, a top-of-the-line high-speed product. The HPV-X allows observing previously unobservable ultra-high-speed phenomena with high temporal resolution. The camera is applicable to a broad range of fields requiring high-speed video, such as research in advanced science, engineering and medicine, space technology development, product development, and the identification of the causes of defects.

As Shimadzu's flagship model, it offers

- recording speeds of up to ten million frames per second (in HP mode = half pixel mode (50,000))
- storage capacity for up to 256 frames (in HP mode)
- high resolution of up to 100,000 pixels per frame at ultra-high speeds (in FP mode = full pixel mode (100,000)).

These features mean the camera can be used to analyze ultra-high-speed phenomena in even more detail.

Just like the previous model, the simple system configuration offers a compact and highly portable design that makes on-site setup especial-

ly easy. The HPV-X camera head just has to be connected to a laptop computer by cable. The camera also retains the same HPV software that has been so popular with current users, with intuitive features and easy-to-understand setting screens making it easy to capture ultra-high-speed video.

### **Higher frame capacity allows longer recording times**

The HPV-X can record 128 frames, which is 20 % more than the previous HPV-2 version. In the HP mode (50,000 pixels), a double-memory function enables recording 256 consecutive frames for recording even longer periods. This gives the user the choice to either prioritize resolution or recording time.

### **Combining ultra-high speed and high resolution**

Typical high-speed cameras require lower resolutions as recording speed increases, but the HPV-X maintains the same high resolution even if the recording speed is increased. That means ultra-high-speed phenomena can be analyzed in far more detail than when using a regular high-speed video camera. This proprietary feature is included in all Shimadzu's Hyper Vision high-speed video cameras, but is not available from any other manufacturer. The HPV-X is able to record five million 100,000 pixel images per second or ten million 50,000 pixel images per second.



**Figure 1:** Reveals so far unobservable phenomena of science, technologies and nature: the Hyper Vision HPV-X Video Camera

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