

## VISION 2007

### **New Options for Xenics XEVA and XS InGaAs Cameras: Extending into the Visible**

*November, 6, 2007 --- Xenics, Europe's leading developer of innovative infrared image sensors, is extending the image capture range of its proven SWIR product lines, the XEVA and XS (extra small), into the visible realm, covering a total wavelength area of 400 to 1700 nm. These extended optical features are based on InP substrate removal of InGaAs sensor arrays. At this time, both models are available with 320 x 256 pixel resolution. Their InGaAs focal-plane detector heads fit into compact camera housings along with all control and communication electronics.*

With its focal-plane array in InGaAs technology (320 x 256 pixels), the new XEVA-1.7 320 and XS-1.7 320 models cover the standard SWIR wavelength range of 0.9 – 1.7  $\mu\text{m}$ , and are now adding also the visible realm, for a total coverage of 0,4 to 1.7  $\mu\text{m}$ . The quantum efficiency at 1.7  $\mu\text{m}$  is about 30%, and increases further with longer wavelengths to achieve about 80% between 1  $\mu\text{m}$  and 1.6  $\mu\text{m}$ .

Pixel pitch is 30  $\mu\text{m}$  with a pixel operability of over 99%. The new XEVA and XS camera models are equipped with a C-mount for standard optics as well as spectrometer fixation holes. Depending on the application, the XEVA-1.7 320 can be operated either uncooled, or with TE1 (single-stage Peltier) cooling down to 263 K, or with TE3 (three-stage Peltier) cooling down to 223 K. The XS-1.7 320 is operated uncooled.

The XEVA-1.7 320 is available with USB 2.0 or CameraLink data interface and comes in various speed versions, up to 350 fps. An optional analog interface based on a PAL or NTSC standard is also available.

The digital output word is 14 bits wide and the dynamic range of the camera is 69 dB. For particularly flexible use, subframes can be read out at a higher frequency of up to 10 kHz. This can be used, for example, in monitoring systems for keeping a large area in view and then, if objects of interest are spotted, switching to rapid tracking of these. Housing dimensions are 100 x 100 x 100 mm<sup>3</sup>. Fully operational, XEVA weighs 1.8 kg.

The XS-1.7 320 camera is the extra small version of the XEVA, without Peltier cooling. Its compact housing measures just 50 x 50 x 50 mm<sup>3</sup>; it weighs only 225 grams. The XS has the same functionality range as the XEVA, except for the sole USB 2.0 data interface and the option of either trigger or analog out. Available XS frame rates are 60 Hz or 100 Hz.

Both XEVA and XS interface with a PC via USB 2.0, allowing to select the integration time, the position and size of subframes as well as other camera parameters and calibration functions, such as two-point correction of uniformity and bad-pixel replacement. 'Selfstarting' or 'stand-alone' versions of both XEVA and XS are also available.

A unified graphical user interface X-Control is available for all camera versions. These allow the controlling of various display modes of the image, histogram, line profile, and spot meter as well as conversion into graphic file formats and storage of video sequences on memory or hard disk.

Both cameras open up a variety of new applications, such as hyperspectral image capture and laser beam profiling, vision enhancement in airborne applications, art inspection, semiconductor inspection, thermal imaging through glass optics in the range of 200°C - 800°C, online process control, and medical electronics.

### **About Xenics**

Xenics is the leading developer of innovative infrared detection solutions for a wide range of applications. Xenics designs, manufactures and sells infrared detectors and cameras, both line-scan and 2D, covering the infrared wavelength ranges from 1 to 14 micrometers. In addition, Xenics delivers custom products according to the agreed specification and planning.

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