



Xeva-1.7-640

Advanced research
in SWIR imaging

Imagine the invisible

High-resolution and cooled Xeva-1.7-640 for excellent image quality research

In one compact housing, the Xeva-1.7-640 digital camera combines a thermo-electrically cooled InGaAs detector head and the control and communication electronics.

High quality, high flexibility

The Xeva-1.7-640 unit is available with standard (up to 1,7 μm) InGaAs detector arrays and comes in various speed versions: 25 Hz and 90 Hz. It allows you to choose the most suitable detector-camera configuration for your specific application. The camera head interfaces to a PC via standard USB 2.0 or CameraLink. Each camera is delivered with a graphical user interface, X-Control, which offers direct access to various camera settings such as exposure time and operating temperature. The camera outputs 14 bit data. The software tools include two-point uniformity correction and bad pixel replacement.

Advantages

- Windowing for increased frame rate
- Superb low dark current and low-noise imaging
- Flexible and easy-to-use
- Spectrograph compatible

Designed for use in

- R&D (SWIR range)
- High temperature thermography (300°C to 1200°C range)
- Hyperspectral imaging
- Semiconductor inspection
- Art inspection

Benefits & Features

High definition images

640 x 512 pixels for high image quality.

TrueNUC image correction

State-of-the-art image processing power offering corrected images while continuously changing the integration time.

Performance optimization

Easy and continuous access to control parameters such as integration time and frame rate.

Flexible programming in an open architecture

Software Development Kit (SDK) supporting C++, Visual Basic, Labview or Linux.

Exchange of lenses

A variety of wide angle or narrow FOV lenses are available.

Window of Interest

Increase frame rate and reduce overhead for high speed process monitoring. Tracking moving objects becomes feasible.

Stand alone operation

Upload correction files for stand-alone operation.

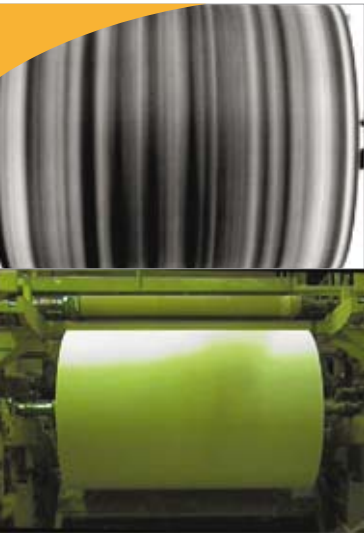
Thermal imaging of hot objects

Radiometric calibrations are available to measure temperature of hot objects with utmost accuracy.

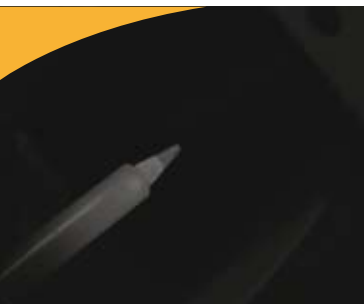
Comprehensive thermal analysis

Interface with Thermography Studio, most popular recording and analysis tool for dynamic events.





☛ Top: tissue paper production infrared
 ☛ Bottom: tissue paper production visual



☛ Soldering iron



☛ Solar cell inspection

Array Specifications	
Array Type	InGaAs
Spectral band	Standard: 0.9 to 1.7 μm
# Pixels	640 x 512
Pixel Pitch	20 μm
Array Cooling	TE1-cooled down to 263K
Pixel operability	> 99%
Gain	4 gain settings

Camera Specifications	Xeva 25 Hz	Xeva 90 Hz
Lens (included)		
Focal length	25 mm f/0.95	
Optical interface	C-Mount, spectrograph fixation holes (Broad selection lenses are available)	
Imaging performance		
Frame rate (full frame; uncorrected images)	25 Hz	90 Hz
Window of interest	Smallest window 8 x 128	
Integration type	Snapshot	
Exposure time range	1 μs up to 100 ms	
Noise level: Low gain High gain	7 AD counts 14 AD counts	
S/N ratio: Low gain High gain	67 dB 61 dB	
A to D conversion resolution	14 bit	
Interfaces		
Camera control	USB 2.0	
Image acquisition	USB 2.0 / CameraLink	
Trigger interface	TTL levels	
Graphical User Interface (GUI)	X-control Advanced	
Power requirements		
Power consumption	< 4 Watt, cooler: 30 Watt max	
Power supply	12 V	
Physical characteristics		
Camera cooling	Forced convection cooling	
Ambient operating temperature	0 to 50° C	
Dimensions	90 L x 110 W x 110 H mm	
Weight camera head	App. 1.8 kg	
Weight power supply	300 g	



Applicable OS: Windows 2000 (SP4), XP Pro (SP2), VISTA (SP1)

X-Control Advanced	Xeneth radiometric
<ul style="list-style-type: none"> Image live view Store digital Pictures / Movies Image histogram Line profiles, Spot meters, Time profiles 	X-control advanced features + thermography
<ul style="list-style-type: none"> Black hot / White hot False color mode with various color palettes 	Thermography studio
<ul style="list-style-type: none"> Video output format selection: PAL (CCIR) or NTSC (RS 170) 	Analysis and report-generating software of real-time and static images

A dynamic link library (DLL) to communicate with the driver has been designed for flexible software development. A well-documented API with sample code in C, Visual Basic and Delphi is supplied, as well as a Linux SDK. Labview device drivers and a sample program (executable) are also available.

Product Selector Guide

Xeva-1.7-640 Part number	Digital output Interface	Cooling	Frame Rate	ADC	TrueNUC range [integration time up to]
XC137-025HZ	CameraLink	TE1	25 Hz	14 bit	50 msec
XC137-090HZ	CameraLink	TE1	90 Hz	14 bit	50 msec

Accessories

Part number	Type	Description	Available on following cameras
XC602	Trigger	Triad to BNC	All
XC606-5	CameraLink	MDR-26	All
XC503-201	Frame grabber	Xenics PCI-CL	All

Thermography Part number	Description	Available on following cameras
TH0800	Temperature calibration from 300°C to 800°C	All
TH1200	Temperature calibration from 300°C to 1200°C	All

Software Part number	Description	Available on following cameras
XERAD	Xeneth Radiometric	All
TST08	Thermography Studio	All

Inputs



Outputs

Information furnished by Xenics is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. This information supersedes all previously supplied information.



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▣ About Xenics

Xenics is a leading developer of innovative infrared detection solutions. We design, manufacture and sell infrared detectors and cameras, both linescan and 2-D, covering the infrared wavelength ranges from 0.4 to 14 micrometers. In addition, Xenics delivers tailor-made solutions produced according to customer-agreed specifications and planning. As a European vendor with a worldwide service and distributor network, we are strategically placed to serve global markets with highly innovative products drawing on a strong science and technology background.

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