

Imagine the invisible

Scientific



# Cheetah-640CL

World's fastest InGaAs camera

## Ultra high speed Cheetah-640CL for real-time motion analysis

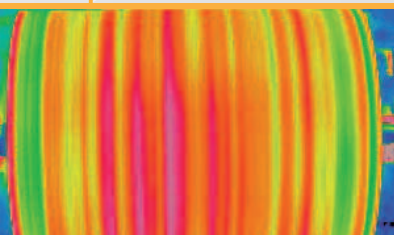


The Cheetah-640CL camera is the fastest InGaAs infrared camera in the world. This unit is equipped with a dedicated high speed InGaAs detector array working up to 1.7 µm and comes in three speed versions: 120, 400 and 1730 Hz. It allows you to visualize the ultra high-speed features of your specific research application. The camera head interfaces to your unique frame grabbing system via one or two parallel CameraLink interfaces.

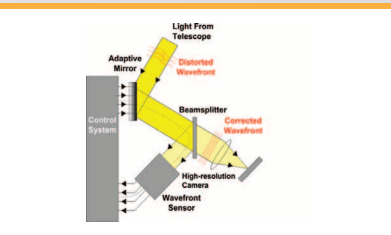
The Cheetah-640CL is delivered with a software development kit which offers direct access to various camera settings and allows easy integration with your own high speed image grabbing system.

With an optional TE3-cooled sensor and water cooling of the camera, the Cheetah-640-CL becomes a highly sensitive camera with ultra low dark current. In this configuration, it offers you an excellent measurement tool to image low-light-levels in the SWIR range such as for semiconductor failure analysis or for luminescence spectroscopy applications.

Designed for use in



High-speed imaging



Wavefront sensing



Covert illumination with Cheetah-640CL compared with visual imaging

### Applications

- Medical (OCT)
- R&D (SWIR range)
- Wavefront sensing
- Hyperspectral imaging
- Low light level spectroscopy
- Situational awareness systems
- Semiconductor Failure Analysis
- Thermal imaging of fast hot objects

### Benefits & Features

- Crisp motion analysis
- World's fastest InGaAs camera
- Mounts easily to various spectrometers
- Windowing to further increase frame rate
- Reliable data transfer over dual CameraLink
- Optional TE3-cooling to further reduce dark current
- Extended coverage from SWIR into the visible range

# Broad range of accessories available to simplify your research

## ▶ Lens & filter options



## ▶ Inputs



## ▶ Software



- Xeneth advanced
- Xeneth SDK

## ▶ Outputs

## ▣ Specifications

Array Specifications	Cheetah-640CL 120 Hz	Cheetah-640CL 400 Hz	Cheetah-640CL 1730 Hz
Array type	InGaAs		
Spectral band	0.9 to 1.7 $\mu\text{m}$ (Optional: VisNIR extension 0.6 to 1.7 $\mu\text{m}$ )		
# Pixels	640 x 512		
Pixel pitch	20 $\mu\text{m}$		
Array cooling	TE1-cooled (Optional: TE3-cooled)		
Pixel operability	> 99%		

Camera Specifications	Cheetah-640CL 120 Hz	Cheetah-640CL 400 Hz	Cheetah-640CL 1730 Hz
Lens (included)	25 mm f/0.95		
Optical interface	C-Mount, spectrometer holes		
Imaging performance			
Frame rate (full frame)	120 Hz	400 Hz	1730 Hz
Integration type	Snapshot (IWR or ITR available)		
Window of Interest	Minimum size 32 x 4 pixels		
A to D conversion resolution	14 bit		
Interfaces			
Camera control	CameraLink (LVDS voltage levels)		
Image acquisition	Base CL (14 bit)	Base CL (12 bit)	Full CL (8 bit) 2 x medium CL (12 bit)
Trigger	3.3 V CMOS levels (trigger in & out)		
Graphical User Interface (GUI)	Xeneth Advanced	Cheetah 400/1700 Quad CL	
Power requirements			
Power consumption	Max. 20 W		
Power supply	12 V		
Physical characteristics			
Camera cooling	Forced convection cooling		
	TE3 option: Water cooling		
Ambient operating temperature	0 °C to 50 °C		
Dimensions	140 W x 135 H x 90 L mm		
Weight camera head	2 kg		

## ▣ Product selector guide

Part number	TE Cooling	Digital output interface	Frame rate (Hz)	VisNIR option
XEN-000228	TE1	CameraLink	120	No
XEN-000271	TE3			No
XEN-000044	TE1			Yes
XEN-000045	TE1		400	Yes
XEN-000175	TE1			No
XEN-000046	TE1			Yes
XEN-000176	TE1	1730	No	

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