

UNCOOLED CORES

Powered by ULIS
Gen2 17 μm

Atom[®] 1024

Uncooled Infrared Camera Core with XGA Resolution

- Frame Rate: 30Hz XGA
- Very Low Power Consumption
- < 50mK Detector Thermal Sensitivity
- Lightweight
- 17 micron Pixel Technology
- 8-14 micron Detector Spectral Range



Available with a variety of fixed and variable focal length infrared objective lenses

Incorporating an advanced 1024x768 thermal image sensor array, the Atom 1024 delivers extremely high resolution in an XGA format. The camera core is designed for a wide variety of applications that benefit from its superb image detail and excellent thermal sensitivity. Because of its small compact size and low power consumption, the Atom 1024 is easy to integrate, and ideally suited for a wide range of military and COTS thermal imaging systems.

The Atom 1024's short thermal time constant produces superior thermal image quality even while imaging fast moving objects, making the system an ideal choice for handheld, ground vehicle and airborne EOIR platforms and advanced fusion-based night vision systems.

Sensor Type	ULIS Gen2 microbolometer
Array Size	1024 x 768 pixels
Pixel Pitch	17 microns
Detector Spectral Range	8-14 microns
Frame Rate	30Hz XGA
Detector Sensitivity (f/1)	< 50 mK
Time to First Image	< 4 seconds
Video Processing	Non-uniformity correction, Auto/Manual gain, BPR, Digital Filtering, Built-in Self Test, Test patterns, External Synchronization



Distribution in the UK & Ireland



Lambda

Lambda Photometrics Limited
Lambda House Batford Mill
Harpenden Herts AL5 5BZ
United Kingdom

**Characterisation,
Measurement &
Analysis**




E: info@lambdaphoto.co.uk
W: www.lambdaphoto.co.uk
T: +44 (0)1582 764334
F: +44 (0)1582 712084



Atom[®] 1024

FEATURES	BENEFITS
• 1024x768 resolution with 17 micron pixels	• XGA resolution for high performance applications
• < 50mK detector thermal sensitivity	• Increased range and detection performance
• 30Hz XGA frame rate	• Smooth motion within scene
• ≈10ms thermal time constant	• Less image blur – sharp images of objects in motion
• < 1.7 Watts (LVTTTL)	• Longer battery life
• Mil-Spec option	• Ready to integrate into tactical systems

ATOM 1024 IMAGER SPECIFICATIONS

			
Description	Camera Link	GigE	LVTTTL
Operating Temperature Range	-40°C to 60°C	-20°C to 60°C	-40°C to 60°C
Non-operating Temperature Range	-45°C to 70°C	-25°C to 70°C	-45°C to 70°C
14-bit Streaming Digital Output	Camera Link	GigE	LVTTTL
Serial Control Interface	Camera Link	GigE	LVTTTL level UART
Graphical User Interface	Included	Included	Included
Size (lens not included)	2.4"x 2.7"x 2.7" W x H x L	2.4"x 2.7"x 3.7" W x H x L	2.4"x 2.7"x 2.25" W x H x L
Weight (lens not included)	< 0.4 kg	< 0.5 kg	< 0.25 kg (< 0.1 kg electronics only)
Input Voltage	6-12 VDC	6-12 VDC	3.3 or 3.6 VDC
Power Consumption	< 2.2 W	< 3.6 W	< 1.7 W

ATOM 1024 ORDERING INFORMATION

Photo	Lens [2]	Digital Interface	Part Number
	9.6mm f/1 HFOV=86° Fixed focus athermal	LVTTTL [1]	925001
		Camera Link	925010
		GigE	925011
	13mm f/1.1 HFOV=73° Manual focus	LVTTTL [1]	915241
		Camera Link	915239
		GigE	915240
	16.4mm f/1 HFOV=56° Fixed focus athermal	LVTTTL [1]	925002
		Camera Link	925008
		GigE	925009
	25mm f/1.2 HFOV=40° Fixed focus athermal	LVTTTL [1]	915311
		Camera Link	915310
		GigE	915312
	50mm f/1.0 HFOV=20° Manual focus	LVTTTL [1]	915216
		Camera Link	915214
		GigE	915242
	50mm f/1.2 HFOV=20° Fixed focus athermal	LVTTTL [1]	915351
		Camera Link	915349
		GigE	915350
	75mm f/1.0 HFOV=13.2° Manual focus	LVTTTL [1]	915444
		Camera Link	915443
		GigE	915442
	15-100mm f/1.4 HFOV=9.9-68° Continuous zoom motorized focus	GigE [1]	915319 915323 [3]
	25-150mm f/1.4 HFOV=6.6-40° Continuous zoom motorized focus	GigE [1]	915322 915318 [3]
	25-225mm f/1.5 HFOV=4.4-40° Continuous zoom motorized focus	GigE [1]	915321 915313 [3]

NOTE: [1] Open frame chassis [2] Hard carbon coated unless otherwise indicated.
[3] Includes high durability coating on lens

D*STAR Uncooled

D*STAR Digital Storage and Retrieval Image Processing Software Suite for R&D Applications



- Real-time digital recording
- Powerful analysis tools
- Intuitive user interface

D*STAR™ is a real-time image capture software package for the ATOM 1024. D*STAR features a highly intuitive user interface and a library of powerful tools that enable the sophisticated analysis of thermal behavior for a wide range of objects and materials.

- **Real-Time Digital Recording:** The ATOM 1024's digital output is displayed in real-time on your PC for live analysis or recording. Easily convert sequences to an AVI file suitable for Windows Media Player and frames to JPGs with the touch of a button.
- **Powerful Analysis Tools:** D*STAR features a large selection of real-time analysis tools including spot meter, line profile, region of interest analysis box.
- **Intuitive User Interface:** D*STAR features simple-to-understand controls that ensure you're up and running fast. Image recording and playback mimic standard DVD controls and camera control dialog boxes are easy to understand. Intuitive user controls allow simple image reduction, analysis, and archiving.

FEATURES

IMAGE MANAGEMENT

- Real-time recording and playback
- Single image capture and playback
- 14-bit image sequence conversion to AVI files
- Export of data to standard files

IMAGE PROCESSING

- Multiple color palette selections
- Image averaging (improves sensitivity)
- Span and level control
- Automatic Gain Correction

IMAGE ANALYSIS

- Spot meter
- Line Profile
- Region of Interest — User-defined rectangle
- Histogram Analysis (ROI)
- Time plot

DESKTOP SOFTWARE

Description	Part No.
D*STAR Uncooled Digital Storage and Retrieval Image Processing Software Suite for ATOM 1024/640. To be used in infrared imaging R&D applications.	915447
Software Development Toolkit (SDK) for C++	915448
Software Development Toolkit (SDK) for LabView	915449

Technical characteristics described in this data sheet are for information only and are not contractual. Because of ongoing product enhancements, specifications are subject to change without notice. Export of these products from the United States is controlled by the US Government. Prior authorization is required for re-export or transfer.

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