

# ATOM<sup>®</sup>1024



LYNRED USA

Access to the World's Leading Infrared Technology

1024 x 768 - 17  $\mu$  pitch - Microbolometer - with electronics boards



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.

## TECHNICAL SPECIFICATIONS

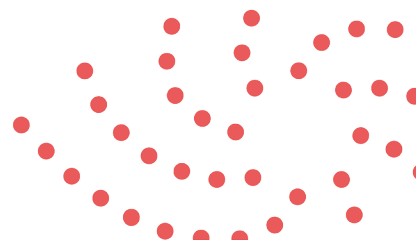
Array Size	1024 x 768 pixels
Detector Pixel Pitch	17 $\mu$ x 17 $\mu$ microns
Detector Spectral Range	8 - 14 $\mu$ microns
Frame Rate	30Hz XGA
Detector Sensitivity (f/1)	< 50 mK
Time to First Image	< 4 seconds
Video Processing	Non-Uniformity Correction, Auto/Manual Gain, BPR, Digital Zoom, Digital Filtering, Built-In Self Test, Test Patterns, External Synchronization

## FEATURES

- 1024 X 768 resolution with 17 micron pixels
- <50 mK detector thermal sensitivity
- 30Hz XGA frame rate
- $\sim$ 10ms thermal time constant
- <1.7 Watts (LVTTL)
- Mil-Spec Option

## BENEFITS

- XGA resolution for high performance applications
- Increased range and detection performance
- Smooth motion within scene
- Less image blur - sharp images of objects in motion
- Longer battery life
- Ready to integrate into tactical systems



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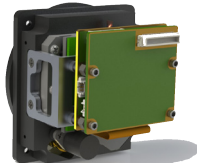


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## ATOM 1024 Imager Specifications

			
Description	Camera Link	GigE	LVTTL
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	LVTTL
Serial Control Interface	Camera Link	GigE	LVTTL 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

 Very Low Power Consumption

 Lightweight



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Photo	Lens [2]	Digital Interface	Part Number
	9.5mm f/1 HFOV=86° Fixed focus athermal	Camera Link	915468
		GigE	915465
	16.5mm f/1 HFOV=56° Fixed focus athermal	Camera Link	915467
		GigE	915466
	25mm f/1.2 HFOV=40° Fixed focus athermal	LVTTL	915311
		Camera Link	915310
		GigE	915312
	50mm f/1.0 HFOV=20° Manual focus	LVTTL	915216
		Camera Link	915214
		GigE	915242
	50mm f/1.2 HFOV=20° Fixed focus athermal	LVTTL	915351
		Camera Link	915349
		GigE	915350
	75mm f/1.0 HFOV=13.2° Manual focus	LVTTL	915444
		Camera Link	915443
		GigE	915442
	15-100mm f/1.4 HFOV=9.9-68° Continuous zoom motorized focus	GigE	915319 915323
	25-150mm f/1.4 HFOV=6.6-40° Continuous zoom motorized focus	GigE	915322 915318
	25-225mm f/1.5 HFOV=4.4-40° Continuous zoom motorized focus	GigE	915321 915313

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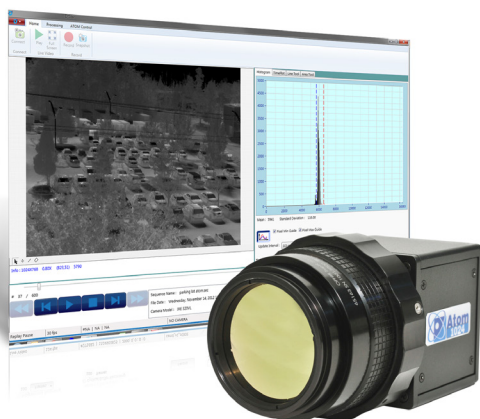


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## D\*STAR Digital Storage and Retrieval Image Processing Software Suite for R&D Applications



### 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

D\*STAR<sup>™</sup> 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.

### 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.	915356
Software Development Toolkit (SDK) for C++	915348
Software Development Toolkit (SDK) for LabView	915505

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.

REV 2 JANUARY 2020



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