ATOM®1024

LYNRED USA

Access to the World's Leading Infrared Technology

1024 x 768 - 17 µ 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 the it's 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	17µ x 17µmicrons
Detector Spectral Range	8 - 14µmicrons
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
- ~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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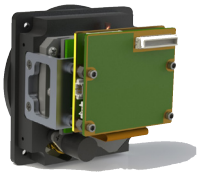
ATOM 1024 Imager Specifications

			
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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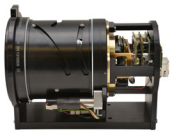
Photo	Lens [2]	Digital Interface	Part Number
	9.5mm f/1 HFOV=86° Fixed focus athermal	Camera Link GigE	915468 915466
	16.5mm f/1 HFOV=56° Fixed focus athermal	Camera Link GigE	915467 915465
	25mm f/1.2 HFOV=40° Fixed focus athermal	LVTTL Camera Link GigE	915311 915310 915312
	50mm f/1.0 HFOV=20° Manual focus	LVTTL Camera Link GigE	915216 915214 915242
	50mm f/1.2 HFOV=20° Fixed focus athermal	LVTTL Camera Link GigE	915351 915349 915350
	75mm f/1.0 HFOV=13.2° Manual focus	LVTTL Camera Link GigE	915444 915443 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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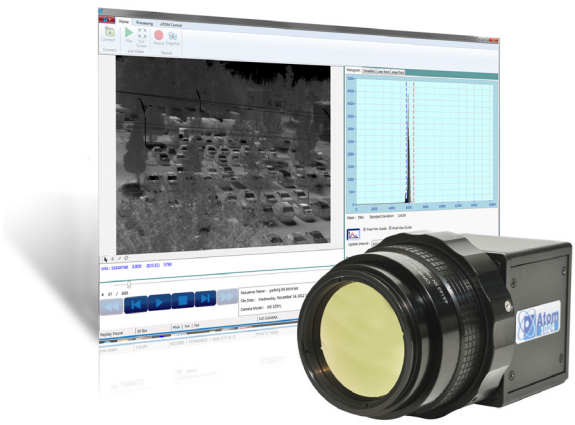
D*STAR Digital Storage and Retrieval Image Processing Software Suite for R&D Applications



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

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