High Resolution, Low Noise CCD Imaging

The Lt1265R is Lumenera's latest innovative, high performance USB 3.0 CCD camera based on the solid design of the Lt365R, Lt665R and Lt965R cameras. The Lt1265R builds on leading edge EXview HAD II technology to deliver high sensitivity, low noise and high dynamic range. High grade electronics ensure clear, sharp and low noise images that render details with amazing accuracy. Superior responsivity up to 1000nm positions it as a good choice for Near-Infrared (NIR) imaging. This industrial-grade camera is ideally suited for a variety of applications including unmanned vehicles, surveillance, traffic, tolling, high-speed inspection and machine vision. A scientific-grade variant is available for the most demanding life science applications such as ophthalmology and fluorescence. The Lt1265R can also be customized to suit OEM designs.

High Quality Images at High Speed

The Lt1265R was created with the latest USB 3.0 technology to deliver the fastest image delivery possible from the Sony ICX834 sensor at its highest resolution. Image captures can be synchronized using either a hardware or software trigger. FPGA-enabled performance, complemented by 128 MB of onboard memory for frame buffering, ensure dependable and reliable image delivery even in the most demanding machine vision systems. Unlike some competitive cameras, the Lt1265R buffer technology delivers all frames at full speed and max resolution without introducing latency.

Plug-and-Play with No Framegrabber

The compact, robust design of this camera, measuring 43 x 43 x 65 mm, allows for easy integration into tight spaces and systems. The locking USB 3.0 cabling and digital interface ensure a simple plug-and-play installation. No framegrabber is required. Simplified I/O cabling is provided through a locking Hirose connector supporting external power input along with 1 optically isolated output, 1 optically isolated input and 2 configurable I/O ports. Lumenera’s innovative design supports an optional USB 3.0 High Power mode that allows the camera to function over a USB 3.0 Y-cable connected to 2 host USB 3.0 ports thus eliminating the need to use a power supply.

Maximize Camera Performance Within Your Own Application

The Lumenera Camera SDK provides a full suite of features and functions that allow you to maximize the camera’s performance within your own vision application with minimal work. The SDK is compatible with all of our USB and GigE-based cameras. Microsoft DirectX/DirectShow, Windows API and .NET API interfaces are provided, allowing you the choice of application development environments from C/C++ to VB.NET or C#.NET.

Superior Technical Assistance Center

All Lumenera cameras are supported by an experienced team of pre-sales and technical support imaging experts widely acclaimed in the industry. We understand your imaging needs and are here to help you get the most out of your camera.

Features

- Industry leading Sony EXview HAD II sensor technology
- Quad-Tap mode supports 15 fps at full resolution
- Color or monochrome CCD sensor with 1" optical format providing a resolution of 4240 x 2832 using 3.1 x 3.1 µm pixels
- High-Speed USB 3.0 interface for fastest image delivery and simplified connectivity
- Compact, robust form factor measuring 43 x 43 x 65 mm with 4 mounting points on all 4 sides and 1 tripod (1/4"-20) mount
- Locking industrial micro USB 3.0 and Hirose GPIO connector for power and control of peripherals and synchronization of lighting
- 4 GPI/O: 1 optically isolated output, 1 optically isolated input and 2 configurable bi-directional I/O ports
- 128 MB RAM frame buffer
- Simplified cabling – video, full camera control and power over a single locking micro USB 3.0 cable
- Region of Interest (ROI) option to provide higher frame rates
- Selectable 8 or 14-bit pixel data
- Excellent tap matching calibration for seamless images
- Multiple data rates supported, each optimized for lowest noise performance
- FCC Class B, CE Certified
- DirectShow compatible
- Software compatible with Windows 10, Windows 8.1, Windows 7, Linux, 32 and 64-bit operating systems
- Complete SDK available for Windows and Linux platforms
- Four (4) year warranty
Sensor Specifications

- **Image Sensor**: Sony ICX834, CCD, color, monochrome
- **Optical Format**: 1”
- **Imager Size**: Diagonal 15.80 mm
- **Pixel Size**: 3.1 x 3.1 µm
- **Resolution**: 4240 x 2832 pixels
- **Region of Interest Control**: Any multiple of 16 x 16 (quad tap mode)

Camera Specifications

- **Max Frame Rate**: 15 fps at 4240 x 2832
- **Bit Depth**: 8 or 14-bit
- **Binning Modes**: 2 x 2, 4 x 4, 8 x 8 (3 x 3 mono only)
- **Exposure Control**: Manual and automatic control
- **Exposure Range**: 3 µs to 71 min (snapshot) 39 µs to 2.17 s (video)
- **Gain Control**: Manual and automatic control
- **Gain Range**: 0.5 to 37 x
- **White Balance**: Manual and automatic control
- **Trigger Modes**: Hardware and software triggerable

Camera Characteristics

- **Sensitivity**: Mono: 4.0 DN/(nJ/cm²), Color: 3.4 DN/(nJ/cm²) (Global and channel gains at unity)
- **Dynamic Range**: -60 dB
- **Full Well Capacity**: ~8,000 e-
- **Quantum Efficiency**: 56% @ 540 nm peak color, 69% @ 500 nm peak mono
- **Read Noise**: ~7.7e- (Quad-Tap mode)
- **Dark Current Noise**: <1 e-/s (at 22 ºC ambient, 41 ºC internal)

Mechanical Specifications

- **Data Interface**: USB 3.0, micro locking connector
- **General Purpose I/O**: Locking Hirose MXR-8R-8SA(71)
- **Lens Mount**: C-Mount
- **Dimensions**: 43 x 43 x 65 mm
- **Mass**: 175 g
- **Operating Temperature**: 0 to 50 ºC
- **Storage Temperature**: -30 to 70 ºC
- **Operating Humidity**: 5 to 95 %, non-condensing
- **Shock / Vibration**: 50 G shock / 5 G (2 to 200 Hz) vibration
- **Onboard Memory**: Camera has onboard non-volatile memory storage

Camera Software

- **Operating Systems**: Windows 10, Windows 8.1, Windows 7, Linux, 32 and 64-bit operating systems
- **Software Interfaces**: DirectShow

Power and Emissions

- **Power Consumption**: 6.0 W (Max)
- **Power Requirement**: USB Y cable or, La2000PK or La2000PIOK power kit to provide 5 V DC, 1.5 A, power through GPIO.
- **Emissions Compliances**: FCC Class B, CE Certified
- **Hazardous Materials**: RoHS, WEEE Compliant
- **Warranty**: Four (4) years

Ordering Options

- **Lt1265RM**: 12.0 MP Monochrome Camera
- **Lt1265RC**: 12.0 MP Color Camera
- **La2000PK**: Power Supply via GPIO connector (power only)
- **La2000PIOK**: Power Supply with GPIO cable (leads + power)
- **LuSDK**: Software Developer’s Kit (Web Download)
- **LuSDKSW-DVD**: Software Developer’s Kit (DVD)

Customization Options

- **-SCI**: Scientific grade
- **-WOIR**: AR/AR glass within lens mount

Recommended Applications

- UAV, Aerial Imaging
- ITS (Intelligent traffic solutions)
- High Resolution Surveillance
- Machine Vision Inspection
- High Resolution Fluorescence Imaging
- Whole Slide Imaging
- Large Area Scan
ALL DIMENSIONS DISPLAYED AS INCHES [MM]