

## GENERAL DESCRIPTION

The **PL-E531** monochrome ultra small footprint cameras provide high resolution, low noise images for unparalleled value in a broad range of industrial applications. The camera features a 1.3 megapixel (1280 x 1024) resolution imager capable of 30 fps at full resolution.

The **PL-E531** series of cameras are based on a Aptina CMOS progressive scan sensor with a 1/2" optical format. These cameras provide the user of choice of 8-bit or 10-bit digitization and a dynamic range of 60dB in 10-bit mode.

### Typical Applications

- Biometrics
- High performance security & surveillance applications
- Parts inspection
- Metrology
- Document archiving
- PCB inspection

The flexible Region of Interest (ROI) control allows users to operate at higher frame rates by placing a lower resolution "window" on the imager at any location with a granularity of 8 pixels by 8 pixels.

The sensor architecture provides superior anti-blooming compared to the CCD sensors making the PL-E531 an excellent choice for imaging highly reflective objects or scenes with intense illumination.

PixelINK's industry leading SDK uses a common API for all cameras regardless of the chosen interface. Software code developed for one camera is easily transferred to other PixelINK models without the need to recompile, overall system costs are reduced and camera integration is simplified.

**Customization** - The products listed here are standard offerings. PixelINK® also provides an extensive list of customized cameras to OEM customers around the world. We may already have what you need. If not, we can certainly design and build it for you.

## FEATURES

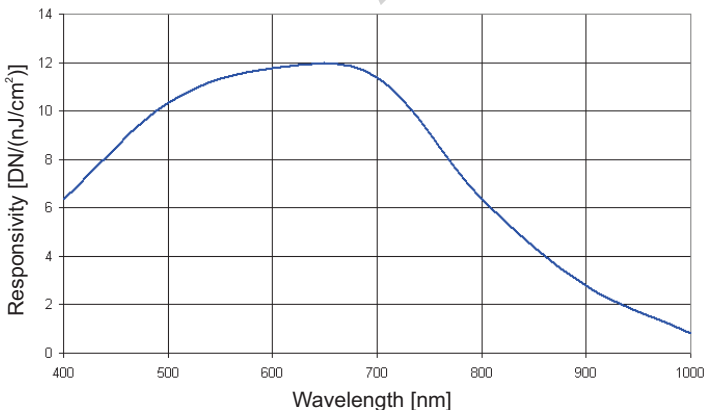
- 1.3MP (1280 x 1024) High Definition Resolution
- CMOS Progressive Scan Sensor
- Monochrome
- 74 fps at 800 x 600
- USB 2.0 (micro USB connector)
- Flexible Region of Interest to 8 pixel granularity
- Format\_7 support
- Great image quality
- Fast frame rate
- Ultra small size
- C-Mount / CS-Mount
- Board level configuration available
- One common API for all cameras
- Free professional technical assistance

### Camera control options:

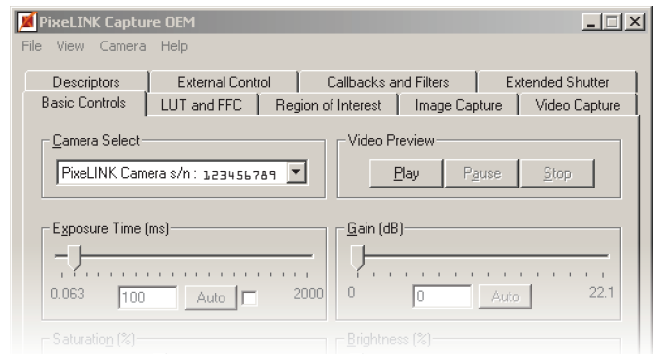
- Auto controlled exposure, white balance
- Programmable LUT
- Auto & Manual White Balance
- Gain
- Brightness (Dark Offset)
- Gamma
- Histogram
- Binning, Averaging, Resampling
- Image Flip & Rotate
- Callbacks (Image Filters)

## RESPONSIVITY CURVE

0dB Gain, 10bit Data



## PIXELINK® CAPTURE OEM SOFTWARE



PixelINK Capture OEM is a user-friendly camera control application offering users full control of the camera's features and settings. For your free copy of Capture OEM, please visit the PixelINK web site at [www.PixelINK.com](http://www.PixelINK.com)

## SENSOR

Sensor	Aptina CMOS
Type	Rolling Shutter, Progressive Scan
Resolution	1280(H) x 1024(V) 1.3 MP
Pixel Pitch	5.2 $\mu\text{m}$ x 5.2 $\mu\text{m}$
Active Area	6.65 mm x 5.32 mm - 8.52 mm diagonal
Peak QE	54 %
Pixel Clock	48 MHz

## PERFORMANCE SPECIFICATIONS \*

Responsivity	Mono 11.8 DN/(nJ/cm <sup>2</sup> )
FPN	<1 %
PRNU	<1 %
Read Noise	<1 DN
Dynamic Range	60 dB
Bit Depth	8 & 10-bit
Mono Data Formats	Mono 8 & Mono 16
Exposure Range	100 $\mu\text{s}$ to 1.21 seconds free running
Gain	0 dB to 21.58 dB in 22 increments
Image Formats	Bitmap, Tiff, JPEG, PSD
Video Format	Uncompressed AVI

\*PL-B531U Settings: Typical values with 40ms integration time, 0dB gain, 10-bit mode

## MECHANICALS

Dimensions	40 mm x 70 mm x 20 mm
Weight	46 g
Mounting	4 holes for M2 hardware
Status LED	Amber - Start-up, Green - Idle or streaming Red - Warning or failed status
Lens Mount	C, CS, S-Mount, 1/2" optical format

## INTERFACES

Interface / Data rate / Connector	USB 2.0 / 480 Mbps / Micro-B
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## FRAME RATES

Resolution	Free Running Mode
1280 x 1024	30
1024 x 768	48
800 x 600	74
640 x 480	109
320 x 240	330

Frame rates will vary based on host system and configuration

## POWER REQUIREMENTS

Voltage Req.	5 V DC
Power Consumption	3.0 W

## SOFTWARE

PixelINK Capture OEM	Free Download ( <a href="http://www.pixelink.com">www.pixelink.com</a> )
DirectShow	Bundled with PixelINK Capture OEM
TWAIN	Bundled with PixelINK Capture OEM
SDK	API, sample code and LabVIEW wrappers

## ENVIRONMENTAL & REGULATORY

Compliance	RoHS
Shock & Vibration	300 G & 20 G (10Hz - 2KHz)
Operating Temp.	0°C to 50°C (non-condensing)
Storage Temp.	-45°C to 85°C

## COMPUTER & OPERATING SYSTEM

Processor	2.0 GHz or better
Memory	512 MB min. 1 GB recommended
Operating System	XP, Vista (supported) Windows 7 (recommended)
Hard Drive Space	75 MB



Back

Side

Front

All dimensions are in millimetres

