Pixelink®
A NAVITAR COMPANY

PL-X957

CMOS | 10GigE | HDR | SONY IMX420 | GLOBAL SHUTTER

The PL-X family of high performance machine vision cameras, with 10 Gigabit ethernet, offers speed, accuracy and reliability in a quick and easy set-up. The 10GBASE-T interface and packet resend capability provide high quality, reliable image transfer at cable lengths of up to 100m on CAT6A. Additional features include Power over Ethernet (PoE) and IEEE1588 clock synchronization.

The Pixelink PL-X957 camera, featuring the Sony IMX420 4th generation Pregius CMOS sensor, is ideal for high dynamic range imaging applications requiring high resolution, fast frame rates, and high quality, low noise images.

A key feature of the IMX420 Sony sensor is a Dual ADC mode, where each pixel can be read out with two different gains. The PL-X957 combines the Dual ADC images into a single hybrid HDR image, directly on camera - thus removing the need for any host processing. Real time on camera HDR is an easy way for the user to gain 6-10dB of additional dynamic range on their image without taxing the CPU or requiring additional complex software algorithms.

PRELIMINARY

KEY FEATURES

7 MP	112								
CMOS	FRAMES Per Sec	4.5 µm	17.6 mm	SENSOR SIZE 1.1”	8 or 12-BIT	COLOR	MONO	10GBASE-T	GiGE VISION

TYPICAL APPLICATIONS

Parts Inspection
Strength / Stress Testing
Scratch Inspection
Automated Inspection

Sports Analysis
Research
Broadcasting

3D Mapping
VR and AR Applications Research
Multi-camera Synchronization

SCIENTIFIC IMAGING .com (800) 640-1320 - USA & Canada

TECHNICAL SPECIFICATIONS PL-X957

SENSOR

Sensor	Sony IMX420
Type	CMOS Global Shutter
Resolution	7.1 MP (3208 x 2200)
Pixel Pitch	4.5µm x 4.5µm
Active Area	17.6 mm diagonal

PERFORMANCE SPECIFICATIONS

FPN	<0.03% of signal
PRNU	<0.7% of signal
Dynamic Range	72 dB
Bit Depth	8 or 12 bit
Color Data Formats	Bayer 8, Bayer 12 Packed, Bayer 16, YUV422, RGB 8, BGR 8
Mono Data Formats	Mono 8, Mono 12 Packed & Mono 16

FRAME RATES

Effective Resolution	Free Running
3208 x 2200	Up to 112 fps

Frame rate will vary based on host system and configuration.
* Above calculations based on fixed frame rate mode.

INTERFACES

Board Level Trigger Connector	8-pin Molex 1.25 mm pitch
Enclosed Trigger Connector	Hirose M12 (12-pin)
Trigger	Software and hardware
Board Level Trigger Input	1 input, 3.3V (with internal pullup resistor)
Enclosed Trigger Input	1 optically isolated, 5-12V DC at 4-11 mA
Board Level GPO/Strobe	2 outputs, 3.3V
Enclosed GPO/Strobe	1 optically isolated, 5-12V DC at 4-11 mA, 2 outputs, 3.3V
Board Level GPI Input	1 input, 3.3v
Enclosed GPI Input	1 optically isolated, 5-12V DC at 4-11 mA
10GBase-T Connector	M12 X-coded (8-pin)

MECHANICALS

Dimensions (mm)	113 x 57 x 57
Weight (g)	560
Mounting	C-Mount

POWER REQUIREMENTS

Voltage Required	5V (from USB Type-C connector), 48V (802.3bt PoE)

PIN NAME & FUNCTION

1	3.3V power output
2	TRIGGER 3.3V HCMOS input
3	Ground
4	GPO1, 3.3V HCMOS output
5	GPO2, 3.3V HCMOS output
6	Clock, 3.3V (I2C access for OEMs)
7	Data, 3.3V (I2C access for OEMs)
8	GPI, 3.3V HCMOS input

Board connector: Molex (8-pin, 1.25mm pitch, vertical)
Cable receptacle: Molex 51021-0800;
Cable crimp terminals: Molex 50079-8100

ENCLOSED GPIO INTERFACE PIN NAME & DESCRIPTION

1	5.0V output
2	TRIGGER + (optically isolated)
3	TRIGGER - (optically isolated)
4	Data, 3.3V (I2C access for OEMs)
5	GPO1 + (optically isolated) 3.3V HCMOS output
6	GPO1 - (optically isolated)
7	GPO1, 3.3V HCMOS output
8	GPO2, 3.3V HCMOS output
9	Ground
10	GPI+ (optically isolated)
11	GPI- (optically isolated)
12	Clock, 3.3V (I2C access for OEMs)

ENVIRONMENTAL & REGULATORY

Compliance	FCC, CE & RoHS
Shock & Vibration	300 G to 20 G (10Hz-2KHz)
Operating Temperature	0°C to 50°C
Storage Temperature	-45°C to 85°C

SOFTWARE

Pixelink Capture	Control & operate multi-camera
Pixelink SDK	Software Development Kit

COMPUTER & OPERATING SYSTEM

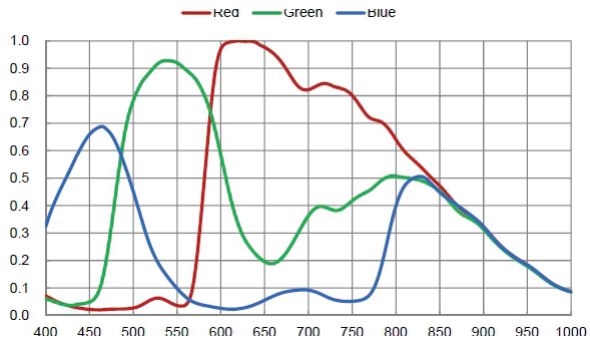
Processor	Intel Core i5 or better ARMv7 (32-bit) or ARMv8 (64-bit) - ARMv8 recommended
Memory	8GB RAM or more - 16 GB multi-channel DDR4 recommended
Hard Drive Space	200MB - SSD recommended
BUS	PCIe 3.0 (or better) with a slot supporting x8 transfers
Operating System	Windows 7/8/10 - Windows 10 recommended Ubuntu 16.04/18.04/20.04

PRELIMINARY

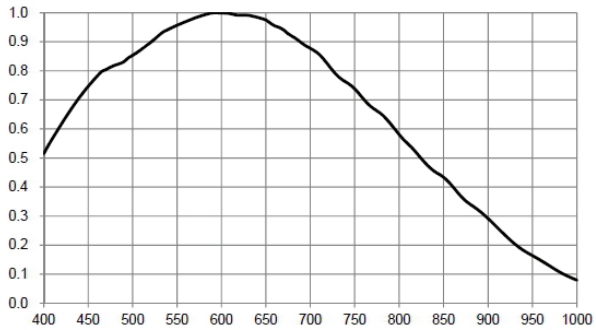
RESPONSIVITY CURVES

PL-X957

RESPONSIVITY CURVE- COLOR



RESPONSIVITY CURVE- MONO



PIXELINK CAPTURE

Pixelink Capture is powerful multi-camera software application designed to configure “n” number of cameras and stream “n” number of cameras simultaneously in real-time high-quality video viewed in a multi-window environment. It offers options for complex image enhancements such as exposure control and filtering, in addition to multi-camera application testing and configuration.

Pixelink Capture features allow you to to measure supporting point, line, circle, rectangle, polyline and polygon measurements while determining pixel location. The user can review and adjust data before exporting the findings to an Excel spreadsheet for further analysis.

Pixelink Capture also has integrated lens control (zoom & focus) for Navitar motorized lenses and accurate autofocus options for Navitar motorized fine focus mechanisms.

PIXELINK SDK

Providing full control of all camera functions, the Pixelink Software Development Kit (SDK) is the software package of choice for developers and system integrators who are integrating Pixelink cameras into their applications. The Pixelink SDK provides access to the full Pixelink Application Programming Interface (API) and provides sample applications, wrappers for many 3rd party controls, such as LabVIEW, along with full documentation.

The Pixelink SDK is compatible with Microsoft Windows and popular Linux platforms. When using the Pixelink SDK, developers can integrate Pixelink cameras into their applications with ease.

PRELIMINARY

AVAILABLE CONFIGURATIONS

PL-X957CG-BL
PL-X957CG-T
PL-X957MG-BL
PL-X957MG-T

COLOR SPACE

C = Color
M = Mono
NIR = Near Infrared

INTERFACE

G= 10 GigE

HOUSING

BL = Board Level
T = Trigger