RasaAndishan Moj Pardaz

رسا اندیشان موج پرداز (دانش بنیان)

طراح و سازنده انواع آشکارسازهای خطی و دوربین های تصویربرداری

- Robust & Reliable Hardware & Software Architecture
- Multi Interface Connectivity (USB2.0,USB3.0,Ethernet)
- Cross Platform – Linux & windows Application Support
- Plugin Based API and Sophisticated FlowGraph Structure
- VariousSDK(C#,C++,MATLAB,VB.Net,Python,LabVIEW)Included

Photo Finish

Overview

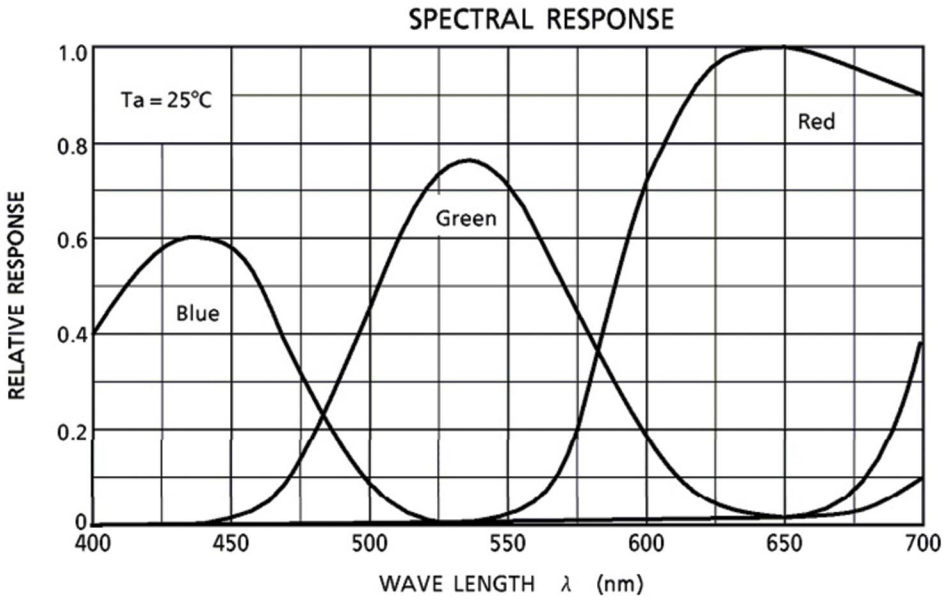
PhotoFinish is a USB3.0 Line Scan Camera that incorporates a CCD array
Very convenient Adjustment of the Finish line, Easy Mirror Adjustment,
use of LuxBoost technology to improve the Image Quality in different Light Conditions,
Focusing and Shutter Control of all Canon lenses through the Camera are some of the Special Features of this Native System.

GUI Features

Operates up to 10 Cameras Simultaneously without loss of any data
Cross Platform Software with Auto-Detection of Compatible Cameras
Smoothing, FPN Correction, PRNU Correction, Shading Correction, Background Subtract
Best Responsiveness by Separate Threads of Data Acquisition, Processing and Monitoring,
Zooming, Panning, Cursor Definition, Normal And Advanced Scanner

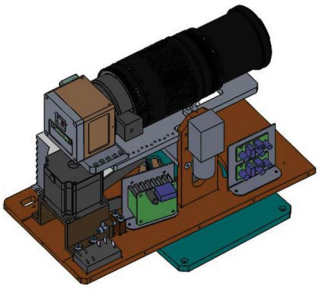
Application

The Photofinish System is designed for Sports Competitions such as Car racing, Horse Riding, Cycling and Running.



Specification

Sensor Spec	
Sensor Type	Color CCD Linear Image Sensor
Spectral Response	350-1100 nm
CCD Pixel Size	10.5 um x 10.5 um
Pixel Height	10.5 um
Pixel Width	10.5 um
Effective Pixels	2700 x 3
Effective Length	2700 x 10.5 um = 28.35 mm
Max Pixel Frequency	16.66 MHz
Max Line Rate	2990 Hz @ Free Running Mode
Min Exposure Time	334 us
Max Exposure Time	65 ms
Exposure Resolution	1 us
Pixel Color Depth	24 bit - 16 Milion Colors
Brightness Coefficient	-/+ 300 mV - 512 Analog Steps
Contrast Coefficient	64V/V - 64 Analog Steps
Advanced Spec	
Positioning Resolution	0.003 Degree
Positioning Accuracy	0.03 Degree
Pan Rotation Technology	Stepper Motor plus Driver
Tilt Rotation Technology	GearBox DC Motor plus Driver
LuxBoost Technology	Hardware and Software Sophisticated Algorithm
Finish Line Adjustment	Easy Innovation Electromechanical Method
Mirror Adjustment	Fast Scanning Electromechanical Method
Lens Support	All Electrical Canon Lens with Focusing and Shutter Control
General Spec	
Interface | Power	High Speed USB 3.0 (3.2 Gbit/s) | 220Vac Plug - 0.5A
Weight | PCB Dimension	8.7 Kgr | 40 cm x 30 cm x 25 cm
Temperature Range	0 to + 60 (°C)



What is PhotoFinish?

A photo finish occurs in a sporting race when multiple competitors cross the finishing line at nearly the same time. As the naked eye may not be able to determine which of the competitors crossed the line first, a photo or video taken at the finish line may be used for a more accurate check. Photo finishes make it less likely that officials will declare a race a dead heat.

Finish line photos are still used in nearly every modern racing sport. Although some sports use electronic equipment to track the racers during a race, a photo is considered the most important evidence in selecting the winner. They are especially important during close races, but they are also used to assign official times to each competitor during any race.

The final image often shows a solid white background, which is a continuous scan of the painted finish line. Racers may appear distorted based on the movement of their limbs and heads as they cross the line. limbs are elongated where they remain static or move backwards in relation to the slit-shutter, or truncated if they move faster than the film moving past the slit.

Rasandishan Moj Pardaz is the first and only manufacturer of PhotoFinish Sysytem in Iran. The possibility of very easy adjustment of the finish line and the mirror in front of it, support for all Canon lenses with electronic focus and aperture adjustment and luxboost technology are some of the extensive features of this native system.

RasaAndishan Cameras Comparison Table

MODEL	RA-LSC-1402I	RA-LSC-1103I	RA-LSC-1209I	RA-LSC-0511I
Resolution (HxV)	256 x 1	1500 x 1	2048 x 1	2048 x 1
Color mode	B & W	B & W	B & W	B & W
Pixel size	8 x 63.5 (µm)	5.5 x 64 (µm)	14 x 14 (µm)	14 x 200 (µm)
Pixel Distance	8 µm	5.5 µm	14 µm	14 µm
Line Width | Space	63.5 µm	64 µm	14 µm	200 µm
Active Length	16.248mm	8.25 mm	28.672 mm	28.672 mm
Max Pixel Frequency	7.5 MHz	2 MHz	16.6 MHz	2 MHz
Max Line Frequency	27625 Hz	641 Hz	7945 Hz	950 Hz
Max Trig Frequency	13812 Hz	320 Hz	3973 Hz	475 Hz
CCD Dynamic Range	4000	200	2000	267
Electronic Shutter	X	✓	X	X
Exposure Control	✓	✓	✓	✓
Exposure Min	36 µs	10 µs	125 µs	1056 µs
Exposure Max	14.5 Min	14 Min	8.5 Min	35.5 Min
ADC Resolution	16 Bit	16 Bit	16 Bit	16 Bit
Contrast Adjust	✓	✓	✓	✓
Brightness Adjust	✓	✓	✓	✓
Adaptor Mount	M42	M42	M42 / EF	M42
Interface	USB2	USB2	USB2 / USB3	USB2
Temperature Range	0 to +70 (°C)	-25 to +60 (°C)	-25 to +65 (°C)	-10 to +60 (°C)

RasaAndishan Cameras Comparison Table

MODEL	RA-LSC-0551I	RA-LSC-0751I	RA-LSC-1205I	RA-LSC-3753I
Resolution (HxV)	2048 x 1	2048 x 1	2048 x 1	2088 x 1
Color mode	B & W	B & W	B & W	B & W
Pixel size	14 x 14 (µm)	14 x 14 (µm)	14 x 200 (µm)	14 x 14 (µm)
Pixel Distance	14 µm	14 µm	14 µm	14 µm
Line Width | Space	14 µm	14 µm	200 µm	14 µm
Active Length	28.672 mm	28.672 mm	28.672 mm	29.232 mm
Max Pixel Frequency	4 MHz	5 MHz	2 MHz	2 MHz
Max Line Frequency	2376 Hz	2376 Hz	950 Hz	940 Hz
Max Trig Frequency	1188 Hz	1188 Hz	475 Hz	470 Hz
CCD Dynamic Range	6000	6000	400	375
Electronic Shutter	X	✓	✓	X
Exposure Control	✓	✓	✓	✓
Exposure Min	525 µs	1 µs	3 µs	1064 µs
Exposure Max	17.5 Min	14 Min	35.5 Min	35.5 Min
ADC Resolution	16 Bit	16 Bit	16 Bit	16 Bit
Contrast Adjust	✓	✓	✓	✓
Brightness Adjust	✓	✓	✓	✓
Adaptor Mount	M42 / EF	M42 / EF	M42	M42
Interface	USB2 / USB3	USB2 / USB3	USB2	USB2
Temperature Range	-10 to +55 (°C)	-10 to +55 (°C)	-25 to +60 (°C)	-25 to +65 (°C)

RasaAndishan Cameras Comparison Table

MODEL	RA-LSC-2113I	RA-LSC-1254I	RA-LSC-2253I	RA-LSC-0526I
Resolution (HxV)	2098 x 3	2500 x 1	2700 x 3	3000 x 1
Color mode	RGB	B & W	RGB	B & W
Pixel size	14 x 14 (µm)	5.25 x 64 (µm)	10.5 x 10.5 (µm)	7 x 200 (µm)
Pixel Distance	14 µm	5.25 µm	10.5 µm	7 µm
Line Width | Space	14 µm | 112 µm	64 µm	10.5 µm | 42 µm	200 µm
Active Length	29.372 mm	13.125 mm	28.35 mm	21 mm
Max Pixel Frequency	5 MHz	2 MHz	16.6 MHz	1 MHz
Max Line Frequency	2326 Hz	385 Hz	2989 Hz	325 Hz
Max Trig Frequency	1163 Hz	192 Hz	1494 Hz	162 Hz
CCD Dynamic Range	6300	400	300	320
Electronic Shutter	✓	✓	X	✓
Exposure Control	✓	✓	✓	✓
Exposure Min	1 µs	10 µs	334 µs	1 µs
Exposure Max	14 Min	35.5 Min	14 Min	35.5 Min
ADC Resolution	8 Bit	16 Bit	8 Bit	16 Bit
Contrast Adjust	✓	✓	✓	✓
Brightness Adjust	✓	✓	✓	✓
Adaptor Mount	M42	M42	M42 / EF	M42
Interface	USB2	USB2	USB2 / USB3	USB2
Temperature Range	-10 to +60 (°C)	-25 to +60 (°C)	0 to +60 (°C)	-10 to +60 (°C)

RasaAndishan Cameras Comparison Table

MODEL	RA-LSC-1304I	RA-LSC-0553I	RA-LSC-0718I	RA-LSC-1707I
Resolution (HxV)	3648 x 1	5150 x 1	5363 x 3	3725 x 2
Color mode	B & W	B & W	RGB	B & W
Pixel size	8 x 200 (µm)	7 x 7 (µm)	8 x 8 (µm)	4.7 x 4.7 (µm)
Pixel Distance	8 µm	7 µm	8 µm	4.7 µm
Line Width | Space	200 µm	7 µm	8 µm | 64 µm	4.7 µm
Active Length	29.184 mm	36.05 mm	42.904 mm	35.015 mm
Max Pixel Frequency	1 MHz	5 MHz	5.5 MHz	7.5 MHz
Max Line Frequency	270 Hz	951 Hz	1020 Hz	1968 Hz
Max Trig Frequency	135 Hz	475 Hz	510 Hz	984 Hz
CCD Dynamic Range	300	6666	10670	1800
Electronic Shutter	✓	X	✓	X
Exposure Control	✓	✓	✓	✓
Exposure Min	1 µs	1051 µs	2 µs	508 µs
Exposure Max	71 Min	14.5 Min	14 Min	35.5 Min
ADC Resolution	16 Bit	16 Bit	16 Bit	16 Bit
Contrast Adjust	✓	✓	✓	✓
Brightness Adjust	✓	✓	✓	✓
Adaptor Mount	M42	M42	M42 / EF	M42 / EF
Interface	USB2	USB2	USB2 / USB3	USB2 / USB3
Temperature Range	-25 to +65 (°C)	-10 to +55 (°C)	-10 to +60 (°C)	0 to +60 (°C)

RasaAndishan Cameras Comparison Table

MODEL	RA-LSC-0532I	RA-LSC-2717I	RA-LSC-2950I	RA-LSC-2950P
Resolution (HxV)	3750 x 2	7500 x 3	10680 x 3	21360 x 1
Color mode	B & W	RGB | B & W	RGB	B & W
Pixel size	7 x 7 (µm)	4.7 x 4.7 (µm)	2.8 x 4 (µm)	2.8 x 4 (µm)
Pixel Distance	7 µm	4.7 µm	4 µm	4 µm
Line Width | Space	7 µm	4.7 µm | 9.4 µm	2.8 µm | 64 µm	2.8 µm
Active Length	52.5 mm	35.250 mm	42.720 mm	42.720 mm
Max Pixel Frequency	4 MHz	16.6 MHz	16.6 MHz	16.6 MHz
Max Line Frequency	1050 Hz	2170 Hz	760 Hz	760 Hz
Max Trig Frequency	525 Hz	1085 Hz	380 Hz	380 Hz
CCD Dynamic Range	8333	2000	7000	7000
Electronic Shutter	X	X	X	X
Exposure Control	✓	✓	✓	✓
Exposure Min	952 µs	460 µs	1315 µs	1315 µs
Exposure Max	17.5 Min	14.5 Min	14.5 Min	14.5 Min
ADC Resolution	16 Bit	16 Bit	16 Bit	16 Bit
Contrast Adjust	✓	✓	✓	✓
Brightness Adjust	✓	✓	✓	✓
Adaptor Mount	M42	M42 / EF	M42 / EF	M42 / EF
Interface	USB2	USB2 / USB3	USB2 / USB3	USB2 / USB3
Temperature Range	-25 to +65 (°C)	0 to +60 (°C)	0 to +60 (°C)	0 to +60 (°C)

RasaAndishan Cameras Comparison Table

MODEL	RA-ASC-0134I	RA-ASC-0234I	RA-ASC-9031I	RA-ASC-5000I
Sensor Type	CMOS	CMOS	CMOS	CMOS
Resolution (HxV)	1280 x 960	1920 x 1280	2592 x 1944	2592 x 2048
Resolution	1.2MP	2.3 MP	5 MP	5 MP
Color mode	BW/Color	BW/Color	BW/Color	BW/Color
Pixel size (HxV)	3.75 x 3.75 (µm)	3 x 3 (µm)	2.2 x 2.2 (µm)	4.8 x 4.8 (µm)
Sensor Size (HxV)	4.8 x 3.6 (mm)	5.76 x 3.6 (mm)	5.7 x 4.28 (mm)	12.44 x 9.8 (mm)
Max Pixel Frequency	90 MHz	150 MHz	95 MHz	320 MHz
Shutter Type	Global Shutter	Global Shutter	Rolling Shutter	Global Shutter
Interface	USB3.0	USB3.0	USB3.0	USB3.0
Frame Rate @ ResM	72 Hz	50 Hz	20 Hz	60 Hz
Light Spectrum	Visible	Visible	Visible	Visible
Exposure Control	✓	✓	✓	✓
AOI Support	✓	✓	✓	✓
Frame Rate @ AOI	up to 457 Hz	up to 488 Hz	up to 1000 Hz	up to 1200 Hz
ADC Resolution	8 Bit	8 Bit	8 Bit	8 Bit
Contrast Adjust	✓	✓	✓	✓
Brightness Adjust	✓	✓	✓	✓
Adaptor Mount	C / CS-Mount	C / CS-Mount	C / CS-Mount	C / CS-Mount
External Power	X	X	X	X
Temperature Range	-30 to +70 (°C)	-40 to +85 (°C)	-30 to +70 (C)	-30 to +70 (°C)

رسا اندیشان موج پرداز (دانش بنیان)

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