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Vision Technologies

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Stingray F-146

Description

### Digital machine vision camera - FireWire - Sony ICX267

The Stingray F-146B/C is equipped with a SONY HAD CCD sensor (ICX267). At full resolution, this digital machine vision camera runs at 15 fps. Higher frame rates can be reached by a smaller AOI, binning (b/w) or sub-sampling.

- Sony ICX267
- Trigger
    - Programmable, trigger level control, single trigger, bulk trigger, programmable trigger delay
- Options
    - 1394b connectors: 2 x copper (daisy chain) or 1 x GOF, 1 x copper
    - Various IR cut/pass filters, removed cover glass
    - Various lens mounts on request
    - Hirose power: out
    - Angled head
    - White medical housing
    - Compact housing version
    - Board level versions on request

Specifications

Stingray	F-146
Interface	IEEE 1394b - 800 Mb/s, 2 ports, daisy chain, fiber optic (GOF) optional
Resolution	1388 x 1038
Sensor	Sony ICX267
Type	CCD Progressive
Sensor Size	Type 1/2
Cell size	4.65 µm
Lens mount	C
Max frame rate at full resolution	15 fps
A/D	14 bit
On-board FIFO	32 MB
	Output
Bit depth	8-14 bit
Mono modes	Mono8, Mono12, Mono16
Color modes YUV	YUV411, YUV422
Color modes RGB	RGB8
Raw modes	Raw8, Raw12, Raw16
	General purpose inputs/outputs (GPIOs)
TTL I/Os	0
Opto-coupled I/Os	2 inputs, 4 outputs
RS-232	1
	Power/Mass/Dimensions/Regulations
Power requirements (DC)	8 V - 36 V
Power consumption (12 V)	<4 W
Mass	92 g
Body Dimensions (L x W x H in mm)	72.9 x 44 x 29 mm including connectors, w/o tripod and lens
Regulations	CE, FCC Class B, RoHS

Download Stingray technical drawing (click here)
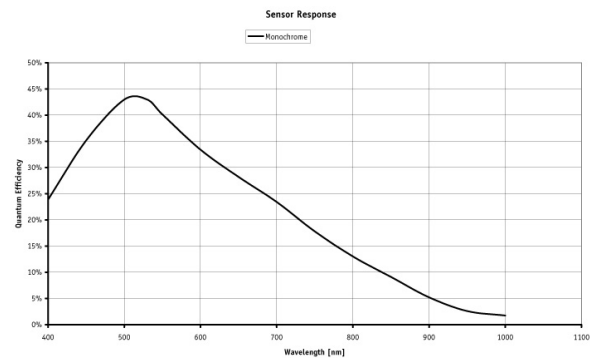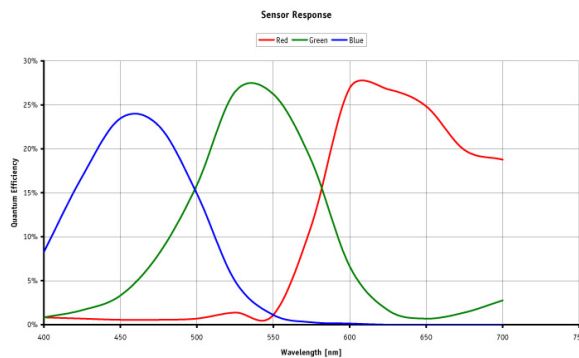
Smart features

Stingray cameras include numerous real-time image pre-processing functions. All below mentioned functions are performed by the FPGA inside the camera – with no additional CPU load and thus an inexpensive host computer.

- AOI (true partial scan), separate AOI for auto features
- Programmable LUT, white balance, hue, saturation
- Debayering
- Gain
  - Auto/manual
  - Manual gain control: 0 - 24.4 dB
- Exposure
  - Auto/manual
  - Exposure time: 39 µs - 67 s
- Color correction
- Shading correction
- High SNR mode (up to 24 dB better signal-to-noise ratio)
- Local color anti-aliasing
- Sub-sampling, 2x – 8x binning (b/w)
- Low noise binning mode
- Defect pixel correction
- Sequence mode (changes the camera settings on the fly)
- Image mirror
- Deferred image transport
- SIS (secure image signature, time stamp for trigger, frame count etc.)
- Storable user settings

The Technical Manual of the Stingray contains detailed descriptions of all functions.

Applications

The Stingray F-146 digital machine vision cameras fit many applications, their flexibility is a benefit of all Stingray FireWire cameras. AVT recommends using this camera for:

- Industrial inspection and automation
- Logistics
- Science and research
- Healthcare and medical (white housing available)
- Multimedia, entertainment and sports
- ITS (Intelligent traffic solutions)
- ... and many more

Additionally, it is ideally suited for:

- Demanding OEM camera applications (board level versions with separate sensor board available on request)
- Daisy chain applications (two copper connectors)
- Long cables - 400 meters and more without additional repeaters (Stingray F-146B/C fiber version)