Genie™ TS Advantage

World's Most Advanced GigE Camera

GigE VISION™

Learn more…Genie TS combines our own advanced CMOS Sensor—with a newly optimized camera platform to deliver a powerful, versatile feature set in a GigE Vision camera.

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Hardware Overview...

Lens mount type	• CS-Mount (or C-mount with Ring adapter) for up to 5M • T-Mount (M42x1) or F-Mount adapter.... for 5M to 12M
Camera Size	• 49mm x 49mm x 50mm for the CS-mount version • 49mm x 49mm x 54mm for the M42x1 version
Operating Temp range	• -20 to 65c ambient
Input Power	• Power over Ethernet (POE) • Auxiliary power of 12 to 24volt (-10% +50%)
Input / Output	• 4 General purpose Outputs and 4 General purpose • Lens control for DC ,Video Iris P-Iris or Motorized • Output control Zoom/Focus control on the micro-D 25-pin

Genie TS Series

Sensor Features…

Auto-Brightness

- Auto-Exposure ★
- Auto-Gain (AGC) ★
- Auto-Iris

Multiple Exposure

- Different Exposure time each different image
- Cycling method is User controllable

Multiple Gain

- Different Gain for every image
- Cycling method is User controllable

Moving ROI

- New ROI (Region of interest) position every image
- Cycling method is User controllable

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About Auto-Brightness

A group of functions inside the camera that can compensate for lighting variation, including:

- Auto-Exposure control (Shutter speed)

- Auto-Gain (also call AGC)

- Auto-Iris (to control lens aperture)

Sensor Features…

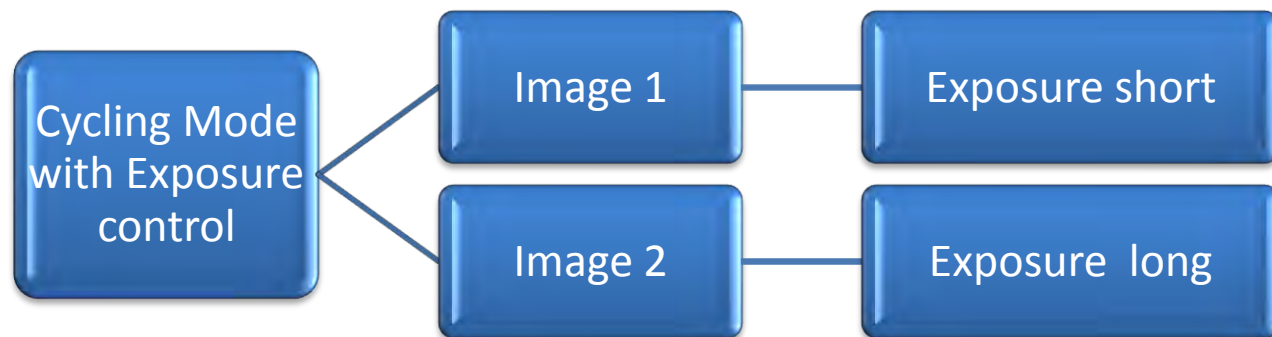| Auto-Brightness	• Auto-Exposure • Auto-Gain (AGC)
Multiple Exposure	• Different Exposure time per each image ★ • Cycling method is User controllable ★
Multiple Gain	• Different Gain for every image • Cycling method is User controllable
Moving ROI	• New ROI position every image • Cycling method is User controllable

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Multiple Exposure (Example)…
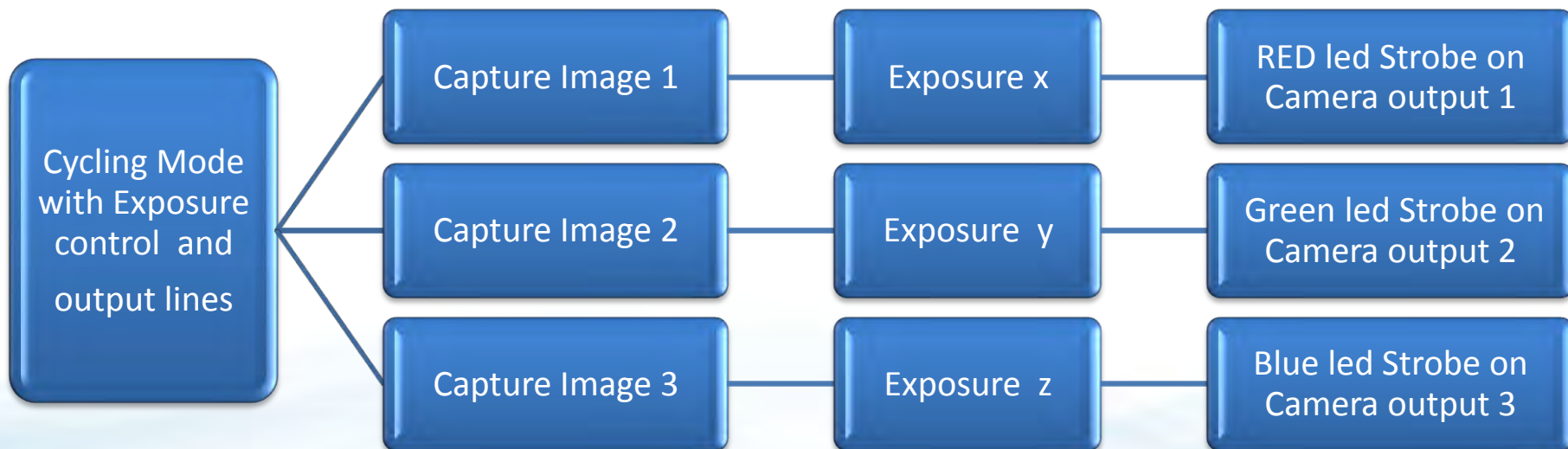
Supports Wide Dynamic Range (WDR) imaging

```
Cycling Mode with Exposure control ──┬── Image 1 ── Exposure short
                                     └── Image 2 ── Exposure long
```


Short Exposure + Long Exposure =

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Multiple Exposure (Example)…

Create High Resolution (like 12Mpixels) RGB image with using Monochrome sensor

RGB 16x2 Display Multicolor LCD
Three Photos Combined!

Cycling Mode with Exposure control and output lines

Capture Image 1 — Exposure x — RED led Strobe on Camera output 1

Capture Image 2 — Exposure y — Green led Strobe on Camera output 2

Capture Image 3 — Exposure z — Blue led Strobe on Camera output 3

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Sensor Features...

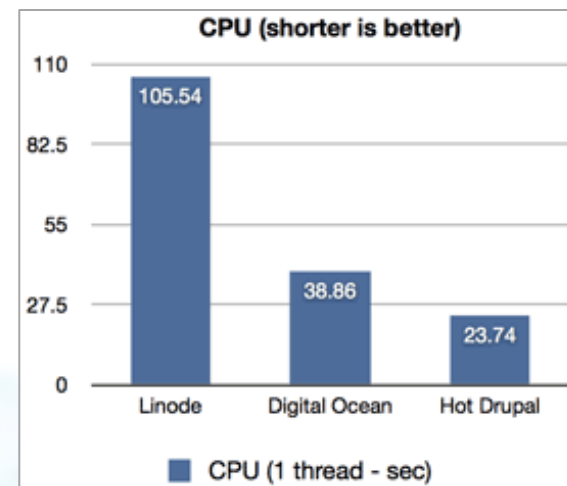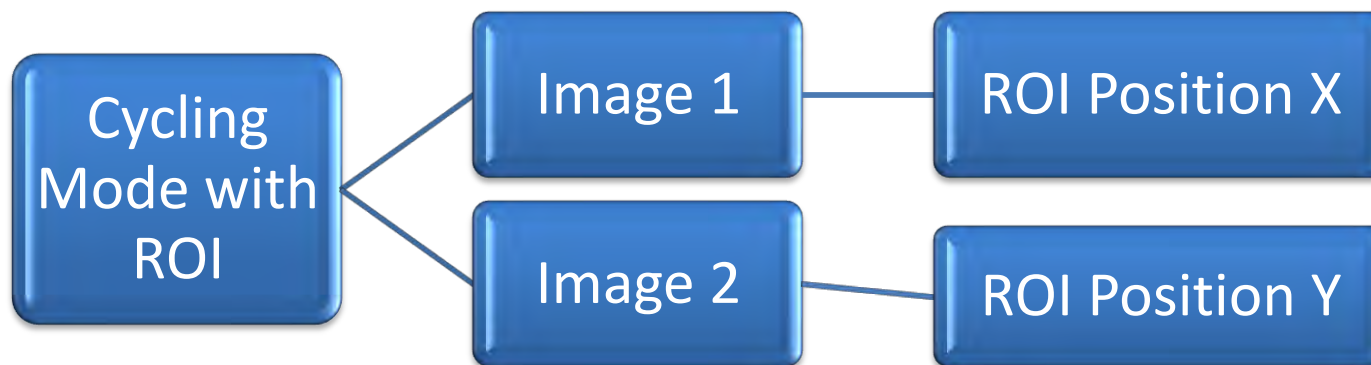|	
Auto-Brightness	• Auto-Exposure • Auto-Gain (AGC)
Multiple Exposure	• Different Exposure time per image • Cycling method is User controllable
Multiple Gain	• Different Gain for every image ★ • Cycling method is User controllable ★
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Different Exposure/Gain (Example)...

Extend processing capability by allow the software to be optimized

Cycling Mode with Exposure and/or Gain

Image 1 — **short Exposure and/or Gain X**

Image 2 — **long Exposure and/or Gain Y**

CPU (shorter is better)

	CPU (1 thread - sec)
Linode	105.54
Digital Ocean	38.86
Hot Drupal	23.74

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Sensor Features…

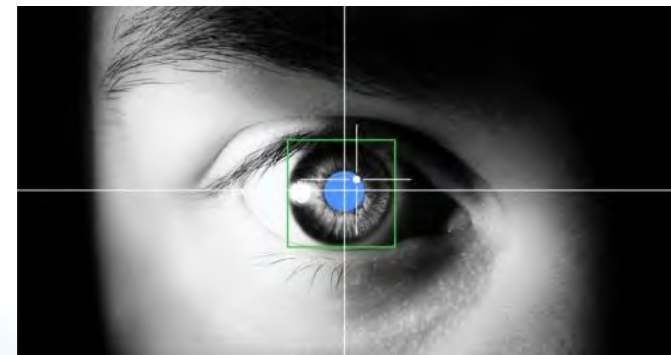| Auto-Brightness	• Auto-Exposure • Auto-Gain (AGC)
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Multiple ROI Position...

- To Increase processing speed by computing less data with partial image
- Used to track moving object with the PC and update the camera new ROI
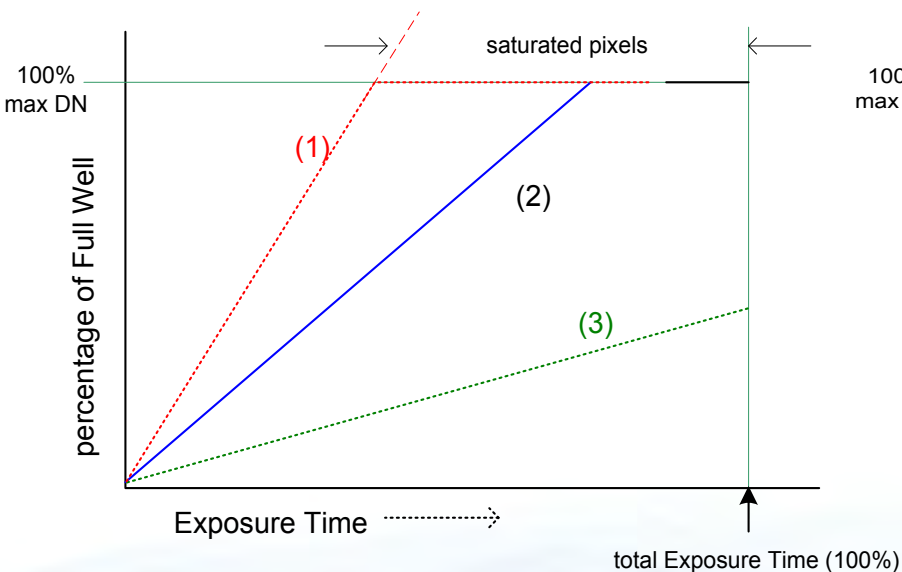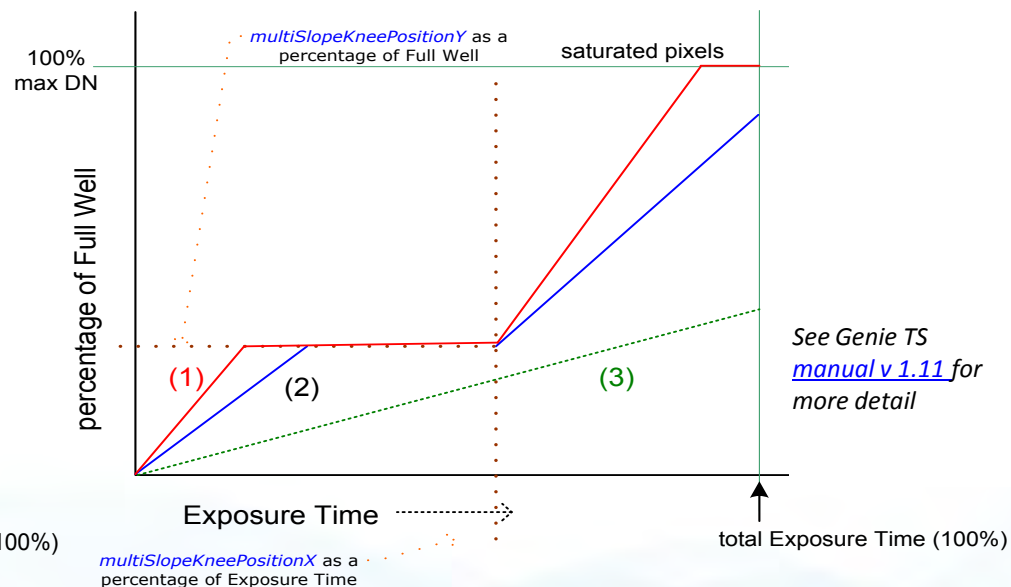
Multi-Slop Function…

| Multi-slope | • To offers a non-linear response
• Extend the Dynamic range of a scene |

Normal Mode

Multi-Slope Mode

Exposure Time = 800us

- multislopeKneePositionX = 50% (position from total exposure time)
- multislopeKneePositionY = 30% (position of the total Full Well (or Saturation)

Multi-slope Functionality…

Normal (linear Responses) vs. Non-Linear Responses

Multi-Slope Mode =OFF

Multi-Slope Mode =ON

Camera Features…

Meta DATA	• **Camera setting follow each image buffer** ★
Timestamp Control	• Can control the status and /or the tick frequency • Control can be either Software or from External I/O ★
Faster Acquisition then GigE	• Can buffer up to 512 MB image • User can control the data flow out of the camera ★
File Access Control	• Firmware field upgradable within the User application ★

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Metadata…

Optimize processing parameter by computing with more knowledge for each image buffer

ImageBuffer: 23
ExposureTime : 20u
TimeStamp: 2355
Gain: 1

ImageBuffer: 24
ExposureTime : 55u
TimeStamp: 2705
Gain: 1

ImageBuffer: 25
ExposureTime : 20u
TimeStamp: 3155
Gain: 1

ImageBuffer: 26
ExposureTime : 55u
TimeStamp: 3505
Gain: 1

Camera Features...

Meta DATA	• Camera setting follow each image buffer	★
Timestamp Control	• **Can control the status and /or the tick frequency** • **Control can be either Software or from External I/O**	★
Faster Acquisition then GigE	• Can buffer up to 512 MB image • User can control the data flow out of the camera	★
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| Faster Acquisition then GigE | • Can buffer up to 512 MB image
 • User can control the data flow out of the camera | ★ |

| **File Access Control** | • **Camera Firmware are field upgradable within the User application**
 • **Users can add is own Users defined Key for extra software protection (prevent to have their own system copied)** | ★ |

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I/O Related Features …

Counter and Timer

- **1 General purpose Counter** ★
- **1 General purpose Timer** ★

Remote Serial Control

- A RS-485 serial port output offers a remote access from the PC to serial device around the camera (like PTZ)
- An Additional serial port also available for RS-232 device

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I/O Related Features …

| Counter and Timer | • 1 General purpose Counter
• 1 General purpose Timer |

| Remote Serial Control | • **2 serial port (RS-232 and RS-485) output = remote access from PC to serial devices (like PTZ)**

• **Port automatically map to Window's COM port LIST (if enabled)**

• **No Sapera installation is required for this access.** |

Available NOW