

## Application Note : How to calculate Basler's GigE camera bandwidth

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### GigE Frame Grabber Cards and its Supported Bandwidth

Part number	Chipset used	No. of Controller	Maximum Supported Bandwidth per controller
PCIe-PoE2+	Gigabit Ethernet ports by Intel® 82574L controllers	2	1000Mb/s = 125MB/s
PCIe-PoE4+	Gigabit Ethernet ports by Intel® 82574L controllers	4	1000Mb/s = 125MB/s
PCIe-PoE352at	GigE ports by Intel® I350-AM4 controller	2	1000Mb/s = 125MB/s
PCIe-PoE354at	GigE ports by Intel® I350-AM2 controller	4	1000Mb/s = 125MB/s

### Basler's Frame Rate Calculator do the job!

The Basler Frame Rate Calculator calculates the frame rate or line scan rate for your Basler area scan camera or line scan camera once a few parameters have been specified. For instance, should you wish to define an area of interest (AOI), the tool determines the maximum frame rate or line scan rate that can be achieved.

[Link to download : http://www.baslerweb.com/en/support/tools/frame-rate-calculator](http://www.baslerweb.com/en/support/tools/frame-rate-calculator)

### EXAMPLE:

1. Define the maximum supported bandwidth of different host controllers
2. Use Basler's Frame Rate Calculator to get the "bandwidth needed"
3. Compare with the maximum supported bandwidth
4. DONE! :)

The image shows two software windows. The left window is 'Basler's Frame Rate Calculator' with the following settings: Camera Category: Basler ace GigE, Camera Model: acA1300-60gm /-NIR, AOI Width: 1282, AOI Height: 1026, Packet Size: 1500, Exposure Time: 15, Bit Depth: Mono 8, Bandwidth Reserve: 10, Inter-Packet Delay: 0, and Bandwidth Needed: 93516592 B/s (highlighted with a red box). The right window is 'Ace GigE Acquisition Control' with Shutter Mode: Global and Trigger Mode: On. Below the windows, a text box summarizes the camera settings and bandwidth calculation.

**Camera : acA1300-60gm**  
**Max fps : 67.45**  
**Shutter Mode : Global**  
**Trigger Mode : On**  
**Bandwidth : 93918664 B/s = 93.9MB/s**  
**Needed**

∴ All the above mentioned frame grabbers can be used as it's maximum bandwidth is 125MB/s.