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[Correlating Frame Rate Values from Calculations](#)

by [potto216](#) » Sun Nov 13, 2011 5:32 pm

A question about the frame rate computation in Sonix RP. When we setup the collect for a line density of 64 and a sector size of 50% with a depth of 2.5cm we get an output file with a width of 33. If I compute the theoretical frame rate I get:

$\text{Time_per_line} = 2 * (2.5\text{cm} / 1540\text{m/s}) = 32.46\mu\text{s}$

$\text{Frame_rate} = 1 / (33 * 32.46\mu\text{s}) = 933\text{fps}$

But the actual frame rate is 532fps. Are my calculations incorrect or is there a processing delay between each from collect? If so we need to know if the delay occurs at the end of the frame collect or if it is inter-spaced between each collected line?

Thanks!

[potto216](#)

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Re: Theoretical frame rate does not match Sonix RP frame rat

by [reza](#) » Tue Apr 10, 2012 10:05 pm

This is expected, the imaging frame rate will always be smaller than the theoretical frame rate. This is because there is always a minimum switching delay in the hardware when you switch from one scan line to the next. This switching can not happen instantly. This delay increases your line duration which results in lower frame rates.

Actual line duration can be calculated by dividing your frame rate by the number of scan lines which in your case is

line duration = $1/532/33$

Hope this helps

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Re: Theoretical frame rate does not match Sonix RP frame rat

by [kris](#) » Wed Jun 20, 2012 9:56 pm

Note the probes.xml has a parameter called minlineduration, this ensures that the PRF never gets too high in B mode imaging (safety).

For example, it's 60us for L14-5/38, which explains your ~530 fps.

Kris Dickie | Managing Director

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