

# Frame Rate Control of Dragonfly Cameras

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Basic frame rate control is determined by the Current\_Frame\_Rate register (0x600), which for the Dragonfly provides four basic frame rates – 3.75, 7.5, 15 and 30 fps<sup>1</sup>.

Using the Frame\_Rate register 0x1240, you can decrease (and maybe increase) the frame rate as defined by the Current\_Frame\_Rate register (0x600) by a factor up to 5.118.

The new frame is defined by the 12-bit value loaded in register 0x1240 as follows:

Frame\_Rate value =  $800 * (\text{Current\_Frame\_Rate} / \text{Desired Frame Rate})$ .

So if you want the frame to be controlled solely by the Current\_Frame\_Rate register (0x600), then the Frame\_Rate value should be = 800 (0x320). The default value for register 0x1240 is 0x82000320.

<b>Ratio Current FPS: Desired FPS</b>	<b>Frame Rate Register 0x1240</b>
1/2	0x82000640
1/3	0x82000960
1/4	0x82000c80
1/5	0x82000fa0
1/5.118	0x82000fff

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<sup>1</sup> Point Grey has confirmed that setting the FrameRate register (0x600) to FrameRate\_0 (1.875fps) or FrameRate\_6 or FrameRate\_7 does NOTHING on a DragonFly as these frame rates are not support in Format 0, Mode 5 or 6.

Or use the table below to select setting for specific frame rates between 0.75 and 30fps.

FPS	Register 0x600		Register 0x1240
	Current Frame Rate		Frame_Rate
0.75	3.75	0x20000000	0x00000FA0
1	3.75	0x20000000	0x00000BB8
2	7.5	0x40000000	0x00000BB8
3	15	0x60000000	0x00000FA0
4	15	0x60000000	0x00000BB8
5	15	0x60000000	0x00000960
6	30	0x80000000	0x00000FA0
7	30	0x80000000	0x00000D64
8	30	0x80000000	0x00000BB8
9	30	0x80000000	0x00000A6A
10	30	0x80000000	0x00000960
11	30	0x80000000	0x00000885
12	30	0x80000000	0x000007D0
13	30	0x80000000	0x00000736
14	30	0x80000000	0x000006B2
15	30	0x80000000	0x00000640
16	30	0x80000000	0x000005DC
17	30	0x80000000	0x00000583
18	30	0x80000000	0x00000535
19	30	0x80000000	0x000004EF
20	30	0x80000000	0x000004B0
21	30	0x80000000	0x00000476
22	30	0x80000000	0x00000442
23	30	0x80000000	0x00000413
24	30	0x80000000	0x000003E8
25	30	0x80000000	0x000003C0
26	30	0x80000000	0x0000039B
27	30	0x80000000	0x00000378
28	30	0x80000000	0x00000359
29	30	0x80000000	0x0000033B
30	30	0x80000000	0x00000320

This table is summarized in:

[http://www.cs.unc.edu/Research/stc/FAQs/Cameras\\_Lenses/PtGrey/TechAppNotes/PGR-FrameRateControl.xls](http://www.cs.unc.edu/Research/stc/FAQs/Cameras_Lenses/PtGrey/TechAppNotes/PGR-FrameRateControl.xls)

One could also play with the Extended\_Shutter register (0x1228), but I don't believe you will get control beyond the range outline in the table above.

References:

[http://www.cs.unc.edu/Research/stc/FAQs/Cameras\\_Lenses/PtGrey/DcamRegisterRefManual.pdf](http://www.cs.unc.edu/Research/stc/FAQs/Cameras_Lenses/PtGrey/DcamRegisterRefManual.pdf)