## Adjusting the Field of View of your BlackFly Camera

By cropping the field of view in the FlyCapture software, you can increase the sampling rate of the camera to 100 Hz.

Plug camera USB cable into a USB-3 port in the computer (it will have a sector symbol next to it). Open FlyCapture software and select camera from devices. Make sure FlyCapture recognizes the camera as USB 3.0!

📀 FlyCar	pture2 Camera Selection 2.12.3.31						
Camera List (1 cameras detected)				Camera Information			
Serial #	Model	Interface	IP Address	Serial Number:	19169002		
19169002	Blackfly BFLY-U3-23S6M	USB 3.0	N/A	Model:	Blackfly BFLY-	U3-23S6M	
				Vendor:	Point Grey Res	search	
				Sensor:	Sony IMX249 ( CMOS)	1/1.2" Mono	
				Resolution:	1920x1200		
				Interface:	USB 3.0		
				Bus Speed:	S5000		
				PCle Bus Speed	Unknown PCle	bus speed	
				IIDC Version:	1.32		
				Firmware Version:	1.9.3.0		
				Firmware Build Time:	Mon Apr 18 16	57:39 2016	
				Driver:	USB Camera E (PGRUsbCam.	Driver .sys) - 2.7.3.235	
F	orce IP Refresh			OK Configure	Selected	Cancel	

Click OK, then navigate to camera settings at the top of the toolbar (icon circled in red below).

• FlyCap2 2.12.3.31 - Point Grey Research Blackfly BFLY-U3-23S6M (19169002)

File	View	Set	tings	Hel	р				
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Under the 'Custom Video Modes' tab, change the pixel format to Mono 8, as pictured.

Camera Settings	Custom Video Modes				
Standard Video Modes		- Mada	Torre and Talance Man		
Custom Video Modes		Mode 0 Y	Image Information		
Camera Information		WOUG.	Maximum image size: 1920x1200		
Camera Registers		Pixel Format	Image size units: 4(H), 2(V) Image offset units: 2(H), 2(V) Pre color processing subsampling:		
Trigger / Strobe	Charth (250,024) End (262,026)	Pixel Format: Mono 8			
Advanced Camera Settings	Dimensions: 4 x 2				
High Dynamic Range	Difficiencies, 172	Image	N/A		
Look Up Table		1.4 358 August 4	Post color processing subsampling:		
Frame Buffer	Cursor: (1457, 400)		N/A		
Data Flash		Top: 934 🗘 Height: 2 🗘	Standard binning: Unknown		
System Information			Bayer binning: Unknown		
BusTopology		Center ROI Max Image Size	Cols: N/A Rows: N/A		
Help / Support			Bandwidth Information		
		Binning (GigE Only)			
		1 🗘 by 1 🇘	Image Size: 0 KB		
		Horizontal Vertical			
		Packet Size			
		4			
		Packet Size: 4			
		Packet Delay			
		Min Max			
		Packet Delay: 0			

Click and drag your cursor within the blue box in the upper left-hand corner to create a smaller red rectangle. This will be your cropped field of view.

Camera Settings	Custom Video Modes		
Randard Video Modes		Mode	Image Information
Custom Video Modes		Mode: 0 ~	Maximum image size: 1020v1200
Camera Information			Maximum mage size. 1320x1200
Camera Registers		Pixel Format	Image size units: 4(H), 2(V)
Trigger / Strobe	Start: (328 254) End:(1632 002)	Pixel Format: Mono 8	Image offset units: 2(H), 2(V)
vanced Camera Settings	Dimensions: 1304 x 648		Pre color processing subsampling:
High Dynamic Range		Image	N/A
Look Up Table		1.00 328 🖨 Width: 1304 🚔	Post color processing subsampling:
Frame Buffer	Cursor: (1832, 192)		N/A
Data Flash		Top: 254 🗘 Height: 648 🖨	Standard binning: Unknown
System Information			Bayer binning: Unknown
BusTopology		Center ROI Max Image Size	Cols: N/A Bows: N/A
		Horizontal Vertical Packet Size 108 7992 Packet Size	Estimated Bandwidth: MB/s
		Min Max	
		Packet Delay: 0	
		Apply	

Toggle the Left, Top, Width, and Height fields to center your cropped field of view. Use the FlyCapture viewfinder to make sure the entire image from your FP3001 system is still visible, then click 'Apply' to save the settings.



An example of a cropped image in the FlyCapture viewfinder.

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📀 FlyCapture2 2.1	2.3.31 Point Grey Research Bla	ackfly BFLY-U3-23S6M (175901	61)	- 🗆 🗙	
Camera Settings	Trigger / Strobe Control				_
Standard Video Modes	Trigger Control	Trigger Delay	Pin Direction Control		
Custom Video Modes	Enable / disable trigger	Enable / disable delay			
Camera Information					
Camera Registers	Mode: 14 ~		I his is usually only used		
Trigger / Strobe	Barameter: 0	0.0000	input without setting them		
Advanced Camera Settings		Min binnen deleve 0.00000	as a trigger source.		
High Dynamic Range	Trigger Source	Min trigger delay: 0.00000s			
Look Up Table	GPIO 0  GPIO 1	Max trigger delay: 0.00000s	GPIO 0: ) In ) Out		
Frame Buffer					
Data Flash		Software Trigger	GPIO I: J III D Out		
System Information	○ None	Fire Software Trigger	GPIO 2: ) In ) Out		
BusTopology	Trigger Polarity				
Help / Support	Low O High		GPIO 3: ) In ) Out		
		I			
	Strobe Control	CPIO 1			
	Enable strobe for this pi	n Enable stro	be for this pin		
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	Polarity Low Duratio	Polarity			
	GPIO 2	GPIO 3			
	Enable strobe for this pi	n Enable stro	be for this pin		
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	Polarity Low Duratio	n: 0.00	ow Duration: 0.00		

Under Trigger/Strobe -> Trigger Control, uncheck the box adjacent to "Enable/disable trigger".

Next under the 'Camera Settings' tab, uncheck the On/Off box next to the Frame Rate sliding scale.Set your Shutter to (1/frame per second) - 1ms. Make sure to convert (1/frame per second) to milliseconds! You do not need to configure FrameRate. The FrameRate will automatically match the frame rate of the driver box.

Once you have configured your Shutter, check the On/Off box.

Camera Settings	Camera Settings		
Standard Video Modes	Absolute Mode	Auto On/O One Pus	sł
Custom Video Modes	Brightness	2.930 🗘 %	
Camera Information	Exposure	1.700 🗘 EV	
Camera Registers	Sharpness	512 🗘 🗌	
Trigger / Strobe	Hue	Second Contraction	
Advanced Camera Settings	Saturation		
High Dynamic Range	Gamma	1.000 🖨	
Look Up Table	Iris		
Frame Buffer	Focus		
Data Flash	Zoom		
System Information	Pan		
BusTopology	Tilt		
Help / Support	Shutter	9.468 🖨 ms	
	Gain	29 996 🖨 dB	
	FrameBate	41 523 - 60	
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Camera Settings	Trianan ( Obacha Obacha)	· · · ·			
Standard Video Moder	Ingger / Strobe Control				
Custom Video Modes	Trigger Control	Trigger Delay	Pin Direction Control		
Comoro Information	Enable / disable trigger	Enable / disable delay			
Camera Decistera	Mode: 14 ×		This is usually only used		
Triages (Stroke			to manually set pins as		
Advanced Camera Settings	Parameter: 0	0.0000	input without setting them		
High Dynamic Pange	Trianan Cauna	Min trigger delay: 0.00000s	as a trigger source.		
Look Up Table	ingger Source	Max trigger delay: 0.00000			
Erame Buffer	GPIO 0 O GPIO 1	Max ungger deray: 0.00000s			
Data Flash	○ GPIO 2 ○ GPIO 3	Software Trigger	GPIO 1: In DOut		
System Information	None	Fire Software Trigger			
BusTopology	Trianes Balavita	The contract rigger	GPIO 2: 9 III ) Out		
Help / Support	Low High		GPIO 3. D In ) Out		
	Strobe Control	I	I		
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Return to the Trigger/Strobe section and check the box under "Enable/disable trigger"

Now your camera is configured for up to 100 Hz recordings!