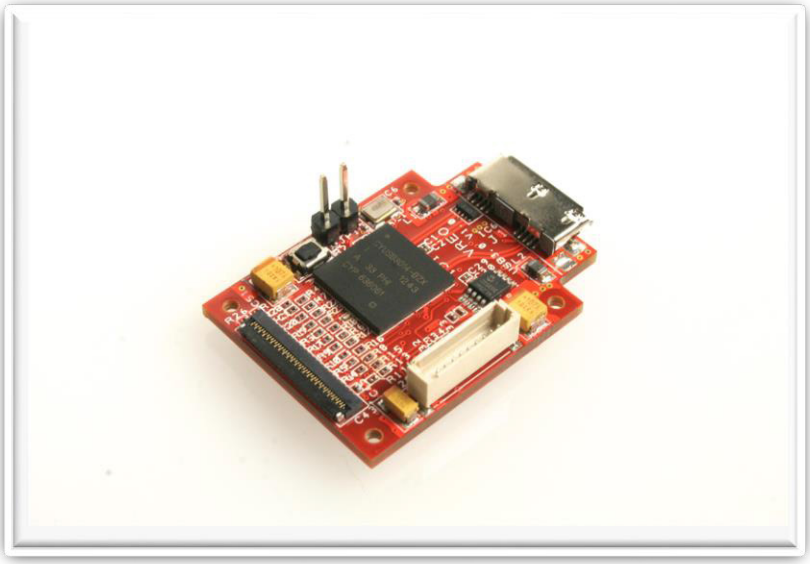
iShot®

USB 3.0 Interface
Sony FCB-MA130



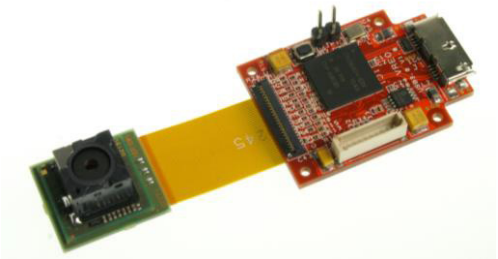
- SONY FCB-MA130 to USB 3.0 Interface
- 1080p 30fps Video Streaming
- Still image capture
- Power over USB
- One cable solution
- I2C Camera Control via USB

Markets and Applications
Machine Vision: Space Restricted Applications
Security: Covert Surveillance
Broadcast: Sport, Wildlife, Fly on the wall documentaries

The iShot® USB 3.0 board has been specifically designed to work with Sony's FCB-MA130 camera. Enabling all features on this exceptional camera to be utilised over USB3.0.

The small size of the FCB-MA130 is a major advantage in many applications and the iShot® USB 3.0 has been designed to complement, allowing a very small total solution. It also takes its power from the USB host computer allowing single cable operation.

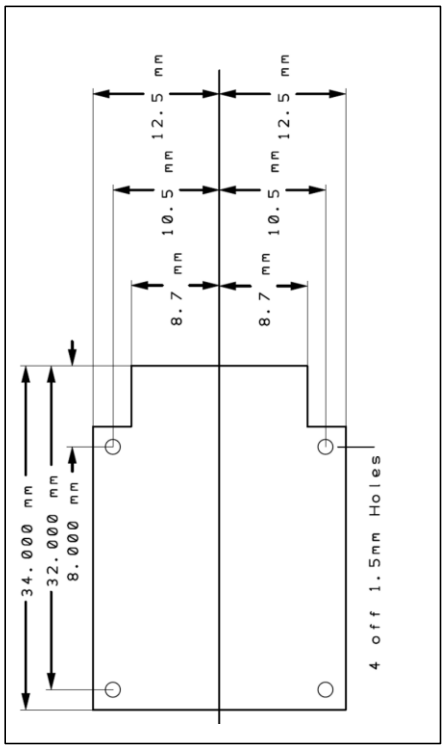
The USB 3.0 board connects to the FCB MA130 via an FCC cable. It connects to the CMOS parallel interface and the I2C control lines. The FPGA on board convert's commands received via USB, to the appropriate I2C protocol commands on the camera.



A DMA channel on the FPGA is used to read the data and send it to the USB 3.0 channel.

The hardware also adds the appropriate UVC header allowing easy interfacing on the host PC. Standard UVC controls are implemented and other functions can be handled via extended commands that implement register access.

All resolutions and frame rates supported by the camera including still images can be streamed via USB 3.0 including 1080p @ 30fps.



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Power	Powered from USB bus, Max current = 500mA, Typical = 290mA, with video @ 1920x1080p 30fps, includes FCB-MA130 current
Operating Temperature	-5°C to +50°C
Video Resolution USB3.0 30FPS	Full HD 1920 x 1080 UXGA 1600 x 1200 SXGA 1280 x 960 HD 1280 x 720 VGA 640 x 480
Video Resolution USB2.0 15FPS	VGA 640 x 480
Still Image Capture Resolution USB3.0 Method 2	13M 4192 x 3104 12M 4128 x 3096 8M 3264 x 2448 5M 2592 x 1944 Full HD 1920 x 1080 UXGA 1600 x 1200 SXGA 1280 x 960
Image Stabilisation	ON/OFF applies to video and stills
Exposure Modes	Auto, Hold, Shutter Priority, Gain Priority
Shutter Speed (Shutter Priority Mode)	1/5000, 1/4000, 1/3000, 1/2500, 1/2000, 1/1500, 1/1250, 1/1000, 1/800, 1/600, 1/500, 1/400, 1/300, 1/250, 1/200, 1/150, 1/120, 1/100 1/80, 1/60, 1/50, 1/40, 1/30, 1/25, 1/20
Gain Settings (Gain Priority Mode)	1 to 65535 equivalent to ISO value
EV Correction	-6/3, -5/3, -4/3, -3/3, -2/3, -1/3, 0, 1/3, 2/3, 3/3, 4/3, 5/3, 6/3
Back Light Compensation	ON/OFF
Auto Exposure Weighting	Centre, Spot, Average
Auto Exposure Speed	Sets convergence speed : normal, high, low
White Balance Mode	Auto, Hold, All pull in, Light Bulb, Neutral Fluorescent, Clear Sky, Cloudy Sky, Daylight Fluorescent, Light Bulb Fluorescent
White Balance Offset	ON/OFF, Red Offset, Blue Offset
White Balance Speed	Sets convergence speed : normal, high, low
Flicker	Off, Auto, 50Hz, 60Hz, 50Hz -> Auto, 60Hz -> Auto
Autofocus	Contrast method
Manual focus	Move to the fixed Macro or Infinity positions. Step towards Macro, Step towards infinity, Adjustable Step size
Image Flip	Horizontal and vertical
Brightness	0 to 15
Contrast	-8 to +8
Sharpness	-8 to +8
Hue	-30° to +30°
Color Gain	-32 to +32
Zoom	Digital zoom x1 to x16
Face Detection	On/Off, #faces. Reports X & Y position, size and rotation angle for max 8 faces.
Test chart	On/Off