

Device: IO Industries Flare 2K/4K Cameras

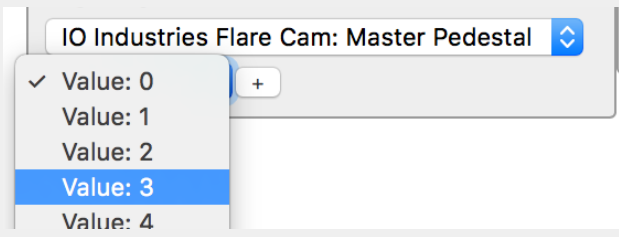
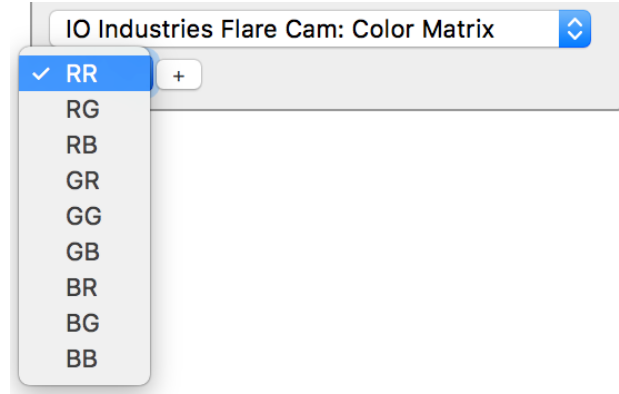
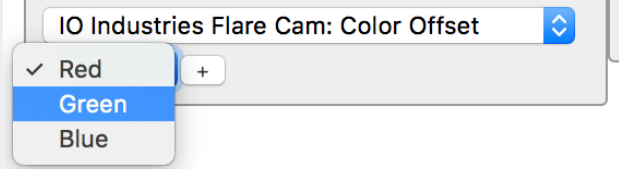
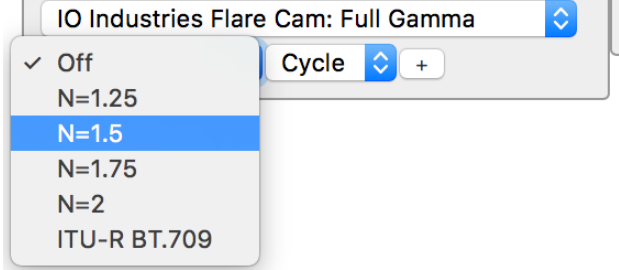
Flare 2K and 4K cameras are industrial cameras controlled over serial. Via an ethernet to serial converter you can color control these cameras using SKAARHOJ controllers.

For more information on the cameras, please go to <http://www.ioindustries.com/cameras.html>



This is a table of actions for the Flare 2K/4K Cameras from IO Industries.

Aperture <div> <div>IO Industries Flare Cam: Aperture</div> <div> <div>✓ Value: 0</div> <div>Value: 1</div> <div>Value: 2</div> <div>Value: 3</div> </div> <div>+</div> </div>	<p>Sets the aperture of the camera in a range from 0-63 (cmd="ape")</p> <p><i>Binary triggers:</i> Sets the selected aperture value</p> <p><i>Pulse inputs:</i> Adjusts the value in the range from 0-63</p> <p><i>Analog inputs:</i> Adjusts the value in the range from 0-63</p> <p><i>Binary outputs:</i> Activated when the chosen value matches the current aperture of the camera.</p> <p><i>Button colors:</i> Highlight follows binary output</p> <p><i>Displays:</i> Shows the selected value as label, otherwise it will show the current value for the aperture along with a scale</p>
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<p>Master Pedestal</p> 	<p>Sets the master pedestal of the camera in a range from 0-127 (cmd="mpd")</p> <p><i>Binary triggers:</i> Sets the selected aperture value</p> <p><i>Pulse inputs:</i> Adjusts the value in the range from 0-127</p> <p><i>Analog inputs:</i> Adjusts the value in the range from 0-127</p> <p><i>Binary outputs:</i> Activated when the chosen value matches the current master pedestal of the camera.</p> <p><i>Button colors:</i> Highlight follows binary output</p> <p><i>Displays:</i> Shows the selected value as label, otherwise it will show the current value fo the pedestal along with a scale</p>
<p>Color Matrix</p> 	<p>Sets the color matrix of the camera. You can choose any of the dimensions R/G/B</p> <p><i>Binary triggers:</i> Resets the selected aperture value to 0x2000</p> <p><i>Pulse inputs:</i> Adjusts the value up and down</p> <p><i>Analog inputs:</i> Adjusts the value in the range</p> <p><i>Binary outputs:</i> Activated when the chosen value is reset to 0x2000</p> <p><i>Button colors:</i> Highlight follows binary output</p> <p><i>Displays:</i> Shows the current value fo the color matrix along with a scale. As a label it will show "Reset"</p> <p>Notice: Values set will periodically be pulled from the camera and may differ from the value known to the SKAARHOJ controller in case the camera for some reason doesn't allow the value or step size. The manual of the camera doesn't say that any particular step size is necessary, nor does it mention anything about waiting time between commands, so here there seems to be some issues to optimize.</p>
<p>Color Offset</p> 	<p>Sets the color offset of the camera. You can choose any of the dimensions R/G/B</p> <p><i>Binary triggers:</i> Resets the selected aperture value to 0x200</p> <p><i>Pulse inputs:</i> Adjusts the value up and down</p> <p><i>Analog inputs:</i> Adjusts the value in the range</p> <p><i>Binary outputs:</i> Activated when the chosen value is reset to 0x200</p> <p><i>Button colors:</i> Highlight follows binary output</p> <p><i>Displays:</i> Shows the current value fo the color offset along with a scale. As a label it will show "Reset"</p> <p>Notice: Values set will periodically be pulled from the camera and may differ from the value known to the SKAARHOJ controller in case the camera for some reason doesn't allow the value or step size. The manual of the camera doesn't say that any particular step size is necessary, nor does it mention anything about waiting time between commands, so here there seems to be some issues to optimize.</p>
<p>Full Gamma</p> 	<p>Sets the gamma value of the camera. (cmd="fgm")</p> <p><i>Binary triggers:</i> Sets the selected gamma curve unless cycle mode is chosen in which case it cycles through the possible values.</p> <p><i>Pulse inputs:</i> Adjusts the value up and down</p> <p><i>Binary outputs:</i> Activated when the chosen value matches the current value of the camera unless the camera is in cycle mode in which case it will just highlight the button.</p> <p><i>Button colors:</i> Highlight follows binary output</p> <p><i>Displays:</i> Shows the current value or the selected value as a label</p>

Black Gamma

See description for gamma (cmd = "bgm")

IO Industries Flare Cam: Black Gamma

✓ Off

N=1/2.0

N=1/1.75

N=1/1.5

N=1/1.25

N=1.25

N=1.5

N=1.75

N=2.0

Cycle

+

Sensitivity

See description for gamma (cmd = "iso")

IO Industries Flare Cam: Sensitivity

✓ 1x

4/3x

2x

3x

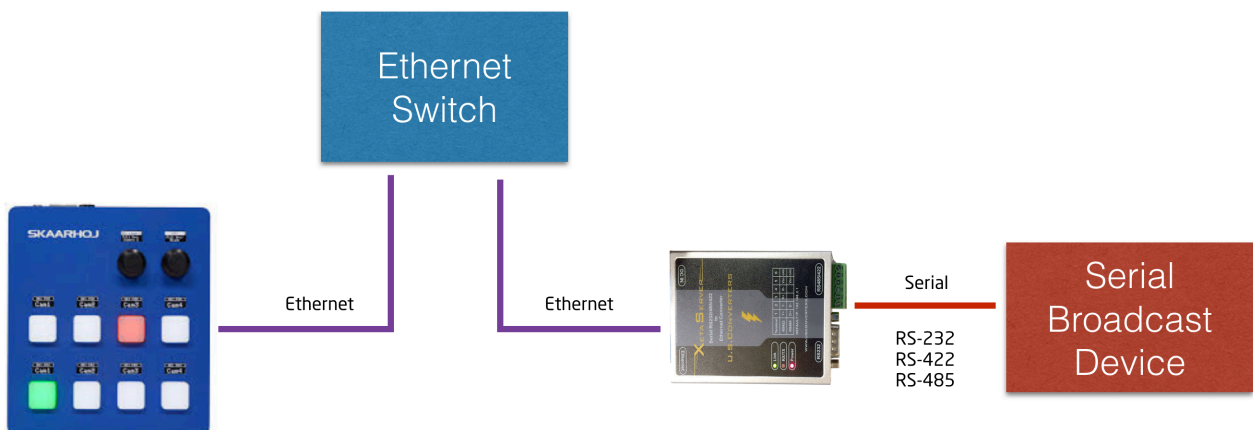
4x

Cycle

+

Ethernet to Serial connection

To communicate via serial (RS-485) to the Flare camera you need an Ethernet-Serial converter. We suggest you get a Xeta Server XS1000 or XS1200 from <http://www.usconverters.com/serial-rs232-device-server>



There is a quirk you should know about: The Xeta Server only accepts a single TCP connection at a time and it will take some time to realize if a client disconnected silently before it allows a new connection. In essence this means if the SKAARHOJ controller was connected and is rebooted without disconnecting, the Xeta Server may not realise this before after some time. Therefore you may need to powercycle it along with the SKAARHOJ controller to make sure it will accept a connection.

Below you will find screenshots of how to configure it in its webinterface (found initially on its default IP 192.168.2.1, username/password = admin/system)

192.168.10.3/

192.168.10.3

Søg

[Administrator](#)
[Setting](#)
[TCP Mode](#)
[UDP Mode](#)
[UART](#)
[Reset Device](#)

Administrator Setting

Kernel Version	V1.44.3.4 2015/06/29		
MAC Address	00:11:22:34:45:E3		
Nickname	<input type="text" value="NetUART"/>		
IP Setting			
IP Address	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="10"/>
Subnet Mask	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="0"/>
Gateway	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="1"/>
IP Configure	<input checked="" type="radio"/> Static <input type="radio"/> DHCP		
Password Setting			
Username	<input type="text" value="admin"/>	max:15	
Password	<input type="password" value="....."/>	max:15	
Confirm	<input type="password" value="....."/>		
<input type="button" value="Update"/>			
Load Default Setting to EEPROM	<input type="button" value="Load"/>		

Note:
 Nickname only can use "0-9","a-z","A-Z","_","-"

Make sure to set up an IP address in your range here. This is the IP address you must also set up inside the SKAARHOJ controller for the device core! Here it's set to 192.168.10.3 and corresponding subnet mask.

192.168.10.3/

192.168.10.3

Søg

[Administrator](#)
[Setting](#)
[TCP Mode](#)
[UDP Mode](#)
[UART](#)
[Reset Device](#)

TCP Control

Item	Value
Telnet Server/Client	<input checked="" type="radio"/> Server <input type="radio"/> Client <input type="radio"/> Disable
Port Number	<input type="text" value="23"/>
Remote Server IP Address	<input type="text" value="210"/>
Client mode inactive timeout	<input type="text" value="1"/> minute (1~99,0=Disable)
Server mode protect timeout	<input type="text" value="60"/> minute (1~98,0=Disable,99=Can't replace)
<input type="button" value="Update"/>	

The IO Flare camera device core uses TCP on port 23 to talk to the camera. This configuration will work.

Administrator
[Setting](#)
[TCP Mode](#)
[UDP Mode](#)
[UART](#)
[Reset Device](#)

UART Control

Item	Setting
Mode	RS485
Baudrate	115200
Character Bits	8
Parity Type	none
Stop Bit	1
Hardware Flow Control	none
Delimiter	<input type="checkbox"/> Character 1: 00, <input type="checkbox"/> Character 2: FF <input type="checkbox"/> Silent time: 5 (1~255)*50ms <input type="checkbox"/> Drop Character <input checked="" type="checkbox"/> Multi-Packet

Update

The UART has to be set up to the serial settings of the Flare camera. These settings will work.



WHITE (+)

(-) GREEN

Cabling to the Xeta Server is via the RS-485 connector. White and Green are the wire colors we have found in the cables from IO Industries. The important part is of course that + and - data wires are connected correctly here.



Looking into the female connector on the wire to the Flare camera with red dot on 12 o'clock, pin 1 (as we define it here) is at 1:30 o'clock and then clockwise:

1=red

2=gnd

3=white (D+)

4=green (D-)