

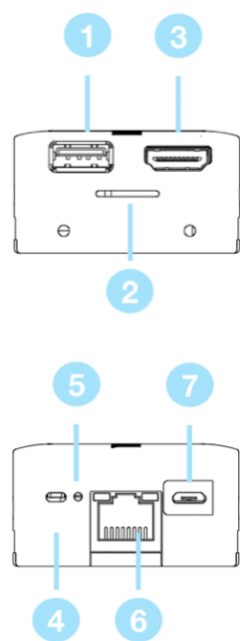
# Hardware Details

Here you will find hardware diagrams for various components and general hardware information.

- [Blue Pill Panel Connections](#)
- [Graphical Displays](#)
- [Operating Temperatures](#)
- [Power over Ethernet \(PoE\) Specifications](#)
- [UniSketch Panel Connections](#)

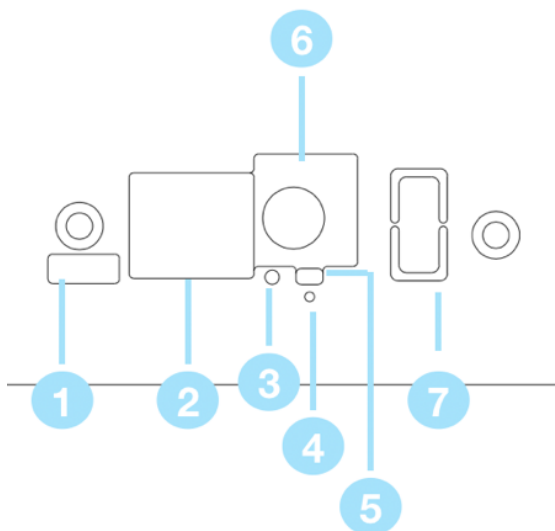
# Blue Pill Panel Connections

## Blue Pill Units



1	USB-A Port. See Settings page for more details
2	SKAARHOJ Expansion Slot. See extension cables section for more details (coming soon)
3	HDMI Port serial diagnostics and debugging
4	Config Button to enable WiFi Access Point. See Accessing Blue Pill section in Getting Started Guide
5	Status LED for monitoring and debugging
6	IP Network RJ45 Port for IP control and 5W-30W PoE (+)/PoE Standard: IEEE 802.3af/t
7	Micro USB Port for serial communication and 5V power

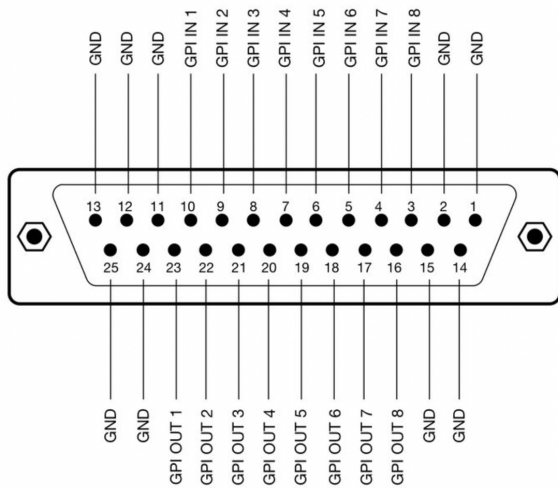
## Blue Pill Inside Units



1	Micro USB Port for serial communication with SKAARHOJ Firmware Updater
2	IP Network RJ45 Port for IP control and 5W-30W PoE (+)/PoE Standard: IEEE 802.3af/t
3	Status LED for monitoring and debugging
4	Reset button. Use only under the guidance of SKAARHOJ support
5	Config Button to enable WiFi Access Point. See Accessing Blue Pill in the Getting Started Guide
6	12V DC Power Supply for connection to the supplied DC power adaptor
7	USB-A Port. See Settings page for more details, not available on all models

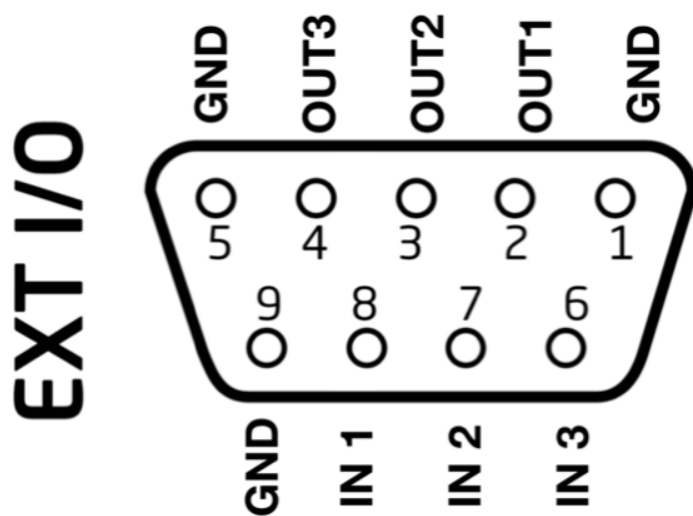
## Color Fly DB-25 Connector

GPI is an add on option for the Color Fly v3B, it does not come standard.



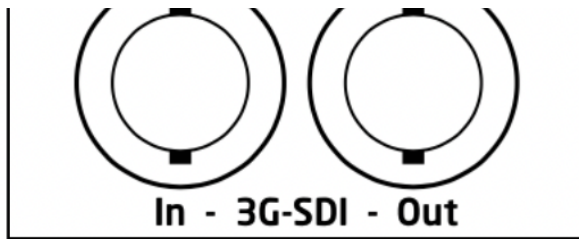
## RCP Pro DB-9 Connector

The RCP Pro only has 3x GPI Input and 3x GPI Outputs that are programmable, this is different than the RCPv2.



## 3G SDI Arduino Shield

SDI is an add on option for the Color Fly v3B, it does not come standard.



The Blackmagic 3G-SDI Arduino Shield supports the

following formats using SDI Level B: 720p50, 720p59.94, 720p60, 1080i50, 1080i59.94, 1080i60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50 (output only), 1080p59.94 (output only) and 1080p60 (output only), but the camera doesn't have to be running the same video format as the program input, so you can use cameras in Ultra HD while the camera protocol is sent over HD signal to the camera.

# Graphical Displays

## **Graphical Display**

The Blue Pill has a graphical LED Display. By default this is set to go into a sleep mode to prevent image burn-in. The unit is still operational during sleep mode, it is only the display that effected.

Burn-In caused after disabling sleep mode is not covered by our standard warranty.

To wake the Blue Pill up from sleep mode, it should only be necessary to tap the unit. It is not necessary to shake it like a polaroid picture.

# Operating Temperatures

**Operating Temperature:** 0° C to +40° C / +32° F to +104° F

**Max Internal Temperature:** 80°C / 176°F

**Storage Temperature:** -20° C to +45° C / -4° F to +113° F

**Humidity:** 90\% RH, non-condensing, from -20° C to +45° C

The Blue Pill device's internal processes statics is accessible by following the instructions on our wiki page:

<https://wiki.skaarhoj.com/books/blue-pill-reactor/page/internal-processes-stats>

# Power over Ethernet (PoE) Specifications

## **Power over Ethernet (PoE) Specifications**

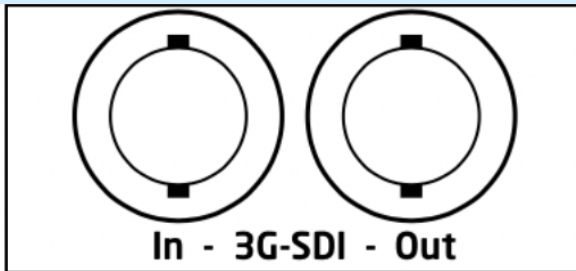
We use the PoE industry standard 5W-30W PoE (+) IEEE802.3af/t. To power our controllers using PoE it is important the switch supports this standard. Please notice some manufactures such as Ubiquity have their own non-standard 24V type of PoE which is incompatible with our controllers. Especially pay attention to the standard when using a PoE injector.



# UniSketch Panel Connections

## 3G SDI Arduino Shield

The 3G SDI Arduino Shield imbedded in UniSketch panels is not compatible when using the UniSketch panel with a Blue Pill device. It will only function when working only via the UniSketch platform.

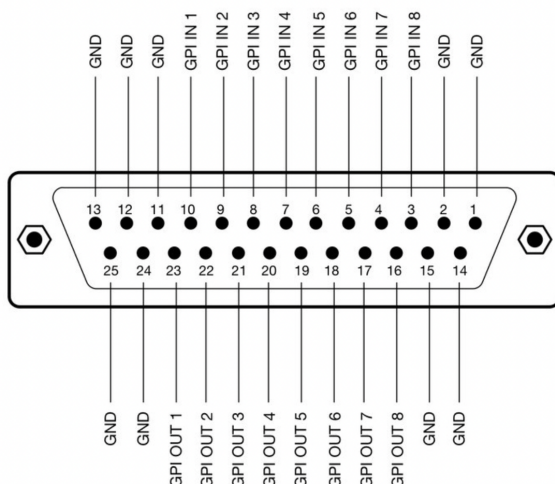


The Blackmagic 3G-SDI Arduino Shield supports the

following formats using SDI Level B: 720p50, 720p59.94, 720p60, 1080i50, 1080i59.94, 1080i60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50 (output only), 1080p59.94 (output only) and 1080p60 (output only), but the camera does not have to be running the same video format as the program input, so you can use cameras in Ultra HD while the camera protocol is sent over HD signal to the camera.

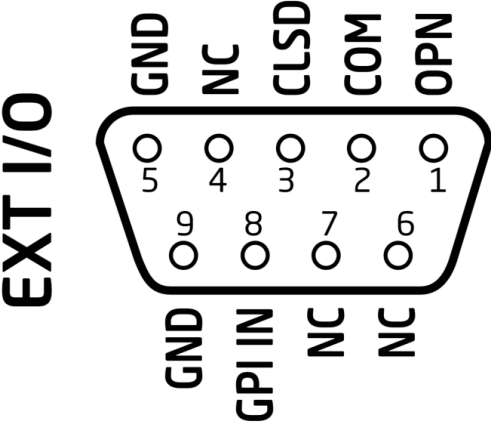
## Eth-GPI Link and Color Fly DB-25 Connector

The Eth-GPI Link and Color Fly have 8x GPI Inputs and 8x GPI Outputs, this is different than the SDI-GPI Link.



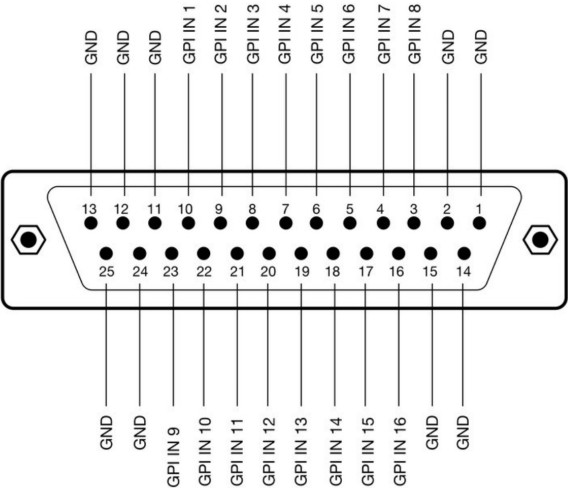
RCP v2 DB-9 Connector

The RCPv2 only has 1x GPI Input that is programmable, this is different than the RCP Pro.



SDI-GPI Link DB-25 Connector

The SDI-GPI Link has 16x GPI Inputs and 0x GPI Outputs, this is different than the Eth-GPI Link.



Tally Box and Lights

The pinout of the RJ-45 connector is as follows:

1. GND

2. 12V

3. 5V control signal for red tally 1

4. 5V control signal for green tally 1 The next four are for daisy-chaining tally lamps:

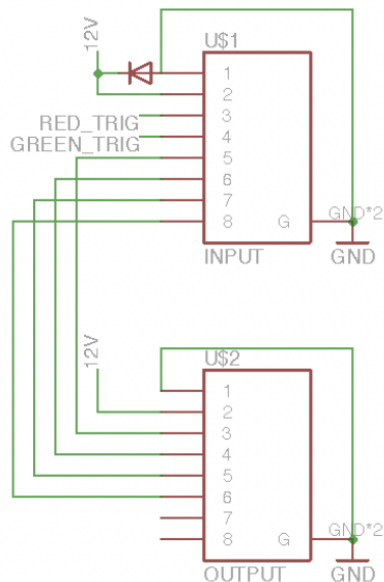
5. 5V control signal for red tally 2

6. 5V control signal for green tally 2

7. 5V control signal for red tally 3

8. 5V control signal for green tally 3

Our tally lamps need 12V power in order to light up the LEDs. The control signals are 5V so whenever you apply 5V on one of the pins the corresponding LEDs will illuminate.



1=O/ (GND)  
2=O (12V)  
3=G/ (Red, Lamp 1)  
4=BL (Green, Lamp 1)  
5=BL/ (Red, Lamp 2)  
6=G (Green, Lamp 2)  
7=BR/ (Red, Lamp 3)  
8=BR (Green, Lamp 3)