

holybro-baseboard-v2-ports.md

> For the complete documentation index, see llms.txt (<https://docs.holybro.com/llms.txt>). Markdown versions of documentation pages are available by appending `.md` to page URLs; this page is available as Markdown (<https://docs.holybro.com/autopilot/pixhawk-baseboards/pixhawk-baseboard-v2-ports.md>).

Pixhawk Baseboard v2 Ports

```
{% hint style="warning" %}
```

```
The ports and pinout of the Pixhawk Baseboard v2A and v2B are identical. The only difference is the orientat
```

```
{% endhint %}
```

```
<div><figure><figcaption><p>Pixhawk Standard
Baseboard V2A</p></figcaption></figure> <figure><figcaption><p>Pixhawk Standard Baseboard V2B</p></figcaption></figure></div>
```

```
{% hint style="info" %}
```

```
* Refer to diagram below for location of pin1. All connectors are JST GH 1.25 mm Pitch unless noted otherwis
```

```
*
```

```
...
```

```
&lt;figure&gt;&lt;img src="/files/MyTewlJug4RGPlgIU1H6" alt="" width="137"&gt;&lt;figcaption&gt;&lt;/figcaption&gt;
```

```
...
```

```
{% endhint %}
```

The Pixhawk Baseboard v1 has been replaced by the v2A & V2B. See the **Baseboard Changelog** (<https://docs.holybro.com/autopilot/pixhawk-baseboards/baseboard-changelog>) for difference.

Power1 (Main) & Power2 Port (Backup) (2.00mm Pitch CLIK-Mate)

```
<table data-header-hidden data-search="false"><thead><tr><th></th><th></th><th></th></tr></thead><tbody><tr>
<td><strong>Pin</strong></td><td><strong>Signal</strong></td><td><strong>Volt</strong></td></tr><tr><td>1(re
d)</td><td>VDD5V_BRICK1/2</td><td>+5V</td></tr><tr><td>2(black)</td><td>VDD5V_BRICK1/2</td><td>+5V</t
d></tr><tr><td>3(black)</td><td>SCL1/2</td><td>+3.3V</td></tr><tr><td>4(black)</td><td>SDA1/2</td><td>+3.3
V</td></tr><tr><td>5(black)</td><td>GND</td><td>GND</td></tr><tr><td>6(black)</td><td>GND</td><td>GND</
td></tr></tbody></table>
```

Telem1, Telem2, Telem3 ports

```
<table data-header-hidden data-search="false"><thead><tr><th></th><th></th><th></th></tr></thead><tbody><tr>
<td><strong>Pin</strong></td><td><strong>Signal</strong></td><td><strong>Volt</strong></td></tr><tr><td>1(re
d)</td><td>VCC</td><td>+5V</td></tr><tr><td>2(black)</td><td>TX7/5/2
(out)</td><td>+3.3V</td></tr><tr><td>3(black)</td><td>RX7/5/2
(in)</td><td>+3.3V</td></tr><tr><td>4(black)</td><td>CTS7/5/2
(in)</td><td>+3.3V</td></tr><tr><td>5(black)</td><td>RTS7/5/2
(out)</td><td>+3.3V</td></tr><tr><td>6(black)</td><td>GND</td><td>GND</td></tr></tbody></table>
```

GPS 1 Port

```
<table data-header-hidden data-search="false"><thead><tr><th></th><th></th><th></th></tr></thead><tbody><tr>
<td><strong>Pin</strong></td><td><strong>Signal</strong></td><td><strong>Volt</strong></td></tr><tr><td>1(re
d)</td><td>VCC</td><td>+5V</td></tr><tr><td>2 black</td><td>TX1(out)</td><td>+3.3V</td></tr><tr><td>3(blac
k)</td><td>RX1(in)</td><td>+3.3V</td></tr><tr><td>4(black)</td><td>SCL1</td><td>+3.3V</td></tr><tr><td>5(bl
ack)</td><td>SDA1</td><td>+3.3V</td></tr><tr><td>6(black)</td><td>SAFETY_SWITCH</td><td>+3.3V</td></tr>
<tr><td>7(black)</td><td>SAFETY_SWITCH_LED</td><td>+3.3V</td></tr><tr><td>8(black)</td><td>VDD_3V3<
/td><td>+3.3V</td></tr><tr><td>9(black)</td><td>BUZZER-</td><td>0~5V</td></tr><tr><td>10(black)</td><td>G
ND</td><td>GND</td></tr></tbody></table>
```

GPS 2 Port

```
<table data-header-hidden data-search="false"><thead><tr><th></th><th></th><th></th></tr></thead><tbody><tr>
<td><strong>Pin</strong></td><td><strong>Signal</strong></td><td><strong>Volt</strong></td></tr><tr><td>1(re
d)</td><td>VCC</td><td>+5V</td></tr><tr><td>2 black</td><td>TX8(out)</td><td>+3.3V</td></tr><tr><td>3(blac
k)</td><td>RX8(in)</td><td>+3.3V</td></tr><tr><td>4(black)</td><td>SCL2</td><td>+3.3V</td></tr><tr><td>5(bl
ack)</td><td>SDA2</td><td>+3.3V</td></tr><tr><td>6(black)</td><td>GND</td><td>GND</td></tr></tbody></tabl
e>
```

CAN1, CAN2 ports

```
| **Pin** | **Signal** | **Volt** |
| ----- | ----- | ----- |
```

1(red)	VCC	+5V
2(black)	CANH1/2	+3.3V
3(black)	CANL1/2	+3.3V
4(black)	GND	GND

Uart4 & I2C port

Pin	Signal	Volt
1(red)	VCC	+5V
2(black)	TX4(out)	+3.3V
3(black)	RX4(in)	+3.3V
4(black)	SCL3	+3.3V
5(black)	SDA3	+3.3V
6(black)	NFC_GPIO	+3.3V
7(black)	GND	GND

SPI Port

Pin	Signal	Volt
1(red)	VCC	+5V
2(black)	SPI6_SCK	+3.3V
3(black)	SPI6_MISO	+3.3V
4(black)	SPI6_MOSI	+3.3V
5(black)	SPI6_CS1	+3.3V
6(black)	SPI6_CS2	+3.3V
7(black)	SPI6_DRDY1	+3.3V
8(black)	SPI6_DRDY2	+3.3V
9(black)	SPI6_nRESET	+3.3V
10(black)	GND	GND
11(black)	GND	GND

USB Port

Pin	Signal	Volt
1(red)	VBUS	+5V
2(black)	DM	+3.3V
3(black)	DP	+3.3V
4(black)	GND	GND

I2C Port

Pin	Signal	Volt
1(red)	VCC	+5V
2(black)	SCL3	+3.3V
3(black)	SDA3	+3.3V
4(black)	GND	GND

ETH Port

Pin	Signal	Volt
1(red)	RXN	+3.3V
2(black)	RXP	+3.3V
3(black)	TXN	+3.3V
4(black)	TXP	+3.3V

AD\&IO Port

Pin	Signal	Volt
1(red)	VCC	+5V
2(black)	FMU_CAP1	+3.3V
3(black)	FMU_BOOTLOADER	+3.3V
4(black)	FMU_RST_REQ	+3.3V
5(black)	NARMED	+3.3V
6(black)	ADC1_3V3	+3.3V
7(black)	ADC1_6V6	+6.6V
8(black)	GND	GND

AUX & RSSI

Pin	Signal	Volt
1	5V	+5V
2	FMU_CH7 (AUX7)	+3.3V
3	FMU_CH8 (AUX8)	+3.3V
4	GND	GND
5	SBUS_OUT/RSSI_IN	+3.3V
6	GND	GND

RC IN Port

Pin	Signal	Volt
S	SBUS/PPM in	+3.3V
+	VDD_5V _RC	+5V

| - | GND | GND |

DSM RC Port (JST-ZH 1.5mm Pitch)

Pin	**Signal**	**Volt**
1(yellow)	VDD_3V3_SPEKTRUM	+3.3V
2(black)	GND	GND
3(gray)	DSM/SPEKTRUM IN	+3.3V

IO Debug Port (JST-SH 1mm Pitch)

Pin	Signal	Volt
1(red)	IO_VDD_3V3	+3.3V
2 black	IO_USART1_TX	+3.3V
3(black)	NC	--
4(black)	IO_SWD_IO	+3.3V
5(black)	IO_SWD_CK	+3.3V
6(black)	IO_SWO	+3.3V
7(black)	IO_SPARE_GPIO1	+3.3V
8(black)	IO_SPARE_GPIO2	+3.3V
9(black)	IO_nRST	+3.3V
10(black)	GND	GND

FMU Debug Port (JST-SH 1mm Pitch)

Pin	Signal	Volt
1(red)	FMU_VDD_3V3	+3.3V
2 black	FMU_USART3_TX	+3.3V
3(black)	FMU_USART3_RX	+3.3V
4(black)	FMU_SWD_IO	+3.3V
5(black)	FMU_SWD_CK	+3.3V
6(black)	SPI6_SCK_EXTERNAL1	+3.3V
7(black)	NFC_GPIO	+3.3V
8(black)	PH11	+3.3V
9(black)	FMU_nRST	+3.3V
10(black)	GND	GND

{% hint style="info" %}
Please Note:

- * MAIN OUT is also known as I/O PWM OUT
 - * AUX OUT is also known as FMU PWM OUT
- {% endhint %}

FMU PWM OUT (AUX OUT)

{% hint style="warning" %}
The PWM Signal output of Main & AUX can be change to 5V via a change of a resistor.
{% endhint %}

Pin	**Signal**	**Volt**
S	FMU_CH1~6	+3.3V
+	VDD_SERVO	0~36V
-	GND	GND

I/O PWM OUT (MAIN OUT)

Pin	**Signal**	**Volt**
S	IO_CH1~8	+3.3V
+	VDD_SERVO	0~36V
-	GND	GND

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`goal` is optional and describes the broader end goal you are ultimately trying to accomplish on behalf of t

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