

# ***Kopis Freestyle 4"***



User Manual & Setup Guide  
v1.0

# Overview

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## Features

- Frame: 3k carbon fiber
  - Bottom Plate: 2mm
  - ARM: 3mm
- Bottom to top distance: 25mm
- Flight Controller: Kakute F7 mini V3
- ESC: Tekko32 F3 4in1 35A mini ESC
- Motor: F1404 KV3800
- Propeller: Gemfan Hurricane 4023-3
- Buzzer included.
- Wheelbase: 180mm
- Battery plug: XT30
- Recommend battery: 650~850mAh 4s

### Analog version

- 5.8G VTx: Holybro Atlatl HV Micro
- Foxeer Lollipop 3 2.5Dbi Stubby Omni FPV Antenna
- FPV camera: 1200TVL Foxeer Micro Razer FPV Camera
- Weight:166g (without battery)

### HD version

- VTx: Caddx FPV Digital HD Camera Nebula Nano Kit
- Weight:173g (without battery)

## Specifications

<b>Flight Controller: Kakute F7 mini V3</b>	<ul style="list-style-type: none"> <li>● MCU: STM32F722RET6 32-bit processor,216MHz, 256Kbytes RAM, 512Kbytes Flash</li> <li>● IMU: MPU6000 (SPI)</li> <li>● Barometer: BMP280</li> <li>● USB VCP Driver (all UARTs usable simultaneously; USB does not take up a UART)</li> <li>● 5hardware UARTS (UART1,2,3,4,6)</li> <li>● Supports serial receivers (SBUS, iBus, Spektrum, Crossfire) only. PPM and PWM receivers are not supported.</li> <li>● Onbord 16Mbytes for Blackbox logging</li> <li>● 5V Power Out: 1.0A max</li> <li>● 3.3V Power Out: 0.2A max</li> <li>● Dimensions: 30x30mm</li> <li>● Mounting Holes: Standard 20mm square to center of holes</li> <li>● Weight: 4g</li> </ul>
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<p><b>ESC:</b> <b>Tekko32 F3 4in1 35A mini</b></p>	<ul style="list-style-type: none"> <li>● F3 MCU, double the speed of F051, the MCU works at 108Mhz</li> <li>● 32bit ESC with BLHELI32 firmware</li> <li>● Supports 3-6S lipo input</li> <li>● Default PWM output 96K</li> <li>● Amperage meter scale ratio has been adjusted to 185.</li> <li>● PWM input, TLM supported</li> <li>● Voltage output (VBAT)</li> <li>● NO output BEC</li> <li>● Supports oneshot / Multishot / Dshot PWM</li> <li>● Supports damped light</li> <li>● Ext. cap needed for 6s (1000uf 35v for 6s usage.)</li> <li>● Mounting holes: 20x20mm(M3)</li> <li>● Size:32 x 38 mm</li> <li>● Weight: 8g</li> </ul>
<p><b>Analog version:</b> <b>5.8G VTx: Atlatl HV Micor</b></p>	<ul style="list-style-type: none"> <li>● Output Power: 0.5mW (pit mode), 25mW, 200mW, 500mW, 800mW</li> <li>● Audio: 6.5 MHz Mono</li> <li>● Protocol: smart audio2.0</li> <li>● Antenna Connector: MMCX</li> <li>● Input Voltage: 7 to 28 volts (2-6S LiPo)</li> <li>● Dimensions: 30x26mm</li> <li>● Mounting Holes: 20x20mm (M3)</li> <li>● Weight: 3.6g</li> </ul>
<p><b>HD version:</b> <b>CDDX FPV Vista Kit</b></p>	<ul style="list-style-type: none"> <li>● Dimensions: Module: 30.45 x 29 x 13mm</li> <li>● Weight: 29g (inc. camera); Module: 19g</li> <li>● Antenna Connector: u.FL</li> <li>● Operating Frequency: 5.725-5.85GHz</li> <li>● Transmitter Power (EIRP)</li> <li>● FCC/SRRC/MIC: &lt;20dBm; CE: &lt;14dBm</li> <li>● I/O Interface: USB-C, IPEX, 3-in-1 Port</li> <li>● Min. Latency: Low Latency Mode (720p 120fps): 21-28ms</li> <li>● High-Quality Mode (720p 60fps): 30-40ms</li> <li>● Max Transmission Distance: FCC/SRRC: 4km; CE: 0.7km</li> <li>● Input Power: 7.4-26.4v</li> <li>● <b>Nebula Nano Camera</b> <ul style="list-style-type: none"> <li>▪ Sensor: 1/3" CMOS; Lens: 2.1mm;</li> <li>Shutter: Rolling Shutter; FOV: 150°;14x14x21mm</li> </ul> </li> <li>● <b>Activation</b> <ul style="list-style-type: none"> <li>▪ When powered on, connected the vista kit to your computer and run DJI ASSISTANTTTM 2 for activation.</li> <li>▪ Download DJI Assistant 2 at <a href="https://www.dji.com/fpv/downloads">https://www.dji.com/fpv/downloads</a></li> </ul> </li> </ul>

## Includes:

- 1x Kopis FPV racing drone
- 8x 4023-3 Propeller
- 1x Battery strap(installed)
- 1x Naked GoPro camera mount

## *Warranty and Return Policy*

If you believe that your KOPIS is defective, please contact us. If we determine that the board is defective, it will be repaired or replaced at no charge to you. We may ask you to send your KOPIS to our service center for examination or repair. Shipping costs are your responsibility. Returned items should include the original packaging and all accessories.

If product is damaged or defective, we will repair or replace it. Refunds are only given when product is lost by the shipping company. The refund amount is limited to the price of the product. Shipping costs are never refundable.

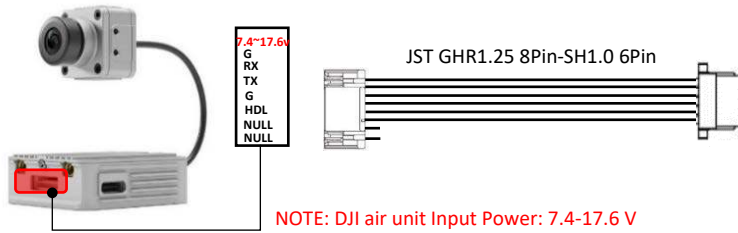
Contact us at:

- Email: [productservice@holybro.com](mailto:productservice@holybro.com)
- Facebook Page: Holybro
- Facebook Group: Holybro Hobby Official Group
- Instagram: @Holybrohobby

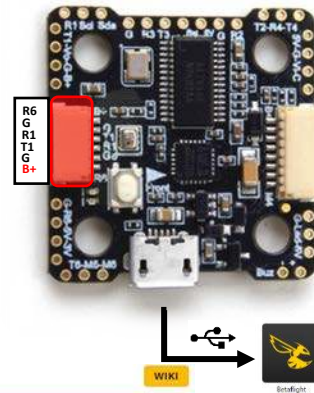
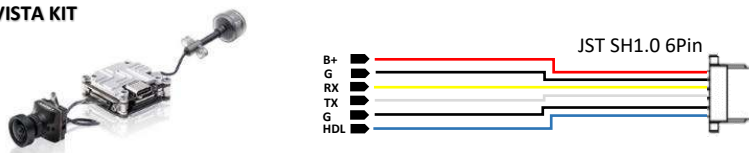
# Wiring diagram

## 1) Digital HD Camera

### DJI AIR UNIT



### CADDX VISTA KIT

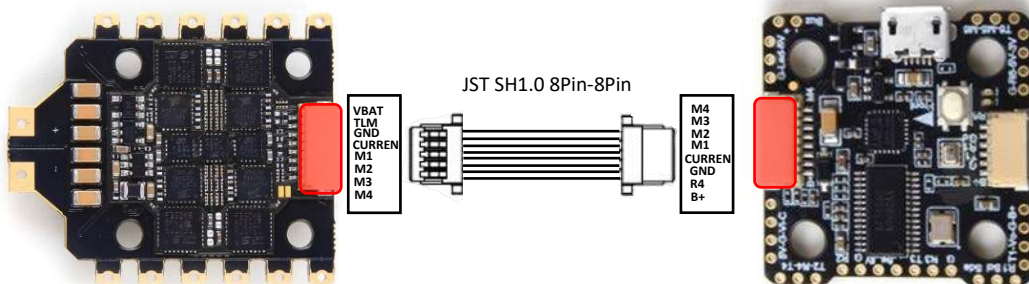


### Ports

Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset.  
 Note: Do **NOT** disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART1	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART3	<input type="checkbox"/> 115200	<input type="checkbox"/>	SmartPort   AUTO	Disabled   AUTO	Disabled   AUTO
UART4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	ESC   AUTO	Disabled   AUTO
UART6	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO

## 2).ESC

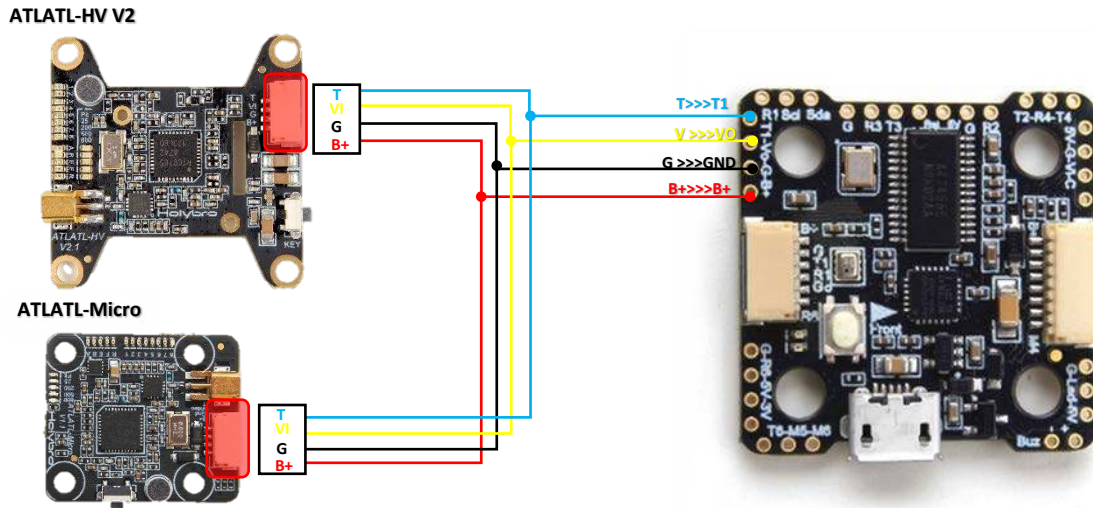


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USB VCP	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART1	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART3	<input type="checkbox"/> 115200	<input type="checkbox"/>	SmartPort   AUTO	Disabled   AUTO	Disabled   AUTO
UART4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	ESC   AUTO	Disabled   AUTO
UART6	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO

## 3).5.8G VTx



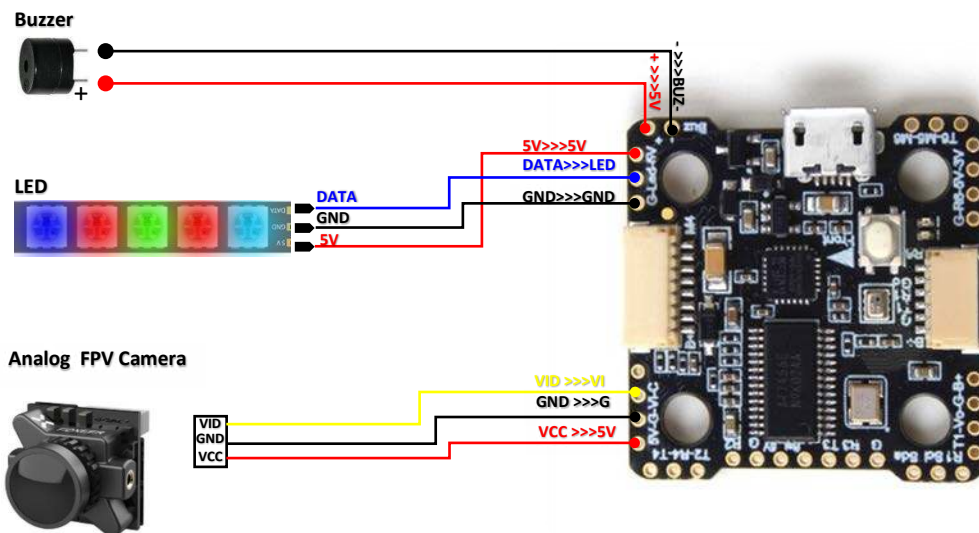
## Ports

WIKI

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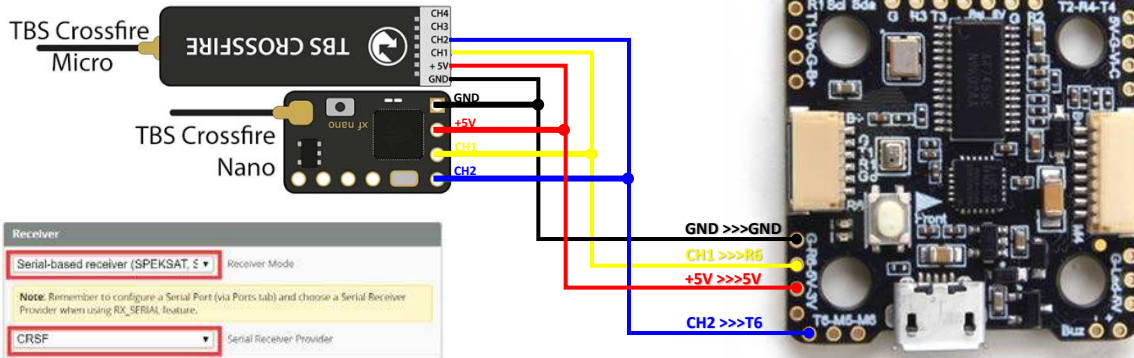
Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input	Peripherals
USB VCP	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART1	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	<b>VTX (TBS Smx   AUTO)</b>
UART2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART3	<input type="checkbox"/> 115200	<input type="checkbox"/>	SmartPort   AUTO	Disabled   AUTO	Disabled   AUTO
UART4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	ESC   AUTO	Disabled   AUTO
UART6	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO

## 4) .Analog FPV Camera & Buzzer & LED



## 5).Receiver

### TBS Crossfire Receiver



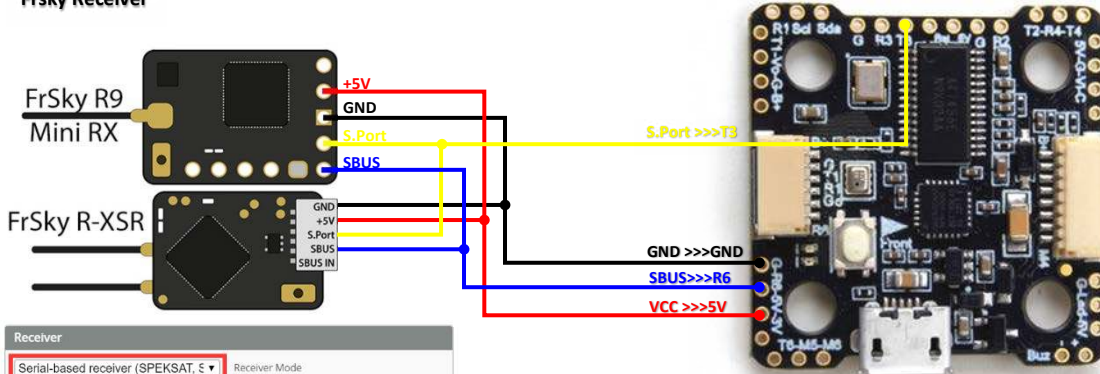
### Ports

WIKI

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**Note:** Do **NOT** disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.

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USB VCP	<input checked="" type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART1	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	VTX (TBS Sm)   AUTO
UART2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART3	<input type="checkbox"/> 115200	<input type="checkbox"/>	SmartPort   AUTO	Disabled   AUTO	Disabled   AUTO
UART4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	ESC   AUTO	Disabled   AUTO
UART6	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO

### Frsky Receiver



### Ports

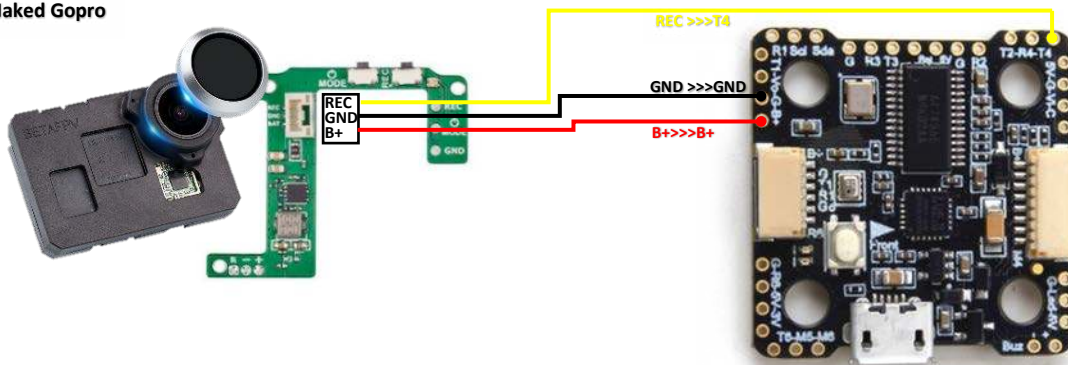
WIKI

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UART1	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	VTX (TBS Sm)   AUTO
UART2	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO
UART3	<input type="checkbox"/> 115200	<input type="checkbox"/>	SmartPort   AUTO	Disabled   AUTO	Disabled   AUTO
UART4	<input type="checkbox"/> 115200	<input type="checkbox"/>	Disabled   AUTO	ESC   AUTO	Disabled   AUTO
UART6	<input type="checkbox"/> 115200	<input checked="" type="checkbox"/>	Disabled   AUTO	Disabled   AUTO	Disabled   AUTO

6). Naked Gopro camera

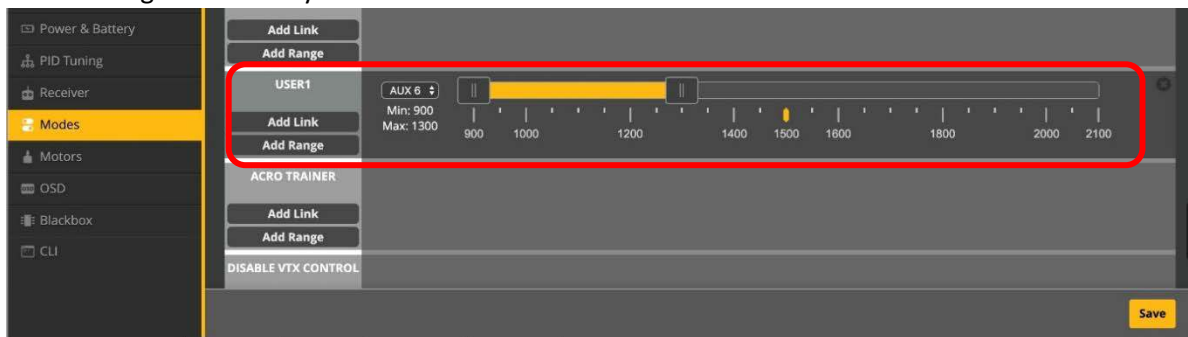
**Naked Gopro**



If you are using Naked Gopro Camera, go to Betaflight CLI and type in the following:

```
resource SERIAL_TX 4 NONE
resource PINIO 1 A00
set pinio_box = 40,255,255,255
save
```

Go to mode section of Betaflight and setup a mode for USER1, and assign it to a AUX channel in order to record using a switch on you



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