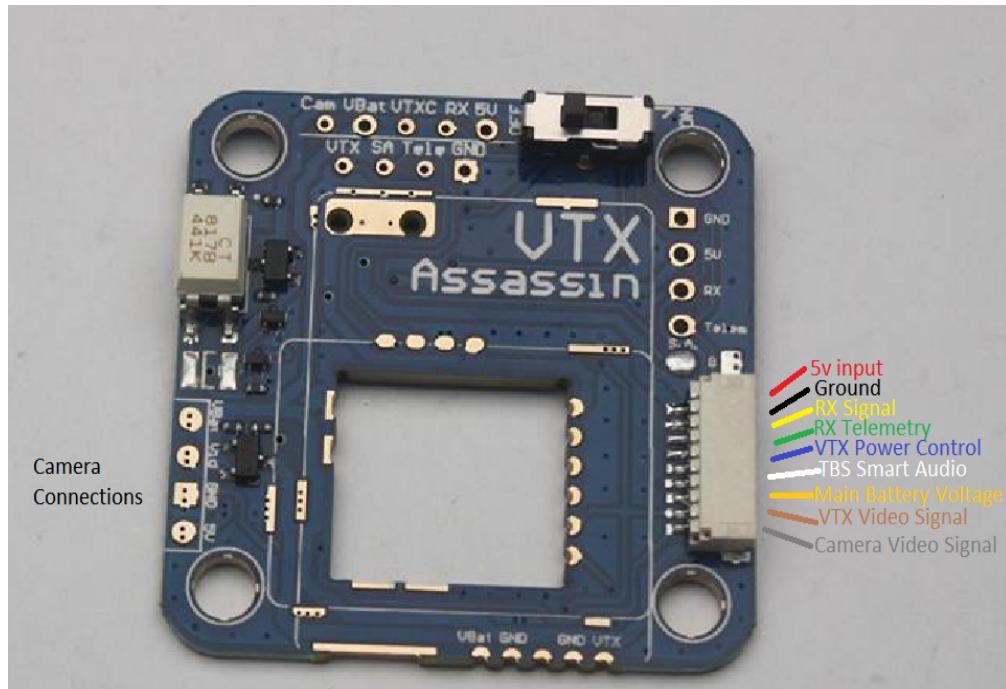


OlaFPV VTX Assassin User Manual

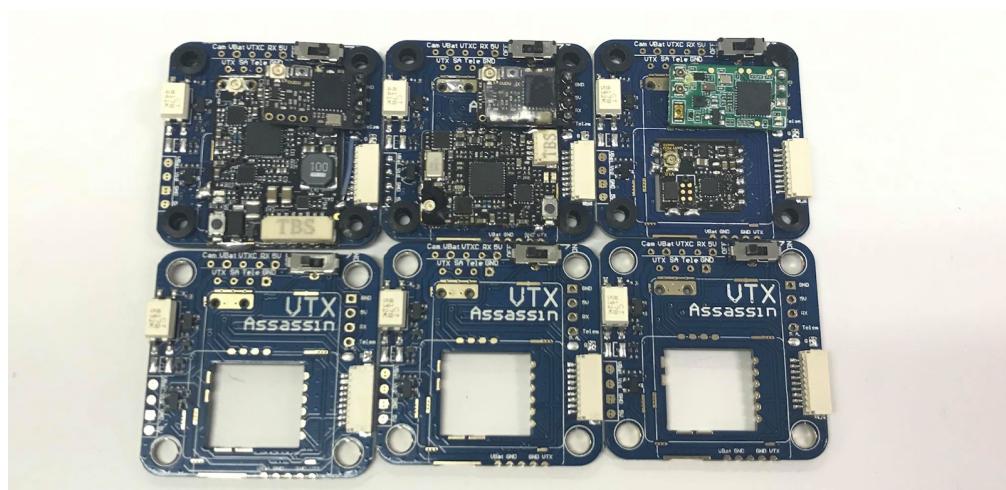
Demo: https://youtu.be/CKoc-X_eQio

Customer Support: m.me/olaffpv

Connector pinout:



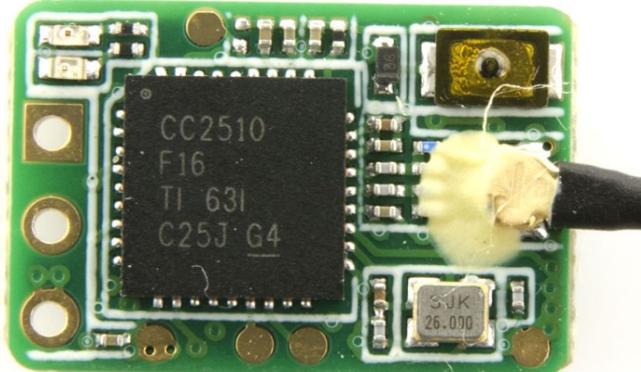
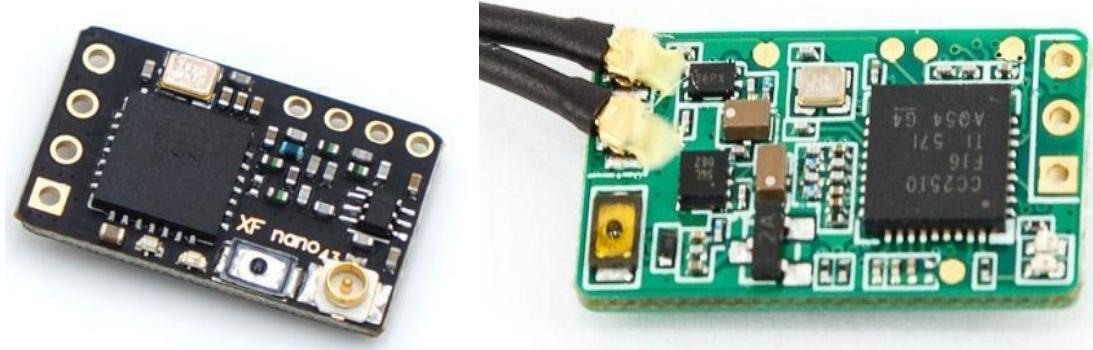
Example Assembly



Natively compatible hardware

- All U.FL TBS Unify VTXs (HV, HV race, Nano, 5v V3 Pro)*
 - MMCX Unifys are not Natively supported
- TBS Crossfire Nano RX
- FrSky XM+
- FrSky XM+
- All cameras

*Almost any VTX / RX can be used, if connected using wires. For example, you can use a IRC Tramp if you solder the Tramp cables to the VTX pads.



Wiring Guide

VTX Assassin pin	Corresponding Flight controller pin (where to solder the wire on your flight controller)
5v	Regulated 5v from FC or ESC. This will power your Camera, Nano Unify, 5v pro Unify, and RX.
Ground	Any ground pad on your quad
RX Signal	Connect to the UART that is normally used for the RX signal in your setup
RX Telemetry	Connect to the UART that is normally used for the RX telemetry signal in your setup
VTX Power Control	For Flight One, connect this to the “buzzer -” (Buzzer + will not work) pad on your FC. For Betaflight/ButterFlight, connect to any unused RX or TX uart.
TBS Smart Audio	Connect to the UART that is normally used Smart Audio in your setup
Main Battery Voltage	Connect to vBatt from FC, ESC, or PDB.
VTX Video Signal	This is the video signal going to your VTX. If you are using an OSD, connect to VideoOut/VTX . If you are not using an FC based OSD, connect this to Camera. You can make the connection in the top left of the board, or simply solder the cables together.
Camera Video Signal	This is the video signal coming from your camera. If you are using an OSD, connect to Video In/CAM/Cam_S. If you are not using an FC based osd, connect this to VTX. You can make the connection in the top left of the board, or simply solder the cables together

Installation Steps

(Be sure to install your VTX before installing your RX)

1. Install VTX

Align the signal, ground, power pads on your VTX carefully with the pads on the VTX Assassin. Solder one pad on the VTX to the Assassin and make sure the alignment is correct. After you have verified that the alignment is correct, solder the remaining pads. Be sure the solder joints are solid, as they are responsible for holding the VTX to the Assassin in flight. Cold solder joints are common, as most VTXs have lots of copper to help with heat dissipation. A high soldering iron temperature is recommended. If using an older 5 pin HV unify or another “unsupported” VTX, use the VTX’s included cable to connect the VTX to the pads located underneath the VTX.

2. Install RX

Solder the included pin header to your RX, then solder the RX to the Assassin. If you have already soldered wires to your RX, use solder wick and flux to remove the solder and then attach the header.

3. Solder Selector Pads

Selector 1:

Bridge “FL1” to center if you are using FlightOne

Bridge “BF” to center if you are using Betaflight or Butterflight

Selector 2:

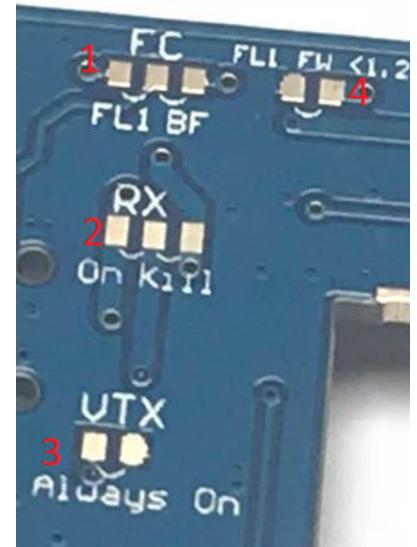
Solder “On” to center if you want your RX to always remain powered on (recommended), and solder “Kill” to center to have the RX power linked to the VTX power. Keep in mind that once the RX has been powered down, you won't have control over your quad.

Selector 3:

This overrides your FCs signal to the Assassin, and keeps the VTX powered on. This ONLY works when Selector 1 is bridged to “FL1”. The physical switch will override selector 3.

Selector 4:

EXPERIMENTAL, enables pads for a capacitor, so you can use a true buzzer signal as the VTX power signal. We recommend you leave these pads unsoldered.

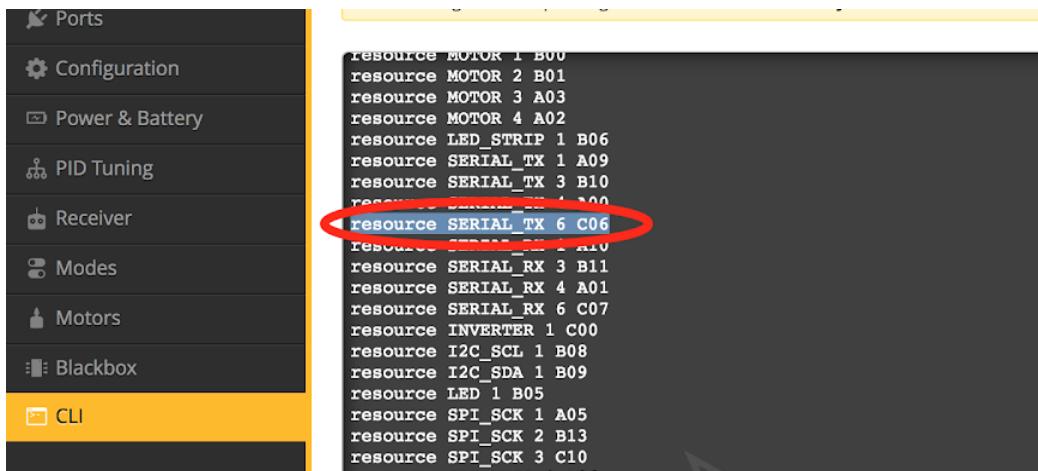


4. Solder Camera Wires

5. Setup FC

BetaFlight Setup Guide

1. Type “resource” in the CLI



The screenshot shows the BetaFlight Configuration interface with the "CLI" tab selected. On the left, a sidebar lists various flight controller components: Ports, Configuration, Power & Battery, PID Tuning, Receiver, Modes, Motors, Blackbox, and CLI. The CLI tab is highlighted with a yellow background. To the right is a terminal window displaying the current resource configuration. A red circle highlights the line "resource SERIAL_TX 6 C06", which corresponds to the TX6 pin.

```
resource MOTOR 1 B00
resource MOTOR 2 B01
resource MOTOR 3 A03
resource MOTOR 4 A02
resource LED_STRIP 1 B06
resource SERIAL_RX 1 A09
resource SERIAL_RX 3 B10
resource SERIAL_RX 4 A01
resource SERIAL_RX 6 C06
resource INVERTER 1 C00
resource I2C_SCL 1 B08
resource I2C_SDA 1 B09
resource LED 1 B05
resource SPI_SCK 1 A05
resource SPI_SCK 2 B13
resource SPI_SCK 3 C10
```

2. Identify pinio resource

- Find which resource is assigned to the UART that the [VTX Power Control](#) wire is connect to. In this example, I connected [VTX Power Control](#) wire to TX6, so my **resource ID C06**. This will vary depending on your flight controller. Be sure to remember the **resource ID**.

3. Clear old resource

- Type “resource SERIAL_(TX/RX) (UART) NONE”
- EX: “resource SERIAL_TX 6 NONE”

4. Assign pinio to the UART

- Type “resource PINIO 1 (**resource ID**)”
- EX: “resource PINIO 1 **C06**”

5. Assign pinio to a mode box

- Type “set pinio_box = 40,0,0,0”
- SAVE
- Type “aux 2 40 0 0 0 0”Type “save”

6. Assign a switch to pinio

- In the modes tab, set **USER1** to the switch you want to control the VTX.



- In this case, my VTX is powered OFF, because aux 3 is not activating user 1

FlightOne Setup Guide

1. Assign a switch to **VTXPWRToggle**
 - a. In this case, my VTX is powered OFF, because 6 is not activating **VTXPWRToggle**



Continuous Flight Setup Guide

Failsafe Method:

Here we utilize failsafe to prevent unwanted quads from arming.

To fly quads back to back, we make sure every quad is in failsafe, unless its VTX is on.

Example Landing:

AUX 3 is low, so quad 1 can arm, and its VTX is on. When the user switches aux 3 to mid, quad 1's VTX is turned off and quad one goes into failsafe so it can't be armed. Meanwhile, quad 2s VTX is turned on, and quad 2s arming is enabled because it is no longer in failsafe.

Example betaflight setup using 3 position switch:

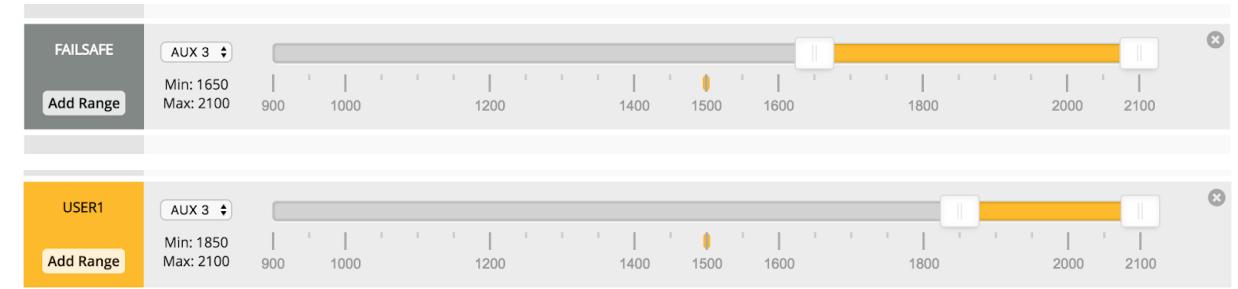
Quad 1



Quad 2:



Quad 3:



All quads must be bound to the same model, and must be able to arm at the same time.