FPV Setup - 4/9/2025

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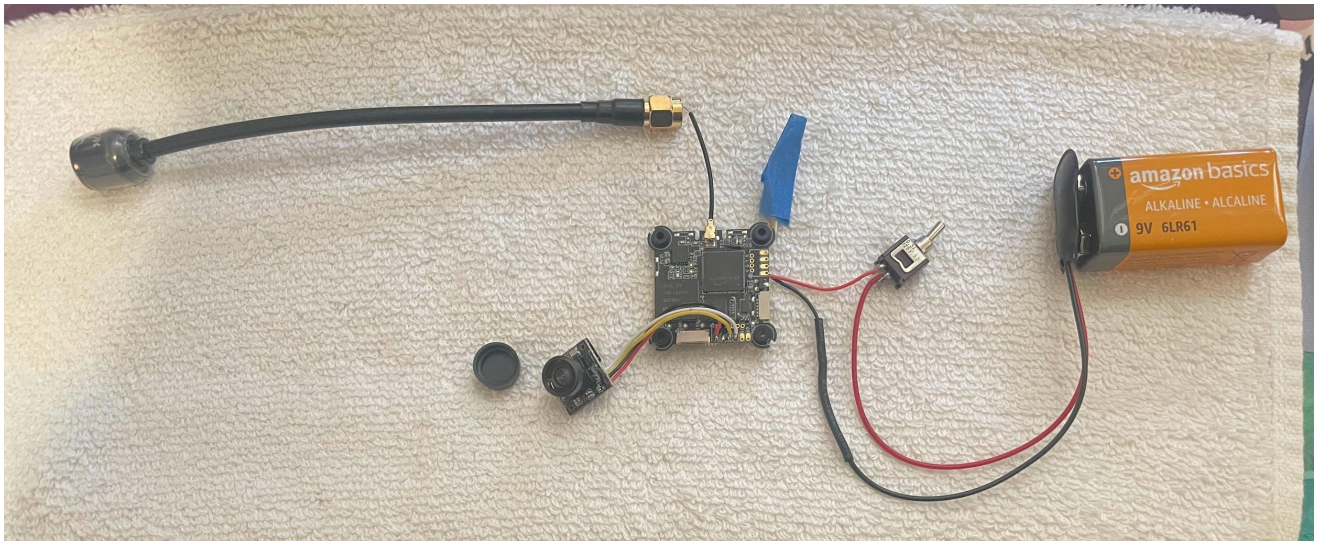
Overview



(Digital FPV System, does not include SMA Connector)

Using FPV (First Person View) cameras to set up a live video feed for vehicle drones offers a lightweight and efficient way to monitor real-time visuals during operation.

By designing the camera system to function independently from the drone's main systems, it ensures reliability and modularity—ideal for quick swaps or maintenance.

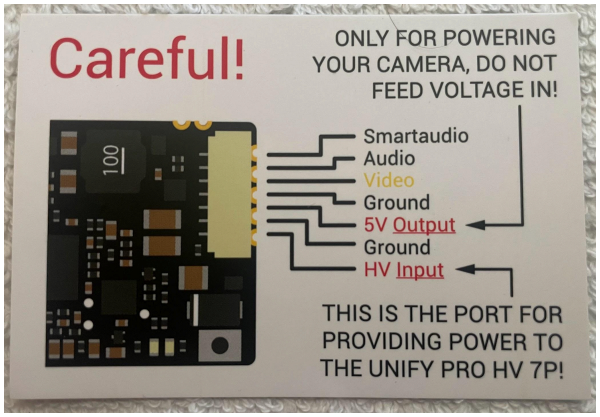
Housed within a compact 3D-printed enclosure featuring a slidable lid, the setup is accessible, making it efficient for experimental builds, field testing, or modular drone platforms.

Details:

- Estimated Antenna Range: 1000ft - 1500ft
- Swappable Antenna through SMA connection
- Camera Specs:
    - Horizontal Resolution: 1200 TVL
    - Image Ratio: 4:3
- Cameras soldered to transmission board
- Minimum 9V Required, switch included to toggle power
- 2 Analog boards and 1 Digital board, denoted with A1/2 and D1 respectively
- Container Print not Included in image, handled by Vehicle Teams

Create from scratch

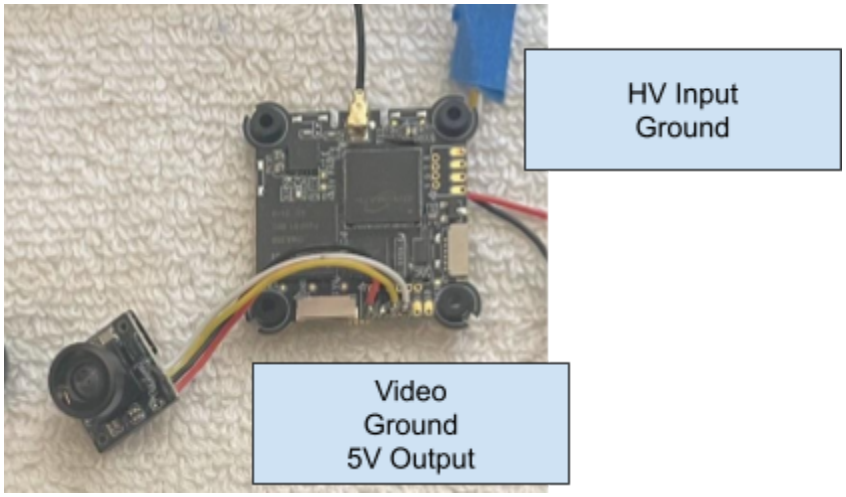
Below includes information about wiring for the FPV Setup.



(Reference Card used for wiring for Analog boards)

Above image shows the wiring schematic for analog boards. Digital board came with pre-soldered wires and fpv camera. A switch was added in the power wire between the 9V battery and power input. Note on the image that there are 2 grounds, one for the battery and one for the fpv camera. Audio inputs/outputs are not currently used.

Below is a visual example of the connections. Note the image below is the digital setup and will look different than the analog setup. Manual Soldering required for analog fpv setup.

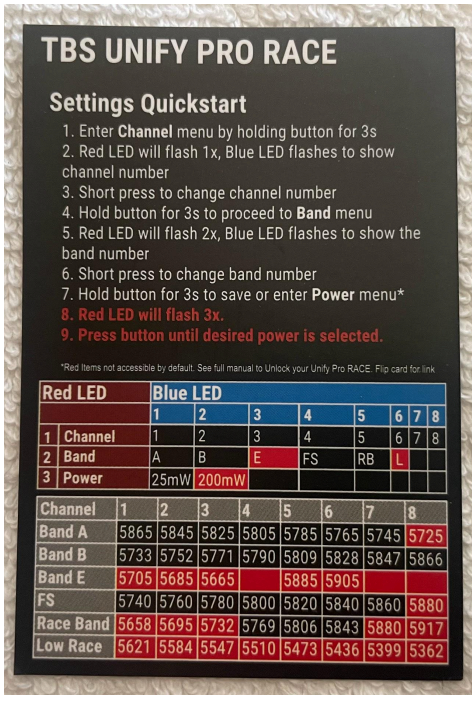


How to Operate and Receive

(Skydroid video feed receiver with usb connection)

In order to receive video feed from the fpv setup, you must connect the Skydroid video feed receiver to your device. Both the fpv system and receiver must be on the same frequency in order to receive video.

Note: use the 2 buttons on the receiver to navigate desired frequency. Holding the button will launch a program to detect and set the highest detected frequency that can be visualized on screen.



TBS UNIFY PRO RACE

Settings Quickstart

1. Enter **Channel** menu by holding button for 3s
2. Red LED will flash 1x, Blue LED flashes to show channel number
3. Short press to change channel number
4. Hold button for 3s to proceed to **Band** menu
5. Red LED will flash 2x, Blue LED flashes to show the band number
6. Short press to change band number
7. Hold button for 3s to save or enter **Power** menu*
8. **Red LED will flash 3x.**
9. **Press button until desired power is selected.**

*Red Items not accessible by default. See full manual to Unlock your Unify Pro RACE. Flip card for link

Red LED		Blue LED							
		1	2	3	4	5	6	7	8
1	Channel	1	2	3	4	5	6	7	8
2	Band	A	B	E	FS	RB	L		
3	Power	25mW	200mW						

Channel	1	2	3	4	5	6	7	8
Band A	5865	5845	5825	5805	5785	5765	5745	5725
Band B	5733	5752	5771	5790	5809	5828	5847	5866
Band E	5705	5685	5665		5885	5905		
FS	5740	5760	5780	5800	5820	5840	5860	5880
Race Band	5658	5695	5732	5769	5806	5843	5880	5917
Low Race	5621	5584	5547	5510	5473	5436	5399	5362

(Reference card for setting frequencies for analog boards)

All analog boards include a button that sets the frequency being transmitted. The digital board does not come with a button to set frequency.

Instructions for setting the frequency are included in the card above.

Note: All fpv systems must include separately unique frequencies to avoid interception.

Contact Matthew Kwong for more information on Frontend Integration with Skydroid receiver.

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