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Lubosi HDZero Whoop Lite VTX User Manual

Model: HDZero Whoop Lite VTX By Divimath (LBS-BCBE8FE0CD717A0FE854B0DCE81EEBBD)
Brand: Generic

1. Introduction

The HDZero Whoop Lite VTX is a cutting-edge digital video transmitter designed specifically for lightweight FPV drones, particularly 1S tiny whoops. It addresses the challenge of integrating digital video into small, weight-sensitive platforms. With its ultra-light design, it enables a world-first production digital FPV solution for drones where every gram is critical. This manual provides essential information for the proper installation, operation, and maintenance of your HDZero Whoop Lite VTX.

Figure 1: HDZero Whoop Lite VTX with its complete package contents, including the VTX module, connecting wires, dipole antenna, hardware, dampers, and zip ties.

2. Package Contents

Please verify that all items listed below are included in your package:

- 1x HDZero Whoop Lite VTX
- 1x Connecting Wire Set
- 1x Dipole Antenna
- 1x Hardware Set
- 4x Dampers
- 2x Zip Ties

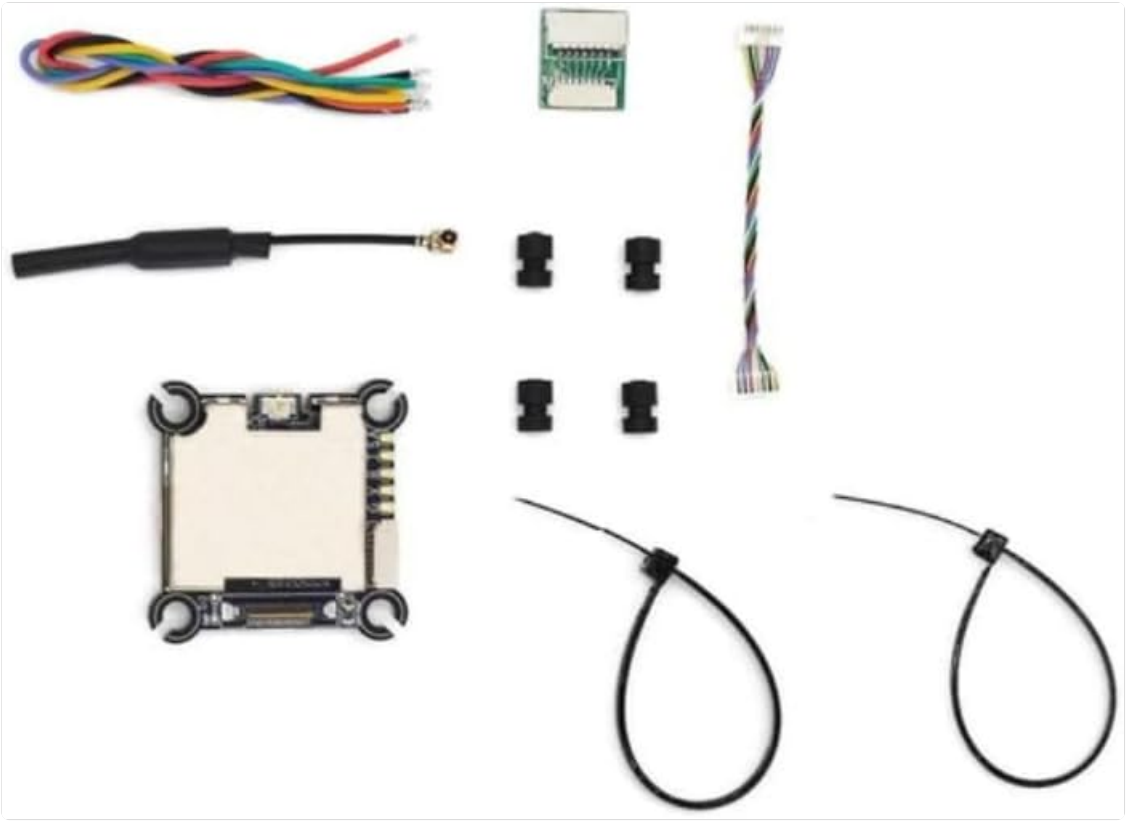

Figure 2: A detailed view of all components included in the HDZero Whoop Lite VTX package, laid out for inspection.

3. Specifications

Key technical specifications for the HDZero Whoop Lite VTX:

Feature	Specification
Input Voltage	1S-3S
RF Output Power	25mW/200mW
Smart Audio Support	Yes
Mounting Pattern	25.5x25.2 M2 soft mounting
Dimensions (w/o shielding)	32.4x32.5mm (29x29mm inner)
Thickness (w/o shielding)	4mm
Weight (w/o shielding)	4.5 grams
Antenna Type	Dipole (0.4g)
Material	Composite Material

Figure 3: Top view of the HDZero Whoop Lite VTX, showing the HDZero branding and model information.

Figure 4: Angled view of the HDZero Whoop Lite VTX, highlighting the various connectors and mounting holes.

4. Setup and Installation

Careful installation is crucial for optimal performance and longevity of your VTX. Always ensure power is disconnected before making any connections.

4.1 Mounting

- The HDZero Whoop Lite VTX features 25.5x25.2 M2 soft mounting holes. Use the provided dampers to reduce vibrations.
- Mount the VTX securely to your drone frame, ensuring it does not interfere with other components or propeller clearance.
- Consider airflow around the VTX for proper heat dissipation, especially during extended use.

4.2 Wiring Connections

Refer to the included connecting wire set. Typical connections include:

- **Power Input (1S-3S):** Connect the VTX to a stable power source within the specified voltage range. Observe polarity carefully (positive to positive, negative to negative).
- **Video Signal:** Connect the video output from your camera to the video input on the VTX.
- **Smart Audio/Control:** Connect the Smart Audio line to a UART on your flight controller for remote VTX control (e.g., changing channels, power levels). Consult your flight controller's documentation for specific UART pinouts.
- **Ground:** Ensure a common ground connection between the VTX, camera, and flight controller.

4.3 Antenna Installation

- Connect the provided dipole antenna to the VTX's antenna connector. Ensure it is securely fastened.
- Position the antenna away from carbon fiber or other conductive materials as much as possible to minimize signal interference.
- Never power on the VTX without an antenna connected, as this can permanently damage the unit.

5. Operating Instructions

Once installed, the HDZero Whoop Lite VTX can be configured and operated.

5.1 Powering On

- Ensure all connections are correct and secure.
- Connect the battery to your drone. The VTX will power on.
- Observe the LED indicators on the VTX (if present) for status.

5.2 Channel and Power Level Selection (Smart Audio)

- The HDZero Whoop Lite VTX supports Smart Audio for remote configuration.
- Access the OSD (On-Screen Display) menu via your flight controller (e.g., Betaflight OSD).
- Navigate to the VTX settings menu. From here, you can select the desired frequency band, channel, and RF output power (25mW or 200mW).
- Always adhere to local regulations regarding FPV transmission frequencies and power levels.

6. Maintenance

Regular maintenance helps ensure the longevity and reliable performance of your VTX.

- **Cleaning:** Keep the VTX free from dust, dirt, and moisture. Use a soft, dry brush or compressed air for cleaning. Avoid liquid cleaners.
- **Connection Check:** Periodically inspect all wiring connections for looseness or damage. Re-solder or replace wires as necessary.
- **Antenna Condition:** Check the antenna for any bends, breaks, or damage to the connector. A damaged antenna can significantly reduce range and performance.
- **Heat Management:** Ensure the VTX has adequate ventilation. Avoid covering it with materials that could trap heat.

7. Troubleshooting

If you encounter issues with your HDZero Whoop Lite VTX, refer to the following common problems and solutions:

7.1 No Video Signal / Black Screen

- **Check Power:** Verify the VTX is receiving power within the 1S-3S range.
- **Antenna Connection:** Ensure the antenna is securely connected to the VTX.
- **Camera Connection:** Confirm the camera is properly connected to the VTX and is powered.
- **Channel Mismatch:** Ensure your FPV goggles/receiver are on the exact same frequency and band as the VTX.
- **Damaged VTX:** If all connections are correct and power is present, the VTX may be damaged.

7.2 Poor Video Quality / Static

- **Antenna Orientation/Damage:** Re-orient the antenna or check for damage.
- **Interference:** Move away from sources of electromagnetic interference (e.g., Wi-Fi routers, power lines).
- **Power Filtering:** Ensure your power supply to the VTX is clean. Add a low ESR capacitor if experiencing noise.
- **Range:** You may be too far from your receiver.
- **Power Level:** Ensure the VTX is set to an appropriate power level for your environment (e.g., 200mW for outdoor flying).

7.3 VTX Overheating

- **Airflow:** Ensure adequate airflow around the VTX. Avoid enclosing it in tight spaces without ventilation.
- **Power Without Antenna:** Never power on the VTX without an antenna connected.
- **Excessive Power:** Using higher power levels (e.g., 200mW) for extended periods without sufficient cooling can cause overheating.

8. Warranty and Support

For warranty information or technical support, please contact the seller or manufacturer directly. Keep your proof of purchase for any warranty claims.
For further assistance, you may refer to the official HDZero documentation and community forums online.