

CADDXFPV Moonlight Kit

CADDXFPV Walksnail Moonlight Kit - FPV Drone Air Unit Pro Instruction Manual

Model: Moonlight Kit (WN11-4K14B-US)

1. INTRODUCTION

The CADDXFPV Walksnail Moonlight Kit is an advanced digital transmission system designed for FPV drones. It features a starlight sensor for exceptional low-light performance, 4K/60fps video recording capabilities, and electronic image stabilization for smooth footage. This manual provides essential information for the proper setup, operation, and maintenance of your Moonlight Kit.

Key Features:

- **Exceptional Night Vision:** Equipped with a 1/1.8-inch starlight sensor for detailed low-light capture.
- **Professional-Quality Recording:** Supports 4K/60fps, 2.7K, or 1080P at 150Mbps.
- **Smooth & Stable Videos:** Features built-in Electronic Image Stabilization (EIS) and Gyroflow support, with silicone damping pads to reduce vibration.
- **Optimized Daylight Shooting:** Includes an ND8 filter to prevent overexposure in bright conditions.
- **Seamless FPV Experience:** Fully compatible with Walksnail Avatar Goggles X and L for real-time viewing.

2. WHAT'S IN THE BOX

- Moonlight Air Unit Pro
- Booster Antenna
- Coaxial Cable
- Screws
- Gasket
- User Manual (this document)



Image: Overview of the CADDXFPV Walksnail Moonlight Kit components, including the air unit, camera, and antennas.

3. SETUP AND INSTALLATION

3.1 Component Assembly

Follow these steps to assemble the Moonlight Kit components:

1. Connect the coaxial cable from the camera to the air unit. Ensure a secure connection.
2. Attach the two booster antennas to the air unit.
3. Mount the assembled air unit and camera onto your FPV drone frame using the provided screws and gasket. Refer to your drone's frame manual for specific mounting points.



Image: The CADDXFPV Walksnail Moonlight Kit fully assembled, showing the air unit, camera, and dual antennas connected.

3.2 Wiring Connections

Connect the Moonlight Air Unit Pro to your flight controller. The unit requires a power input of 7.4V-25.2V. Ensure correct polarity to prevent damage.



Image: Detailed wiring diagram for connecting the Moonlight Air Unit Pro to a flight controller. Note the VCC, GND, Uart RX, and Uart TX connections. The USB cable is primarily for upgrades.

3.3 Camera Angle Adjustment

Adjust the camera angle to suit your flying style. For FPV racing, a higher angle is often preferred, while cinematic flights may benefit from a lower angle. Ensure the ND8 filter is installed for bright daylight conditions.

Ultra-Smooth Footage

Built-in EIS & Gyroflow Supported for Pro-Grade Stabilization

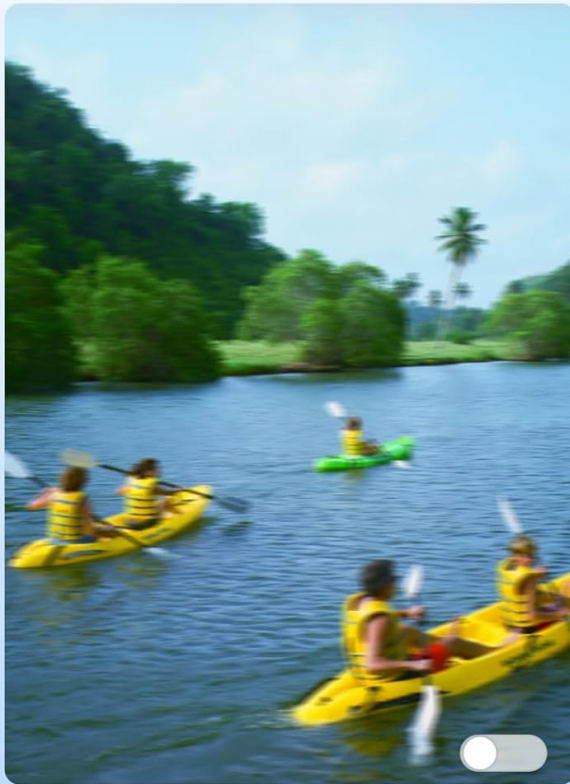


Image: The ND8 filter attached to the Moonlight camera lens, used to prevent overexposure in bright lighting.

4. OPERATING INSTRUCTIONS

4.1 Power On and Binding

1. Power on your FPV drone.
2. Power on your Walksnail Avatar Goggles (X or L).
3. Initiate the binding process on both the Moonlight Air Unit Pro and your goggles according to the goggles' instruction manual.

4.2 Video Recording

The Moonlight Kit supports 4K/60fps, 2.7K, or 1080P video recording at 150Mbps. Insert a high-speed microSD card (not included) into the air unit's card slot before flight. Recording can typically be initiated and stopped via a button on the air unit or through your FPV goggles' OSD menu.

Your browser does not support the video tag.

Video: Demonstrates the 4K/60fps video recording capability of the Walksnail Moonlight Kit, showcasing clear and detailed footage.

4.3 Image Stabilization (EIS & Gyroflow)

The built-in Electronic Image Stabilization (EIS) and Gyroflow support help achieve smooth and stable video footage. Ensure these features are enabled in your system settings for optimal results.

FOV 160° Ultra-Wide View

Wider view for immersive FPV—ideal for freestyle, cinematic flights, and long-range dives.

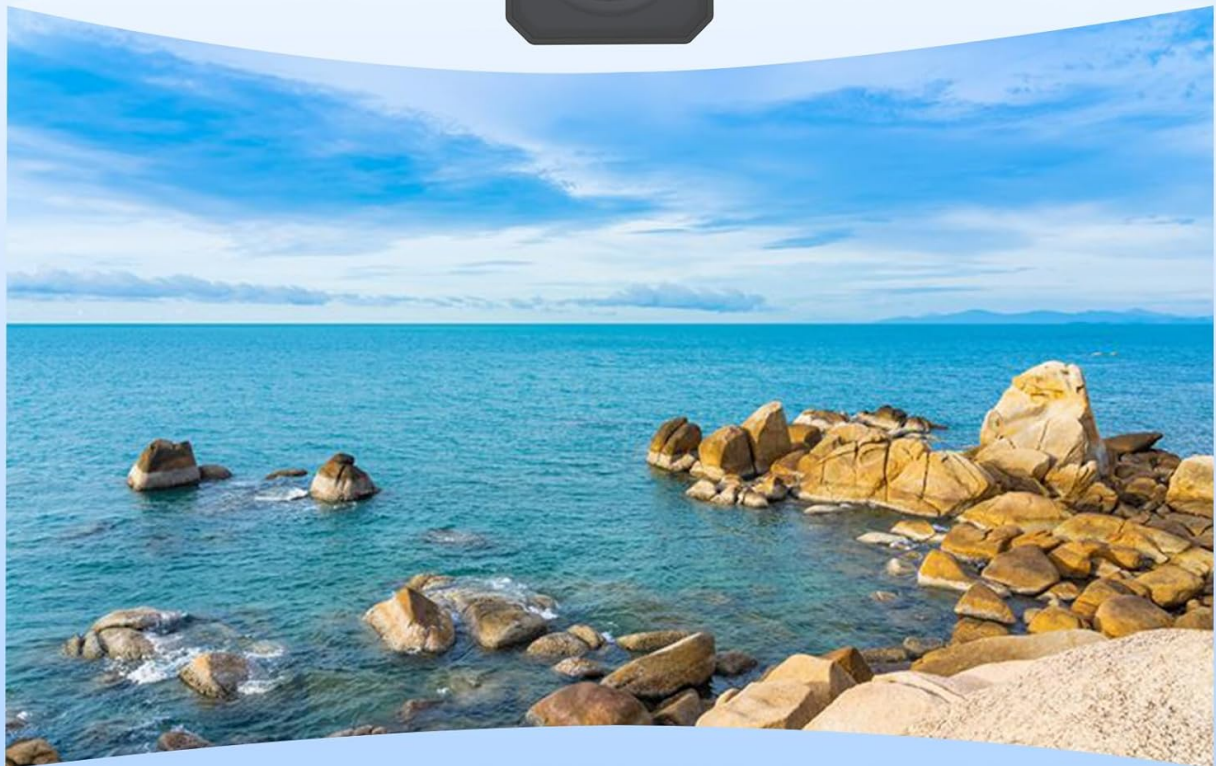


Image: Visual comparison illustrating the effectiveness of image stabilization, showing a blurred image on the left and a clear, stable image on the right.

4.4 Low Latency and Long Range Transmission

The Moonlight Kit provides 22ms low latency and up to 4km maximum range for a responsive and immersive FPV experience. Ensure antennas are properly positioned for optimal signal strength.

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Video: Showcases the first-person view immersion provided by the Walksnail FPV System, highlighting its low latency and stable transmission.

5. MAINTENANCE

- Regularly inspect all cables and connectors for wear or damage.
- Keep the air unit and camera clean from dust and debris. Use a soft, dry cloth.

- Ensure the cooling fan on the air unit is free from obstructions to prevent overheating.
- Store the kit in a dry, cool environment when not in use.

6. TROUBLESHOOTING

6.1 Overheating Issues

If the unit overheats, ensure adequate airflow around the air unit. Verify the cooling fan is operational and not obstructed. Reduce power output if possible, especially during ground testing or prolonged idle periods.

6.2 Signal Loss or Poor Video Quality

- Check antenna connections on both the air unit and goggles.
- Ensure antennas are not obstructed by carbon fiber or other materials.
- Verify that the air unit's power output is set appropriately for your flying environment and legal limits.
- Minimize interference from other 5.8GHz devices.

6.3 Recording Problems

- Ensure a compatible, high-speed microSD card is inserted correctly.
- Format the microSD card regularly.
- Check available storage space on the microSD card.

7. SPECIFICATIONS

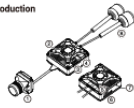
Feature	Detail
Brand	CADDXFPV
Model Name	Moonlight Kit
Special Features	First Person View (FPV), Gyroscopic Stabilization, High Sensitivity Sensor, Integrated Camera, Night Vision Camera
Video Capture Resolution	1080p, 4K, 720p
Connectivity Technology	Radio Frequency
Video Capture Format	MP4
Maximum Range	4000 Meters
Optical Sensor Technology	CMOS
Product Dimensions	6.1"L x 2.6"W x 0.98"H
Item Weight	2.39 ounces

Manufacturer Part Number	WN11-4K14B-US
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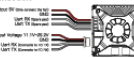
Related Documents - Moonlight Kit

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Introduction



Connection



- Power consumption: 12V/0.5A
Please consider the power supply capability of the power supply.
- VDI generates a lot of heat when working, so please pay attention to voltage fan speed adjustment.

Linking

1. Connect the VTX and the power of the goggles.
2. Short press the VTX and goggles linking buttons respectively, when the VTX enters the pairing state (The VTX LED turns red, and the goggles emit a D1, D2, D3...).
3. After the link is successful, the indicator light on the VTX LED turns solid green, the beeping sound on the goggles stops and the screen is displayed.

Upgrade

Please go to the official website to download the upgrade firmware.
 Answer: The X.X.X.m3 is the VTE file, be careful not to choose the file name.

1. Copy the upgrade file to the VTX Micro SD card directory, connect the power supply and wait for the device to start up. If there are old firmware files, please delete them.
2. Press and hold the VTX locking button for 8 seconds, and release the button after the indicator light goes out. At this time, the VTX will automatically re-read and enter the upgrade state, and the indicator light will change from blue-red to solid red and then turn off. The upgrade time is about 20 seconds.
3. Please do not power off during the upgrade process. If the VTX continues to start up, it means that the upgrade operation has failed or the firmware version is lower, please check the firmware file.
4. After the upgrade is successful, the VTX indicator turns green and blinks.

UART

The `UART` function enables the VTX communicate with the flight controller, allowing the VTX obtain the flight controller information. Take `SerialFlightConfigurator` as an example to introduce the `UART` writing method.

2. Connect the flight controller to the Deltalight Configurator, and open the corresponding UNET port (Type UART) as an example in the figure below.

- [illegible]

Betaflight 4.4 or above version settings:

-
1. Open the corresponding user part (Take user1 as an example in the figure). Check the MFP switch and click Data. Check the VTS (MFP+Clipboard).

Status indication

Ogglee Beacon Status	
Link state	OK, DL, CL, ...
Upgrade firmware	OK, CL, DL, CL, ... OK
Upgrade failed	CL, CL, CL
VTX Indicator Status	
Link state	Steady red light
Upgrade firmware	Red light rapidly flashes
Wireless connection, frage output is normal	Steady green light
Wireless not connected	Green light rapidly flashes
Wireless connection is normal, low output	Green light slowly flashes

Precautions

1. Before powering on, please install all antennas to avoid damage to components.
2. When the standby mode is turned on, the power is limited to 100mW. Before taking air, you need to Unlock the flight control or turn off the standby mode.
3. If you use it with other 5.0GHz devices at the same time, please choose a different channel.
4. If you use the Downflow Function of the camera, please provide good absorption for the feed dock of the camera to avoid the failure of the anti-shake.

VTX Specification

Name	Axiot GT KIT
Communication Frequency	5.7GHz-6.8GHz (4ch)
Transmitter Power (EIRP)	MIMO: 20dBm, PCO: 20dBm, EIS: <10 MIMO: <20dbm, MCO: <10dbm
I/O Interface	BT1.1 (power optional) -wireless ad-hoc net 5.0V/20.0Amin, 10V/200mA 3.3V/50.0V, 3.3V/4mA
Mounting holes	9-pairs Ø6.0
SD card	1GB/2/4/8/16
Recording	10MB/7Mbps
Ingress	IP67
Operating Temperature	-10~+50°C
Channels	8
Video Power Input	1.1V/1.5W
Supported PC System	Dreamcast, PS2, WinCE, Linux, Android
CDD	Camera ready
Latency	Average delay: 20ms

Camera parameters

Image Sensor	Avastar Pro camera
Resolution	1/1.8-in. 6-megapixel sensor 9300P/13000P, 1080P/30FPS
Ratio	720P/110FPS, 720P/30FPS
Lens	4/3 16x/8
FOV	84°
Aperture	10F
Shutter	Rolling shutter
Weight	8.5g
Dimensions	19P/130mm
Min Illumination	0.001 Lux
Cabled Cable	140mm

VTX Antenna

Name	Avatar V2 antenna
Polarization	UHF
Frequency range	600MHz-800MHz
Average Gain	1.9dB
VSWR	41.5
Interface	RFIC-1
Dimensions	155mm X 40mm (without cable)
Weight	5g

CAZDRIPLY Support
email: support@cazdriply.com

This content is subject to change. Download the latest version from
<https://www.cazdriply.com>

A concise quickstart guide for the CADDXFPV Avatar GT Kit, detailing connection, linking procedures, firmware upgrades, UART configuration for flight controllers, and comprehensive technical specifications for the VTX and camera.

AVATAR GM SERIES QUICK START GUIDE

V1.0



Introduction

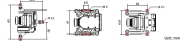
This product is a professional-grade gimbal that can achieve real-time stabilization of camera images and capture high-quality footage. To ensure the highest quality of camera images, please read this Quick Start Guide carefully before using the product. The product is designed for professional use and is not intended for general consumer use. It is not a toy and should be used responsibly.

Camera Installation

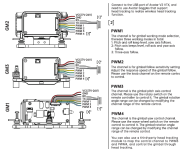


1. Use a Phillips screwdriver to remove the camera cap.
2. Use a screwdriver to remove the camera cap from both sides of the camera cap.
3. Insert the camera cap into the camera.
4. Tighten the cap screws and check whether the camera cap is firmly fixed. If not, please re-adjust the cap screws.

Installation Dimensions



Connection and Use



Head tracking function

The gimbal supports the head tracking function. The head tracking function can track the head movement of the operator and keep the camera stable. The head tracking function is supported by the gimbal's head tracking sensor and the gimbal's head tracking algorithm. The head tracking function is supported by the gimbal's head tracking sensor and the gimbal's head tracking algorithm. The head tracking function is supported by the gimbal's head tracking sensor and the gimbal's head tracking algorithm.

1. Insert the gimbal's head tracking sensor into the gimbal's head tracking sensor port.
2. Turn on the gimbal's head tracking function.



Menu Settings

1. Head tracking: Select the head tracking function.
2. Head tracking: Select the head tracking function.
3. Head tracking: Select the head tracking function.
4. Head tracking: Select the head tracking function.



Upgrade



1. Use the upgrade cable to connect the gimbal and the upgrade cable.
2. Turn on the gimbal's upgrade function.



1. Select the upgrade function.
2. Select the upgrade function.
3. Select the upgrade function.

Precautions

1. Do not use the gimbal in a high-temperature environment.
2. Do not use the gimbal in a high-humidity environment.
3. Do not use the gimbal in a high-vibration environment.

Specifications

Model	GM1
Camera compatibility	Supports 1/2" NCS camera
Image stabilization	Electronic
Image stabilization range	±15°
Roll	±180°
Pitch	±90°
Yaw	±360°
Weight	1.2kg
Dimensions	120mm x 120mm x 120mm

CaddxFPV Avatar GM Series Gimbal Quick Start Guide

Quick start guide for the CaddxFPV Avatar GM Series gimbals (GM1, GM2, GM3), detailing camera installation, connection, head tracking setup, firmware upgrades, and specifications. Compatible with CaddxFPV Avatar HD system cameras.

VISTA KIT

Quick Start Guide
快速入门指南

Required items:
Required items:
Required items:
Required items:
Required items:
Required items:



CADDXFPV Support
CADDXFPV 技术支持
Email: support@caddxfpv.com

V1.2

[CADDXFPV VISTA KIT Quick Start Guide](#)

A comprehensive quick start guide for the CADDXFPV VISTA KIT, detailing its features, connection, activation, linking, OSD settings, specifications, and camera parameters for FPV drone systems.