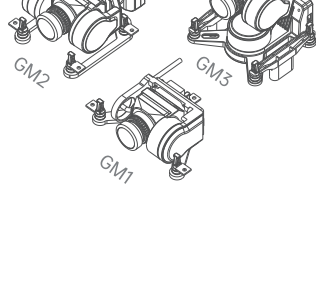


AVATAR GM SERIES

QUICK START GUIDE

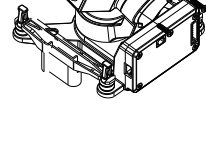
V1.0



Introduction

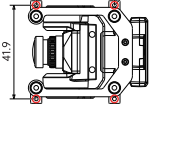
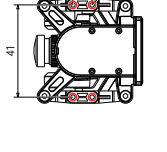
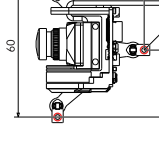
This product is a mechanical anti-shake gimbal that can achieve real-time anti-shake of camera images and camera angle adjustment. It is suitable for Walksnail Avatar HD system cameras with a mounting width of 19mm. GM1 can achieve anti-shake and adjustment of camera pitch angle; GM2 can achieve anti-shake and adjustment of camera pitch angle and roll angle; GM3 can achieve anti-shake and adjustment of camera pitch angle, roll angle and azimuth angle. Users need to design the mounting holes of the vehicle by themselves and adapt them to the gimbal mounting bracket. The gimbal can automatically identify upright and inverted installations.

Camera Installation



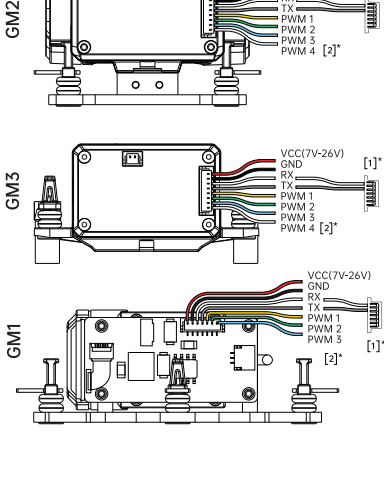
1. Use a Phillips screwdriver to remove the camera cover.
2. Use tweezers to remove the coaxial cable from both sides of the coaxial cable interface.
3. Install the gimbal's coaxial cable to the camera
4. Install the camera on the gimbal, note that the coaxial cable needs to be placed in the internal groove
5. Tighten the four screws and check whether the camera can rotate smoothly to the maximum tilt angle. If there is obvious resistance, reinstall the camera.
6. The installation is complete

Installation Dimensions



Unit: mm

Connection and Use



[1]

Connect to the USB port of Avatar V2 VTX, and need to use Avatar Goggles that support head tracking to realize wireless head tracking function.

[2]

PWM1

The channel is for gimbal working mode selection, therefore three working modes in total.

- 1: Pitch and roll keep level, yaw axis follows.
- 2: Pitch axis keeps level, roll axis and yaw axis follow.
- 3: Three-axis follow.

PWM2

The channel is for gimbal follow sensitivity settings. Adjust the response speed of the gimbal follow.

Please use the knob channel on the remote control to control.

PWM3

The channel is the gimbal pitch axis control channel. Please use the rotary switch on the remote controller to control it. The gimbal rotation angle range can be changed by modifying the channel range of the remote control.

PWM4

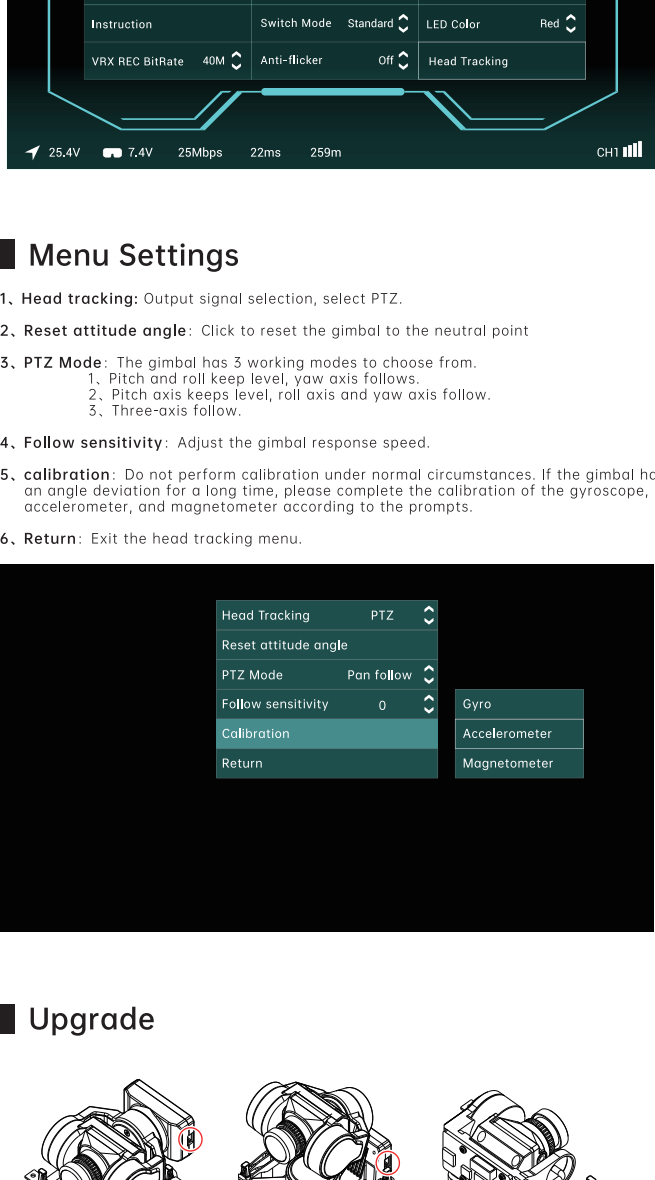
The channel is the gimbal yaw control channel. Please use the wave wheel switch on the remote control to control it. The gimbal rotation angle range can be changed by modifying the channel range of the remote control.

You can also use a third-party head tracking module to map the control channel to PWM3 and PWM4, and control the gimbal through head tracking.

Head tracking function

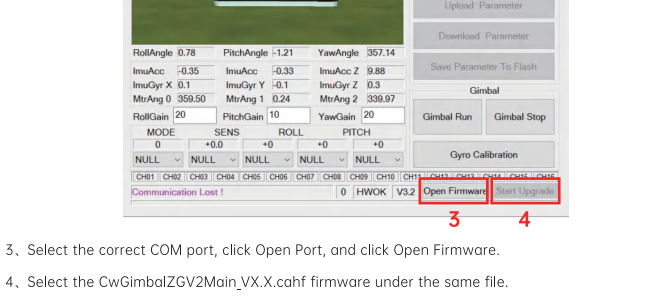
The gimbal supports Uart and PWM control protocols to achieve head tracking function: Uart requires Avatar V2 (Dual) VTX, Avatar V2 VTX, Moonlight VTX and goggles that support Avatar head tracking function; PWM requires a third-party head tracking module, and connects the gimbal PWM3 and PWM4 channels to the head tracking receiver pitch and direction channels. The following introduces the head tracking function settings with Avatar V2 VTX:

1. Upgrade Avatar goggles and V2 VTX to version 38.43.4 or above, and connect the serial port cable of the gimbal and Avatar V2 VTX according to the wiring diagram.
2. Open the goggles menu and select "Gimbal" for head tracking, Settings > Head Tracking > Gimbal, after the settings are completed, the gimbal will follow the goggles' posture movements, and quickly click the return key 3 times to return the gimbal to the center.



Menu Settings

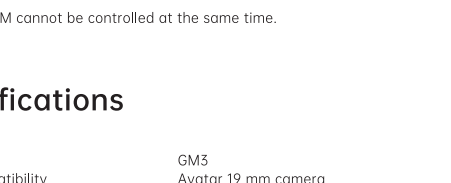
1. **Head tracking:** Output signal selection, select PTZ.
2. **Reset attitude angle:** Click to reset the gimbal to the neutral point
3. **PTZ Mode:** The gimbal has 3 working modes to choose from.
 1. Pitch and roll keep level, yaw axis follows.
 2. Pitch axis keeps level, roll axis and yaw axis follow.
 3. Three-axis follow.
4. **Follow sensitivity:** Adjust the gimbal response speed.
5. **calibration:** Do not perform calibration under normal circumstances. If the gimbal has an angle deviation for a long time, please complete the calibration of the gyroscope, accelerometer, and magnetometer according to the prompts.
6. **Return:** Exit the head tracking menu.



Upgrade



1. Use the upgrade cable to connect the upgrade port, connect the other end to the PC, and go to www.caddxfpv.com to download the GimbalConfig.exe software.
2. Open the GimbalConfig software and power on the GM gimbal.



3. Select the correct COM port, click Open Port, and click Open Firmware.
4. Select the CwGimbalZGV2Main_VX.X.canf firmware under the same file.
5. Click Start Upgrade and wait for the progress bar to complete.

⚠ Goggles need to upgrade the head tracking firmware in the folder synchronously. Please refer to the manual of the corresponding product for upgrade operation.

Precautions

1. Be careful not to fix the coaxial cable too tightly. Make sure that the coaxial cable can move freely within the gimbal's shock absorption range. The gimbal cannot collide or interfere with other objects when working.
2. When the gimbal is equipped with a Moonlight camera, it can only be used with the Moonlight VTX.
3. Using the gimbal UART head tracking function only supports Avatar V2 VTX, Avatar V2 (Dual) VTX, and Avatar Moonlight VTX.
4. The gimbal bracket must be fixed with the shock-absorbing ball and carrier provided in the package or by a third party, and ensure that it is firmly installed.
5. Uart and PWM cannot be controlled at the same time.

Specifications

Name: GM3
Camera compatibility: Avatar 19 mm camera
Image stabilization: ±0.005°
Max controllable speed: ±1500°/s
Max controlled rotational range: Yaw:±160°
Pitch:±120°
Roll:±60°
Size: 46.8x46.4x53.4mm
Weight: 46g
Control mode: PWM /UART
Head tracking control: support
Voltage: 7~26V
Static power dissipation: 1.5W

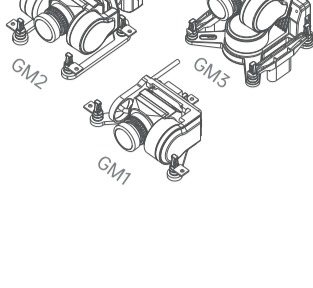
Name: GM2
Camera compatibility: Avatar 19 mm camera
Image stabilization: ±0.005°
Max controllable speed: ±1500°/s
Max controlled rotational range: Pitch:±120°
Roll:±60°
Size: 46.7x41.2x26.5mm
Weight: 30g
Control mode: PWM /UART
Head tracking control: support
Voltage: 7~26V
Static power dissipation: 1.2W

Name: GM1
Camera compatibility: Avatar 19 mm camera
Image stabilization: ±0.005°
Max controllable speed: ±1500°/s
Max controlled rotational range: Pitch:±120°
Roll:±60°
Size: 32.2x38.1x20.5mm
Weight: 16g
Control mode: PWM /UART
Head tracking control: support
Voltage: 7~26V
Static power dissipation: 1.0W

AVATAR GM 系列

快速入门指南

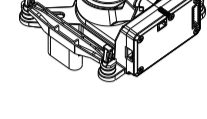
V1.0



简介

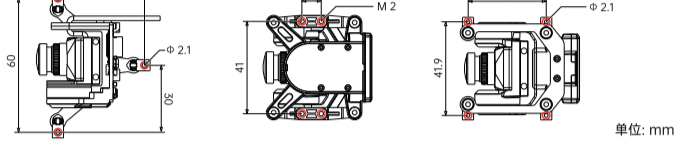
该产品为机械增稳云台，可实现相机画面实时防抖与相机角度调整，适配安装宽度为 19mm 的 Walksnail Avatar HD 系统相机，GM1 可实现相机俯仰角度的防抖与调整；GM2 可实现相机俯仰角度与横滚角度的防抖与调整；GM3 可实现相机俯仰角度、横滚角度、方向角度的防抖与调整。用户需自行设计载具的安装孔位，与云台安装支架做适配。云台可自动识别正装、倒置安装。

相机安装

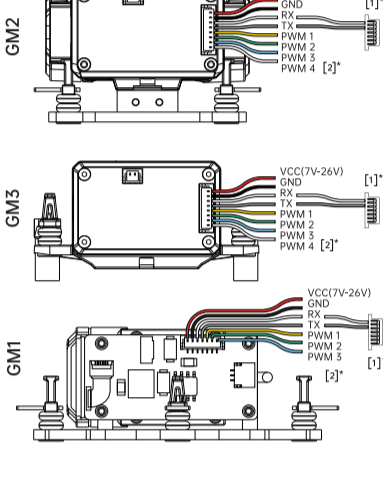


- 1、使用十字螺丝刀拆卸相机后盖。
- 2、使用镊子从相机同轴线接口两侧取下同轴线。
- 3、将云台的同轴线安装到相机上。
- 4、将相机安装到云台上，注意同轴线需要摆放到内部凹槽中。
- 5、锁上4颗螺丝，检查相机俯仰最大转动角度是否顺畅，如果转动有明显阻力请重新安装相机。
- 6、安装完成。

安装尺寸



连接及使用



[1] 连接到 Avatar V2 VTX 的 USB 端口，需要搭配支持头部跟踪的 Avatar Goggles，实现无线头部跟踪功能。

[2] **PWM1** 通道为云台工作模式选择，共有三个工作模式。
1: 俯仰及横滚保持水平，方向轴跟随
2: 俯仰轴保持水平，横滚轴及方向轴跟随
3: 三轴跟随

PWM2 通道为云台跟随灵敏度设置，调整云台跟随的响应快慢，请使用遥控器上的旋钮通道来控制。

PWM3 通道为云台俯仰轴控制通道，请使用遥控器上的波段开关控制，可通过修改遥控器通道行程来改变云台转动角度范围。

PWM4 通道为云台方向轴控制通道，请使用遥控器上的波段开关控制，可通过修改遥控器通道行程来改变云台转动角度范围。

也可通过第三方头追模块，将控制通道对应至 PWM3 及 PWM4，可以实现通过头追的方式控制云台。

头部跟踪功能

云台支持 Uart 和 PWM 两种控制协议实现头部跟踪功能，使用 Uart 需要搭配 Avatar V2(Dual) VTX、Avatar V2 VTX、Moonlight VTX 和支持 Avatar 头部跟踪功能眼镜实现，使用 PWM 需要搭配第三方头追模块，将云台 PWM3 和 PWM4 通道连接到头追接收机俯仰和方向通道，以下介绍搭配 Avatar V2 VTX 头部跟踪功能设置。

1. 将 Avatar 眼镜和 V2 VTX 升级到 38.43.4 或以上版本，根据接线图连接云台和 Avatar V2 VTX 的串口线。
2. 打开眼镜菜单将头部跟踪选择为“云台”，设置 > 头部跟踪 > 云台，设置完成后云台将会跟随眼镜姿态动作，快速点击3次返回键可以使云台回中。



菜单设置

- 1、头部跟踪：输出信号选择，选择云台。
- 2、复位姿态角：点击后可以使云台方向恢复默认中立点。
- 3、云台模式：云台共有三个工作模式选择，
1、俯仰及横滚保持水平，方向轴跟随
2、俯仰轴保持水平，横滚轴及方向轴跟随
3、三轴跟随
- 4、跟随灵敏度：调整云台动作响应速度。
- 5、校准：正常情况下请勿做校准操作，如果云台在长时间出现角度偏移，请根据提示完成陀螺仪、加速度计、磁强计的校准。
- 6、返回：退出头部跟踪菜单。



升级



- 1、使用升级线连接升级口，另一端连接 PC 端，到 www.caddxfpv.com 官网下载 GimbalConfig.exe 软件。
- 2、打开 GimbalConfig 软件，GM 云台通电。



- 3、选择正确 COM 口，点击开始调试，点击打开固件。
- 4、选择同文件夹下的 CwGimbalZGV2Main_VX.X.cahf 固件。
- 5、点击开始升级，等待进度条完成后升级成功。

⚠️ • 眼镜端需要同步升级文件夹内的头追固件，升级操作请浏览对应产品的说明书

注意事项

- 1、注意同轴线索与云台连接的部分不能固定过紧，要留有一定的活动长度，确保云台减震行程下线束都可以自由活动，云台运动时不能与其他物体产生碰撞或干涉。
- 2、当云台安装月光 Moonlight 相机时，及支持搭配月光 Moonlight VTX 使用。
- 3、使用云台 UART 头追功能，仅支持 Avatar V2 VTX、Avatar V2(Dual) VTX、Avatar Moonlight VTX。
- 4、云台支架必须使用包装附带或第三方减震球与载具固定，并确保安装牢固。
- 5、Uart 与 PWM 不能同时控制。

参数规格

名称	GM3
相机兼容性	Avatar 19mm 相机
稳像精度	±0.005°
最大可控转速	±1500°/s
可控转动范围	±160° 俯仰:±120° 横滚:±60°
尺寸	46.8x46.4x53.4mm
重量	46g
控制方式	PWM /UART
头追控制	支持
工作电压	7~26V
静态功耗	1.5W

名称	GM2
相机兼容性	Avatar 19mm 相机
稳像精度	±0.005°
最大可控转速	±1500°/s
可控转动范围	±120° 俯仰:±120°
尺寸	46.7x41.2x26.5mm
重量	30g
控制方式	PWM /UART
头追控制	支持
工作电压	7~26V
静态功耗	1.2W

名称	GM1
相机兼容性	Avatar 19mm 相机
稳像精度	±0.005°
最大可控转速	±1500°/s
可控转动范围	±120°
尺寸	32.2x38.1x20.5mm
重量	16g
控制方式	PWM /UART
头追控制	支持
工作电压	7~26V
静态功耗	1.0W