X-CAM A10-3H for GOPRO 3 Axis Gimbal User Manual

(V2.00)

The X-CAM A10-3H for GOPRO 3 Axis Gimbal has been finished with all the adjustments before brought onto the market, it is READY TO RUN.

Parameters

Weight: 280g (without GOPRO)

Stabilization Frequency: 5200Hz

Input Voltage(DC IN): 7.4v ~ 16.8v (2S ~ 4S Lipo)

Tilt Travel: +-90 degree; Rolling Travel: +-45 degree

Pan Travel: 360 degrees with unlimited rotation

Built-in AV output & Charging Module

Auto Pilot System supporting is not required

Built-in 2 X 6 Axis gyroscope sensors & 1 Infrared localizer.

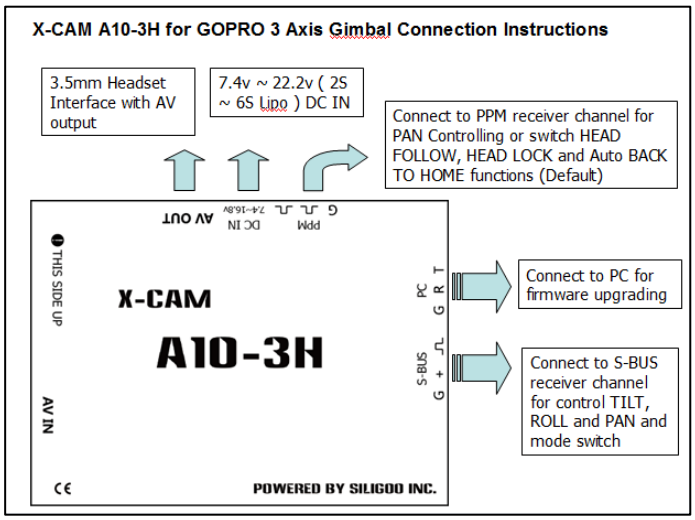
Supports automatic back to HOME function.

Supports GoPro3,GoPro3+,GoPro4(black or silver version)

Accessories

- 1 x X-CAM A10-3H Gimbal Frame
- 1 x X-CAM A10-3H Controller
- 1 x USB Cable
- 1 x PPM Cable
- 5 x Damping balls
- 4 x Rubber rings
- 4 x Fastener rings.

Connection Instructions



The S-BUS output comes with full functions which have been defined channel number:

Channel 1 : ROLL Controlling

Channel 2: Return to HOME

Channel 3: TILT Controlling

Channel 4: PAN Controlling

Channel 5: Mode Switch

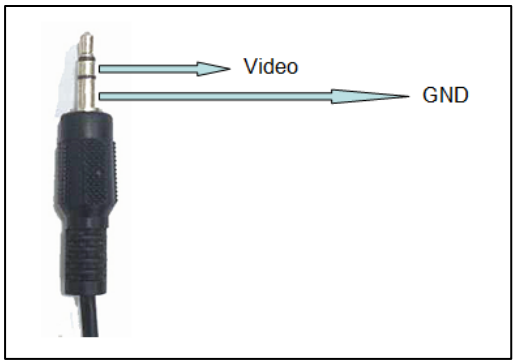
The recommend operation methods

1. Single control: Just connect PPM channel for PAN Controlling or HEAD FOLLOWING , HEAD LOCK and AUTO BACK TO HOME mode(**Default**), S-BUS channel connection is not required, One receiver only.

2. Dual control: Only S-BUS output channel mode provides full functions. But 2 receivers are required.

Notice: It does not required to supply the power to the S-BUS receiver under the dual control mode, the A10-3H controller will supply the power to the S-BUS receiver via the S-BUS. The TILT and Pan axis (or Mode Switch) can be controlled under the single control or dual control.

The AV output adapter instruction

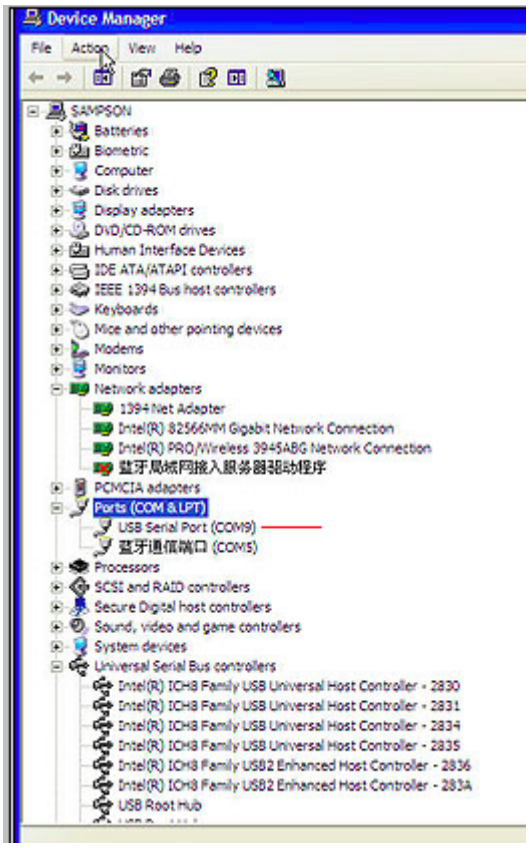


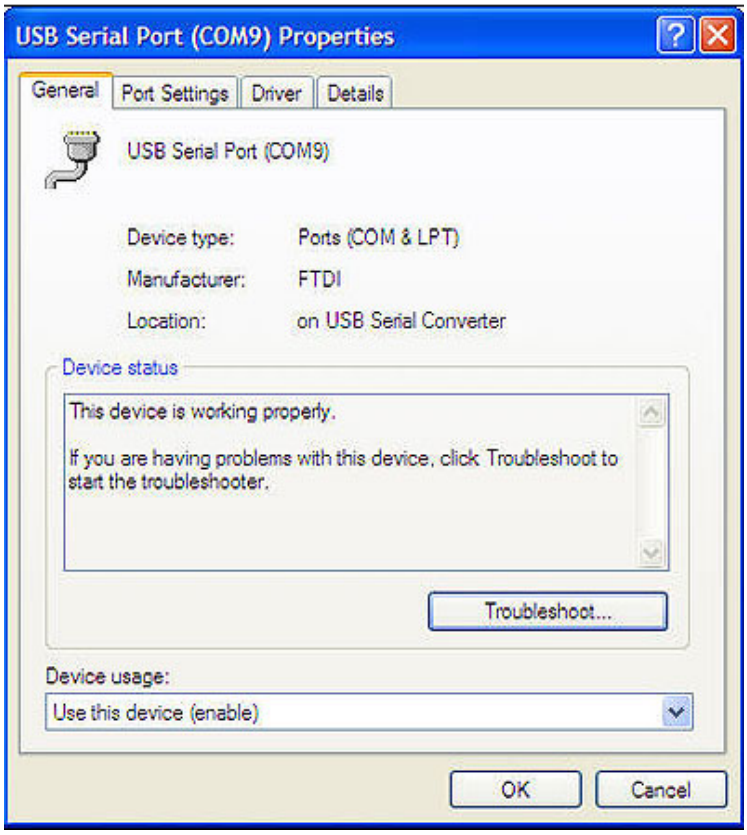
You may connect your own video transmitter here , the YELLOW wire is the video signal and the PINK wire is GND

PC Software

Connect with PC

Uses the USB adapter to connect with your PC , Normally the Windows can find the driver automatically, you could find the PORT number in the device Manager





Notice: the drive file is different between Win7 and WinXP and does not support Win8

You may download the drive on our official website at

http://www.x-camtech.com/html_info/Downloads-10.html

Launch the X-CAM Gimbal Assistant , choose the correct port number and click CONNECT

BEEP BEEP will be shouted after the connection succeed, the parameters will be read out automatically.

The parameters as below:

1. **Gains**

There are 2 gains, Position Gain and Acceleration Gain

Pos. Gain: Inclined the gimbal to one position slowly and watch the video image is horizontal or not, if not please adjust the Pos. Gain in the software

Acc. Gain: After adjusting the Pos. Gain, Inclined the gimbal to one position quickly and watch the video image is horizontal in time, if not please adjust the Acc. Gain in the software

Notice: the X-CAM A10-3H has been finished the adjusting, does not need to adjust again in normally

2. **Gimbal Control**

The A10-3H provides 2 ways to control the TILT, Linear Mode or Tracking Mode

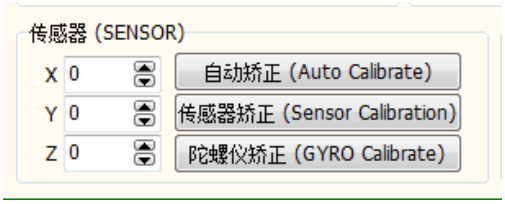
Linear Mode: Push the TILT stick to high or low for moving the camera mount to up or down until the stick back to midpoint

Tracking Mode: Push the TILT stick to high or low, the camera mount will follow the stick position.

Push speed: Setup the camera mount moving speed, high value set high speed; low value set low speed.

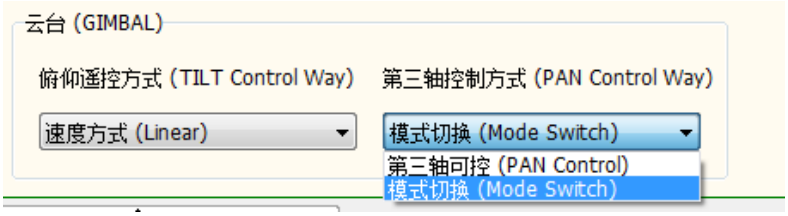
3. sensors advanced calibration

This is an advanced setup ,normally it does not need to set unless serious tilt has happened on the Tilt or Roll axis .more detalis please read the X-CAM A10-3H initial data reset guide appendix 1.

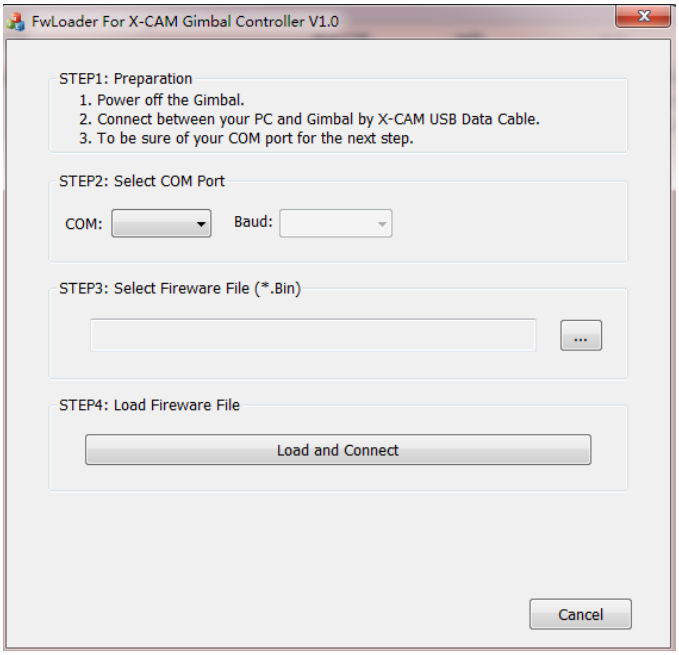


3. the Function choosing on single control

You may choose the function on single control mode, the default is Mode Switch.



Firmware upgrade



1. Power off the X-CAM A10-3H
2. Uses the USB cable to connect with your PC, Normally the windows can find the driver automatically, you will find the PORT number in the device manager.
3. Select the COM port number
4. Open the firmware file (*.bin)
5. Click “Load and Connect” button
6. Power on the X-CAM A10-3H, it will upgrade the firmware automatically, The blue indicator will light , and red indicator will flash quickly. When the upgrade is completed, the red indicator will light , and the blue indicator will flash quickly

Notice: Please do not touch anything and keep the power on during the upgrade, if the upgrade is break please back to STEP 1 and try again, normally it could be fix automatically. It will beep 4 times after upgrade and the system will be restarted.

Announcements

1. Do not touch the X-CAM A10-3H during the initialization after power on, Keep the X-CAM A10-3H in quietude.
2. Do not use BEC for the X-CAM A10-3H power, strongly recommend using 2~6S Lipo battery directly .
3. Strongly recommend using 12mm tube to mount the X-CAM A10-3H.
4. Make sure the center of gravity of the X-CAM A10-3H is correct before using.
5. It does not required to supply the power to the second receiver when under dual control mode.
6. The X-CAM A10-3H supports S-BUS1 only .

Disclaimer

X-CAM A10-3H gimbals are covered by one year limited warranty. Please do not disassemble or modify mechanical structure in the warranty period. The customized program of X140B control module is based on A10-3H structure and motors, and all debugging has been completed in factory. Any direct or indirect damages caused by a user during use or damage will not be covered by our warranty, and X-CAM will not compensate the loss and the corresponding liability.

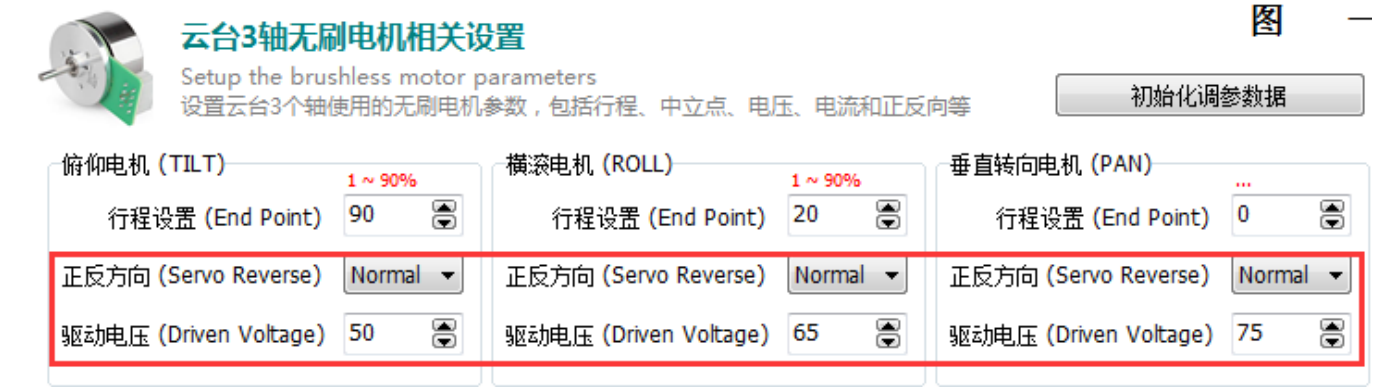
SILIGOO Inc. does not take any responsibility toward any damage or loss in using the X-CAM A10-3H gimbal.

Appendix 1. The X-CAM A10-3H Sensor Advanced Calibration Guide

1. Connect the USB cable to the PC and launch the X-CAM Gimbal Assistant Software,then power on the X-CAM A10-3H .

2. Click the button of “Connect” and click the button of “Read Params”, you will hear beep-beep.

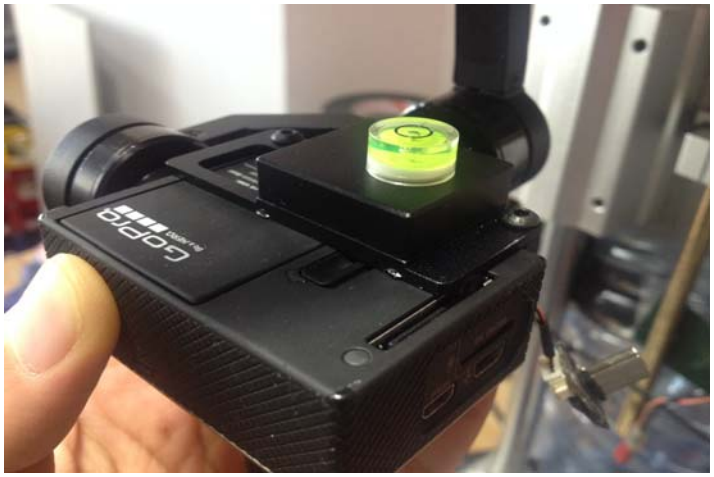
Notice :Please back up the Driven Voltage values and Servo Reverse values(as the picture 1 shows) before calibrate .



(Picture 1)

3. Click the button of “initialize Params ” . Then you will hear three beep (beep-beep and beep),please input” 0” to the Driven Voltage. Then click the button of “ Burn Params ” ,You will hear beep-beep-beep that means it has been burned into the X-CAM A10-3H.(do not double click)

4. (1) Toggle the gimbal vertical to the ground (90 degree). Put the bubble level on the sensor .



(Picture 2)

(2) Adjust the camera to keep the bubble at the center position manually. Click the button of “Auto Calibrate ” (Picture 3)

Notice : when you click the button of “Auto Calibrate” ,please keep the bubble at the center position(picture2).(If failed ,please try again)

(Picture 3)

(3) After the calibration ,click the button of “Disconnect ” ,and power off the X-CAM A10-3H . Then re-power the

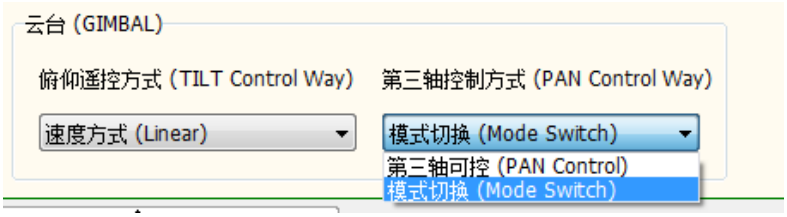
X-CAM A10-3H to check if the bubble is at the center position or not. (absolute center position is not required.

5 . Fill the back-up values into the " Driven Voltage" and "Servo Reverse " and click the "Burn Params"

For example

(after the up steps ,the X-CAM A10-3H does not work , please try following steps)

1. Set the "Pan Control Way " to" Mode Switch "



2. Adjust the 3 motors as blow:

Tilt motor

Recover the values of Tilt motor in blank of "Driven Voltage" and click "Burn Params" . it will show "Saved " at the low-left corner in 5 secs ,and click "disconnect " . Click "Connect " again and click "Read Params" . Make sure the Tilt motor does not shock huge . If not ,please change the "Servo Reverse" and try again.

Roll motor

Recover the values of Roll motor in blank of "Driven Voltage" and click "Burn Params" . it will show "Saved " at the low-left corner in 5 secs ,and click "disconnect " . Click "Connect " again and click "Read Params" . Make sure the Roll motor does not shock huge . If not ,please change the "Servo Reverse" and try again.

Pan motor

Recover the values of Tilt motor in blank of "Driven Voltage" and click "Burn Params" . it will show "Saved " at the low-left corner in 5 secs ,and click "disconnect " . Click "Connect " again and click "Read Params" . Make sure the Pan motor does not rotate continually or motionless . If not ,please change the "Servo Reverse" and try again.

If it still does not work after the up steps ,please refer to the V2.18 The Firmware Upgrade Guide

Appendix 2. The procedure of V1.10/V1.13 upgrade to V2.18 or over

Notice: if the current firmware version is V2.XX then does not read this guide.

Please according to the steps strictly as below:

1.According to the manual above, firstly burn the "PARAM_UPDATE 20140924 V0.00. Bin" firmware to the X-CAM A10-3H and close the firmware upgrade program, and power off the X-CAM A10-3H

2.Power on the X-CAM A10-3H and confirm the red and blue lights are flashing alternately and power off .(if not ,please try step 1 again)

3.Thirdly burn "A10-3H 20141022 V2.18A Bate. Bin" firmware to the X-CAM A10-3H and close the firmware upgrade program, and power off the X-CAM A10-3H.

4.Power on the X-CAM A10-3H and observe the status ,if it is unordered turning then try the step 1 and step 2 again(the step 2 must be executed).

5.If the Pan motor is unordered turning , please connect to the X-CAM Gimbal assistant software to change the Pan motor direction .

6.If the Pan motor is still unordered turning after the step 5, please according to the above manual, burn the " A10-3H 20141022 V2.18B Bate.Bin" firmware to the X-CAM A10-3H.

7.If the X-CAM A10-3H still does not work ,please feel free to contact X-CAM.