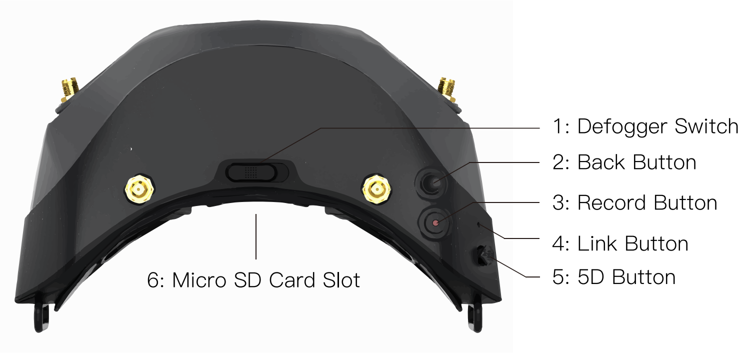
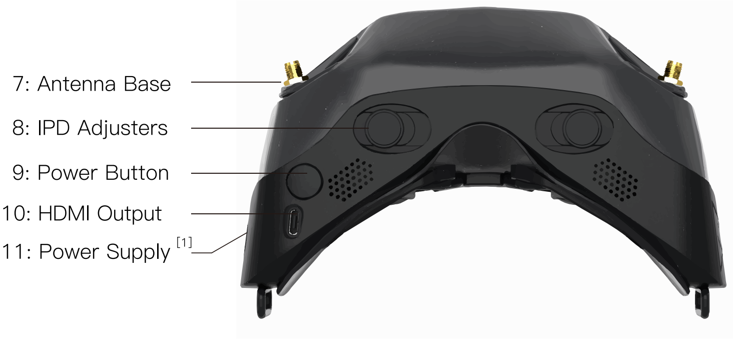
AVATAR FPV GOGGLES

Quick Start Guide

V1.0

Introduction





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[1] Input voltage range 7–21V.

Linking

1. Connect the VTX and the power of the Goggles.
2. Press the link button of the VTX and Goggles respectively (as shown in the picture), when the VTX enters the pairing state The indicator light turns red, and the Goggles end is a DI… DI… DI…
3. After the link is successful, the indicator light on the VTX 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, Avatar_Gnd_X.X.X.img is the Goggles file, copy it to the SD card, be careful not to change the file name.

1. Copy the upgrade file to the root directory of the SD card, connect to the power supply and wait for the device to initialize (delete the old firmware file first if there in one).
2. Press and hold the link button on the Goggles for 8 seconds, and the Goggles automatically restart and emit a beep…beep…beeper sound. (Do not power off during the upgrade process, the upgrade time on the goggle is about 6 minutes)
3. After the upgrade is successful,and the beeping sound stops after the Goggles beeps for 5 seconds.

Status indication

Goggles Buzzer Status	
Link state	DI…. DI…. DI….
Upgrade firmware	DI…… DI…… DI…… DI——
Upgrade failed (No SD card or firmware detected)	DI.. DI.. DI..
Boot failure (Reboot or re-upgrade)	DI.. DI…… DI.. DI……

Operating channel

Central frequency(MHz)	Channel1	Channel2	Channel3	Channel4	Channel5	Channel6	Channel7	Channel8
FCC	5660	5695	5735	5770	5805	5878	5914	5839
CE/SRRC	5735	5770	5805	-	-	-	-	5839
MIC	5660	5700	-	-	-	-	-	5745

Make sure you fully understand and abide by local laws and regulations before using this product. An amateur radio license may be needed in FCC regions when using channels 1,2,6or 7, as they are amateur frequency bands. Users who use the amateur frequency bands with a modified or cracked version or without a license may be punished for breaking local laws or regulations.

Button operation

5D button

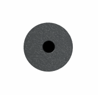
Toggle the button to scroll through the menu. Press the button to confirm.

Record button

Press to start or stop video recording.

Back button

Press to return to the previous menu or exit the current mode.

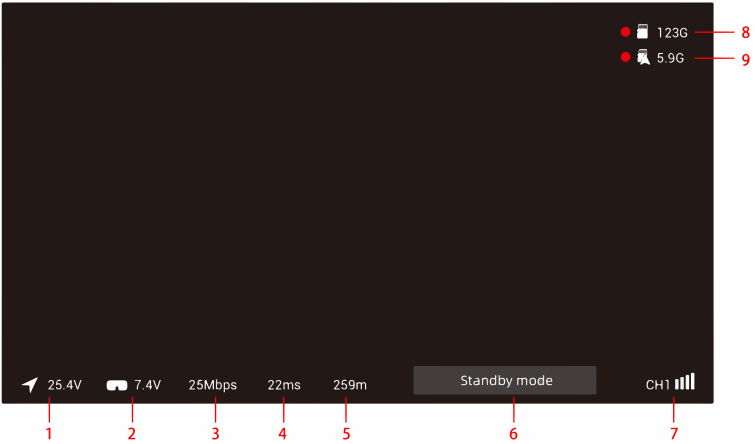


Link button

Short press to enter the linking state, long press for 8 seconds to enter the upgrade state.

Software interface

Main interface-1



1-VTX input voltage:

Detect VTX voltage, intelligently identify the voltage of 2, 3, 4, 6 string LiPo batteries, alarm when a single battery is lower than 3.5V, and alarm in red font when the voltage is too low.

2-Goggles input voltage:

Detect Goggles low battery alarm, intelligently identify the voltage of 2, 3, 4, 6 string LiPo batteries, alarm when a single battery is lower than 3.5V, red font and buzzer alarm when the voltage is too low.

3-Real-time bit rate

Display real–time transmission code rate, two display modes of 25.0Mbps and 50.0Mbps.

4-Time delay:

Displays the total delay from the transmission of images captured by the VTX camera to the ground end.

5-Ranging mode:

The function of calculating the transmission distance from Goggles to VTX according to the wireless transmission delay, the signal is interfered will lead to error amplification。

6-Status prompt:

The text prompts information that needs attention in the current state.

7-Current channel:

Display the current setting channel, the signal grid has 5 states, 4 grids, 3 grids, 2 grids, 1 grid, and blank.

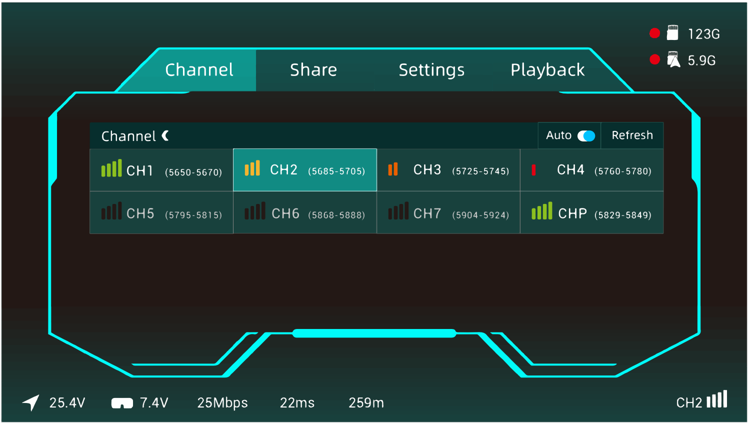
8-Goggles SD card status:

Display the status and remaining capacity of the Goggles SD card. When recording, the red circle flashes to prompt, the status of the SD card not detected is displayed as NO SD, and the status of the memory is full is displayed as –.

9-VTX storage status:

Display the status and remaining capacity of the VTX storage, When recording, the red circle flashes to prompt, the status of the storage not detected is displayed as NO SD, and the status of the memory is full is displayed as –.

Menu Channel-2

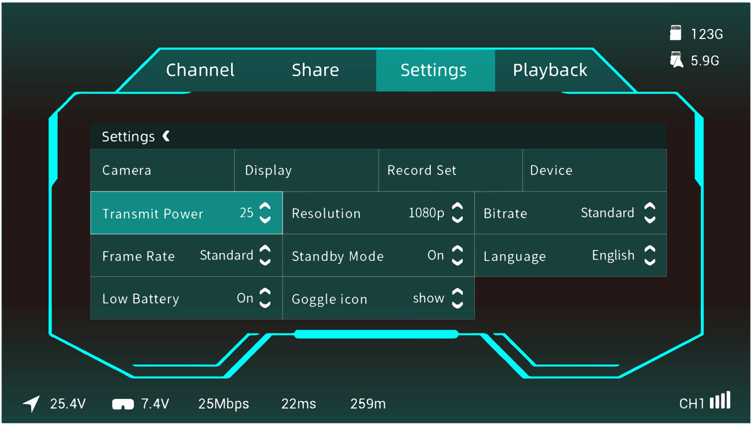


1、Display the interference situation of each channel. The signal strength is divided into 4 grids, 3 grids, 2 grids, 1 grid, and a space. The signal display space is occupied and cannot be selected. The white stroke is the selection box. Press the middle button to confirm the current channel and highlight it.

2、 Channel working logic: When switching between standard bit rate and high bit rate, the current channel will be set to CHP, and the channel needs to be reselected. CHP is a public channel, which is easy to be interfered and is not recommended for flight work; Auto is a channel that automatically refreshes the signal interference situation of all channels; Refresh is the channel of manual refresh.

3、Channel display of each country: FCC standard displays 8 channels (CH1/2/3/4/5/6/7/P), CE/SRRC standard displays 4 channels (CH1/2/3/P), MIC standard displays 3 channels (CH1/2/P). Only in FCC mode, the high bit rate mode can be turned on, and the 8 channels become 4 channels CH1, CH2, CH3, CHP.

Menu Settings-3



Transmit Power 25
Resolution 1080p
Bitrate Standard
Frame Rate Standard
Standby Mode On
Language English
Low Battery On
Goggle icon show

1-Camera:
The adjustable contents of the camera are scene preset, EV value, saturation, sharpness, white balance, rotate, and ratio settings.

2-Display:
Display adjustable content is zoom out, brightness, focalization mode, custom OSD, OSD position, font upgrade, custom font, viewfinder, viewfinder edit settings.

3-Record set:
The recording can be adjusted as VTX REC resolution, REC device, takeoff REC, REC loop, format SD card, format VTX.

4-Device:
The adjustable contents of the device are buzzer volume, ranging mode,

weak signal, reset all, device information, and instructions.

5-Transmit Power:

The default transmit power can be 25mW, 200mW, 500mW, 700mW, the maximum can be set to 1200mW when FCC is turned on, and the maximum can be set to 350mW when MIC is turned on.

6-Resolution:

The resolution can choose 720P and 1080P, when 1080P is selected, the high frame rate mode cannot be selected.

7-Bitrate:

Standard bit rate and high bit rate can be selected to obtain different image quality, and high bit rate can only be enabled in FCC mode.

8-Frame Rate:

Standard frame rate and high frame rate can be selected to obtain different time–lapse experiences, and high frame rate is only supported in 720P mode.

9-Standby Mode:

When in standby mode, the transmission power of VTX terminal and Goggles terminal is 10dbm, and the current set transmission power will be output only after exiting standby mode or turning off the standby mode switch. Turning on the standby mode requires the air unit serial port to be correctly connected to the flight controller. When the goggles receive the drone's unlock signal, it will automatically exit the standby mode. If there is no flight controller support, you can choose to turn off this function.

10-Language:

Language switching English/中文.

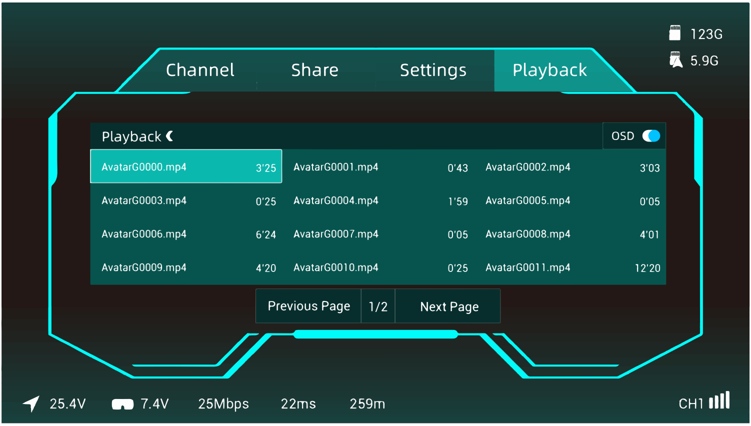
11-Low Battery:

Detect Goggles low battery alarm, intelligently identify the voltage of 2, 3, 4, 6 string LiPo batteries, alarm when a single battery is lower than 3.5V, red font and buzzer alarm when the voltage is too low.

12-Goggle icon:

You can choose to display or hide the icons on the main menu interface.

Menu Playback-4



AvatarG0000.mp4	3'25	AvatarG0001.mp4	0'43	AvatarG0002.mp4	3'03
AvatarG0003.mp4	0'25	AvatarG0004.mp4	1'59	AvatarG0005.mp4	0'05
AvatarG0006.mp4	6'24	AvatarG0007.mp4	0'05	AvatarG0008.mp4	4'01
AvatarG0009.mp4	4'20	AvatarG0010.mp4	0'25	AvatarG0011.mp4	12'20

1、The OSD switch can be turned on or off. When it is turned on, the flight control OSD information (if any) and the flight information of the main interface will be superimposed on the playing video interface. When the selection box stays in the video list, press and hold the VRX confirmation key to open the multi-selection function, and the menu box will display function settings (delete, select all) , cancel), press the return key again to exit the multi-selection mode.

2、On the playback interface, click the middle button to pause/play, and the left and right arrow keys to adjust rewind/fast forward

Precautions

1. Before powering on, please install all antennas to avoid damage to components.
2. Please make sure the monitor supports the set resolution and frame rate, otherwise it will cause abnormal display.
3. The transmit power of VTX and Goggles is only 10mW when the standby mode is on.
4. If you use it with other 5.8G devices at the same time, please choose a different channel.
5. Flying on the CHP channel is not recommended.

Specifications

Model	Avatar FPV Goggles
Communication Frequency	5.725-5.850GHz

Transmitter Power(EIRP)	FCC:<30dBm;CE:<14dBm;SRRC:<20dBm; MIC:<25dBm
I/O Interface	Type–C,micro SD card slot,DC5.5*2.1mm
HDMI Out	1080p60fps,720p100fps,720p60fps
Power Input	7–21V(2S–5S)
SD Card	Support 256G
System	Avatar HD system

Model	Red bird
Polarization	LHCP
Bandwidth	5.6GHz–6.0GHZ
Average Gain	1.9dBi
Radiation Efficiency	⩾97%
VSWR	⩽1.3
Cross–Polar Rejection	–15to–30dB
Connector	RP–SMA
Dimension	H24.8mm*R15.3mm
Weight	4.2g

Model	Directional antenna
Polarization	LHCP
Bandwidth	5640mHz–5914mHz
Average Gain	8.5dBi
HPBW	75°H plane + 75°E plane
VSWR	＜1.5
Input Impedance	50Ω
Dimension	H19mm*R40mm

CADDXFPV Support
email: support@caddxfpv.com