Walksnail Avatar HD FPV system Q&A

1. BF 4.3 osd not work

①Check the setting, wiring, and soldering first, tx and rx must crossed

It is not allowed connect vtx tx to fc rx1, vtx rx to fc tx2, this won't work

②Some FC do not have enough UART ports, such as F411

Or the uart port cannot pass telemetry, replace other uart port

③Follow the steps in the manual to enter cli

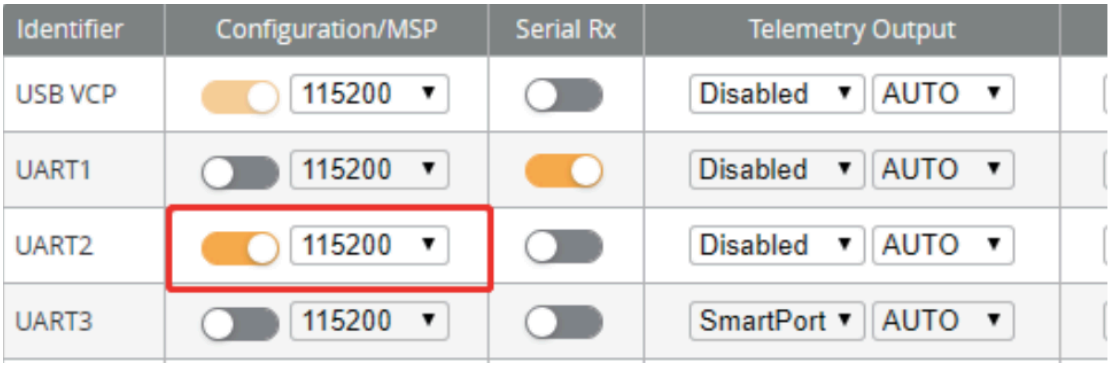
“set osd_displayport_device = MSP”

“set displayport_msp_serial = Y” (Where Y is one less than the number of the serial uart port. e.g. Y = 2 for uart 3)

“save ”

④vtx and fc need same ground, can't just connect the uart two cables to t he fc

⑤ turn on uart MSP



2. Upgrade to BF 4.4 does not display osd?

The premise of this solution is that the wiring and equipment are normal and there is no fault, and the flight control firmware is normal before the upgrade

Look at question 1 first

Since betaflight 4.4 is still beta version, a temporary solution is given here, which may be changed in the future

①Enter the cli command

"set osd_displayport_device=MSP"

"set vcd_video_system=HD"

"save"

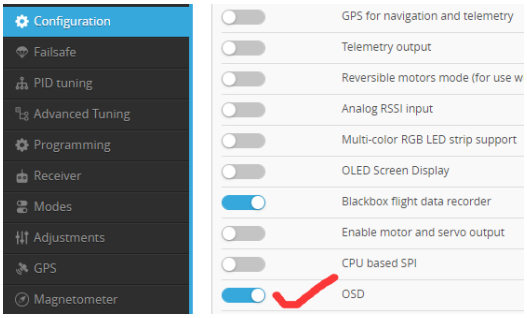
②Turn on the MSP and select peripherals as VTX-MSP at the same time

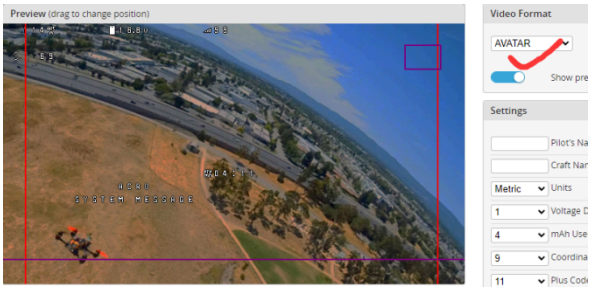
3. Inav firmware does not display osd

①Check the setting, wiring, and soldering first, tx and rx must crossed

It is not allowed connect vtx tx to fc rx1, vtx rx to fc tx2, this won't work
②Inav does not need to open the msp, nor does it need to enter the cli
Choose HDZERO VTX as the protocol
③Change the uart port, some flight control ports cannot be used
④The vtx and the flight control need to share the same ground, can't just connect the uart two cables to the flight control
⑤Replace other FC/vtx and do the exclusion test

⑥Somewhat complicated in inav 6.0
First check MSP DisplayPort on the port page
Then open the osd option in the configuration page
Finally, select the osd type as AVATAR on the osd page





4. Inav osd incomplete
Since Inav osd refreshes differently than Betaflight
Turn on the goggles first, then turn on the vtx and fc.
Or refresh the status of arm fc can also solve the problem
Inav developers are working on it
Upgrade to inav 6.0, this issue has been fixed, but must use the built-in inav osd of the system, otherwise some osds will be displayed incorrectly, and this problem will be fixed later

5. Inav osd missing some in flying

Same the previous problem, it can be solved by setting two sets of osd in the fc and switch with the remote control
Upgrade to inav 6.0, this issue has been fixed

6. Ardu firmware osd flickers/stuck

①Set a small amount of osd, turn off vtx recording, turn off the attitude line in the flight control

②Change different ports, if you are using Matek F405 flight controller, use uart3 serial port

③ Manually set ardu osd in the glasses, do not use auto osd

④ If it is a fixed-wing aircraft, if the cable between the flight controller and the vtx is too far away, it will be interfered, and the cable needs to be shielded

⑤ Manually set the baud rate to 57600

⑥ vtx and flight control need to share the same ground, you can't just connect the uart two cable to the flight control

7. Why can't upload osd fonts in Configurator?
Because this is HDvtx, the font is not stored in the flight controller

8. Can I play back flight control osd?
①Yes, the latest firmware is work, check the upper right corner of the goggles playback page
②Computer playback requires software
https://github.com/kirek007/ws-osd-py

9. OSD cannot be moved to the left side of the screen?
①First move the osd in the goggles, and then move single osd in the Configurator
②Walksnail glasses will save the osd location of different firmware
That is to say, different flight control firmware, the overall position of osd can be different

10. Cannot bind
①If the LED of the vtx module flashes green after plug in battery, and turns red after pressing the button, the VTX should good
②The firmware version of the goggles and vtx is different
Upgrade them to the latest firmware

11. What is standby mode?
Standby mode is to wait for your flight controller arm signal and stay in a low power state, the vtx will not work at full power
but it will overheat for a long time, and need use fan to cool it when it is static.

12. Low range
①no auto exit standby mode after arm fc, please refer to item 1, it is the same as the OSD problem

②The antenna is loose or damaged, replace other antennas
③channel 8 is a public channel, need switch to other channels
④If you need to fly long distance, the goggles front antenna needs to be replaced with patch antenna (LHCP)
⑤interference around
⑥osd is working normal, but arm fc cannot exit the standby mode
Change other uart ports to solve the problem

13. The vtx led does not light up after plug in battery
①In the old firmware, if the coaxial cable is loose, the vtx led will not light up
②vtx does not light up immediately when plug in the battery, it takes a few seconds for the system boot
③Take out the vtx module from the frame and connect battery voltage. If still does not work, contact support service.

14. No 8 channels and high bitrate option
Unlock FCC
The system defaults to CE certification and needs to unlock FCC
follow local laws, not all countries can use FCC
Put the two txt files into the sd card and start the glasses\VRX

15. Why only 4 channels after switching to high bitrate?
normal, because it need to use double bandwidth
Bandwidth from 20mhz to 40mhz7

16. Why still 25mbps after switching to high bitrate?
Because need to occupy double bandwidth (40mhz), switching to 50mbps may affect others!
Goggles will jump to the public channel by default, you need manually switch to the pilot channel
Ask others if they use close frequencies to yours before switching!

17. camera coaxial cable base damaged
If the pad is not damaged, it can be repaired

18. VTX antenna base damaged
If the two gnd pad is not damaged, it can be repaired

19. What antenna does the Walksnail system use?
Left-hand circularly polarized antenna\LHCP (except 1s lite vtx, vertically polarized)
Why?
Because most of the analog vtx uses right-hand rotation, in order to improve performance and reduce interference, use left-hand rotation
The left hand cannot shake with the right hand

20. Can I switch to right hand antenna?
Yes, but the entire system antenna needs to be replaced, regardless of the goggles

and vtx
The left hand cannot shake with the right hand
It is not recommended to use ipex1 to sma adapter cable, it will lose dbm
If you must use it, I recommend RG316 and other similar low-loss high-frequency cable. It doesn't matter if you don't care about the flight distance.

21. even vtx core 100℃ not shutdown
The vtx module will auto shutdown at 140℃ overheat protection
When debugging the drone, be sure to use fan to cool the vtx
Or turn off the goggles, the vtx will at low power mode

22. Firmware upgrade unsuccessful
①The file is wrong or the file name is wrong
②The goggles do not recognize the sd card, unplug sd card many times, or change to U3 64G sd card
③Long press the button until the light goes out, don't just release it after 8 seconds
④The buzzer of the goggles sounds quickly, mean that the goggles have not read the firmware file
⑤format vtx using goggles\pc
⑥goggles\vtx already have higher version firmware
⑦If the vtx led flashe green after plug in battery, and turns red after pressing the button, the vtx should good
If you are very sure that the firmware and file name are correct, but the vtx is not upgraded, change the file name to higher version, such as change 28.32.10 to 29.32.10

⑧.img is the file format, if you didn't see it originally, don't need to add it

"Avatar_Gnd_xx.xx.xx.img" is goggles firmware
"Avatar_Sky_xx.xx.xx.img" is standard\1S vtx firmware
"AvatarMini_Gnd_xx.xx.xx.img" is FatShark Recon HD firmware
"AvatarSE_Gnd_xx.xx.xx.img" is VRX firmware

If your 1s vtx upgrades the firmware from version 26-27 to 28, need to use "AvatarMini_Sky_xx.xx.xx.img"
To upgrade from 26-27 version to 29, need to chang

e the file name"Avatar_Sky_xx.xx.xx.img" to "AvatarMini_Sky_xx.xx.xx.img"

If already version 28, Mini Sky is no longer needed, just flash the Sky firmware directly
The two firmwares have been merged

23. How to downgrade firmware?
The Avatar system cannot be downgraded by default, need change file name
For example, to downgrade from version 27 to 26, rename 26.30.6 to 28.30.6
Must be higher than the current version to be recognized and refreshed

24. vtx not recognized as a disk
① vtx voltage\current is not enough, especially 1s vtx
② Change the usb port, do not use usb hub, and change different computer
③Press the button for 8 seconds to enter the upgrade firmware state, at this time the red light is always on, wait for 10 minutes, restart vtx
④Format vtx with goggle after vtx is connected to goggle
⑤The pins in the vtx usb socket are bent, use tweezers to straighten it or return it to the factory

25. Purple streaks on the screen
①The camera coaxial cable is faulty, replace it with a new one
②assembly problem, solved after isolating gnd from frame
③The inductance of the vtx is cracked and needs returned to the factory for repair

26. Black screen but fc osd normal
①The coaxial cable is loose/broken, replace it with a new one
②The camera is faulty, it can work normally after replacing other cameras, camera need returned to the factory for repair
③The screws for installing the camera are too long, which presses the camera pcb board
④vtx fails, it can work normal after replacing other vtx, the vtx need returned to the factory for repair.

27. GPS cannot find stars
①The connecting cable between the flight control and gps needs to be shielded or wrapped with aluminum foil
②gps should be as far away as possible from vtx
③The vtx case is not grounded by default, there may be interference
Grounding the case requires grinding off the coating on the case mounting holes and use a screw through the vtx

28. Goggle Hdmi output no picture
①The adapter cable is wrong, need usb3.1 typec to hdmi cable
②The screen does not support high frame rate, switch to the standard frame rate in the glasses after connecting the vtx
③Turn on the display first, connect the wires and then turn on the glasses
④Standard frame rate=60fps, high frame rate=100fps

29. VRX does not turn on, the buzzer sounds long and short

If it works normal after disconnecting the hdmi cable, it may be a problem with the screen\capture card\computer usb port

30. What should I do if VRX has set high frame rate and the screen is black?

①Long press the back button for 8 seconds to restore 720p60fps

②Standard frame rate=60fps, high frame rate=100fps

31. VRX does not display properly after connecting some goggles, but other screens are normal

①2s battery insufficient, use higher voltage

②The goggles are not switched to hdmi mode

③There may be a problem with the hdmi cable or the goggles