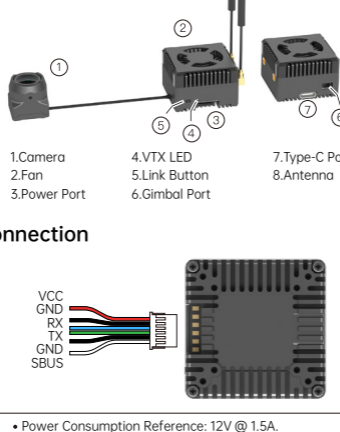


# Ascent GT PRO Z8

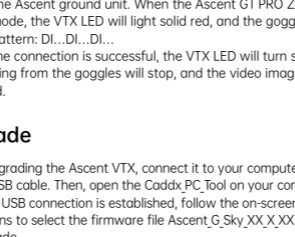
## Quick Start Guide

V1.0

### Introduction



### Connection



- Power Consumption Reference: 12V @ 1.5A. Please consider the power supply capacity when wiring.
- The product generates significant heat during operation. Ensure proper airflow for cooling.

### Linking

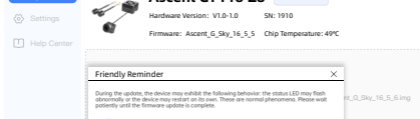
1. Connect the Ascent GT PRO Z8 and the Ascent ground unit.
2. Short-press the frequency pairing button on both the Ascent GT PRO Z8 and the Ascent ground unit. When the Ascent GT PRO Z8 enters pairing mode, the VTX LED will light solid red, and the goggles will emit a beep pattern: DI...DI...DI...
3. Once the connection is successful, the VTX LED will turn solid green, the beeping from the goggles will stop, and the video image will be displayed.

### Upgrade

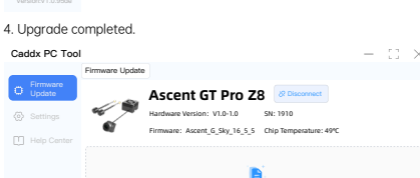
When upgrading the Ascent VTX, connect it to your computer using a Type-C USB cable. Then, open the Caddx\_PC\_Tool on your computer. Once the USB connection is established, follow the on-screen instructions to select the firmware file Ascent\_G\_Sky\_XX\_X\_XX.img for the upgrade.

- Note:
1. When the Ascent VTX is connected to the computer via Type-C, no external battery power is required — the computer's USB port will supply power to the module.
  2. Do not disconnect the USB cable during the upgrade process. Unplug the cable only after the upgrade has completed successfully.

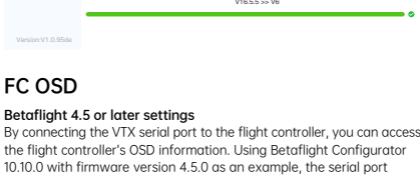
1. Click the Ascent GT Pro Z8 connection option.



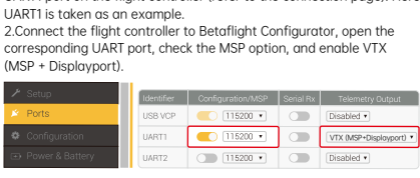
2. Click the Select button to open the pop-up window, choose the corresponding firmware version, then click Open to start the upgrade process.



3. Do not restart or power off the device during the upgrade process to avoid upgrade failure.



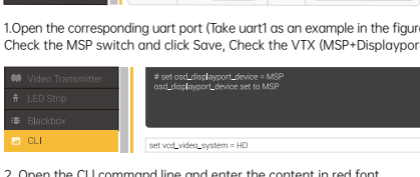
4. Upgrade completed.



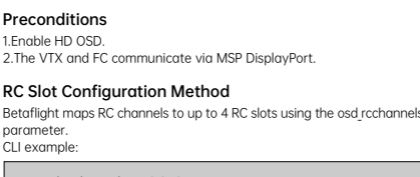
### FC OSD

**Betaflight 4.5 or later settings**  
By connecting the VTX serial port to the flight controller, you can access the flight controller's OSD information. Using Betaflight Configurator 10.10.0 with firmware version 4.5.0 as an example, the serial port configuration method is described below.

1. Solder the blue and green wires from the 6-pin power cable to the UART1 port on the flight controller (refer to the connection page). Here, UART1 is taken as an example.
2. Connect the flight controller to Betaflight Configurator, open the corresponding UART port, check the MSP option, and enable VTX (MSP + Displayport).

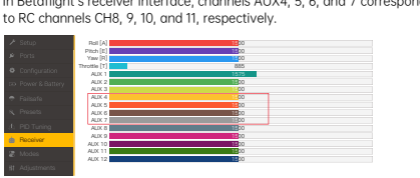


3. On the Presets page, search for Avator OSD or HD OSD and click to select it.

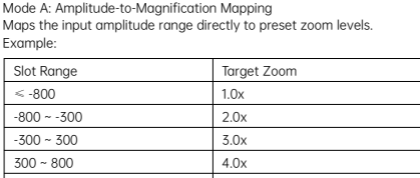


4. On the OSD page, configure the information you want to display.

### Betaflight 4.4 version settings:



1. Open the corresponding uart port (Take uart1 as an example in the figure). Check the MSP switch and click Save. Check the VTX (MSP+Displayport).



2. Open the CLI command line and enter the content in red font, "set osd\_displayport\_device = MSP", "set vcd\_video\_system = HD", "save"

### Zoom Configuration Method

#### Preconditions

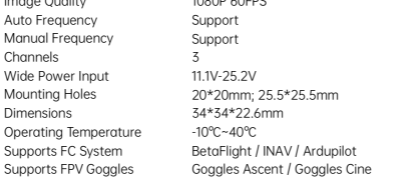
1. Enable HD OSD.
2. The VTX and FC communicate via MSP DisplayPort.

#### RC Slot Configuration Method

Betaflight maps RC channels to up to 4 RC slots using the `osd_rcchannels` parameter.  
CLI example:

```
set osd_rcchannels =7,8,9,10
save
```

The actual output channel value equals the set value plus 1. For example, if channel 7 is set, the actual output corresponds to channel 8. The default output range of Betaflight HDOSD is -1000 to 1000, with 0 as the midpoint. In Betaflight's receiver interface, channels AUX4, 5, 6, and 7 correspond to RC channels CH8, 9, 10, and 11, respectively.



#### RC Slot to Zoom Function Mapping (Function Definition)

RC Slot	Function Role	Description
Slot0	Zoom Master Control	Continuous / Step Zoom Control
Slot1	Center Return Trigger	High Position Trigger Returns Camera to Initial Focal Length

Zoom Control Mode (Slot 0)  
Mode A: Amplitude-to-Magnification Mapping  
Maps the input amplitude range directly to preset zoom levels.  
Example:

Slot Range	Target Zoom
≤ -800	1.0x
-800 ~ -300	2.0x
-300 ~ 300	3.0x
300 ~ 800	4.0x
≥ 800	8.0x

### Status indication

Goggles Buzzer Status	
Link state	DI.....DI...DI...
upgrade firmware	DI.....DI..... DI—
Upgrade failed	DI..DI..DI..

VTX Indicator Status	
Link state	Steady red light
upgrade frmware	Red light rapidly flashes
Wireless connection, image output is normal	Steady green light
Wireless not connected	green light rapidly flashes
Wireless connection is normal, image is abnormal	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 10mW. Before taking off, you need to unlock the flight control or turn off the standby mode.
3. If you use it with other 5.8GHz devices at the same time, please choose a different channel.
4. If you use the Gyroflow function of the camera, please provide shock absorption for the fixed deck of the camera to avoid the failure of the anti-shake.

### Specification

Name	Ascent GT PRO Z8 VTX
Model	WN12-5014G
Communication Frequency	5.650-5.924 GHz
Communication Bandwidth	10~20 MHz
Transmitter Power (EIRP)	5.8 GHz: FCC<30dBm; CE<14dBm; SRRC<20dBm; Mic<25dBm
I/O Interface	SH1.0-6P,TYPE-C, Gimbal Port SH1.0-2P
Image Quality	1080P 60FPS
Auto Frequency	Support
Manual Frequency	Support
Channels	3
Wide Power Input	11.1V-25.2V
Mounting Holes	20*20mm; 25.5*25.5mm
Dimensions	34*34*22.6mm
Operating Temperature	-10°C~40°C
Supports FC System	BetaFlight / INAV / Ardupilot
Supports FPV Goggles and Remote Controller	Goggles Ascent / Goggles Cine

OSD	Canvas mode
Latency	Average delay 35ms
Antenna	2 (MMCX)
Camera	AVATAR Pro V2 Camera
Image Sensor	1/1.2 Inch
Sensor Resolution	8000*6000
VTX Resolution	50fps
Ratio	16/9
Lens	2.6mm
FOV	122.5° (H) *92.2° (V)
Zoom Ratio	1-8x
Zoom Method	FC MSP Control
Camera Dimensions	19*19*19.5mm
Coaxial Cable	140mm

CADDXFPV Support  
email: support@caddxfpv.com  
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