

## HGLRC TITAN PLUS F460&GTX585 STACK Manual





## **Specifications**

- AIRBUS F4OSD Flight Control Board (D-Shot Version)
- MPU: MPU6000-SPI
- CPU: STM32F405RGT6, dual 8K.
- Black Box: Flash 16M
- Input Voltage: 2-6S Lipo
- Built-in Betaflight OSD to adjust PID
- ➢ BEC Output: 5V@3A
- Size: 36x36mm board, 30.5mm mounting holes (M3)
- ➢ Weight:8.3g
- Support SBUS/PPM/DSMX receiver

## • DinoShot 60A BL32 3-6S ESC BLHeli\_32

- Input Voltage: 3-6S Lipo battery
- Constant Current: 60A-4S/50A-5S/40A-6S
- Peak Current: 70A
- ➢ BEC Ouput: NO
- Firmware:32bit ESC with BLHELI\_32 firmware
- Size: 36x36mm (main board)/40x48mm (including pad)
- ▶ Installing Hole: 30.5x30.5mm,M3
- ➢ Weight: 12.9g



- ➢ CPU:STM32F051
- > MOS Tube: TOP QUALITY MOSFET
- Protocol:DSHOT1200/600/300/150/Oneshot125/42,MultiShotDamped

• HGLRC GTX585 VTX FPV Transmitter

- Output power: PIT/25mW/100mW/200mW/350mW switchable
- Control mode:BFOSD control(RX)/button
- ➢ BAT: 7-26V,BEC 5V-1A
- ➢ 240mA----400mW
- Video system: NTSC/PAL
- Antenna: MMCX
- ▶ Frequency: 5.8GHz 6 bands 48 channels, with Raceband: 5362-5945 MHZ
- Size: 20\*38mm(L\*W),Hole:30.5\*30.5mm
- ➢ Weight: 6.8g

## Warning:

Please read the cautions as follows, otherwise stability of your flight controller cannot be ensured, your flight controller will even get damaged.

- Keep focus on the polarity. Check carefully before power supply.
- Cut off the power when you connect, plug and pull anything.
- Don't connect 5V or electrical power interfaces, otherwise your flight

controller will catch fire.

• The refresh rate of PID and Gyroscope is up to 8K.

# Flight control characteristics



## 23MM

## **Technical Parameters:**

Size: L\*W\*H=48\*40\*23MM

Master: STM32F405 GRT6

Voltage: 3-6S Lipo support

MAX Current: 280A

5v bec: 3A

Net weight: 28 g (exclude wire)

## Miring Diagram



HGLRC TITAN PLUS F460-GTX585(F4 FC & BLHELI\_32 4IN1 60A & GTX585)





#### HGLRC GTX585

#### GTX585 VTX Summary

GTX585 VTX is simulated 5.8G ISM band transmission with stable output power, long transmission distance and strong power filter. It can ensure that the image has no snowflake, no stripes under the maximum throttle situation. Meanwhile, GTX585 VTX has remote frequency point control of remote control OSD interface, does not interfere with fellows when powered on, and support 8 peoples above flying at the same time super function.

#### **GTX585 Product Description**

#### Features:

- Stable output power,long-distance transmission: ≥0.5km-25mW, ≥0.8km-100mW, ≥1km-200mW,
- 1.5km-400mW, 2km-600mW(with original antenna);
   6 gears transmit power: PIT Mode/25mW/100mW/200mW/400mW/600mW;
- PIT Mode/25mW/100mW/200mW/400mW/600mW; 48 frequency points output,and has R group, L group, 8 competition frequency using at the same time without interference;
- Fast frequency lock, does not interfere with fellows when powered on;
- With self-test output power function;
   Full format video format:NTSC /PAL
- Full format video format. NTSC /FAL,
   Wide input voltage range, low power consumption: 7V~26V,+12V/240mA@400mW;
- Small size: 20mm×38mm×8.5mm; Mounting hole size 30.5mm×30.5mm;
- Light weight: ≤10g (antennas not included);

RX/Video Gnd/gnd 7-26V/5v

#### **Functional Schematic**

Frequency and power control method:

- Betaflight firmware;
- Button frequency control: Short press once to change channel number CH (CH1-CH8), long press for 2 seconds and then short press to change frequency group FR (A-L);
- Button power control: Long press button for 6 seconds and then short press button to change power level 25mW / 100mW / 200mW / 400mW/600mW; (please see details as the picture shown on the right: Power switching instruction)
- Power instructions: (check details below)

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5771

5790

**CH3** 5825

CH4 5805

/ table CH5 5785

5745

5725

Ch7

Ch8

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CH1 5865 5733 5705 5740

CH2 5845 5752 5685 5760

5665 5780

5645 5800

58809 5885 5820

**CH6** 5765 5828 5905 5840

5860

5866 5945 5880

5847 5925



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HALT	e ec					iLRC X585		-
					01			5362
		Pow	ver schemati	c	2			
E.	25mw	100mw	200mw	400mw	600mw	0mw/Fault		5399
Power indicator light	1 flash, 3-secs stop	2 flash, 3-secs stop	3 flash, 3-secs stop	4 flash, 3-secs stop	5 flash, 3-secs stop	light always on		5436
		<b>IS for u</b> utput term		stalled ar	ntenna			5473
befor <ul> <li>Input</li> </ul>	e it is po voltage		within the	e specifie				5510
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table:

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## FC firmware FLASH and Settings

## **FC firmware FLASH**

1.Long Press BOOT buttons, connect USB, The system automatically install the driver



2.open betaflight configurator, enter DFU mode



Zadig software downloaded to a computer, it is a run file



### 3.Double-click on the run





### 4. Click the Options, select List All Devices after the diagram below

Zadig	- 🗆 X
Device Options Help	
STM32 BOOTLOADER	∽ □ Edit
Driver         STTub30 (v3.0.4.0)         Image: WinUSB (v6.1.7600.16385)         Im	More Information <u>WinUSB (libusb)</u> <u>libusb-win32</u> <u>libusbK</u> <u>WinUSB (Microsoft)</u>
1 device found.	JERE JERE SURV. CON 89
5.Click Replace Driver	
🔁 Zadig	- 🗆 X
Device Options Help	
STM32 BOOTLOADER Installing Driver	✓ ☐ Edit
Driver STTub30 (v3.0.4.0	More Information WinUSB (libusb)
USB ID 0483 DF11 WCID ? X	libusb-win32 libusbK WinUSB (Microsoft)
Installing driver. Please wait	報調提型 玩家的法 Zad SURK.com 9

At this point automatically to computer load driver.Now open betaflight tuning software, automatic loading good drive, betaflight software will display in the joint the diagram below:



6.betaflight configurator, select "Firmware Flasher",



#### 7.Don't open the Settings

No reboot sequence					
Full chip erase					
Manual baud rate	256000	¥			
Show unstable releas					

8.click "Load Firmware[Local]" Select the firmware "betaflight\_3.1.\*-3.2-\*\_OMNIBUSF4.hex" (The firmware version according to the actual situation)

		Load Firmware [Online]	Load Firmware [Local]
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9.click "Flash Firmware", progress bar "Programming:SUCCESSFUL" Finish!

Flash Firmware

10. Betaflight Automatically assigned port, click "Connect" Enter setup interface (Different computer COM)





## F4 Flight control parameter Settings

## $1\ensuremath{\,{\ensuremath{\scriptstyle n}}}\xspace$ horizontal , The acceleration of calibration

Secup	Setup											
	Jetup											
Configuration	Calibrate Acc	celerometer	Place board or frame on leveled surface, proceed with calibration, ensure platform is not moving duri									
ക് PID Tuning	Calibrate Ma	gnetometer	Move multirotor at least 360 degrees on all axis of rotation, you have 30 seconds to perform this task									
👍 Receiver	Reset S	ettings	Restore settings to <b>default</b>									
🎖 Modes	Backup	Restore	Backup your configuration in case of an accident, CLI settings are not included - See 'dump' cli comma									
🛓 Motors												
SD OSD	Heading: 356 deg Pitch: -0.6 deg											
	Roll: -2.4 deg											
🛿 Blackbox												

2、2.4G sbus receiver:open UART1 RX, IRC TRAMP is UART3 TX, ESC telemetry is UART6 RX, then click "save and reboot" (Each set needs to be saved)

Peripherals	Sensor Input	Telemetry Output	Senai Rx	Configuration/MSP	Identifier
Disabled • AUTO •	Disabled V AUTO V	Disabled • AUTO •		115200 🔻	USB VCP
Disabled • AUTO •	Disabled • AUTO •	Disabled • AUTO •	-	115200 •	UARTI
IRC Tramp + AUTO +	Disabled • AUTO •	Disabled • AUTO •		115200 •	UART3
Disabled + AUTO +	ESC · AUTO ·	Disabled • AUTO •		115200 •	UART6

Note: click save after will jump to the startup screen, reconnect!

#### 3.choice of receiver SBUS mode

🖋 Setup	Receiver
🖌 Ports	Serial-based receiver (SPEKSAT, S T
Configuration	Note: Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX_SERIAL feature.
ஃ PID Tuning	SBUS Serial Receiver Provider
📩 Receiver	

## 4.0pen the voltage current detection

#### Power & Battery

Battery		
ESC Sensor	Voltage Meter Source	
None	Current Meter Source	
3.3 🜲 Minimum Cell	Voltage	
4.3 🗘 Maximum Cel	l Voltage	
3.5 🗘 Warning Cell V	/oltage	
0 🔶 Capacity (mAł	1)	
Voltage Meter		
ESC Combined	0 V	
ESC Motor 1	0 V	
ESC Motor 2	0 V	
ESC Motor 3	0 V	
ESC Motor 4	0 V	

## 5.0pen the ESC\_SENSOR, osd, article LED lights set (choose) as required

Note: S configui		not shown in this list any more, because they have been moved to oth	er places in the
	INFLIGHT_ACC_CAL	In-flight level calibration	
	SERVO_TILT	Servo gimbal	
	SOFTSERIAL	Enable CPU based serial ports	0
	SONAR	Sonar	
	TELEMETRY	Telemetry output	
	LED_STRIP	Multi-color RGB LED strip support	
	DISPLAY	OLED Screen Display	0
-0	BLACKBOX	Blackbox flight data recorder	0
	CHANNEL_FORWARDING	Forward aux channels to servo outputs	
	TRANSPONDER	Race Transponder	0
	AIRMODE	Permanently enable Airmode	
	SDCARD	SDCard support (for logging)	
	OSD	On Screen Display	
	ESC_SENSOR	Use KISS ESC 24A telemetry as sensor	

After set up parameters on this page, save the Settings.

6.set up the function of remote control switch across the channel (below are for reference only)

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  |   | 1   |  |  |
|                       | t MODE    | R MODE         AUX 2 •           Min: 1673         Min: 2100           NNGLE         AUX 2 •           Min: 990         Min: 990 | d Range         Max: 2100         500           R MODE         AUX 2            Min: 1675         I         Min: 1675           Max: 2100         900            NGLE         AUX 2            Min: 1075         I | d Range         Mac 2100         900           x MODE         AUX 2            d Range         Min: 1875         1           Mac 2100         900         900           NVOLE         AUX 2 | # Renge         Max: 21:00         900         1000           RMODE         AUX 2         -         -           # Renge         Max: 21:00         900         1000           Mon: 1675         1         -         -           Max: 21:00         900         1000         1000 | # Renge         Mar. 2100         900         1000           RMODE         AUX.2         •         •           # Renge         Mar. 1075         •         •           # Mole. 2000         900         1000         •           Mole. 2000         900         1000         •           Mole. 2000         900         •         • | Rangel         Mar. 2100         600         1000           KANDEL         AUX 2         -         -           Stangel         Mar. 1073         1         1           Mar. 2100         600         1000         -           NALE         Mar. 2100         1000         - | 8 Rengel         Mar. 2100         600         1000           KANDEL         AUX 2         -         -           8 Rengel         Mar. 1073         1         1           Mar. 2100         600         1000         -           NALE         Mar. 2100         1000         - | B Range         Mar. 2100         000         1000         1000           ALXX 2         - <th -<="" td=""><td>A Auge         MAR 2100         000         1000         1000           ALMOR         ALMA 2 = 0         0         1         <th1< th="">         1         1</th1<></td><td>Alter 1508         Dot         1000         1000           KMOPE         ALXX.2        </td><td>A Auge         Max.2100         Sign         Tools         Tools           ALMACE         ALMACE         I         I         I           Stange         Max.2100         Sign         Tools         Tools           MAXE         I         I         I         I           Max.2100         Sign         Tools         Tools         Tools           MAXE         I         I         I         I         I           Max.2100         Sign         Tools         Tools         Tools</td><td>Min. 1508         June 1508         <thjune 1508<="" th=""> <thjune 1508<="" th=""> <thj< td=""><td>Min. 1508         Min. 1508         100         1000         1000           KMORE         AUX.2         Image         <th< td=""><td>Stange         Mar. 1000         1</td><td>BR.mgg         Min: 1620         1000</td><td>Min. 1500         Min. 1500         1000         1000         1000         1000         1000           KMOPE         ALXX 2         C         Image         Min. 1573         Image         M</td><td>Min: 1000         Min: 1000         1000         1000         1000         1000           KMORE         AUX 2 •        </td><td>Min: 1000<br/>BR.mgg         Min: 1000<br/>Max: 200         0         1000         1200         1600         1600           KMORE<br/>Marc: 200         AUX 2 *         -&lt;</td><td>Starger         Min: 1000         1000</td><td>Min: 500         Min: 500         1000         1100         1000         1000         1000           MADE         AUX 2         Image: 100         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000        
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7.the OSD Settings, according to the need to choose, drag the OSD schematic diagram of the parameters can be adjusted.

✤ Setup ₩ Ports	OSD			WIKI
Configuration	Elements	Preview (drag to change position) Logo	Video Format	
	UR Rss Value	n.0.0.0	AUTO □ PAL □ NTSC	
de Receiver	C. Main Batt Voltage			
	Crosshairs	S BETAFLI HT	Units	
	Artificial Horizon		IMPERIAL <sup>©</sup> METRIC	
A Motors	🔍 Horizon Sidebars	and the second sec		
OSD	C Ontime	CONTRACTOR OF THE OWNER OF	Alarms	
	🔍 Flytime	dr. Louis and	20 \$ Rist	
	C Rymode		2200 Capacity	
: Blackbox	30 Craft Name	617430		
	In Throttle Position		10 C Minutes	
	30 Vbx Channel		100 2 Altitude	
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	Die Pid Pitch			
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	OID Power			

8.LED Strip configuration, set according to need



So far, flight control basic setup to finish.



## **Using The OSD**

The XJB Micro F4 includes Betaflight OSD, which displays information like battery voltage and mAh consumed while you fly. In addition, the Betaflight OSD can be used to configure the quadcopter, making in-field adjustments and tuning more convenient.



The graphics above show the stick command to bring up the OSD menu. The stick command is: throttle centered, yaw left, pitch forward. The exact stick command therefore depends on which mode your transmitter sticks are in.

In the OSD menu, use pitch up/down to move the cursor between menu items. When a menu option has a > symbol to the right of it, this indicates that it contains a sub-menu. Roll-right will enter the sub-menu. For example, in the screen to the right, moving the cursor to "Features" and then moving the roll stick to the right will enter the "Features" sub-menu.

If you are using a video transmitter that supports remote configuration, enter the "Features" menu to configure the vTX. From there, enter either "VTX SA" if you are using SmartAudio (TBS Unify) or "VTX TR" if you are using IRC Tramp Telemetry.

To adjust PIDs, rates, and other tuning-related parameters, enter the "Profile" sub-menu.

In the "Scr Layout" sub-menu, you can move the OSD elements (like battery voltage, mAh, and so forth) around or the screen.

The "Alarms" sub-menu lets you control when the OSD will try to alert you that battery voltage is too low or mAh consumed is too high.

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When a parameter can be modified, the parameter's current value will be shown on the right-hand side of the screen. In this case, roll left/right will adjust the parameter up and down.

The screen to the right shows the current vTX settings. From here, you can change the frequency band, channel, and power level of the video transmitter. After making the changes, move the cursor to "Set" and press roll-right to confirm the settings.

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## F4 FC test

- can connect the computer to download firmware & adjustable parameters
- good connection test, after testing all functions
- buzzer sound
- > OSD display is normal
- Have a camera
- > The remote control can be unlocked
- if motor rotation
- ➢ LED light