
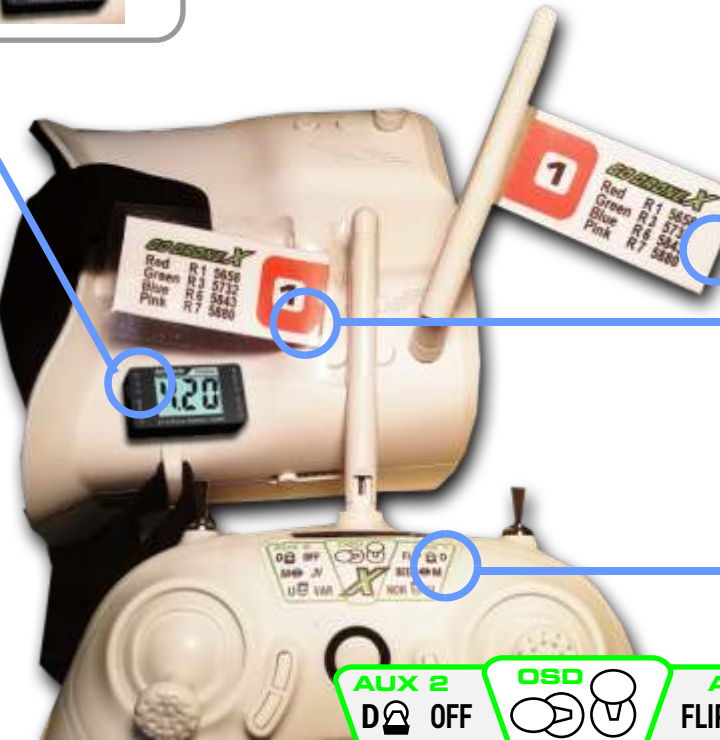


STEP 1

LABELS



1 stick velcro on goggles for battery checker

1

GO DRONE X

Red	R 1	5658
Green	R 3	5732
Blue	R 6	5843
Pink	R 7	5880

2 tape Frequency Quick Reference to goggle antennas and transmitter antennas

3 tape Switch Quick Reference to transmitter

AUX 2	OSD	AUX 1
D OFF		FLIP D
M JV		BEEP M
U VAR		NOR U

4 dap hot glue around camera lens

5 hot glue frequency ID to canopy



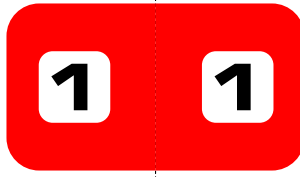
STEP 1

LABELS



GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880

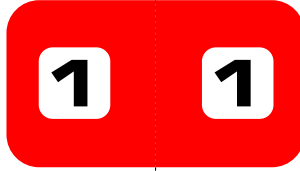


GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880

GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880



GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880

GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880



GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880

GO DRONE X

Red R1 5658
Green R3 5732
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GO DRONE X

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GO DRONE X

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GO DRONE X

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Green R3 5732
Blue R6 5843
Pink R7 5880

GO DRONE X

Red R1 5658
Green R3 5732
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Pink R7 5880

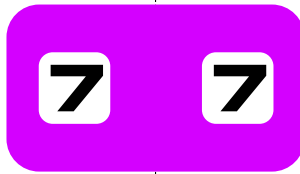


GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880

GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880

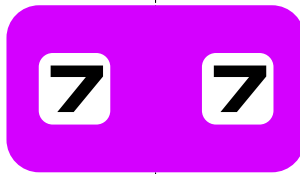


GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880

GO DRONE X

Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880



GO DRONE X

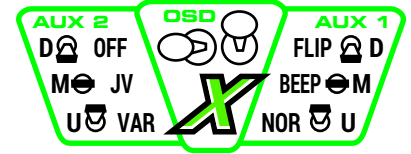
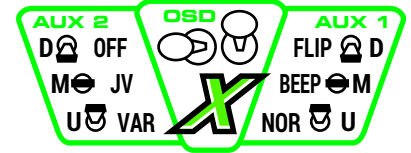
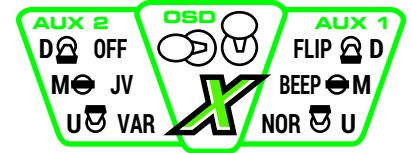
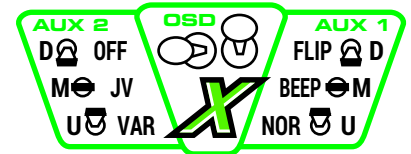
Red R1 5658
Green R3 5732
Blue R6 5843
Pink R7 5880

2

tape
Frequency Quick Reference
to
goggle antennas
and
transmitter antennas

3

tape
Switch Quick Reference
to
transmitter



5

hot glue
frequency ID
to
canopy



STEP 2 LABELS



1 stick velcro on monitor for battery checker



3 tape Frequency Quick Reference to antenna

5 build up a hot glue ridge around the frequency button

2 hot glue frequency ID to transmitter

4 hot glue frequency ID to canopy



2 hot glue frequency ID to transmitter

1	3
6	7

3 tape Frequency Quick Reference to antenna

GO DRONE X	BIND	gr ch click
	1 Power Drone	Red R 1 8c 5658
	2 Push Left Stick In	Green R 3 10c 5732
	3 Power Controller	Blue R 6 13c 5843
4 Release Left Stick	Pink R 7 14c 5880	
POWER ORDER	MODES	
1 Controller	Push Right Stick In	
2 Drone	blink easy solid normal	

GO DRONE X	BIND	gr ch click
	1 Power Drone	Red R 1 8c 5658
	2 Push Left Stick In	Green R 3 10c 5732
	3 Power Controller	Blue R 6 13c 5843
4 Release Left Stick	Pink R 7 14c 5880	
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	3 Power Controller	Blue R 6 13c 5843
4 Release Left Stick	Pink R 7 14c 5880	
POWER ORDER	MODES	
1 Controller	Push Right Stick In	
2 Drone	blink easy solid normal	

4 hot glue frequency ID to canopy

1	1
3	3
6	6
7	7

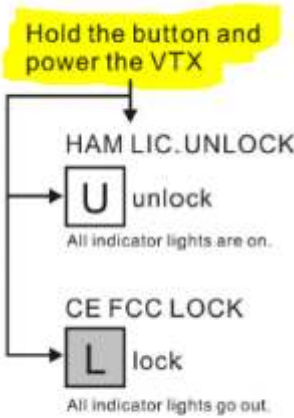
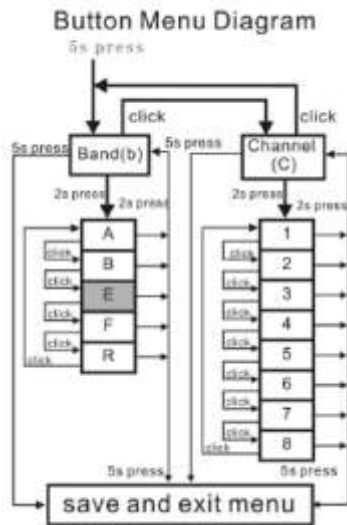
STEP 2 UNLOCK VIDEO TRANSMITTER

EMAX : TINYHAWK



from page 5 of the manual

Button Menu Diagram



!! VERY IMPORTANT !!

unless you unlock the Vtx you can only get R6!!

You must unlock the VTX before attending competition or expect to miss the first round.

CE and FCC unlicensed user chart

FR	CH	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	
A		5865	5845	5825	5805	5785	5765	5745	---	W12
B		5733	5752	5771	5790	5809	5828	5847	5866	W12
E		---	---	---	---	---	---	---	---	W12
F		5740	5760	5780	5800	5820	5840	5860	---	W12
R		---	---	---	5769	5806	5843	---	---	W12

Unlocked FCC HAM licensed user chart

FR	CH	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	
A		5865	5845	5825	5805	5785	5765	5745	5725	W12
B		5733	5752	5771	5790	5809	5828	5847	5866	W12
E		5705	5685	5665	---	5885	5905	---	---	W12
F		5740	5760	5780	5800	5820	5840	5860	5880	W12
R		5832	5850	5792	5769	5806	5843	5880	5917	W12

INDUCTRIX (yellow canopy) discontinued



- 1) Hold down channel button
- 2) while still holding down button, plug in battery
- 3) Hold for 5 more seconds
- 4) Unplug battery, replug. You should have all channels



always refer to manual

INDUCTRIX BLH9600 (red canopy)



from the manual

Accessing Band E

If local laws allow their use, the following frequencies in Band E are available:

Band E	5705	5685	5665	5665	5885	5905	5905	5905
--------	------	------	------	------	------	------	------	------

To access Band E press and hold the camera button for at least 8 seconds. The blue band LED will glow solid. All 5 bands are now available. Scroll through the bands normally, as described in step 3 above.

INDUCTRIX FPV BL BLH8850 (blue canopy) brushless

this unit does NOT appear to need any VTX unlocking

from the manual . . .



Available Frequencies, North America (mHz)

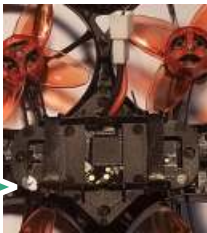
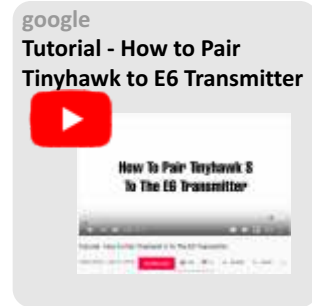
Band	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8
Band A	5865	5845	5825	5805	5785	5765	5745	5745
Band B	5733	5752	5771	5790	5809	5828	5847	5866
Band E	5705	5685	5665	5665	5885	5905	5905	5905
FS/IRC	5740	5760	5780	5800	5820	5840	5860	5860
RaceBand	5732	5732	5732	5769	5806	5843	5843	5843

STEP 3 BINDING

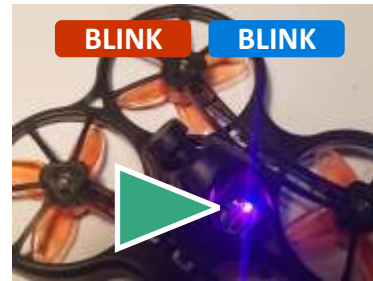


1 Binding / Pairing Tinyhawk to E6 Transmitter

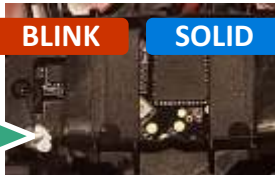
a) Watch tutorial from emax.
 If you have the black Tinyhawk S then you need to download a special firmware found in the description of the video.
 If you have the regular white Tinyhawk (1s) the firmware that came with the unit is fine and no need to download new firmware.



b) Locate bind button on bottom.
 It will be covered, but you will feel the button press.



c) Turn transmitter off
 d) Plug battery into Tinyhawk
 Both blue and red leds will blink.
 Solid Blue means there is a valid transmitter connection.



e) Press Bind Button for 2 seconds.
 Blue led will turn solid which means it is waiting to be paired.

f) Move both switches to the UP position.
 Turn transmitter on.



g) Hold trim buttons down for 5 seconds.



h) After releasing trim buttons both leds will blink again meaning the flight controller and radio is paired.

5 seconds to bind

i) Power off both transmitter and drone,
 Plug battery into drone.
 Power on transmitter. Test Arming.



l) You can plug usb and connect to Betaflight to test receiver functions.



STEP 4

SOFTWARE



1

Download software

- a) download the betafight configurator software and install on PC from the emax manual page 11

Adjusting Software Settings (Betaflight Configurator)
Betaflight Configurator can be used to changed programmed settings on Tinyhawk S and to flash new firmware if desired. Betaflight Configurator and flight controller firmware can be downloaded at [https://github.com/betaflight](https://github.com/betaflight/betaflight). The hardware target for Tinyhawk S Flight Controller is MatekF411RX.



Latest CP210x Drivers can be downloaded from [here](#)
Latest STM USB VCP Drivers can be downloaded from [here](#)
Latest Zadig for Windows USB driver installation can be downloaded from [here](#)

- b) download drivers CO219X. If there are connection issues download Zadiq. If you still have issues google "betaflight drivers video"

- c) plug in micro usb and press connect.



2

Configuration

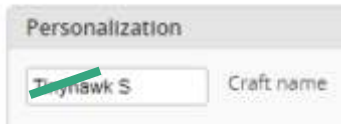
Configure software to match the GoDroneX labeling

- a) Click **Gear Icon** for Configuration

- b) change **Arming** from 50 to 180 degrees. This will allow the pilot to automatically flip the quad over by reversing the prop direction. We have to be able to ARM when upside down to auto flip over after a crash.



Alcot Red
Alcot Green
Alcot Blue
Alcot Pink



- c) **Personalize the Craft Name** of each of your Tinyhawks with abbreviated school name and color. Keep it short ~ 10 characters.



- d) Save and Reboot in the lower right.

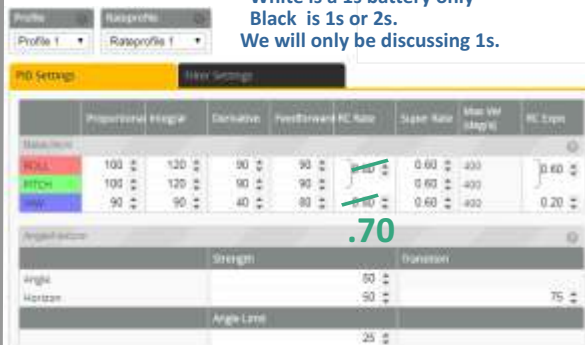
3

PID Tuning

JV and Varsity Settings

There are two versions of the Tinyhawk. White is a 1s battery only Black is 1s or 2s. We will only be discussing 1s.

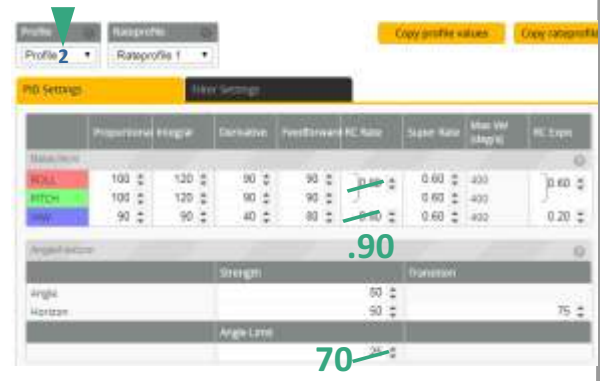
GoDroneX configurations will use **Profile 1** for JV and **Profile 2** for Varsity.



RC rate affects how fast the drone will rotate.

- a) Select **PID Tuning**
- b) Modify Profile 1 to match left
- c) Modify Profile 2 match right

- d) Save



Angle Limit is the max angle we can tilt the quad. For Varsity we want aggressive tilting.

STEP 4 SOFTWARE

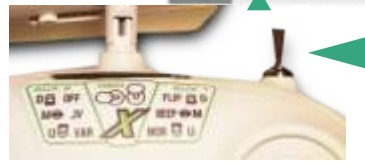


4 Modes

Assign modes / functions to transmitter switches.



- a) click **Modes** from the left navigation
- b) set **ARM** to Aux 2 and range of 1300 - 2100
- c) set **ANGLE** to Aux 2 and range of 1300 - 2100
- d) delete **HORIZON** setting
- e) set **BEEPER** to Aux 1 and range of 1300 - 1700
- f) set **FLIP OVER** to Aux 1 and range of 1700 - 2100
- g) Save



h) Turn on transmitter, plug a battery in, stay connected and test all switches

5 Adjustments

Assign JV and Varsity rates to the left switch.

- a) click **ENABLE EXPERT MODE** on top of screen
- b) a new **ADJUSTMENTS** option will appear. Click it.



- c) enable the first two options to match settings below.
AUX 2 can now be used for JV and Varsity rate settings. Slot 1 = Rate Profile 1, Slot 2 = Rate Profile 2

e) Save

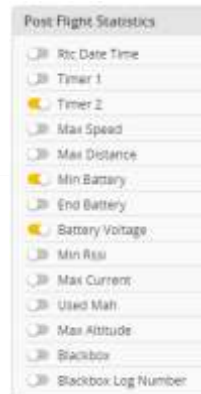


h) Go back to PID Tuning screen and toggle AUX 2 to JV and Varsity and make sure the rate profile turns.

6 OSD

Configure On Screen Display.

- a) click **OSD** option on the left.
- b) **Video Format** = NTSC. Note this will cut off a little of the lower screen. Turn off Logo.
- c) Turn off **ALL Elements** except for **Craft Name**, **Warnings**, **Avg Cell Voltage**



- d) Drag fields to bottom
- e) Set **Post Flight Statistics**. Timer2 Min Battery Battery Voltage
- e) Save