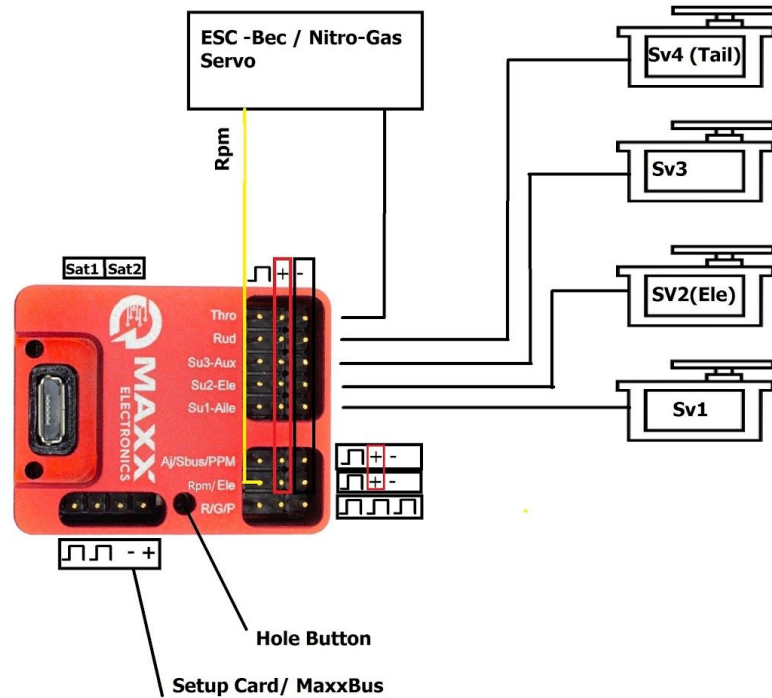


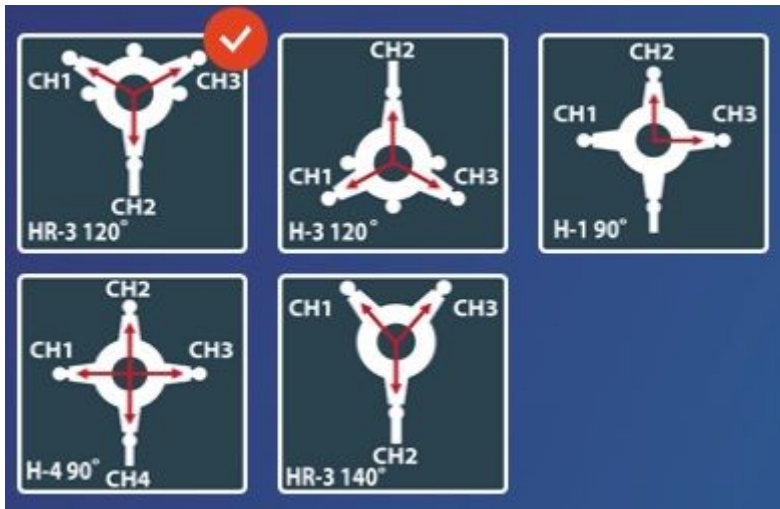
I. Connection Diagram

Maxx Pro



□ : BEC

For position of swashplate servo, please refer the software (swash table)



(CH1,CH2,CH3 position, seen from behind of the heli)

Note: Do not connect the servo tail until you select the type (1520us/760us) in the next following step. Choosing the wrong type can damage the tail servo.

## II. Software and setup

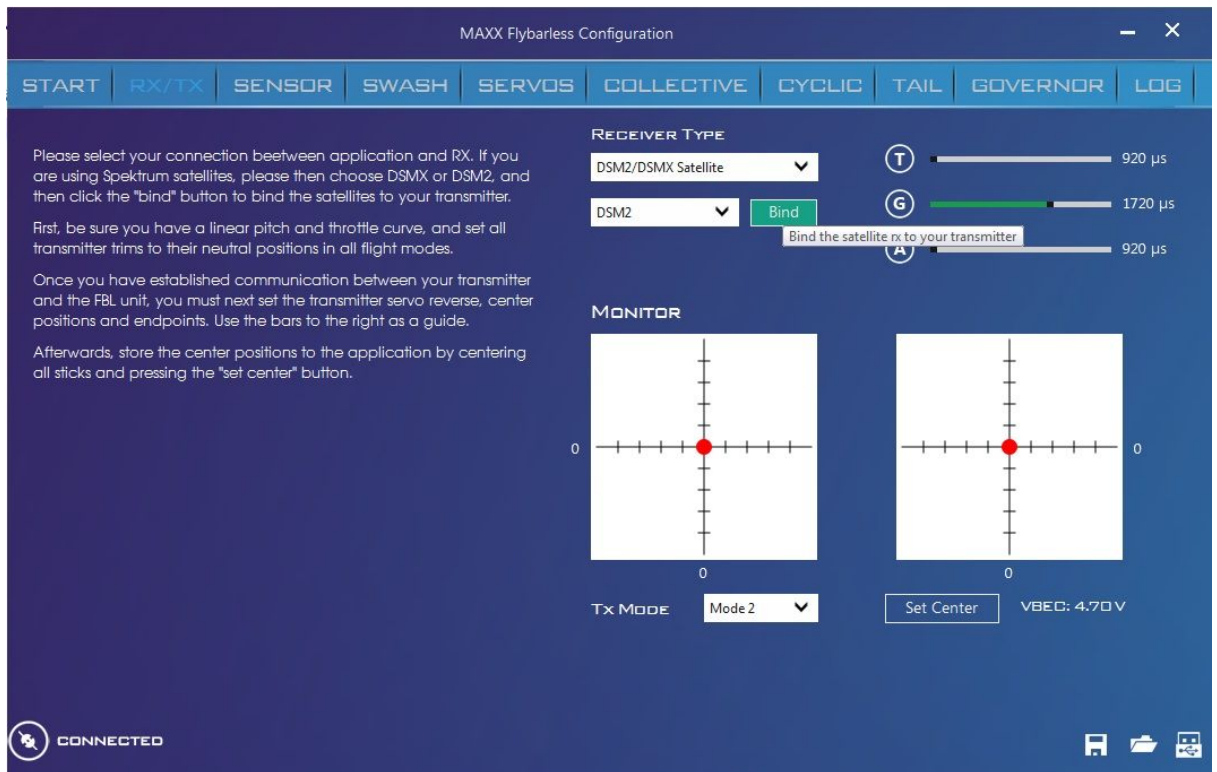
### a. Installation software.

Download link then install .exe file:

[https://www.dropbox.com/s/2t1kllw1gh17cnk/MAXX%20Flybarless\\_v1.05.exe?dl=0](https://www.dropbox.com/s/2t1kllw1gh17cnk/MAXX%20Flybarless_v1.05.exe?dl=0)

### b. Setting Maxx unit:

- Power on your helicopter and your transmitter -->Red led on unit flashing indicates the unit is waiting for receiver signal. The unit will control all servos to center position (1520us).
  - Connect Maxx unit to computer by microUSB cable.
  - Run Maxxx software, Complete step by step from left to right table on interface.
1. **START table:** Choose your flight type and your helicopter size.
  2. **RX/TX table:**
    - Set DR, Limit, Endpoint all channels on your Transmitter to default.
    - Choose your receiver style one of PWM receiver, S-bus, satellite, PPM...  
You can bind DSMX/DSM2 satellite by clicking the BIND tab→ Power Off unit then power on unit again, the Bind will active on next powerup time.



Bind button on software

- Do not move unit → wait 5s for sensor calibration to complete. (Red led and Blue led light indicates the sensor is ok).
- Reverse Tx channel: Chose Tx Mode --> moving aileron, elevator, rudder, collective pitch joystick to check direction by monitor on software. If the any channel is wrong direction, you must reverse it on your transmitter.
- Click button "Set Center".

*Note: The direction of Tx must be in sync with the Maxx Flybarless. You must click "set center" on software after channel reversal.*



*T: Monitor value of Throttle chanel  
 G: Monitor value of gear (gyro gain) chanel  
 A: Monitor value of Aux (CH7) chanel*

**3. SENSOR table:** Select Icon on software: choose type right for the your Flybarless mount direct.

**4. SWASH table:** Select Icon on software: select the your heli swashplate type

**5. SERVO table:**

- Move collective pitch joystick on Tx to zero (center).
- Check direction of servo by moving Aileron, Elevator on your transmitter → Check each direction of servo, if the direction is incorrect, you must reverse it by clicking to servo icon on the interface.
- Servo Trim: Click and hold bar sliding up or down or highlight input number to textbox.
- Servo Type: Please check servo type on next page, digital servo 1520us is recommended for use.
- Swash Trim: Value 0-0 if the servo trim is correct you did it right
- Click “Default” button set all to zero if you need reset value.
- Auto Swash Trim function: push button in the hole of unit to active auto SwashTrim → prior to flight , lift off and hover your helicopter --> fast tail speed piro hover for 5-10s → landing heli and push to button again to save SwashTrim value . You can check new “Swash Trim” value by software or Maxx SetupCard.

**6. COLLECTIVE table:**

- Travel +/-: Click on bar or input number to textbox set collective pitch +/-.  
The optimal Travel+/- value should be between 40 and 55 to max/min collective pitch reaches +/-11 to +/-13 degrees. If under 40, please change a shorter servo horn. If over 55 , you should change longer servo horn.
- Pit pump: adjust as needed for tail to collective compensation

**7. CYCLIC table:**

- Limit: Chose value for Cyclic pitch 11 to 13 degrees, short servo horn needs more limit value, long servo horn needs less limit value.
- Aglity: Same Limit value for first flight. Then you can adjust according to your flight style, more value for robotic cyclic, less value for soften response.
- Cyclic Gain: short servo horn needs more limit value, long servo horn needs less limit value. Default 60 for first flight.  
P-I-D cyclic gain recommendation for first flight: 50-0-50.
- Advance cyclic setup: next page on the this table, recommendation default value for first flight by click to “default button”.

## 8. TAIL table:

- Chose tail servo type then plug in tail servo
- Move rudder on transmitter to check servo direction, click servo icon to reverse if it is wrong direction.
- Limit : Move maximum, minimum rudder joystick to check Limit of servo, click to bars or key input to change Limit value.
- Tail Gain:

Tail Gain by transmitter : Maxx Units use CH5 (Gyro Sens, not switch) for gyro gain. Please setting gain on software value 100. You should set gyro gain 30% to 40% on Tx for first flight.

Tail Gain by Maxx Software: Please set gain on Transmitter value to 100% and tune by gain on Maxxx software: For example 40 on Software

- Advance setup: Recommendation default for first

## 9. GOVERNOR table:

- Disable ESC governor (Electric Governor) , set esc to External governor mode or Airplane mode, or Heli Throttle Line with fast scroll up speed (4-10s).
- Max-Min Throttle calibration: Disconnect unit with PC, power off helicopter → Set max throttle(100%) on your transmitter → Power Off helicopter and waiting beep sound from ESC → set Throttle to Low (0%) within 2s. You can check new value on the software
- Max headspeed: Calculate headspeed by Battery Voltage x Kv of Motor x Gear ration (your heli). Max headspeed is head speed when Throttle channel is full (100% or 1920us).
- Input gear ratio, poles of your motor.

Maxx Electronic governor Rpm calculator by: %Throttle x Max head speed. Max head speed.calculator by: Voltage of Battery x Kv off motor x gear ration.

Maxx Nitro/Gas governor Rpm calculator by: %CH7 x Max head speed.

Note: Maxx governor active only when Rpm input signal ok, Throttle level above 50% (1520us). The nitro/gas helicopter need the value of CH7(Aux) above 50%.

The softstart is automatic active when Maxxx governor enabled.

For safety, esc will be cutoff and cannot start again when unit connecting to a computer or Maxx SetupCard, need to disconnect unit → poweroff heli then power up before flight again.

## 10. LOG table:

**For next flight in the field:** Power on transmitter, Aileron, Elevator, Rudder joystick in center position, power on heli do not move helicopter → flybarless unit will move each servo up down etc, when unit is set , helicopter is ready for flight.

## III. Hide funcion (not show in software):

- Gyro off mode use for fast checking swashplate level and center tail pitch level: Set Gyro gain =0 (CH5 is center 1520us) to active.
- Rescuse mode: Activate when a tail gain (CH5) value from positive (+) to negative (-) occurs and angle of helicopter over 25 degrees.  
*Example: Switch tail gain 35% to -35%,the tail response is not change but the rescue mode is active.*
- Auto SwashTrim: Step to do below
  - + Before flying, take the rod or tool once and press the button in the hole on the unit.
  - + Takeoff and fast tail piro basic, at least 1/3 joystick, initially flipped, but after 3 to 5s, FBL detected will automatically adjust swash trim value.
  - + Landing and pressing the button again to save the Swashtrim value. When a saved device can check with software on the PC, the Swashtrim value will change.

#### **IV. LED indicative:**

1. Red LED:

- One time flashing: Lost someone frame of receiver signal.
- Two time flashing: Low BEC, the BEC has dropped by more than 0.5Volt while flying

2. Blue LED:

- Lights up when ready to flight, auto turn off when Maxx governor is actived.
- User for checking nitro governor magnetic sensor, the value of CH7 need above Center (1520us) for checking.