



# **T8S(BT)**

## **User Manual**

**8-Channel Remote Controller**

**APP Parameter Setting via Bluetooth Connection on the phone**

**APP Parameter Setting via USB Cable Connection on the computer**



**Compatible with Fixed-wings/Gliders/Multirotors/Cars/Boats/Robots**

**CE FCC RoHS**



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## Chapter 1 Introduction

### 1.1 Safety precautions

- 1) Do not use the remote controller in the rain! Avoid moisture entering the transmitter. If it is unavoidable to use this product in humid weather (such as competitions), please cover your remote controller and receiver with a waterproof cloth, and do not fly if there is lightning.
- 2) Do not use it in rainy and snowy weather. This weather environment will interfere with the remote controller equipment, resulting in loss of control and accidents!
- 3) Do not use this equipment in crowded areas and places prohibited by national laws and regulations!
- 4) Do not allow children (Less than 14 years old) to touch this product. This product is not a toy. Please be careful when operating in scenes where children are present.
- 5) Please strictly abide by local laws and regulations when flying to ensure safe flight!
- 6) Make sure the throttle stick and trim button are set at the lowest end before turning on, then turn on the power button and check whether the power supply is sufficient, then turn on the receiver!
- 7) Check whether the various actions of servo are consistent with the direction of the corresponding joystick before operating the model. If they are inconsistent, please adjust before using!
- 8) Please turn off the receiver and controlled equipment before stopping use, and then turn off the power supply of the transmitter. If the operation is reversed, it may cause loss of control and cause an accident!
- 9) T8S transmitter has a built-in lithium battery with an operating voltage of 3.7V~4.2V. Please do not use a battery outside this voltage range when replacing the battery by yourself.
- 10) The T8S is compatible with R8EF/R8F/ R8FM/R8XM/R8SM/R8FG/R7FG/R6FG/R6F/R4FGM/R4F receivers. Other brands of receivers cannot be used.
- 11) Please refer to the website to modify the throttle hand and return to the center position joystick: [https://www.youtube.com/watch?v=b-97TUi3\\_Rw](https://www.youtube.com/watch?v=b-97TUi3_Rw)
- 12) Please strictly follow the precautions and instructions to use this product. The loss caused by misuse of this product shall be borne by the user.

## 1.2 T8S+R8EF introduction

### 1.2.1 Specifications

#### T8S Transmitter

Size	162.5*95.5*57mm(6.4    *3.76    * 2.24" )
Weight ((with R8EF))	142g(5.0oz)
Channel Quantity	8 channels
Control Range	2000 meters in the air, 500 meters on the ground (actual distance depends on the environment)
Operating Current	<150(±5)mA
Operating Voltage	3.7- 4.2V
Output Frequency	2.4GHz ISM band (2400MHz~2483.5MHz)
Modulation Mode	GFSK
Channel Bandwidth	400KHZ
Channel Pacing	1200KHz
Spread Spectrum Mode	FHSS 67 channels pseudo-random frequency hopping
Adjacent Channel Rejection	> 36dBm
Transmitter Power	<100mW (20dBm)
Reception Sensitivity	-104dBm
Transmission Rate	38kbps
PWM Output Range	1.0ms~2.0ms
Section precision	4096, 0.5us per section
Cycle	15ms/per frame
Compatible receivers	R8EF(Standard), R8SM, R8FM, R8XM, R8F, R8FG, R7FG, R6FG, R6F, R4FGM, R4F

#### R8EF Receiver

Size	41.5*21.5*11.5mm (1.63"    *0.85"    *0.45" )
Weight :	7g
Antenna length	210mm (8.26" )
Channel Quantity	8 channels
Control distance	2000 meters in the air, 500 meters on the ground (actual distance depends on the environment)
Operating Current	38-45mA@5V
Operating Voltage	3-15V DC
Signals Output	PWM(red LED) and PWM&SBUS&PPM(blue/purple LED)
Section Precision	4096, 0.25us per section
Compatible transmitter	T8FB/T8S/RC8X/RC6GS V3/RC4GS V3/RC6GS V2/RC4GS V2/RC6GS/RC4GS

## 1.2.2 Packing List



T8S Transmitter \*1



R8EF Receiver \*1



USB Cable(Update&Charge) \*1



Throttle Return Accessories \*1



User Manual \*1



Packing Box \*1

## 1.2.3 Transmitter Overview

T8S (Mode 2) is shown as below



Mode 2

### T8S Buttons and Switches:

**Power button:** Long press to turn on/off T8S.

**Throttle/Rudder/Aileron/Elevator Stick:** The default Channel 1 to Channel 4 controls the roll, pitch, throttle and yaw of the aircraft.

**Trimmer buttons:** T8S has 4 groups trimmer buttons (two for each group), which can trim roll, pitch, throttle and yaw respectively. The trimmer buttons are used to quickly adjust the model during flight.

**Three-way switch:** CH7 (SWA) and CH5 (SWB) are three-way switches, which can be assigned to the auxiliary channel through APP to control the equipment connected to this channel. (Note: If you have purchased RadioLink RTF fixed wing or racing drone that come with a T8S transmitter, the three-way switches control the switching of the flight mode by default.)

**Knob switch:** CH8 (VRA). This switch can be set by parameter setting APP according to your needs, and is mostly used for Pan/Tilt/Zoom adjustment.

**Push button:** CH6 (VRB). This switch can be set by parameter setting APP according to your needs, and it is mostly used to control camera shutter.

### 1.2.4 Transmitter Battery

The built-in battery of T8S is a 1S LiPo battery. When the voltage is low, the green indicator will flash with a DD warning sound. Make sure to charge the battery in time to avoid the possible damage by over discharge.

It is easy to charge T8S. You only need to connect T8S to the computer with the USB cable comes with T8S. When the first LED indicator light on T8S turns from red to blue, T8S is fully charged.

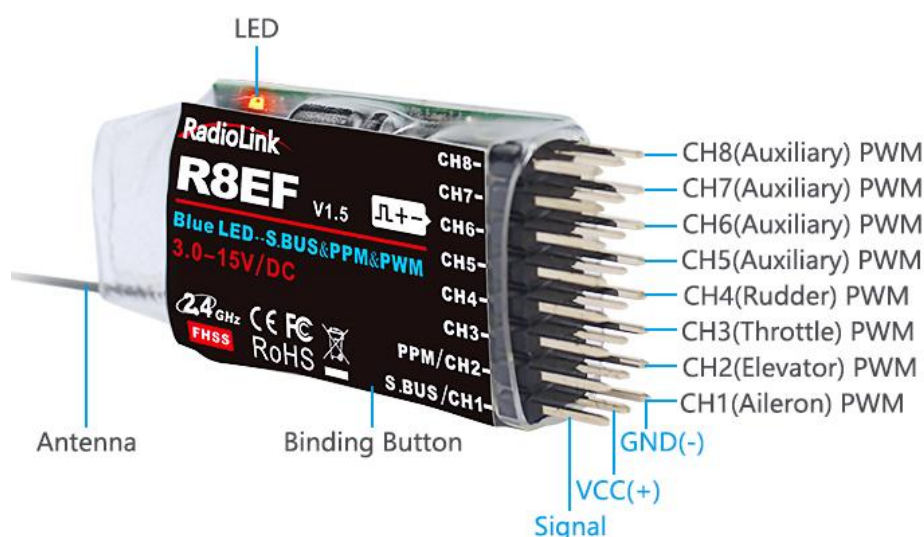
## 1.3 R8EF Receiver

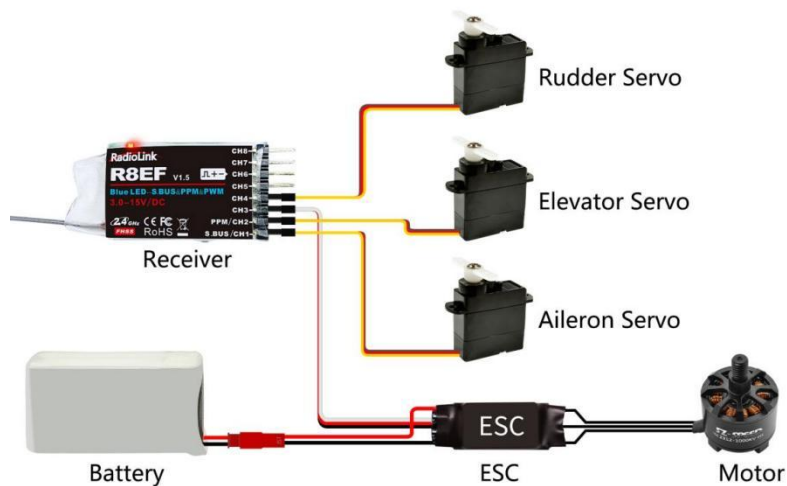
### 1.3.1 Receiver Mode and Signal Switch

The standard receiver packed with T8S is R8EF, 8-channel receiver with PWM and SBUS/PPM signal output supported.

#### Signal Working Mode

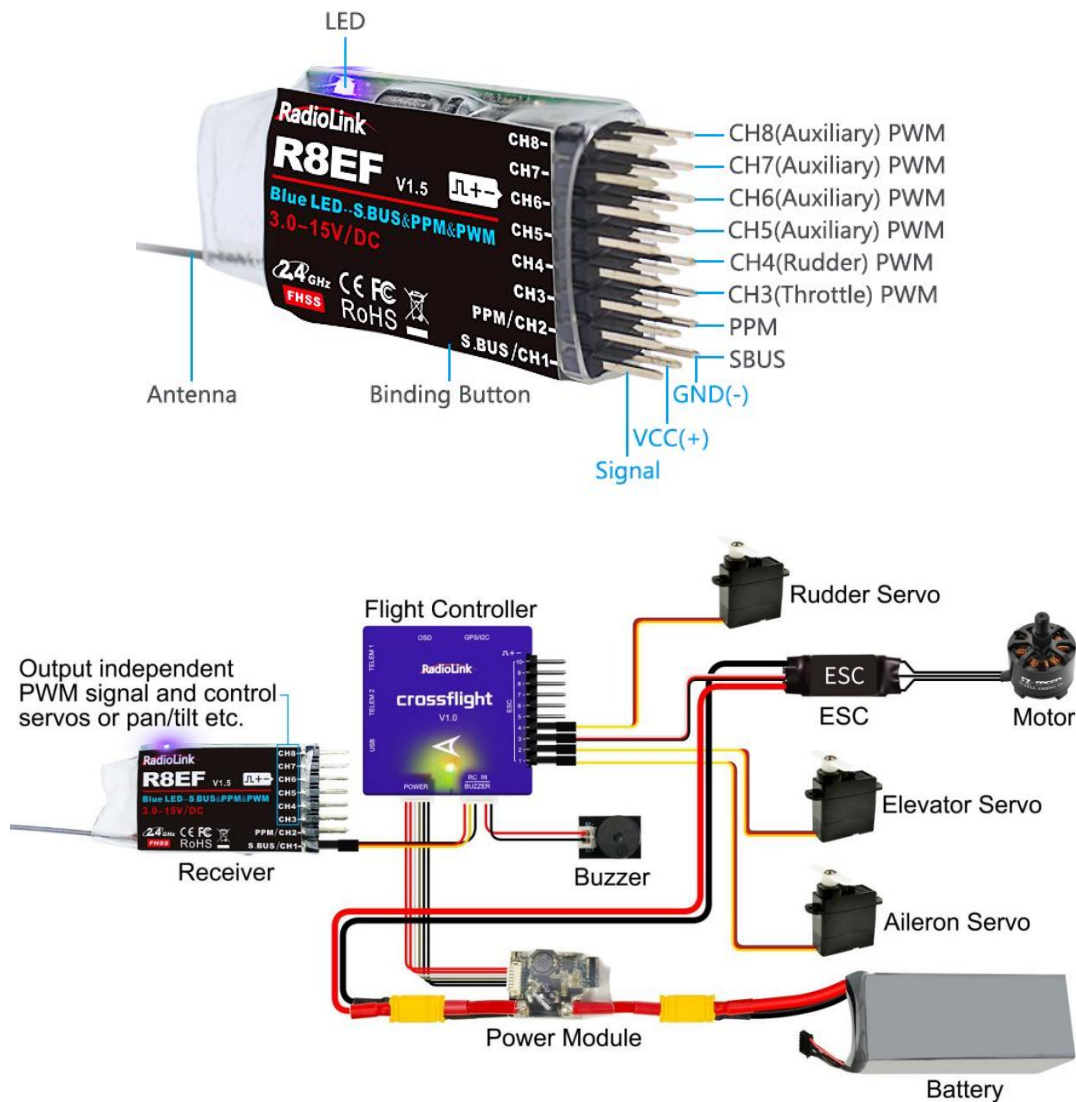
(1) PWM Working Mode: Receiver indicator is RED with all 8 channels output PWM signal.





## (2) SBUS/PPM Working Mode

Receiver indicator is Blue(Purple) with 8 channels output in total. Channel 1 is SBUS signal, channel 2 PPM signal and channel 3 to 8 PWM signal.



Note: Fixed wing equipped with flight controller is taken as an example.



### **Signal Switch between SBUS&PPM and PWM**

Short press the binding button on the receiver twice within 1 second to switch the SBUS/PPM signal to PWM signal.

### **1.3.2 Guide of Receiver Install**

- (1) Please test RSSI (Received Signal Strength Indicator) before operating models. For methods on how to test it, please refer to <https://www.radiolink.com/newsinfo/477894.html>
- (2) If the antenna of the receiver is damaged, replace it with a new antenna or receiver in time.
- (3) Keep antennas as straight as possible, or the effective control range will reduce. PS: Generally, the receiver's antenna is longer than the body of drone, but also shouldn't break or shrink the antenna into it.
- (4) Big models may contain metal parts that influence signal emission. In this case, antennas should be positioned at both sides of the model to ensure the best signal status in all circumstances.
- (5) Antennas should be kept away from metal conductor and carbon fiber at least half inch away and no over bending.
- (6) Keep antennas away from motor, ESC or other possible interference sources.
- (7) Receiver contains some electronic components of high-precision. Be careful to avoid strong vibration and high temperature.
- (8) Special vibration-proof material for R/C like foam or rubber cloth is used to pack to protect receiver. Keeping the receiver in a well-sealed plastic bag can avoid humidity and dust, which would possibly make the receiver out of control. Putting the receiver into a plastic bag can also prevent fuel and residue from entering.

### **1.3.3 Binding**

T8S and R8EF have already finished binding by default. If you purchase a new compatible receiver separately, you need to bind the receiver to the transmitter. Each receiver has an individual ID code. When the binding is done, the ID code will be stored in the transmitter and there's no need to rebind.

#### **Binding steps:**

- ① Put the transmitter and the receiver close to each other in parallel (about 50 centimeters).
- ② Push the Power Switch to power on T8S.
- ③ Power on the R8EF, the LED of R8EF will start flashing slowly.
- ④ There is a binding button(ID SET) on the side of receiver. Press the button until the LED flashing quickly and release, binding process is ongoing.
- ⑤ When the LED stops flashing and turns to always on, binding is complete. If not succeed, the LED will keep flashing slowly to notify, repeat the above steps.

Check the binding tutorial here: <https://www.youtube.com/watch?v=D2cwwloIMDM>

## Chapter 2 Parameters Setup APP

### 2.1 Mobile phone APP

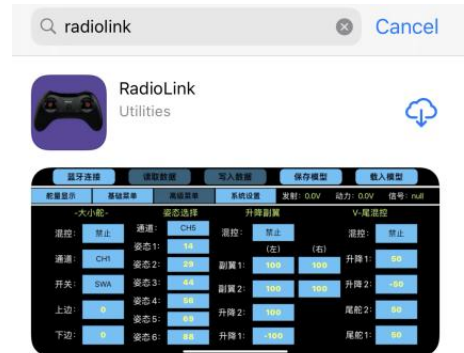
#### 2.1.1 Mobile Phone APP Installation

##### Android APP:

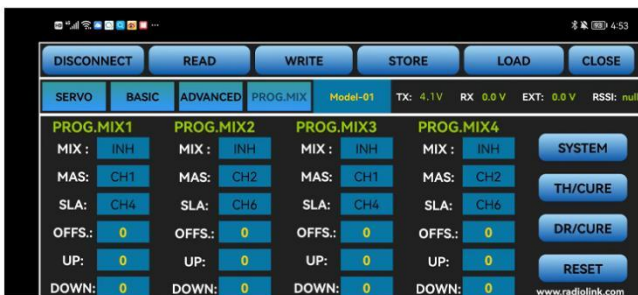
Visit [https://www.radiolink.com/t8s\\_apps](https://www.radiolink.com/t8s_apps) to download the android APP to setup T8S parameters by Bluetooth connection.

**NOTE:** The APP will not collect any user's information, you can even use this APP without Internet connecting. The APP asked for Location Permission only used for connecting and telemetry function.

**Apple APP:** Search Radiolink in Apple store (See picture on the right) and then click it to download.



Android APP



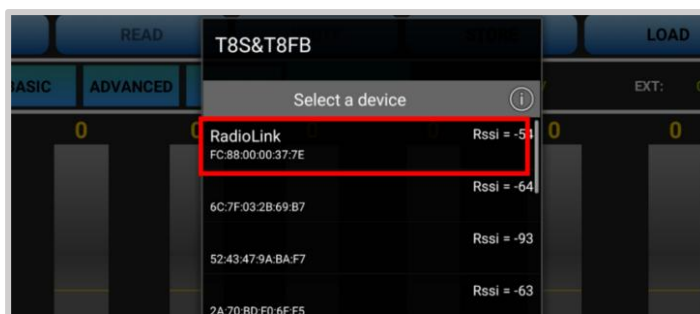
Apple App



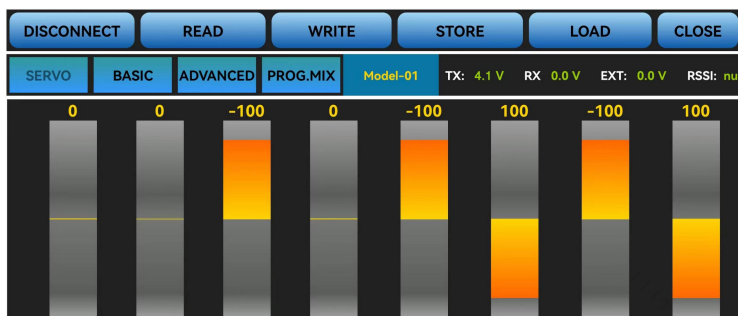
#### 2.1.2 Mobile Phone APP Connection

Connection of both Android APP and Apple APP to T8S are the same as below:

- ① When the installation of parameter setup APP is complete, press the power button to turn on T8S.
- ② Click to enter the APP, a message will pop out to ask for permission to turn on the Bluetooth function.
- ③ Click CONNECT on the top left of interface, a list of devices will pop out for selection.
- ④ Select RadioLink device, the two LED indicators at rightmost will flash with DD sounds.



⑤ Press any one of the trimmer buttons to stop the DD sounds and the servo range will display on the APP, meaning connection between the APP and T8S succeed.



### Note:

If there is no servo range display in APP, it means the connection is unsuccessful and you need to reconnect.

If you cannot find the Bluetooth device with the name "RadioLink" after clicking "CONNECT". Please check whether the "Location Information" of your phone is turned on, if not, please open the "Location Information";

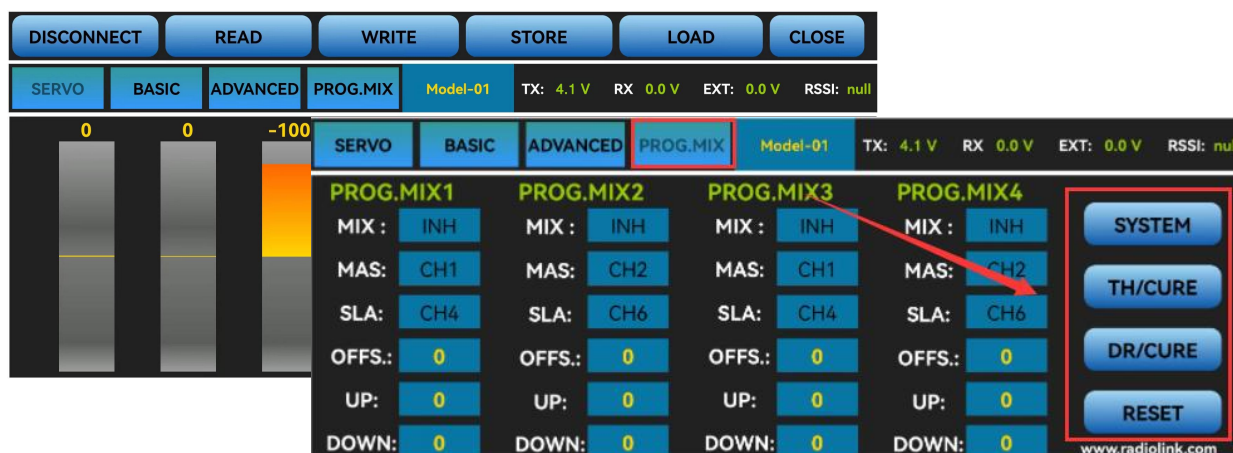
If the "Location Information" is on, but you still can't find "RadioLink Bluetooth device". Please open the application in the phone --settings-application management--T8S&T8FB permissions--location information, change the location information from "only allowed during use" to "Prohibited", and then change to "allowed only during use" again.

If all the steps above have finished, but the mobile phone parameter setup APP still cannot connect the transmitter success, please download the version V603.

### 2.1.3 Mobile Phone APP Parameters Setup Menu

**Parameters setup of both Android APP and Apple APP are the same.**

The setup menu includes: SERVO, BASIC, ADVANCE, PROG.MIX. After click PROG.MIX, there are 4 PROG.MIX setting, SYSTEM, TH/CURE, DR/CURE, RESET. For detailed setting method, please refer to [3.2 Basic Menu](#).



There are function keys on the top of the parameter setup interface.

**(DIS)CONNECT:** When APP is opened and T8S is powered on, click CONNECT and a list of Bluetooth devices will pop out and select the Radiolink device to make connection. The two LED at the rightmost will flash with DD sounds, press any of the trimmer buttons to stop the DD sounds and the servo range will display on the APP. If fails, press DISCONNECT and CONNECT again.

**READ:** Click READ, two short D sounds will be heard and the APP starts reading the data in T8S. Every time the APP is reopened, the data displayed is the initial default value. If the parameters are modified, you need to click to “READ” again to display the modified data.

**WRITE:** Click “WRITE” and three slow D sounds mean the modified data have been written successfully. If no D sound means written failure, please reconnect T8S to the APP and re-write.

**Note:**

1. Click “WRITE” each time parameter is modified to make sure it’s well input to the T8S. The modified parameters won’t be saved if “WRITE” is not clicked.
2. If you want restore the factory default settings, please reconnect to the APP, and click "Reset".

#### **LOAD ( Load/New/Delete model ) :**

There are three functions can be set by press LOAD, that is load or select model data that have set already and add a new model.

① Load model: A tooltip will pop out when Click LOAD, and then click “SELECT” to load the model data from this tooltip. If there is no model data have stored successfully, the tooltip will show blank.

② Create new model: Click "NEW" and name the new model, for example, “RacingDrone1”. Click "YES" to save the new model’s name, then click the model’s name, the gray title bar on the top of tooltip will change to RacingDrone1, click “SELECT” to select the model’s name, and then set up all the parameters depends on your drone, click “STORE” to save the settings, “/mode/RacingDrone1.txt” pop out means the new model have set successful.

③ Delete model: choose a model’s name from the tooltip, for example, still the “RacingDrone1”, the gray title bar on the top of tooltip will change to RacingDrone1, then click “DELECT”, an alert box will pop out, click “YES” to delete the model data.

**STORE:** Click to save the APP data as a file in the mobile. T8S support unlimited number of model data to store, and easy to search in the phone. If the new file created is forgotten to rename, but STORE as Model-New, the data in this file will be cleaned automatically when trying to create another new file sharing the same file name.

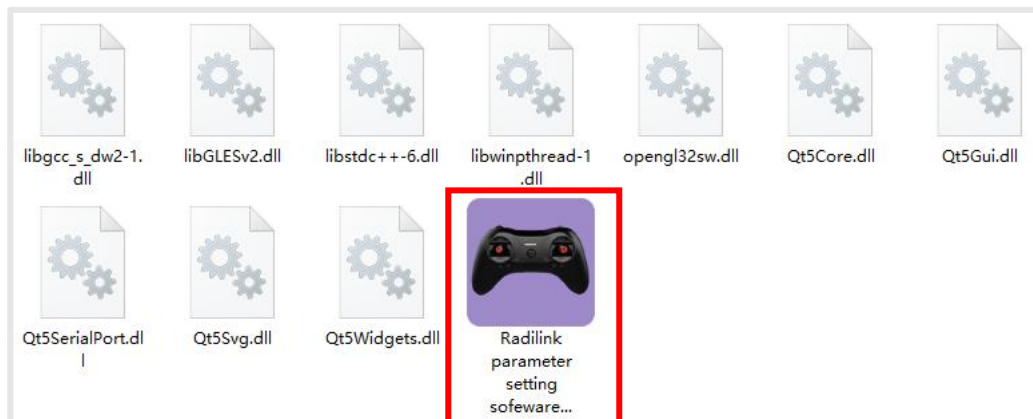
**Note:** Each interface can display the transmitter voltage, receiver voltage, RSSI signal strength value, power battery voltage telemetry (when using R8FG, R7FG, R8F, R8XM receivers with telemetry function)

**CLOSE:** Click “CLOSE” to exist the APP.

## 2.2 Software APP on Computer

### 2.2.1 Software APP Installation on Computer

Go to the official website [https://www.radiolink.com/t8s\\_apps](https://www.radiolink.com/t8s_apps) to download the computer software APP, and run the program below.



If it's your first time to use computer parameter APP, you need to install the driver before using it. Please click the link below to download and install driver:

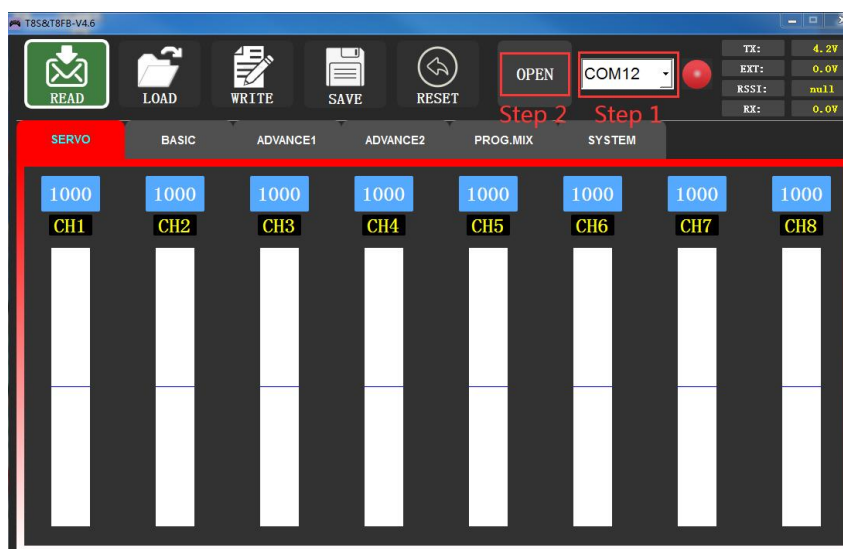
<https://www.radiolink.com/filedownload/39598>

or contact us by email at: [after\\_service@radiolink.com.cn](mailto:after_service@radiolink.com.cn)

### 2.2.2 Software APP Connection on Computer

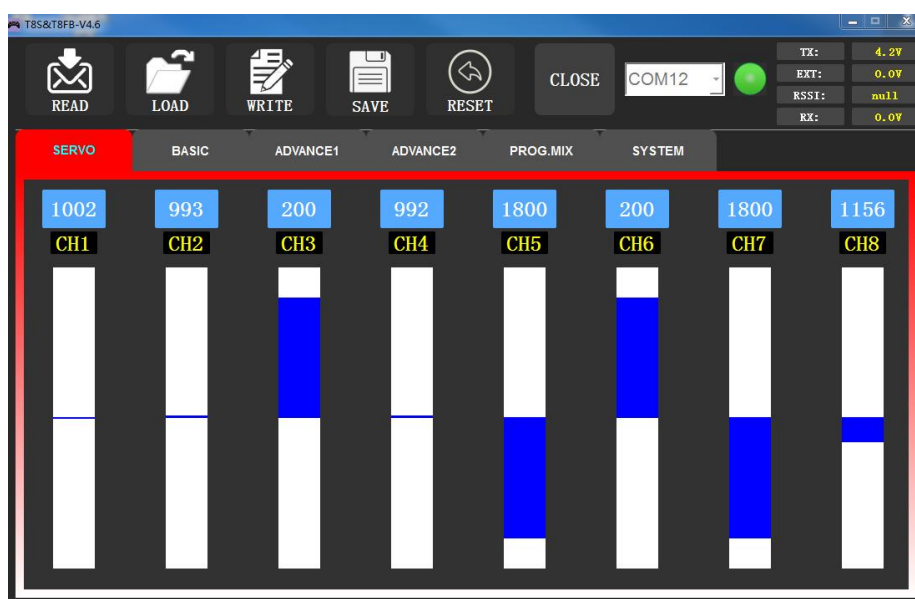
After the driver is installed, T8S transmitter can connect to computer parameter software.

- (1) Turn on T8S transmitter, and connect it to the computer with a USB data cable.
- (2) Open the parameter software in the downloaded file. Choose Port Number (The COM port of different computers will be different), click OPEN to connect.



**Note:** If the driver is installed normally, but the COM port connected to T8S cannot be detected, you could try another USB data cable. Do not use USB charging cable.

(3) T8S will make DD sounds, press any of the trimmer buttons to stop the D sounds.



**READ:** Click READ, two short D sounds will be heard and the APP starts reading the data in T8S. Every time the APP is reopened, the data displayed is the initial default value. If the parameters are modified, you need to click to “READ” again to display the modified data.

**WRITE:** Click “WRITE” and three slow D sounds mean the modified data have been written successfully. If no D sound means update failure, please reconnect T8S to the APP and re-write. Click “WRITE” each time parameter is modified to make sure it’s well input to the T8S.

\* After modifying the parameters, please click to write data, otherwise the modification will be invalid.

\* If you want to restore the factory default settings, you can click "Factory Settings".

**LOAD:** Click LOAD and a pop out of ‘Model Select’ will display. If there is no successfully stored data, there will be no display. Besides, user also can create a new file or select among the saved files.

**SAVE:** Click to save the APP data as a file in the computer.

Note: Each interface can display the transmitter voltage, receiver voltage, RSSI value, and telemetry battery voltage (Telemetry function is available when using R8FG, R7FG, R8F, R8XM receivers ).

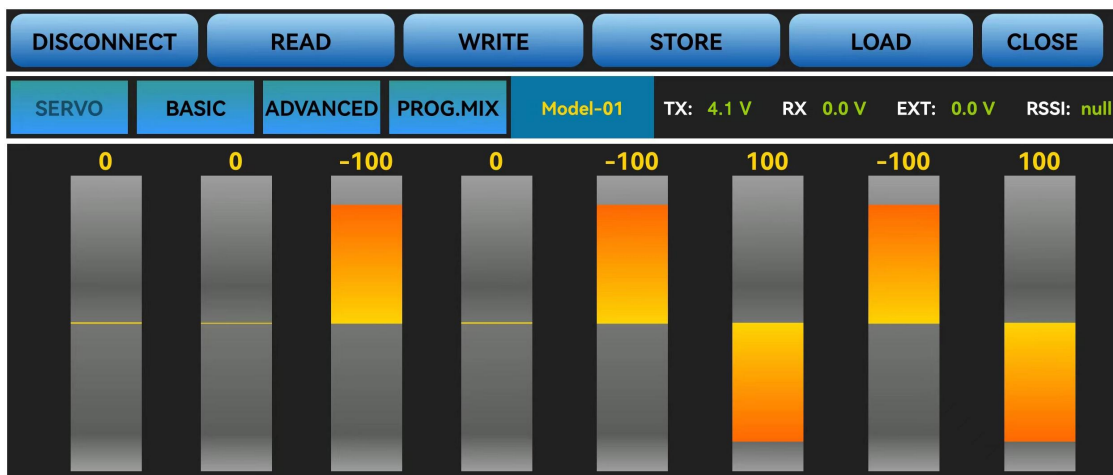


## Chapter 3 Function Setup Menu on APP

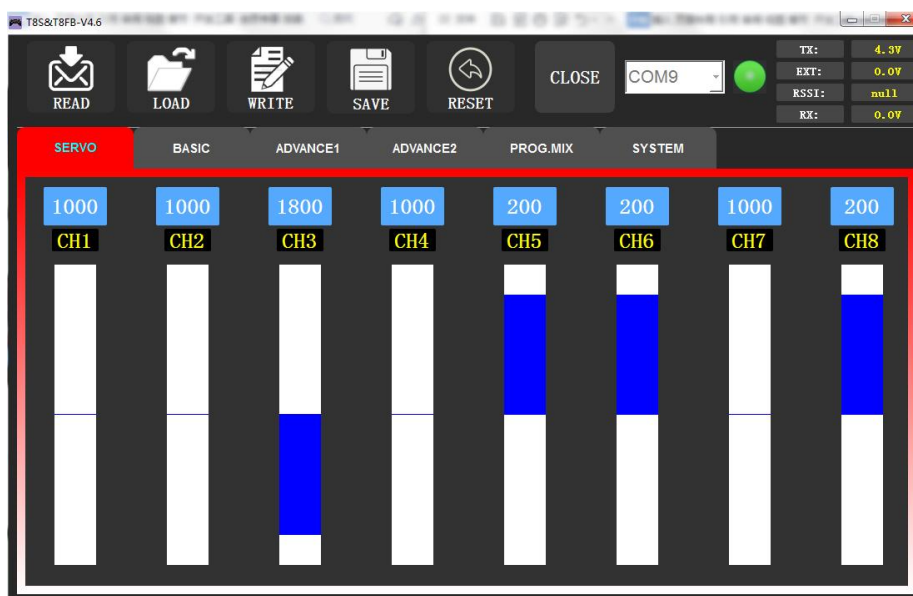
### 3.1 SERVO Menu

The 8 rectangles show the CH1-CH8 servos range instantly (4 basic channels and 4 auxiliary channels) from left to right. CH1--Aileron, CH2--Elevator, CH3--Throttle, CH4--Rudder, CH5 to CH8--Auxiliary channels.

There is a real-time display when you are toggle any channel switch, it is suitable for set up complex mix control functions.



The interface of parameter setup APP on phone.



The interface of parameter setup software on computer.

## 3.2 BASIC Menu

### 3.2.1 REVERSE

This function is to change the direction of the servo in response to the remote controller input. Make sure to check all servos move to the correct direction as wish under control.

**Note:** If programmable mix control function is used to control several servos for fixed wing/gliders, e.g. V-TAIL mix control, make sure to set the phase in advance to avoid possible confusion.

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V	RX 0.0 V	EXT: 0.0 V	RSSI: null
-CH-	-REV-	-SUB-	-EPA-L	-EPA-R	-F/S-	DELAY		
CH1:	NORM	0	96	96	50	100		
CH2:	NORM	0	96	96	50	100		
CH3:	REV	0	96	96	0	100		
CH4:	NORM	0	96	96	50	100		
CH5:	NORM	0	96	96	50	100		
CH6:	NORM	0	96	96	50	100		
CH7:	NORM	0	96	96	50	100		
CH8:	NORM	0	96	96	50	100		

The interface of parameter setup APP on phone.



The interface of parameter setup software on computer.

After changing the channel phase, please check the control of the corresponding channel on the model, to make sure the response direction of the channel is correct. Make sure that the response of each servo with the operation of transmitter is correct.



### 3.2.2 SUB-TRIM

Makes small changes or corrections to the neutral position of each servo. The default is 0 setting by factory setting. That is, no SUB-TRIM. The range is from -100 to +100 and can be modified with actual need.

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V	RX 0.0 V	EXT: 0.0 V	RSSI: null
-CH-	-REV-	-SUB-		-EPA-L	-EPA-R	-F/S-	DELAY	
CH1:	NORM	0		96	96	50	100	
CH2:	NORM	0		96	96	50	100	
CH3:	REV	0		96	96	0	100	
CH4:	NORM	0		96	96	50	100	
CH5:	NORM	0		96	96	50	100	
CH6:	NORM	0		96	96	50	100	
CH7:	NORM	0		96	96	50	100	
CH8:	NORM	0		96	96	50	100	

The interface of parameter setup APP on phone.

The interface of parameter setup software on computer.

This function is used to set the neutral position of the servo, not to set the servo surface to be horizontal. So, the recommended steps are as follows:

- Zero out the SUB-TRIM when the servo is not connected to servo surface, and adjust the neutral position of the servo through SUB-TRIM.
- Zero out the SUB-TRIM.
- Mount servo arms and linkages so that the control surface's neutral is as correct as possible.
- Modify with SUB-TRIM small range value to make fine corrections.

### 3.2.3 END POINT ADJUSTMENT (EPA)

This function is used to set travel range of the servo connected to the channel.

When setting the model or after the first flight, if you feel that the movement of the model is still relatively small when you move the joystick to the maximum position. You can increase the travel range percentage of the corresponding channel of the servo (the maximum can be adjusted to 120, The default is 96). EPA-L and EPA-R respectively represent the travel range on two sides of the neutral point. You can choose the side you want to modify to adjust travel range percentage.

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V	RX 0.0 V	EXT: 0.0 V	RSSI: null
-CH-	-REV-	-SUB-	-EPA-L	-EPA-R	-F/S-	DELAY		
CH1:	NORM	0	96	96	50	100		
CH2:	NORM	0	96	96	50	100		
CH3:	REV	0	96	96	0	100		
CH4:	NORM	0	96	96	50	100		
CH5:	NORM	0	96	96	50	100		
CH6:	NORM	0	96	96	50	100		
CH7:	NORM	0	96	96	50	100		
CH8:	NORM	0	96	96	50	100		

The interface of parameter setup APP on phone.



The interface of parameter setup software on computer.

### 3.2.4 FAIL SAFE (F/S)

If the flight has reached the limit control distance, there is strong interference in the flight area, there are obstacles between the transmitter and the receiver, or T8S low voltage it will cause loss of control. At this time, you can set the Fail-Safe, so that the model can maintain working at the F/S value you set after loss of control. F/S needs to be set in advance. Each channel can be set independently.

According to your needs, set the servo travel range output by the channel. After setting it, the receiver will continue to output the servo travel range according to the value you set when the receiver loses the control of transmitter.

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V RX 0.0 V EXT: 0.0 V RSSI: null			
-CH-	-REV-	-SUB-	-EPA-L	-EPA-R	-F/S-	DELAY		
CH1:	NORM	0	96	96	50	100		
CH2:	NORM	0	96	96	50	100		
CH3:	REV	0	96	96	0	100		
CH4:	NORM	0	96	96	50	100		
CH5:	NORM	0	96	96	50	100		
CH6:	NORM	0	96	96	50	100		
CH7:	NORM	0	96	96	50	100		
CH8:	NORM	0	96	96	50	100		

The interface of parameter setup APP on phone.



The interface of parameter setup software on computer.

### Note:

1. The setting of the throttle F/S also applies to the low battery voltage. F/S value 0 means throttle stick at the lowest point while 50 means at the central point.
2. The F/S (Fail-safe) function can be used in certain competitions to ensure safe landing of the model prior to flying away and dropping. Besides, it can also be used make all servos neutral to maximize the flight time.

### 3.2.5 DELAY

Adjusts the synchronous ratio between the servos position and the actual operation. The default value is 100 by factory setting meaning no delay.

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V	RX 0.0 V	EXT: 0.0 V	RSSI: null
-CH-	-REV-	-SUB-	-EPA-L	-EPA-R	-F/S-	DELAY		
CH1:	NORM	0	96	96	50	100		
CH2:	NORM	0	96	96	50	100		
CH3:	REV	0	96	96	0	100		
CH4:	NORM	0	96	96	50	100		
CH5:	NORM	0	96	96	50	100		
CH6:	NORM	0	96	96	50	100		
CH7:	NORM	0	96	96	50	100		
CH8:	NORM	0	96	96	50	100		

The interface of parameter setup APP on phone.



The interface of parameter setup software on computer.

## 3.3 ADVANCED Menu

### 3.3.1 D/R (Dual Rate)

The model can be controlled to work on different servo travel range by a switch. Before using this function, set the state of "Mix" from "INH" to "ON". CH1/2/3/4 can be chosen to set separately. the switch can be set to SWA or SWB. "Up" and "Down" correspond to the positions of switch. The value of "Up" and "Down" is maximum servo travel range you set.



Channels 1 to 4 can be set for different servo travel range both individually and at the same time.

When setting one channel for different servo travel range, click "WRITE" after setting D/R value for the corresponding channel. When setting 4 channels for different servo travel range at the same time, click "WRITE" after setting D/R value for each channel. For example: after setting D/R value of channel 1, click "WRITE" to save the settings, and then switch the channel to "CH2". Set D/R value of channel 2, and then click "WRITE" to save the settings. Repeat this step for channel 3 and channel 4.

DR/CURE: It's an index. When it is not set, the value defaults to 0, and the output servo travel range of the corresponding channel will be output in proportion to the move of the joystick. The value can be set from -100% to +100%. The change of the index will not change the maximum and minimum servo travel range. When controlling the aircraft, the index setting value is usually negative.

- When the index is a negative value, the greater the negative value, the lower the sensitivity of the joystick in the neutral position and the higher the sensitivity at both ends position.
- When the index is a positive value, the greater the positive value, the higher the sensitivity of the joystick in the neutral position, and the lower the sensitivity at both ends position.

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V	RX: 0.0 V	EXT: 0.0 V	RSSI: null
<b>-D/R-</b>		<b>ATTITUDE</b>		<b>ELEVON</b>		<b>V-TAIL</b>		
MIX :	INH	CH :	INH	MIX :	INH		MIX :	INH
CH :	CH1	ATTI1:	14	(L)		(R)	ELEV1:	50
SW :	SWA	ATTI2:	29	AILE1:	100	100	ELEV2:	-50
UP:	100	ATTI3:	44	AILE2:	100	100	RUDD2:	50
DOWN	100	ATTI4:	56	ELEV2:	100		RUDD1:	50
		ATTI5:	69	ELEV1:	-100			
		ATTI6:	88					

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V	RX: 0.0 V	EXT: 0.0 V	RSSI: null
MIX :	INH				<div>SYSTEM</div> <div>TH/CURE</div> <div>DR/CURE</div> <div>RESET</div>			
CH :	CH1							
SW :	SWA							
POSITION:	UP							
RATE:	100							
EXPONENT	0				www.radiolink.com			

The interface of parameter setup APP on phone.



The interface of parameter setup software on computer.

### 3.3.2 ATTITUDE

Select the preferred channel from CH5 through CH8. CH5 is always the default switch to change attitude when connect to flight controller PIXHAWK/MINI PIX/crossflight/APM/TURBO PIX with multi-rotor firmware, and CH8 is the default switch with fixed-wing firmware, while CH7 is default when connect to DJI flight controller. For the default channel to switch attitudes, please refer to the flight controller user manual.

**Note:** After open the "Attitude" function, the switch of CH5 and CH7 will be used by default to control the output of the "attitude channel" .

The values behind each channel means different control percentage output different control signals. The default values of T8S of each attitude is corresponding to the values of flight controller PIXHAWK/MINI PIX/crossflight/APM/TURBO PIX. That is, when the above flight controllers are used with T8S, attitude can be selected on the Mission Planner and no need to setup specific parameter.

Different values can be set for ATTI 1 to ATTI 6. Then you can change the flight attitude by press CH5/CH7.

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V	RX 0.0 V	EXT: 0.0 V	RSSI: null
<b>-D/R-</b>		<b>ATTITUDE</b>		<b>ELEVON</b>		<b>V-TAIL</b>		
MIX: INH	CH: INH	MIX: INH						
CH: CH1	ATT1: 14	AILE1: 100	(L)	(R)	ELEV1: 50			
SW: SWA	ATT2: 29	AILE2: 100			ELEV2: -50			
UP: 100	ATT3: 44	ELEV2: 100			RUDD2: 50			
DOWN: 100	ATT4: 56	ELEV1: -100			RUDD1: 50			
	ATT5: 69							
	ATT6: 88							

The interface of parameter setup APP on phone.

The interface of parameter setup software on computer.

### 3.3.3 ELEVON

"Elevator mix" is also known as "delta wing mix". It is often used for delta wing aircraft. Two servos can control two servos surfaces that on the left and right sides of the aircraft separately, and operate aileron function and elevator function.

When "MIX" is set from "INH" to "ON", the "AILE" and "ELEV" function is turned on. When this function is turned on, then both CH 1 and CH2 will respond, and servo travel range can be adjusted individually.

- AILE 1 and ELEV 2 correspond to the response rate of channel 1 when performing aileron operation and elevator operation.
- AILE 2 and ELEV 1 correspond to the response rate of channel 2 when performing aileron operation and elevator operation.

The specific value is the amount of servo travel range when the corresponding channel performs the aileron or elevator operation. Positive and negative values represent different directions of movement.

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V	RX: 0.0 V	EXT: 0.0 V	RSSI: null
<b>-D/R-</b>		<b>ATTITUDE</b>		<b>ELEVON</b>		<b>V-TAIL</b>		
MIX: INH	CH: INH	MIX: INH		MIX: INH		MIX: INH		
CH: CH1	ATTI1: 14	(L) (R)		ELEV1: 50		ELEV1: 50		
SW: SWA	ATTI2: 29	AILE1: 100 100		ELEV2: -50		ELEV2: -50		
UP: 100	ATTI3: 44	AILE2: 100 100		RUDD2: 50		RUDD2: 50		
DOWN: 100	ATTI4: 56	ELEV2: 100		RUDD1: 50		RUDD1: 50		
	ATTI5: 69	ELEV1: -100						
	ATTI6: 88							

The interface of parameter setup APP on phone.

The interface of parameter setup software on computer.

### 3.3.4 V-TAIL

V-TAIL used for fixed wing with v-tail. Two servos can control two servos surfaces that on the left and right sides of the aircraft separately, and operate aileron function and elevator function.

When "MIX" is set from "INH" to "ON", the "ELEV" and "RUDD" function is turned on. When this function is turned on, then both CH2 and CH4 will respond, and servo travel range can be adjusted individually.



SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V RX 0.0 V EXT: 0.0 V RSSI: null			
<b>-D/R-</b>		<b>ATTITUDE</b>		<b>ELEVON</b>		<b>V-TAIL</b>		
MIX :	INH	CH :	INH	MIX :	INH	MIX :		
CH :	CH1	ATT1:	14	(L)		(R)	ELEV1:	
SW :	SWA	ATT2:	29	AILE1:	100	100	ELEV2:	
UP :	100	ATT3:	44	AILE2:	100	100	RUDD2:	
DOWN	100	ATT4:	56	ELEV2:	100		RUDD1:	
		ATT5:	69	ELEV1:	-100		50	
		ATT6:	88				50	

The interface of parameter setup APP on phone

ELEV 1 and RUDD 2 correspond to the response rate of channel 2 when performing elevator operation and rudder operation.

ELEV 2 and RUDD 1 correspond to the response rate of channel 4 when performing elevator operation and rudder operation.

The specific value is the amount of servo travel range when the corresponding channel performs the elevator or rudder operation. Positive and negative values represent different directions of movement.

SERVO	BASIC	ADVANCE1	ADVANCE2	PROG.MIX	SYSTEM
<div> <div> D/R MIX: OFF CH: CH1 SW: SWA UP: 100 DOWN: 100 </div> <div> ATTITUDE CH: OFF ATT1: 14 ATT2: 29 ATT3: 44 ATT4: 56 ATT5: 69 ATT6: 88 </div> <div> ELEVON MIX: OFF AILE1: 100 AILE2: 100 ELEV2: 100 ELEV1: -100 </div> <div> V-TAIL MIX: OFF ELEV1: 50 ELEV2: -50 RUDD2: 50 RUDD1: 50 </div> </div>					

The interface of parameter setup software on computer

### 3.4 PROG.MIX Menu

#### 3.4.1 PROG.MIX

Programmable mix control is custom mix settings, which can independently select the master channel and slave channel. It is often used to compensate for the attitude changes of the aircraft.

Programmable mixing controls are to:

- ① Diversify attitude changes of aircraft (e.g. Rolling to realize when rudder is commanded);
- ② Control a certain axis with two or more servos (e.g. 2 rudder servos);
- ③ Correct special movement automatically (e.g. Lower FLAP and ELEVATOR servos at the same time);
- ④ Control the second channel to respond to the movement of the first channel (e.g. Increase smoke oil to respond to high speed, but only when the smoke switch is activated);
- ⑤ Turn off the main control under certain circumstances (e.g. For dual-engine aircraft, turn off a motor or speed up/down one motor to assist rudder to turn).

**MAS:** Master channel. Other channels need to cooperate with movements of the master channels.

**SLA:** Slave channel. Many mix controls are controlled by one master channel.

You can turn the "MIX" from "INH" to "ON", and set master channel, slave channel. Set "UP" and "DOWN" to the same value. This value determines the servo travel range and movement direction of slave channel.

SERVO	BASIC	ADVANCED	PROG.MIX	Model-01	TX: 4.1 V	RX 0.0 V	EXT: 0.0 V	RSSI: null	
<b>PROG.MIX1</b> MIX: INH MAS: CH1 SLA: CH4 OFFS.: 0 UP: 0 DOWN: 0				<b>PROG.MIX2</b> MIX: INH MAS: CH2 SLA: CH6 OFFS.: 0 UP: 0 DOWN: 0				<b>PROG.MIX3</b> MIX: INH MAS: CH1 SLA: CH4 OFFS.: 0 UP: 0 DOWN: 0	
<b>PROG.MIX4</b> MIX: INH MAS: CH2 SLA: CH6 OFFS.: 0 UP: 0 DOWN: 0				SYSTEM TH/CURE DR/CURE RESET www.radiolink.com					

The interface of parameter setup APP on phone.

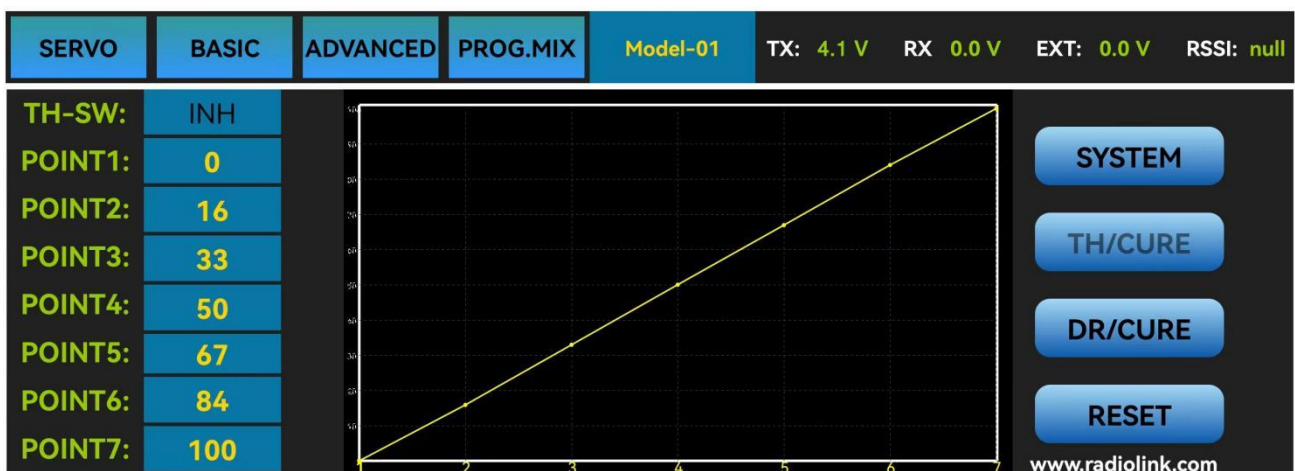
There are 4 groups of programmable mix control that can be set in the mobile phone APP.

The interface of parameter setup software on computer. There are also 4 groups of programmable mix control that can be set in the computer parameter software.

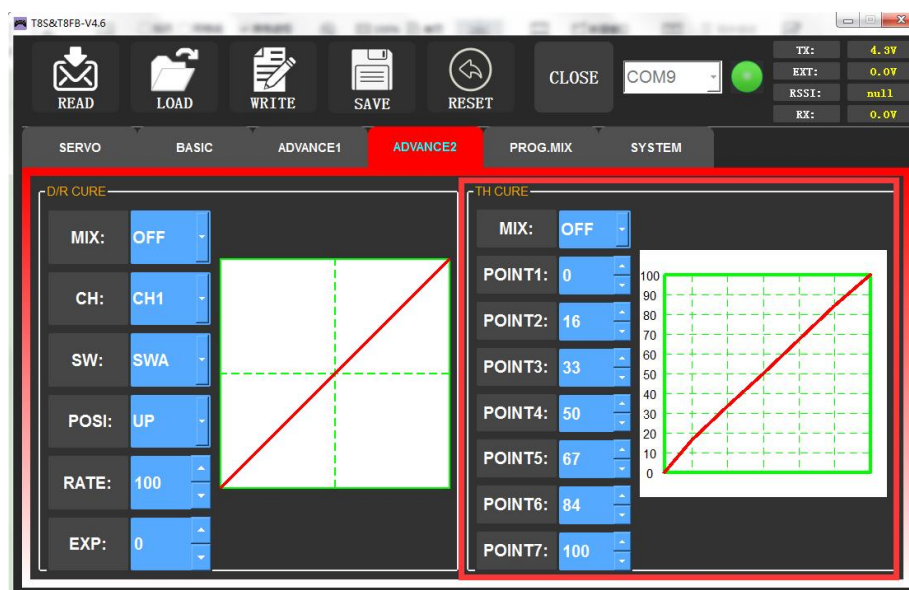
### 3.4.2 TH/CURE

Throttle curve (TH/CURE) is the set output travel by throttle. It is to coordinate the motor response and the throttle operation. The horizontal ordinate is the joystick position while the vertical ordinate is the throttle output.

When "TH-SW" is set from "OFF" to "ON", the throttle curve function is turned on. Adjust the value of 7 points. The adjustable range is from 0 to 100. The larger the value it is, the larger the output throttle is when the throttle joystick moves to the corresponding position.



The interface of parameter setup APP on phone

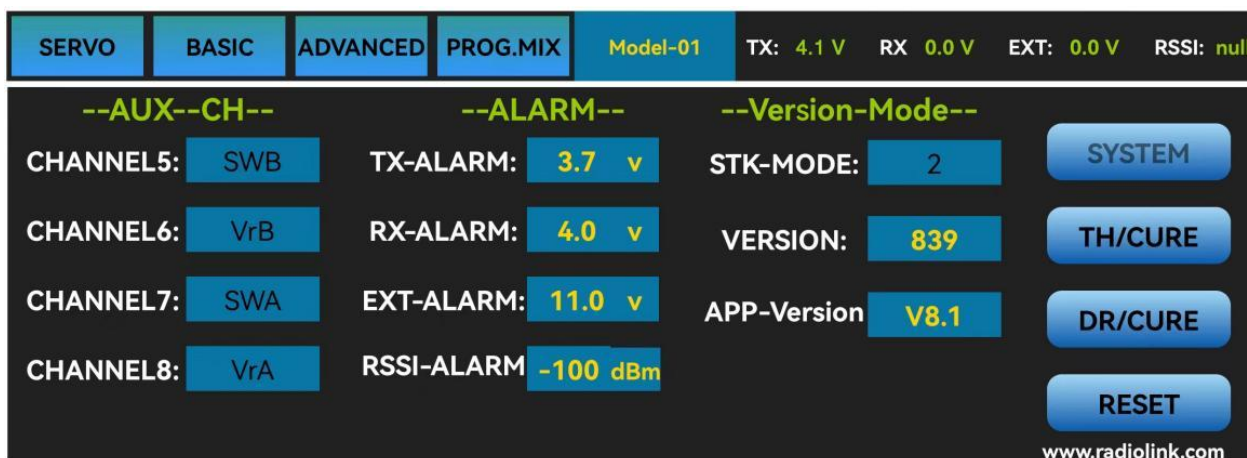


The interface of parameter setup software on computer

### 3.4.3 DR/CURE

Please refer to [Chapter 3.3 ADVANCE Menu](#).

### 3.4.4 SYSTEM Menu



#### 3.4.4.1 AUX.CH

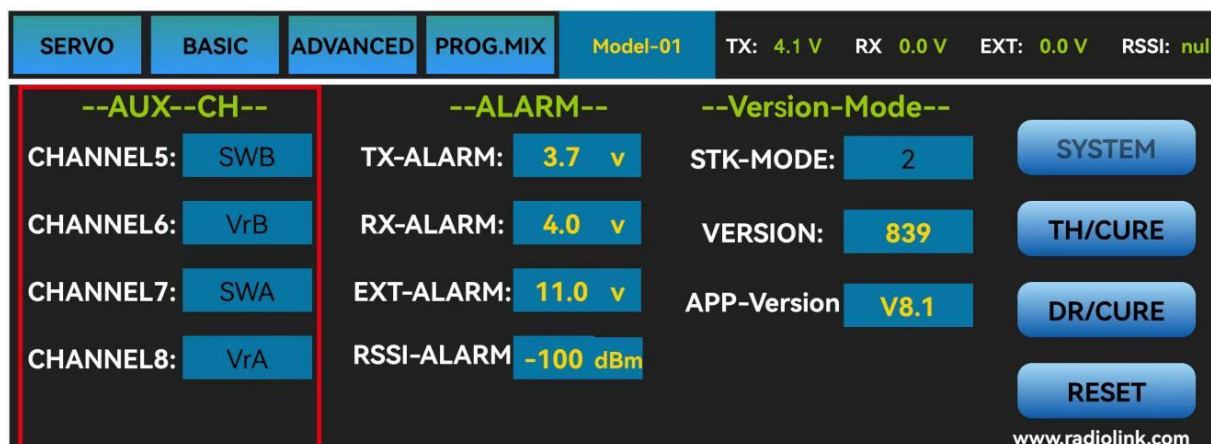
The CH1/2/3/4 of the T8S transmitter are 4 basic channels, and CH5/6/7/8 are auxiliary channels. The switch of the basic channel cannot be modified. But different switches can do some auxiliary functions by setting CH5/6/7/8, such as control the opening and closing of the bait hopper, control whether the machine releases smoke or not etc.

Each auxiliary channel can be customized with one of three-way switch, toggle-switch or push-switch. Any one of three-way switch, toggle-switch or push-switch can also be set to control different channels.

And the final effect can be seen on the "SERVO MENU" interface.

**Note:** If you flip any switch and two channels will change, please check whether the two auxiliary channels are set to the same switch.

Click the auxiliary function of CH5/6/7/8, there will be five options of "SWA", "SWB", "VrA", "VrB" and "NULL" for selection." NULL "means no switch control.



The interface of parameter setup APP on phone.





The interface of parameter setup software on computer.

### 3.4.4.2 ALARM

#### TX-ALARM

The default low voltage value of transmitter is 3.7V for T8S and the alarm value cannot be modified. When the transmitter voltage is lower than 3.7V, T8S will continuously make "D" sounds to warn.

#### RX-ALARM

The default low voltage value of receiver is automatically set 4V by default, and small adjustments are also supported. When the compatible receiver supports receiver voltage telemetry and the receiver voltage is lower than the value set, T8S will make "DDDD" sounds as a unit to warn. (Note: R8EF receiver does not support receiver voltage telemetry)

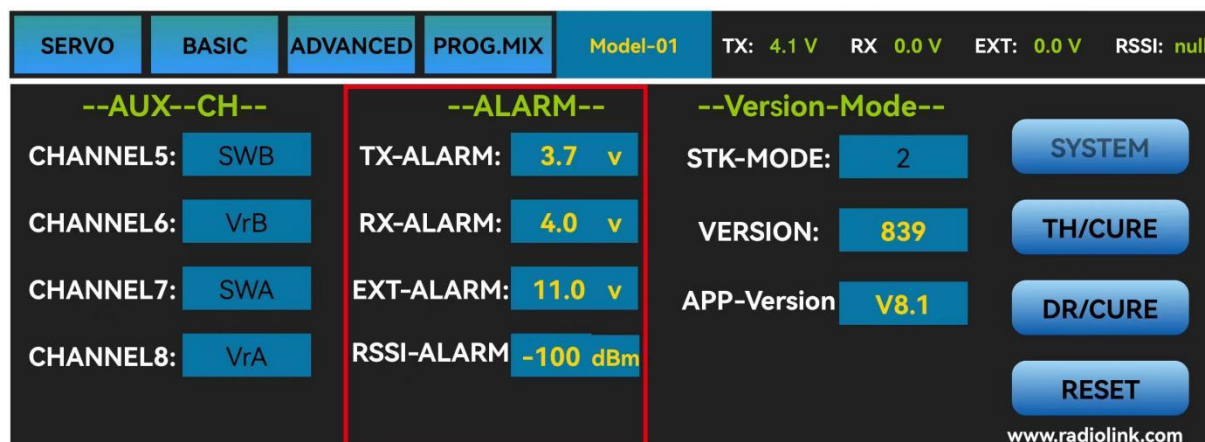
#### EXT-ALARM

To return the model voltage, RadioLink receivers of telemetry functions such as R8XM, R8FG, R7FG or R8F should be used. small adjustments are also supported. When the model voltage goes lower than the set value, T8S will make "DDD" sounds as a unit to warn. We suggest that 7.4V set for 2S lithium battery, 11.1V set for 3S lithium battery, 14.8V set for 4S lithium battery.

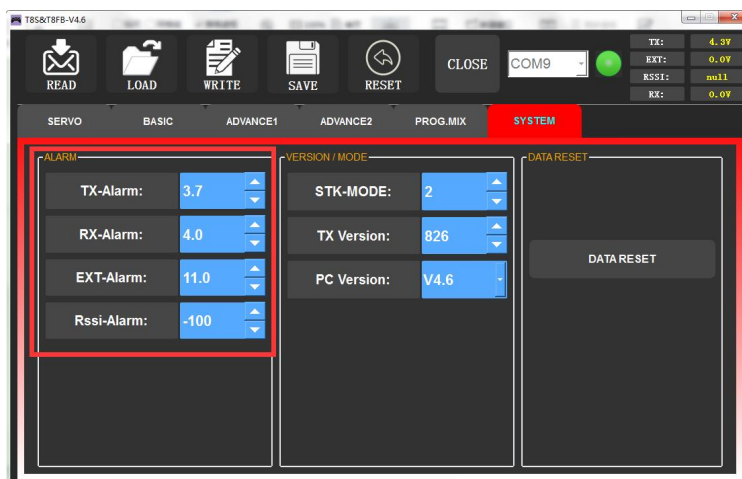
#### RSSI-ALARM

The default signal strength alarm value of the T8S is -100dBm. You can set a reasonable value according to the actual situation to prevent the model from losing control due to weak signal. When the RSSI goes lower than value you set, T8S will make " DDDD" sounds as a unit to warn.

The best RSSI-ALM is depends on the control range test at your flying area. For example, you have tested the control distance of your T8S is 2000 meters at your flying area, and the RSSI shows -86dBm at this time, then you can set the RSSI alarm data is -86dBm.



The interface of parameter setup APP on phone



The interface of parameter setup software on computer

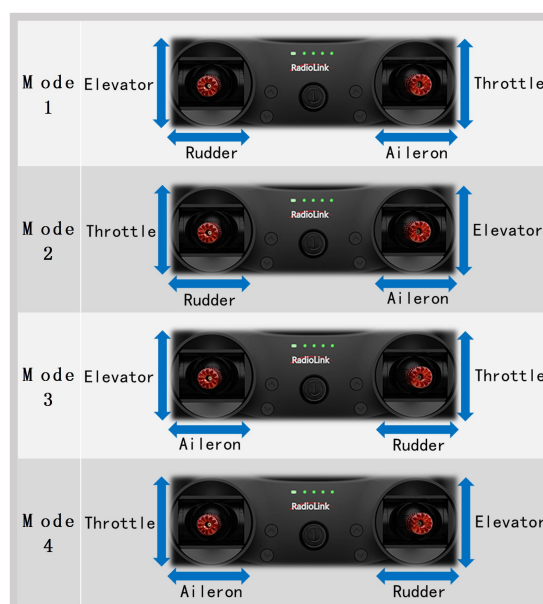
### 3.4.4.3 Version MODE

#### STK-MODE

The T8S transmitter has 4 STK-MODES, Mode 1 (Japanese hand), Mode 2 (American hand), Mode 3 (Chinese hand) and Mode 4 (others). The factory default of T8S transmitter is mode 1 or mode 2, you can also modify it according to your habits.

Mode 1: left joystick-Rudder and Elevator; right joystick-Aileron and Throttle

Mode 2: left joystick-Rudder and Throttle, right joystick-Aileron and Elevator



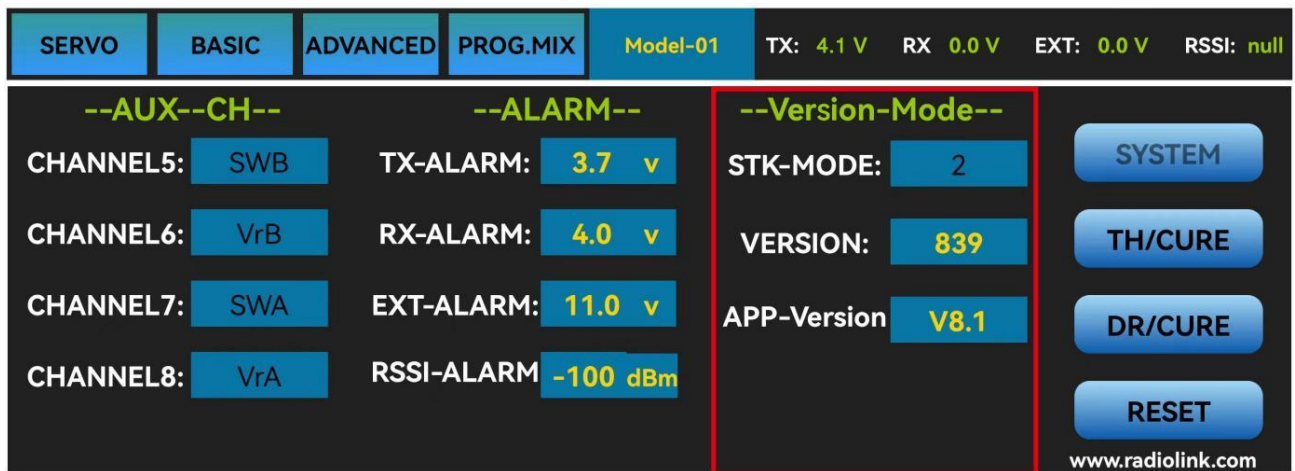
Mode 3: left joystick-Aileron and Elevator, right joystick-Rudder and Throttle  
 Mode 4: left joystick- Aileron and Throttle, right joystick-Rudder and Elevator

## VERSION

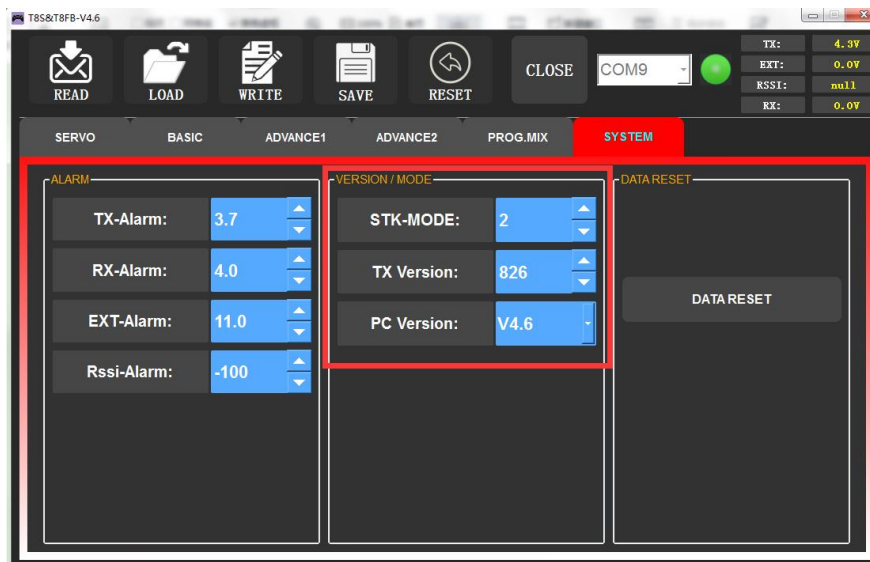
The numbers mean current firmware versions. The detailed steps of firmware upgrade please refer to Chapter 2.

## APP-VERSION

The numbers mean current Parameter Setup APP versions.



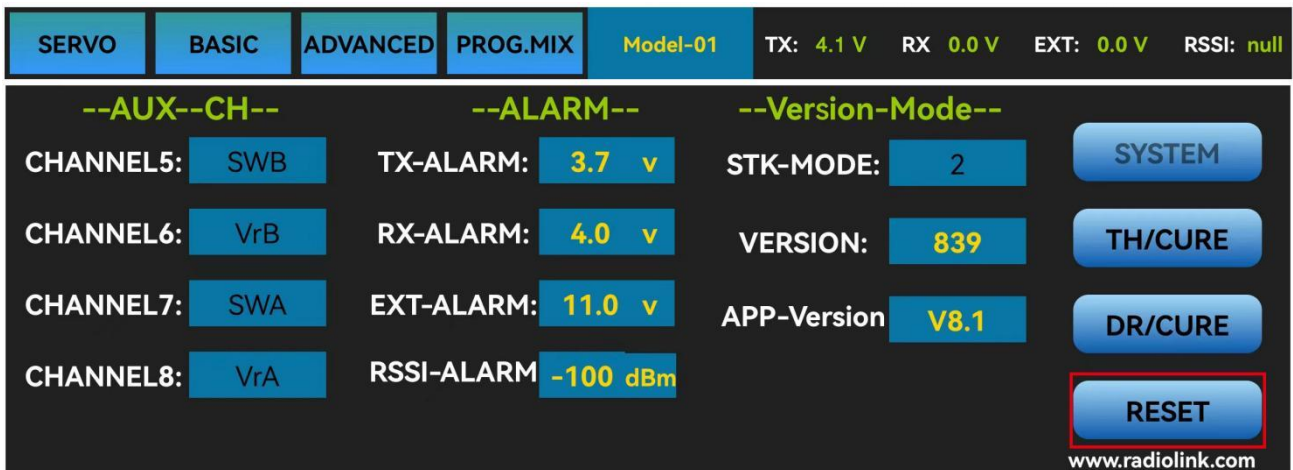
The interface of parameter setup APP on phone.



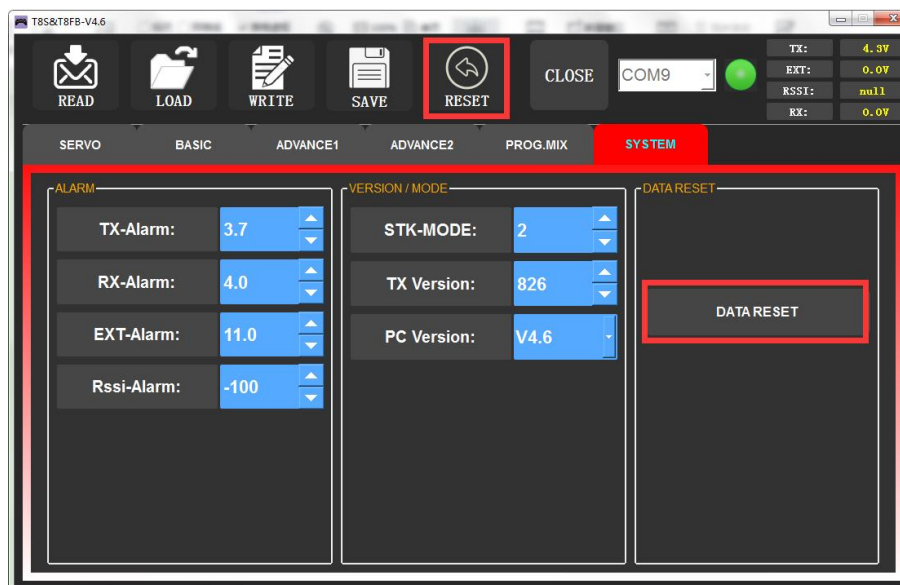
The interface of parameter setup software on computer.

#### 3.4.4.4 RESET

This function is to restore the factory setting when necessary. When press this “RESET” button, T8S will make three slow D sounds, meaning default setting is set.



The interface of parameter setup APP on phone



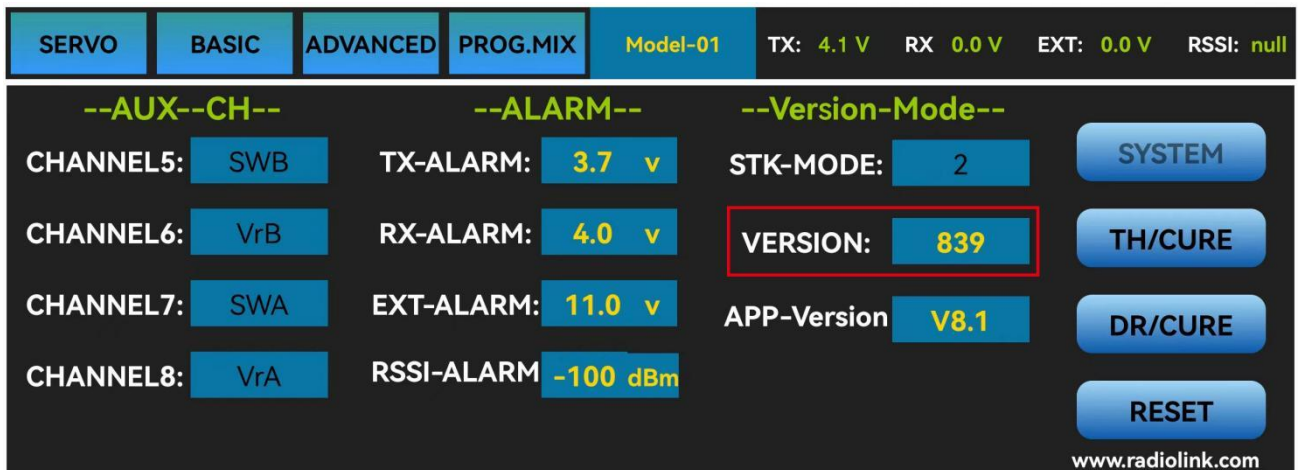
The interface of parameter setup software on computer



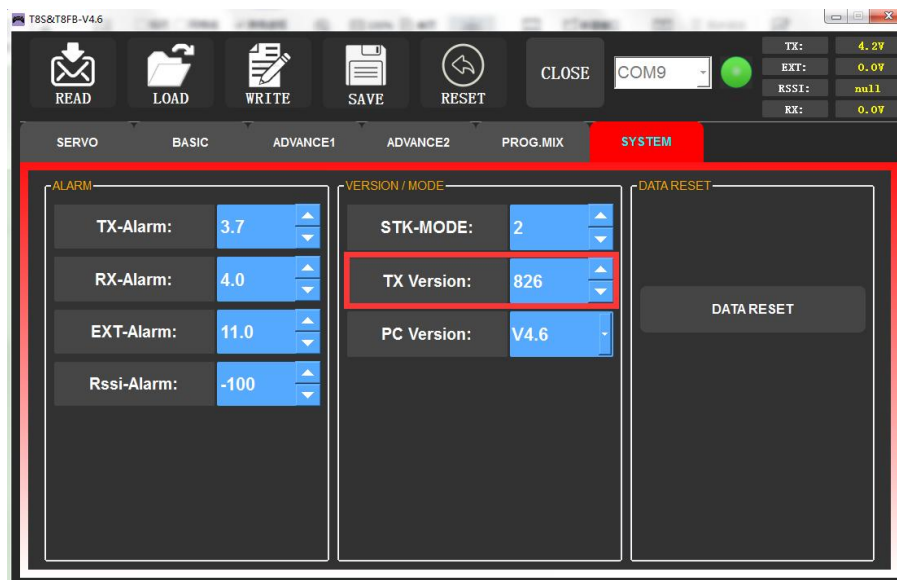
## Chapter 4 Firmware Upgrade

### 4.1 Firmware Version

The firmware version can be checked through mobile phone or computer, and you can judge whether it is necessary to upgrade the firmware according to the current T8S version number.



The interface of parameter setup APP on phone



The interface of parameter setup software on computer

### 4.2 Firmware Upgrade Steps

Please refer to the link [https://www.radiolink.com/t8s\\_firmwares](https://www.radiolink.com/t8s_firmwares) to download the latest firmware of T8S and view the detailed steps on how to update it.

## Chapter 5 T8S Joystick Calibration

When the joystick of the T8S is not in the center position, or there is large difference of the travel amount, T8S needs to be calibrated. T8S joystick calibration method is as follows:

1. When the transmitter is power-off, toggle both sticks at the central point. Press rudder trimmer button (The first button on the left) and turn on transmitter at the same time. Four green LED indicators will start flashing and T8S is ready to be calibrated.



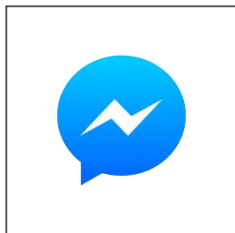
2. **Range Calibration:** Toggle both sticks (Ch1-4) to the highest point/maximum and the lowest point/minimum. Then back to the central point. (Refer to image below)



3. **Central Point Calibration:** When the joysticks are placed in the central point, press rudder trimmer button (The second button on the left), there will be DD sound. Four flashing LED indicators turn solid green means stick calibration is complete.



## Technical Support Here



Contact **RadioLink RL**  
via Facebook Messenger



T8S User Manual



T8S Tutorials

If the above communication cannot solve your problem, you can also send emails to our technical support: [after\\_service@radiolink.com.cn](mailto:after_service@radiolink.com.cn)

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[https://www.radiolink.com/t8s\\_manual](https://www.radiolink.com/t8s_manual)

Thank you again for choosing RadioLink product.