

# 3-Ch 2.4G Radio Control System Introduction Manual

- Thank you for purchasing our R/C system.
- Before using, read this manual carefully.

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DIGITAL PROPORTIONAL RC SYSTEM

**2.4G** FHSS TECHNOLOGY

**X-3S**

DIGITAL PROPORTIONAL R/C SYSTEM

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## Caution

- ✎ To work your R/C with your models correctly and safely, read this manual carefully and keep it in a safe way as a reference introduction in the future.
- ✎ Warning:
  1. This product is only equipped for radio controlled models;
  2. The usage of this product should be approved by local relevant law or regulations;
  3. We will not be responsible for the damages caused by unauthorized modification, adjustment or replacement of parts of this product;
  4. The manual may be altered without prior notice. Please contact us if you have any corrections or clarifications that should be made in the manual.
- ✎ Please pay more attention to the parts in this manual, which are marked with “Warning” .
- ✎ Because of disturbance, do not work your radio control system simultaneously with others at the same frequency.
- ✎ Before starting the transmitter, make sure the transmitter batteries are well loaded .The voltage of transmitter batteries is never lower than 8.6V. And please check and confirm that the servos are all well and properly connected.
- ✎ Please check and have a test on control surfaces to confirm the transmitter handling of each part prior to each takeoff. The frequencies of the module and the receiver should be the same.
- ✎ Keep the radio system away from moist, high temperature and strong shake. Do not clean the product with solvent.
- ✎ The antenna does not touch anything else when power switch is turned on. Do not leave this product and its accessories within the reach of small children.
- ✎ Please use this product according to your local relevant law or regulation, we are not responsible for any incidents or damages.

## 1.1 Transmitter Chart



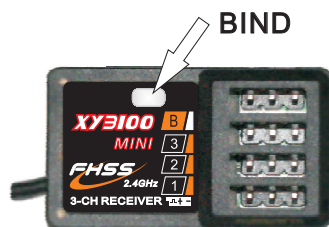
## 1.2 2.4G BINDING

### 1. The Binding processing

Turn on the transmitter, then connect the power of receiver keeping the receiver "BIND" button till the light turn on GREEN which means the binding is successful. After that, it's unnecessary to bind again.

Caution: making sure that the RX and TX within one meter, and around 10 meters no similar device.

If the light flashing, showing the binding failure, please do again as above indication.



## 2.1 Characteristics of system

### Function 5.0V

1:EPA  
2:D/R  
3:S\_TRIM  
4:REV  
5:ST CURV

### Function 5.0V

6:TH CURV  
7:ABS  
8:MODEL  
9:SPEED  
10:ATS

### Function 5.0V

11:BR\_MIX  
12:MIX  
13:TH HOLD  
14:F/S  
15:NEUTRAL

### Function 5.0V

16:SOUND  
17:RESET  
18:M\_RES  
19:TIMER

--3 channels End Point Adjustment

--Support dual rate function for the STEERING

--Sub-trim for THROTTLE channel and STEERING channel

--Model names can use up to 5 letters and numbers, so that easily understood names can be set. A model memory with different fine setups can be created by using the model copy function. Sixteen models can be added.

--Brake mixing for large cars (BRAKE)

Brake mixing of the front and rear wheels of 1/5GP and other large cars can be adjusted independently.

--Anti-skid braking system (A.B.S)

This function applies the brakes so that the tires of gasoline engine cars, etc. do not lose their grip on the road even when braking at corners.

--SPEED

TH-SPEED: Sudden trigger operation on a slippery road surface will only cause the tires to spin and the model to not accelerate smoothly. By setting the throttle speed function, operation can be performed smoothly and easily. It also suppresses battery consumption.

ST-SPEED:

When you sense that the steering servo is too fast, etc., the servo operating speed (direction that suppresses the maximum speed) can be adjusted.

--Auto-Start function (ATS):

A pre-set throttle position, less than full throttle, to be used for the initial acceleration off the line without having wheel spin. When the trigger is released, auto-start is turned off and throttle operates normally again.

--Racing timer (TIMER)

The N-4Q has two timers:Down\_Timer and UP\_Timer.

--Digital trim function

The current trim position is displayed on the LCD screen.

## 2.2 Menu introduction

<p>EPA(Page8)</p>		<p>D/R(Page9)</p>	
<p>S_TRIM(Page9)</p>		<p>REV(Page10)</p>	
<p>ST CURV(Page10)</p>			
<p>TH CURV(Page11)</p>		<p>TH CURV(Page11)</p>	
<p>ABS(Page13)</p>			
<p>MODEL(Page14)</p>			

<p>SPEED(Page15)</p>		<p>ATS(Page16)</p>	
<p>BK_MIX(Page17)</p>		<p>MIX(Page17)</p>	
<p>TH HOLD(Page18)</p>		<p>F/S(Page19)</p>	
<p>NEUTRAL(Page19)</p>		<p>SOUND(Page20)</p>	
<p>SYSTEM(Page20)</p>		<p>M_RES(Page20)</p>	
<p>TIMER(Page21)</p>			

### 2.3 Main-Menu Function

Voltage	5.0V	SBT: 0	Sub Trim
Model Name	M00:MOD00 ALL16	D/R: 100	Steering Dual Rate
Timer	T_I:00:00 INH	HLD: OFF	Throttle Hold
Steering Trim	ST  0	MOD: HRF	Modulation
Throttle Trim	TH  0		

### 2.4 EPA

Function 5.0V	EPA 5.0V	EPA 5.0V
1:EPA		
2:D/R		
3:S_TRIM		
4:REV		
5:ST CURV		

	ST	TH	AUX
F	100%	100%	100%
B	100%	100%	100%

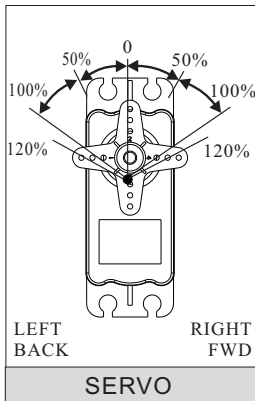
	ST	TH	AUX
F	80%	100%	100%
B	100%	100%	100%

Use this when performing left and right steering angle adjustments, throttle high side/brake side operation amount adjustment, and channel 3 servo up side/down side operation amount adjustment during linkage.

EPA adjusting value range: 0~120 %, default is 100%

- 1.Press "Roller" in the power on interface and enter function menu. Use the roller to choose "EPA". And press "Roller" and enter EPA adjusting interface.
- 2.Press "Roller" to choose each adjusting item, and then use the roller to decrease the value of the corresponding item.
- 3.Press "Back" to save your setting and leave EPA interface, and press "Back" again to return to the function menu interface.

TERMS:  
F-FORWARD,B-BACK,ST-STEERIN,



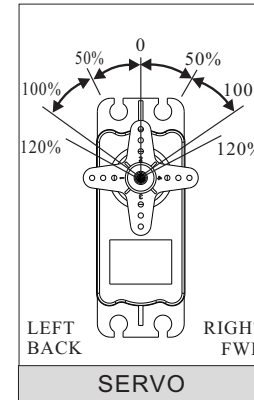
### 2.5 D/R

Function 5.0V	ST D/R 5.0V	ST D/R
1:EPA		
2:D/R		
3:S_TRIM		
4:REV		
5:ST CURV		

POS0: 100%
POS1: 70%

- D/R is used to change the action range of steering servo when turning the steering wheel. Increasing D/R will make the steering wheel action more sensitive.
- D/R adjusting value range: 0~120%, POS0 default value is 100%,POS1 default value is 70%.
- Press the ST.D/R dial to select POS0 or POS1, and the value will display in the LCD when it is on the main screen.

- 1.Press "Roller" to see FUNCTION MENU.
- 2.Use the roller to choose D/R, and press "Roller" to enter D/R adjusting interface.
- 3.Rotate the roller to increase and decrease D/R value.
- 4.Press "Back" again to return to save your setting and leave D/R interface, and back to the function menu interface.



### 2.6 S\_TRIM

S_TRIM 5.0V
ST: 0
TH: 0

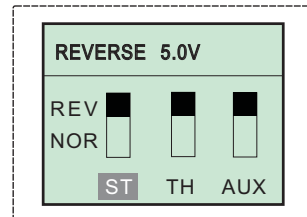
- Use this function to adjust the neutral position of the steering and throttle servos.
- SUB TRIM adjusting value range: -100~100 Default is 0

  - 1.Press "Roller" to see FUNCTION MENU.
  - 2.Use the roller to choose S\_TRIM, and press "Roller" to enter SUB TRIM adjusting interface.
  - 3.Use the roller to increase and decrease SUB TRIM value.

- 4.Press "Back" again to return to save your setting and leave SUB TRIM interface, and back to the function menu interface.

TERMS: ST-STEERING, TH-THROTTLE

## 2.7 REV



This function reverses the direction of operation of the servos related to transmitter steering, throttle, and channel 3 operation.

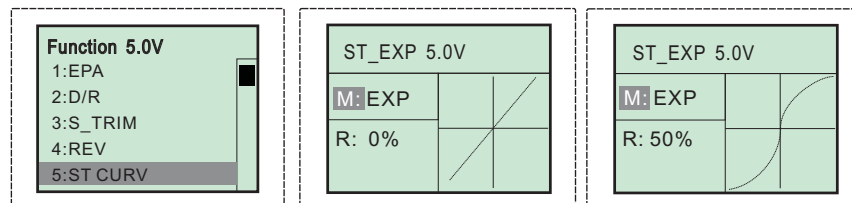
1. Press “Roller” to see FUNCTION MENU.
2. Use the roller to choose REVERSE, and press “Roller” to enter REVERSE adjusting interface.
3. Press “Roller” to choose each Channel.
4. Use the roller to change to the desired servo direction “REV” or “NOR” .

5. Press “Back” again to return to save your setting and leave REVERSE interface, and back to the function menu interface.

Note: However, when the position set by trim or sub trim shifts from the center, the center becomes the opposite side.

TERMS: ST-STEERING, TH-THROTTLE, AUX-AUXILLIARY

## 2.8 ST\_CURV



This function is used to change the sensitivity of the steering servo around the neutral position. It has no effect on the maximum servo travel.

Note: When the setting is not determined, or the characteristics of the model are unknown, start with 0% ( when EXP is set to 0%, servo movement is linear)

1. Press “Roller” to see FUNCTION MENU
  2. Use the roller to select the ST CURV function and press ENTER.
  3. Rotate the roller to change the value.
  4. Press “Back” again to return to save and return to FUNCTION MENU, press “Back” again to return to the Main Screen.
- STEERING CURVE adjusting value range: -100%~+100% Default is 0%(Linear)  
Steering EXP adjustment
1. Rotate the roller to change to the desired rate value. A positive Expo value increases the sensitivity around the center while a negative value decreases the sensitivity.
  2. When ending setting, return to the function menu by pressing “ Back” .
- TERMS: M--MODE, R--RATE

## 2.9 TH\_CURV

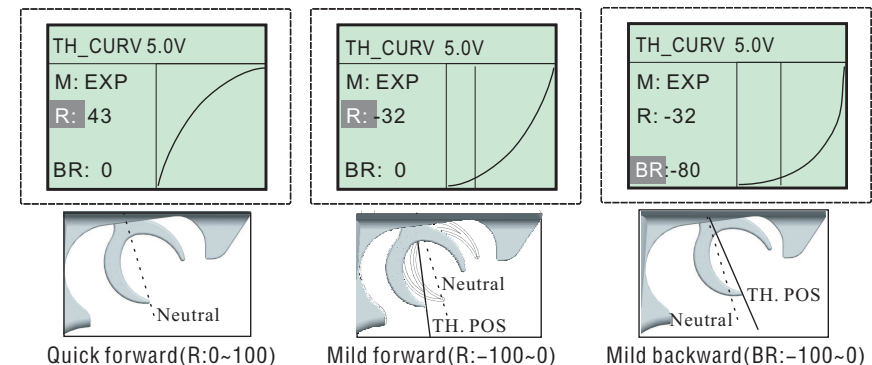
### TH CURV THROTTLE CURVES

This function makes the throttle high side and brake side direction servo operation quicker or milder. It has no effect on the servo maximum operation amount. For the high side, selection from among three kinds of curves (EXP/VTR/CUR) is also possible.

Note: When the course conditions are good and there is no sense of torque at the power unit, set each curve to the + side (quick side). When the road surface is slippery and the drive wheels do not grip it, set each curve to the - minus (mild) side.

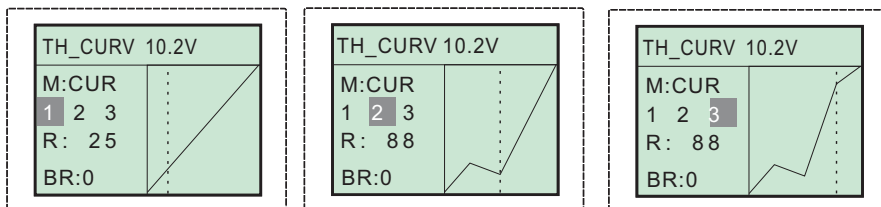
Note: Brake side only has EXP curves.

- 1 Press “Roller” to see FUNCTION MENU
- 2 Use the roller to select the TH CURV function and press the roller.
- 3 Press “Roller” to select a setting.
- 4 Use the roller to change the value.
- 5 Press “Back” again to return to save and return to FUNCTION MENU, press back again to return to the Main Screen.



Adjustment method for EXP curve

- Press “Roller” to select EXP at setup item “M”
- Select setup item “R” and make the following adjustments:
  1. Forward side adjustment:  
Use the roller to change to de desired rate value. A positive EXPO value increases the sensitivity around the center while a negative decreases its sensitivity.
  2. Brake side adjustment:  
Select the setting item “BR” by pressing the roller, and use the roller to change to the desired rate value. A positive BR value increases the sensitivity around the center while a negative value decreases its sensitivity.
  3. When ending setting, return to the initial screen by pressing the “ Back” .



#### Adjustment method for VTR curve

--Select VTR at setup item "M"

--Select setup item "R" and make the following adjustments:

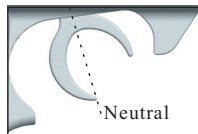
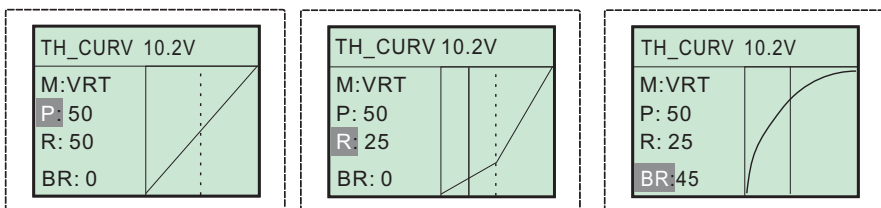
1.Forward side adjustment:

Use the roller to change to the desired rate value. A positive VTR value increases the sensitivity around neutral position while a negative value decreases its sensitivity .

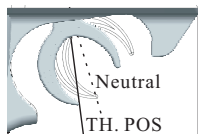
2.Curve switching point adjustment:

When you want to change the curve switching point relative to the throttle trigger, select the setting item "P" by pressing the roller, and use the roller to move to the point you want to set.

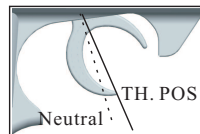
3.When ending setting, return to the initial screen by pressing "Back" .



Forward side



Forward side



Quick backward(BR:0~100)

#### Adjustment method for CUR curve

--Select CUR at setup item "M"

--Select setup item "R" and make the following adjustments:

1.Curve setup:

- Select the setting item "1:" (1st point), by pressing the roller and use the roller to set the 1st point.

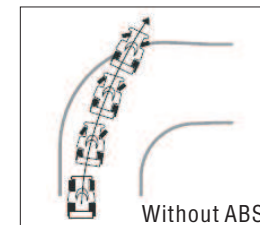
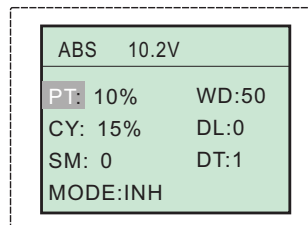
- Set the throttle curve by sequentially setting "2:" (2nd point)~ "3:" (3th point).

2.When ending setting, return to the initial screen by pressing "back" .

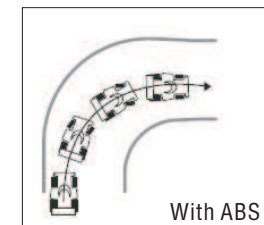
TERMS: M-MODE, R-RATE, BR-BRAKE, VTR-VERTICAL, CUR-CURVES

P-TRIGGER POS ,1-3-Curves point 1~3.

## 2.10 ABS



Without ABS



With ABS

### ABS--- Anti-Lock Brake System

When the brakes are applied while cornering with a 4 Wheel Drive or other type of vehicle, under-steer may occur. The generation of under-steer can be eliminated and corners can be smoothly cleared by using this function.

- When the brakes are applied, the throttle servo will pulse intermittently. This will have the same effect as pumping the brakes in a full size car.

- The brake return amount, pulse cycle, and brake duty can be adjusted.

- The region over which the ABS is effective can be set according to the steering operation.

1.Press "Roller" to see FUNCTION MENU

2.Use the roller to select the ABS function and press ENTER.

3.Press "Roller" to select PT item. Use roller to change the value. Range: 0%~100%..

4.Press "Roller" to select WD item. Use roller to change the value. Range: 0%~100%.

5.Press "Roller" to select CY item. Use roller to change the value. Range: 0~30.

6.Press "Roller" to select DL item. Use roller to change the value. Range: 0~100.

7.Press "Roller" to select DT item. Use roller to change the value. Range: 0~100%.

8.Press "Roller" to select SM item. Use roller to change the value. Range: 0~100%. If this value is 0, disable the steering mix.

9.Press "Roller" to select MODE item. Use roller to change INH、 TH、 AUX or TH&AUX.

10.Press "Back" again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

TERMS:

PT-Operation Throttle Trigger point

WD-Brake return amount. Sets the rate at which the servo returns versus trigger operation for brake release. When set to 0%, the ABS function is not performed.

CY-Cycle speed. The smaller of the set value, the faster the pulse cycle.

DL-Delay amount. Sets the delay from brake operation to ABS operation. When set to 0%, the ABS function is activated without any delay.

SM-Steering Mix

DT-Cycle duty ratio. Sets the proportion of the time of the brakes are applied and the time of the brakes are released by pulse operation.

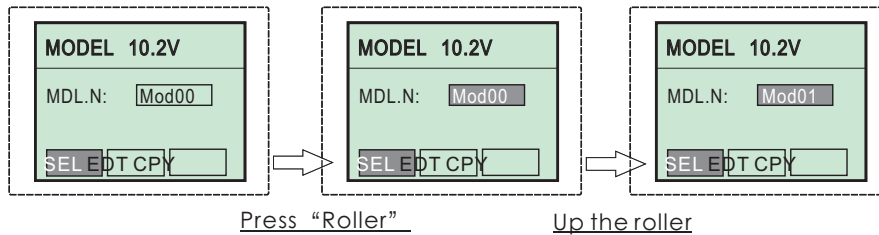
MODE-If it is selected to INH, the function disable. If it is selected to TH, the ABS function for THROTTLE brake. When it is selected to AUX, the ABS function for the AUX channel. If it is selected to TH&AUX, the ABS function for both THROTTLE and AUX.

NOTE: the AUX and TH&AUX can select only the Brake MIX set to TH.

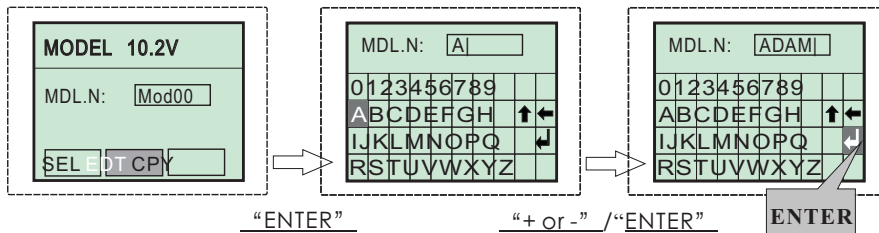


## 2.11 MODEL

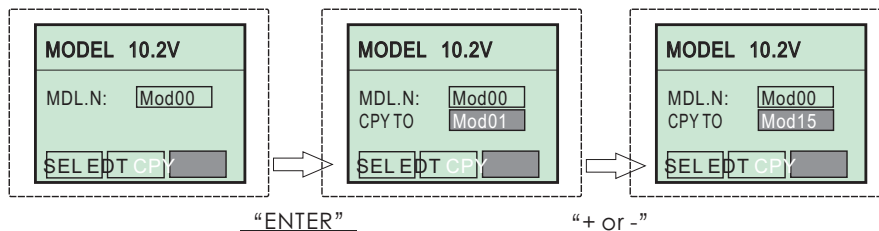
Press “Roller” in the power on interface, and enter function menu interface. Press the roller to choose MDL, and press “Roller” to enter MODEL adjusting interface.



1. Press “Roller” to choose “mod00” .(SEL)
2. Use the roller to choose “mod00~mod15”
3. Press “Back” again to return to save your setting and leave SEL interface, and back to the function menu interface.

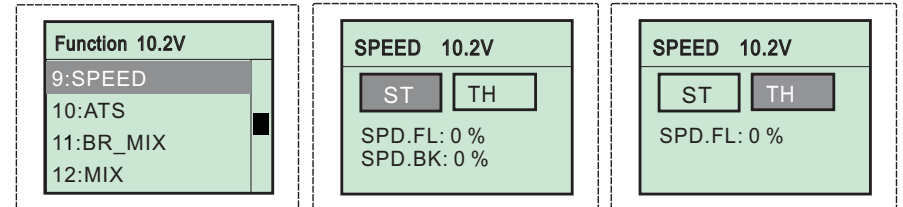


1. Use the roller to choose “EDT” .
2. Press “Roller” to enter rename mode ,Use the roller to choose “0.1.2....1”
3. Press “ ” to save your modified and return to the MODEL Screen..
4. Press “Roller” more than 3 seconds to save your setting and leave EDT interface, and back to the function menu interface.



1. Use the roller ” to choose “CPY” .
2. Press “Roller” to enter copy mode ,Use the roller to choose “Mod01....Mod15”
3. Press “Back” again to return to save your setting and Press “EXIT” leave CPY interface, and back to the function menu interface.

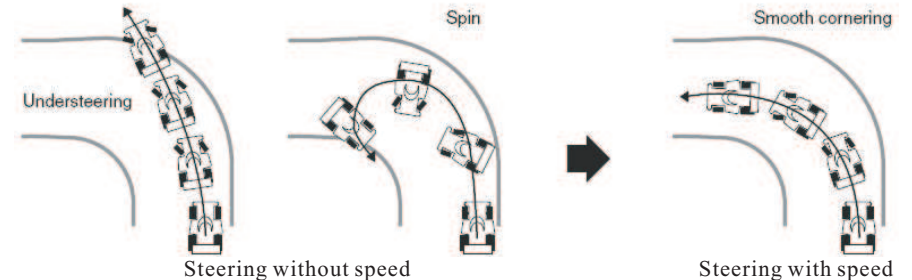
## 2.12 SPD



This function include tow items: STEERING SPEED and THROTTLE SPEED.

1. Press “Roller” to see FUNCTION MENU
2. Use the roller to select the SPEED function and press the roller to enter.
3. Use the roller to select a setting.
4. Use the roller to change the value.
5. Press “Back” again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

### 1. STEERING SPEED

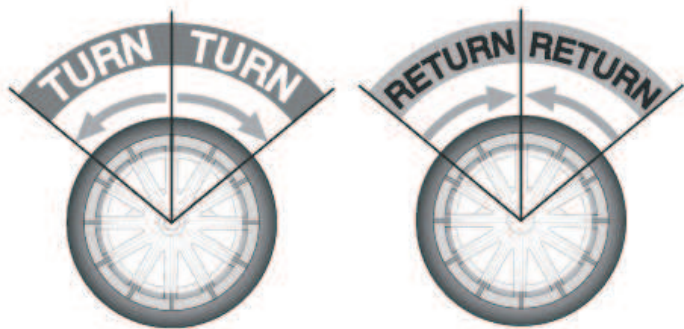


--Quick steering operation will cause momentary under steering, loss of speed, or spinning. This function is effective in such cases.

-- This function limits the maximum speed of the steering servo. (Delay function)

-- The steering speed when the steering wheel is operated (TURN direction) and returned (RETN direction) can be independently set.

-- If the steering wheel is turned slower than the set speed, the steering servo is not affected.



SPD.FL DELAY

SPD.BK DELAY

## 2. THROTTLE SPEED

- Sudden throttle trigger operation on a slippery road only causes the wheels to spin and the vehicle cannot accelerate smoothly. Setting the throttle speed function reduces wasteful battery consumption while at the same time permitting smooth, enjoyable operation.

- Throttle servo (amp) operation is delayed so that the drive wheels will not spin even if the throttle trigger is operated more than necessary. This delay function is not performed when the throttle trigger is returned and at brake operation.

- Adjustment:

1. Use the roller select the TH button .
2. Press the roller to select SPD. FL item.
3. Use the roller to change the value.
4. Press "Back" again to return to return to the function menu.



Throttle without speed



Throttle with speed

### TERMS:

SPD.FL- SPEED FORWARD DELAY. Range:0~100%, default:0.  
 SPD.Bk- SPEED BACKWARD DELAY. Range:0~100%, default:0.

## 2.13 ATS

Function 10.2V	ATS 10.2V	ATS 10.2V
9:SPEED	TRI: 1 %	TRI: 1 %
10:ATS	POS: 0 %	POS: 0 %
11:BR_MIX	DLY: 0	DLY: 0
12:MIX	MOD: INH	MOD: ACT

### ATS Automatic Start

When the throttle trigger is set to full throttle simultaneously with starting when the track is slippery, the car wheels will spin and the car will not accelerate smoothly. When the Start function is activated, merely operating the throttle trigger slowly causes the throttle servo to automatically switch from the set throttle position to a preset point so that the tires do not lose their grip and the car accelerates smoothly.



Throttle without ATS



Throttle with ATS

- When the throttle trigger is moved to the preset trigger position (TRI), the throttle servo moves to the preset position (POS).

- When the throttle trigger is operated slowly so that the wheels will not spin, the car automatically accelerates to the set speed.

- This function is effective only for the first throttle trigger operation at starting. This function has to be activated before every start.

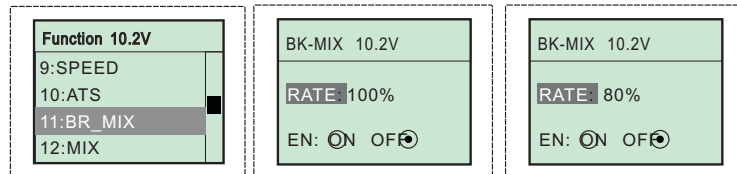
- When the throttle trigger is returned slightly, the Start function is automatically deactivated and the set returns to normal throttle trigger operation.

1. Press "Roller" to see FUNCTION MENU
2. Use the roller to select the ATS function and press ENTER.
3. Press "Roller" to select TRI item. Use roller to change the value. Range:0%~+100%..
4. Press "Roller" to select POS item. Use roller to change the value. Range: 0%~100%.
5. Press "Roller" to select DLY item. Use roller to change the value. Range: 0~100.
6. Press "Roller" to select MOD item. Use roller to change INH or RDY.
7. Press "Back" again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

### TERMS:

TRI--- Throttle trigger position.  
 POS---Preset position  
 DLY---ATS Delay time  
 MOD---ATS Ready setting

## 2.15 BK-MIX



### BR\_MIX --BRAKE MIXING

When using a secondary brake system set the BRAKE MIX value to a percentage of the Throttle Brake.

This mixing uses the 2nd channel to control the rear brakes and the 3rd channel to control the front brakes. This function can be used in conjunction with the TH TRIM and TH EPA to fine tune the power and balance of the overall braking system.

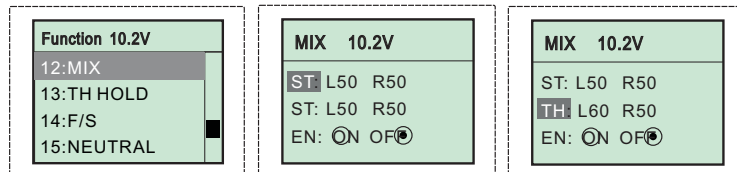
1. Press "Roller" to see FUNCTION MENU
2. Use the roller Keys to select the BR\_MIX function and press the roller to enter.
3. Press the roller to select a item.
4. Use the roller to change the value.
5. Press "Back" again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

### TERMS:

RATE -- the rate of brake between 3rd channel and 2nd channel. Default value: 0 120%.

EN -- the start or close switch of this function. Select "ON" to start the function, and "OFF" to close the function

## 2.16 MIX



This function allow customer to apply mixing between the steering, throttle, and channel 3channels. There are main channel and sub-channel in the MIX selection. The servo travel value of the sub channel is changed along with the change of the main channel according to the setting rate.

1. Press "Roller" to see FUNCTION MENU
2. Use the roller to select the BR\_MIX function and press the roller.
3. Press the roller to select a item.

4. Firstly main channel setting. Select channel No. (ST, TH, AUX) by rotating the roller. L and R separately correspond to the rate of Left and Right servos of the main channel mix

5. Secondly sub channel setting. Select channel No. (ST, TH, AUX) by rotating the roller. L and R separately correspond to the rate of Left and Right servos selected in the sub channel.

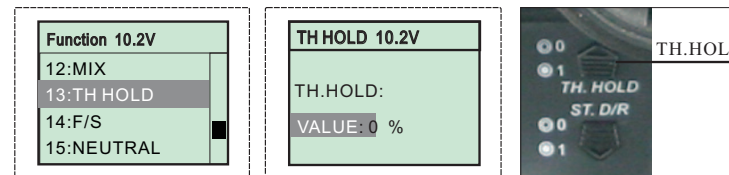
6. Third Press the roller to select EN item. Use the roller to select "ON" to enable the function, and "OFF" to disable the function.

7. Press "Back" again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

For example: current setting: ST: L 50% R 30%  
TH: L 20% R 50%  
EN: select "ON"

If throttle servo is 60% on the right and rudder servo is 50% on the right, and then after setting, throttle servo is:  $50 * 30 + 60 * 50 = 45\%$ . Throttle servo will act along with the action of STEERING servo.

## 2.17 TH HOLD

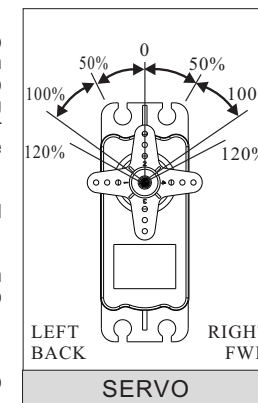


--This function allows the Throttle Servo to be set to a percentage of the total travel range. This is an alternative to using the motors choke when starting up the model. Throttle hold can be performed by pressing the switch to stop the engine. It can be performed for accident braking. When pressing the switch, throttle trigger doesn't work until the switch is pressed again.

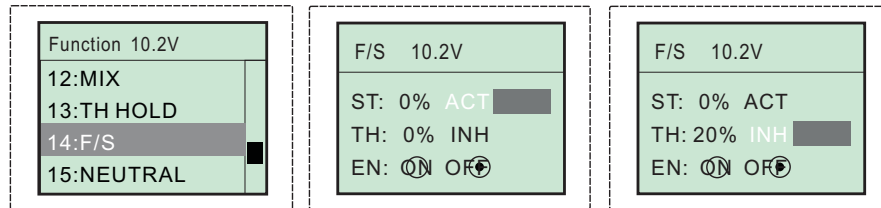
1. Press "Roller" to see FUNCTION MENU
2. Use the roller to select the TH HOLD function and press the roller.
3. Use the roller to change the value.
4. Press "Back" again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

### TERMS:

VALUE -- Throttle hold position. Range: -120% to



## 2.18 F/S



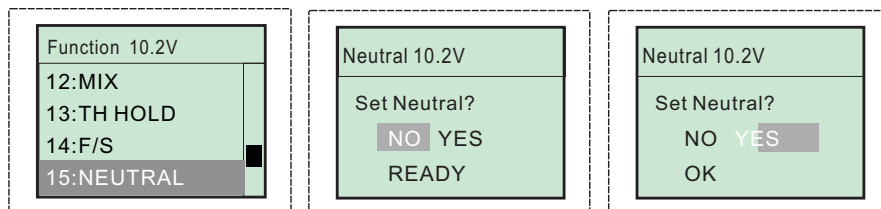
This function does not work in PPM mode. If the RF signal loss, it should occur the receiver adjust the Steering or Throttle or both to a preset value. The servo value of Steering channel and Throttle channel in the fail status can be set through fail safe function.

1. Press “Roller” to see FUNCTION MENU
2. Use the roller to select the F/S function and press ENTER.
3. Press the roller to select a item.
4. Rotate the roller to change the value.
5. Press “Back” again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

### TERMS:

ST -- To set the servo value of Steering channel. Range -120% to +120%. Default: 0%.  
 INH disable this channel Fail Save function. ACT---enable.

## 2.19 NEUTRAL

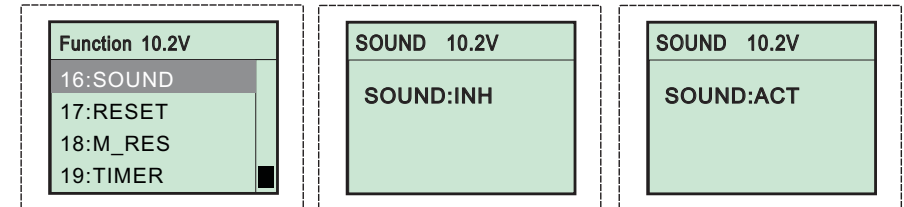


This function can calibrate the neutral of the STEERING wheel or THROTTLE trigger.

1. Press “Roller” to see FUNCTION MENU
2. Use the roller to select the NEUTRAL function and press the roller to enter.
3. Use the roller to select YES.
4. Press the roller to calibrate the neutral.
5. Press “Back” again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

Note: Don't movement the STEERING wheel or THROTTLE trigger in the calibrate procedure.

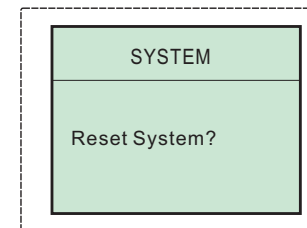
## 2.20 SOUND



This function can open or close the buzzer sounding.

1. Press “Roller” to see FUNCTION MENU
2. Use the roller to select the SOUND function and press the roller to enter.
3. Use the roller to select INH or ACT.
4. Press “Back” again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

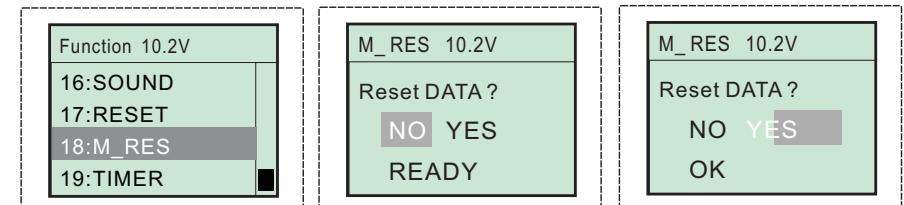
## 2.21 RESET



--All the setting in the system will be reset to the default values by this reset function. It takes about 30 seconds.

1. Press “Roller” to see FUNCTION MENU.
2. Use the roller to select the RESET function and press the roller to enter.
3. Press the roller to reset the memory.
4. Press “Back” again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

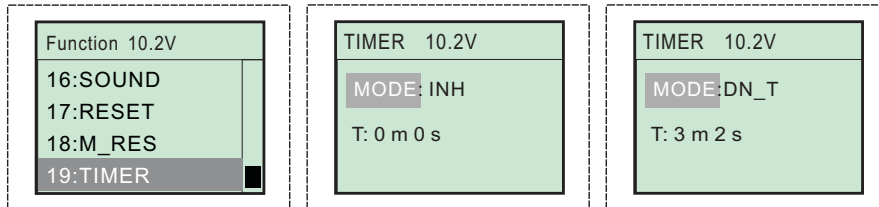
## 2.22 MODEL RESET



This function will reset the data of the current model memory to default values.

1. Press “Roller” to see FUNCTION MENU
2. Use the roller to select the M\_RES function and press the roller to enter.
3. Use the roller to select YES
4. Press the roller to reset the data
5. Press “Back” again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

## 2.23 TIMER



Use the timer by selecting one of the two timers UP TIMER and DOWN TIMER., and if the MODE is INH, It will close the TIMER Function.

- 1.Press “Roller” to see FUNCTION MENU
- 2.Use the roller to select the TIMER function and press the roller to enter.
- 3.Press the roller to select a item.
- 4.Use the roller to change the value
- 5.Press “Back” again to return to save and return to FUNCTION MENU, press the back again to return to the Main Screen.

### UP TIMER function

- Press “Roller” to select the MODE. Use the roller to select UP\_T.(UP TIMER).
- The UP TIMER can be used to count the time from 0 minute 0 second to the stop time. The stop time is set form from 0 minute 0 second to 99 minute 30 second.
- The first start operation will be linked to the throttle trigger.
- The passage of time is announced by sounding of a buzzer each minute after starting.
- The buzzer will sound 'B-B-B···' when the timer is up to the stop time.

### DOWN TIMER function

- Press “Roller” to select the MODE. Use the roller to select DN\_T.(DOWN TIMER).
- The DOWN TIMER can be used to count the time from preset time 0 minute 0 second. The preset time is set form 0 minute 0 second to 99 minute 30 second.
- The first start operation will be linked to the throttle trigger.
- The passage of time is announced by sounding of a buzzer each minute after starting.
- The buzzer will sound 'B-B-B···' when the timer is down to the 0 minute 0 second.

## 3.1 Trim ADJ.

- Please start the motor or the engine while making the adjustment of these settings.
- 1 .Connect the receiver, servos, and other components and then turn on the power switches to transmitter and receiver.
  - 2.Be sure the Steering trim and Throttle trim on the transmitter are at their neutral position.
  - 3.When turning on the transmitter, please make sure the transmitter antenna is completely extended. Turn on the transmitter before turning on the receiver, while turn off the receiver before turning off the transmitter.

### Steering Trim

Steering neutral adjustments can be made by moving the steering trim knob to the left or the right.

Racers Tip

Always check and be sure the servo is at its neutral position before installing a servo. Adjust the servo horn hole position and linkage so both are parallel. When a servo saver is used place it as closer to center position as possible. Be sure the steering trim on the transmitter at the neutral position.

Trim Operation And Maximum Trav.

Changing the trim can effect the overall settings, when adjustments are made with the trims, please recheck your installation for maximum servo travel.(Sreeting EPA right side and left side ).

When Trim movement goes to extremes

That means if you make a lot of trim movement to get a servo to the neutral position, please reposition the servo horn or servo saver on the servo and inspect your linkage installation.

### Throttle Trim

Throttle neutral adjustments can be made by moving the throttle trim to the left or the right.

Racers Tip

When using a electronic speed control, please set the throttle trim to neutral and make adjustments to the speed control. On a gas powered model, set the trim to neutral and adjust the linkage to the point where carburetor is fully closed in accordance with the engine instruction manual.

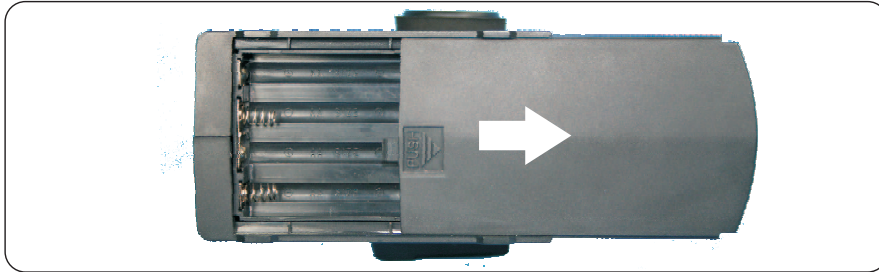
Trim Operation and Travel

Trim adjustments will effect the overall servo travel, so please check the (back-ward) movement after the adjustment

When trim movement is goes to extremes

That means if you make a lot of the trim movement to get the servo to the neutral position, please recenter the servo horn closer to the neutral position and inspect your throttle linkage.

### 3.2 Handling Procedure For Batteries



#### Battery Replacement

- 1.Remove the battery cover from the transmitter by sliding it in the direction of the arrow .
2. Remove the used batteries.
- 3.Load the new AA size batteries. Pay very close attention to the polarity marking and reinsert accordingly.
- 4 .Slide the battery cover back onto the case.

#### Caution

Always be sure your reinsert the batteries in the correct polarity order. If the batteries are loaded incorrectly, the transmitter may be damaged.

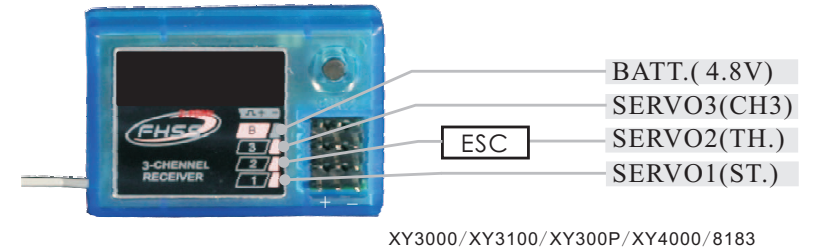
When the transmitter is not used , always remember to remove the batteries. If the batteries do happen to leak, clean the batteries case and contacts thoroughly. Make sure the contacts are free of corrosion.

#### Battery Disposal

Some countries require special handling of used of batteries ,please contact the agencies responsible for recycling hazardous wastes in your local area.

#### Battery low voltage alarm indicator.

### 3.3 Connection between Receiver and Servos(2.4G)



### Technology Data

#### TRANSMITTER **FC CE 0678**

Spread spectrum mode:FHSS  
Channels: 3  
Frequency: 2.4G  
DC: 9.6V, ≤150mA  
Net weight: 360g

#### RECEIVER

Spread spectrum mode:FHSS  
Channels: 3  
Frequency: 2.4G  
DC: 4.5~5.5v, ≤30mA  
Net weight: 9.0g