

## INSTRUCTION MANUAL

# PULSE

## EX4SPRO

### DIGITAL SYSTEM

ETRONIX  
MODEL ELECTRONICS



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**WARNING:**  
This manual is suitable for  
15 years old and above

**1. INTRODUCTION**  
Thank you for choosing the Etronix EX4PRO 4channel 2.4GHz Frequency-Hopping Spread Spectrum Digital proportional R/C for car and boat surface system. If it's your first use of a computerized radio system, this user manual will bring you easily to a new world of fun and sophistication. In all cases, please read carefully and completely this user manual as it contains all information to keep you safe and others.

**2. SERVICES**  
If you encounter any problem during use, please refer to this manual. If the problem still persists, please contacting your local distributor or connect to our service to get support. Website: Etronix-rc.com



### 3. SPECIAL SYMBOLS

Please pay attention to the following symbols when they appear in the manual and read carefully.



**DANGER**  
Not following these instructions may expose the user to serious injuries or death.



**WARNING**  
Not following these instructions may expose others to serious injuries.



**ATTENTION**  
Not following these instructions may expose the user to minor injuries and even to serious injuries.

### 4. SAFETY GUIDE:

- Do not use at night or in a lightning storm as the bad weather could make the radio lose connection and the model could lose control.
- Make sure the direction of all servos is the same as the operating direction. If not, please adjust direction before your first use.
- The shut down sequence must be to first disconnect the receiver battery then to switch off the transmitter. If the transmitter is switched off while the receiver is still powered, it may lead to uncontrolled movement or engine start and may cause an accident.
- Be sure to set the Fail-Safe function is working situation, after finish F/S every time, please follow by turning off the transmitter.
- Do not operate outdoors on rainy days, run through puddles of water or use when visibility is limited. Should any type of moisture (water or snow) enter any component of the system, erratic operation and loss of control may occur.

#### Do not operate in the following places.

- Near people or roads, On any pond when passenger on boats is present.
- Near high tension power lines or communication broadcasting antennas.
- Interference could cause loss of control. Improper installation of your Radio Control System in your model could result in serious injury.

- Do not operate this R/C system when you are tired, not feeling well or under the influence of alcohol or drugs. Your judgment is impaired and could result in a dangerous situation that may cause serious injury to you as well as others.

- Do not touch the engine, motor, speed control or any part of the model that will generate heat while the model is operating or immediately after its use. These parts may be very hot and can cause burns.

#### Always perform an operating range check prior to using.

- Problems with the radio control system as well as improper installation in a model could cause loss of control. (Simple range test method). Have a friend hold the model or clamp it down or place it where the wheels or prop are unable to come into contact with any object. Walk away and check to see if the servos follow the movement of the controls on the transmitter. If you notice any abnormal operation do not operate the model. Also check to be sure the model memory matches the model in use.

#### Before powering up.

- Always check the throttle trigger on the transmitter is at the neutral position and TH trim too. When adjusting the model, do so with the engine not running or the motor disconnected. You may unexpectedly lose control and create a dangerous situation.

The 2.4GHz radio band has a completely different behavior than previously used lower frequency bands. Keep always your model in sight as a large object can block the RF signal and lead to loss of control. The 2.4GHz RF signal propagates in straight lines and cannot get around objects on its path. Never grip the transmitter antenna when operating a model as it degrades significantly the RF signal quality and strength and may cause loss of control.

Always turn on the transmitter first then the receiver. When turning off the system, always turn off the receiver first then the transmitter. This is to avoid having the receiver on itself as it may pick up a wrong signal and lead to erratic servo movements. This is particularly important for electric powered models as it may unexpectedly turn on the motor and lead to injuries.

### 5. TRANSMITTER AND RECEIVER SPECIFICATIONS

<b>Transmitter specifications:</b>	<b>RECEIVER SPECIFICATIONS:</b>
Item : ET1111 EX4SPRO	Item : ET1165 EX4SPRO
Channels : 4CH	Channels : 4
Model type : Car/Boat	Model type : Car/Boat
RF range : 2.40 ~2.48GHz	RF range : 2.40-2.48GHz
Bands : 208	Bands : Num. 208
RF power : less than 20 dBm	2.4G system : FHSS
2.4G system : FHSS	Code type : 2-FSK
Code type : 2-FSK	Power : 4.6V - 8.4V
Sensitivity : 1024	Weight : 8g
Low voltage warning : (less than 4.9V)	ANT length : 170mm
Charger port: Yes	Size : 13x20x30mm
Power: 4.9V~8.4V	Rx Sensitivity : -105 dBm
Weight: 500g	Certificate : CE
Size : 100x190x220mm	
Certificate: CE, UKCA	

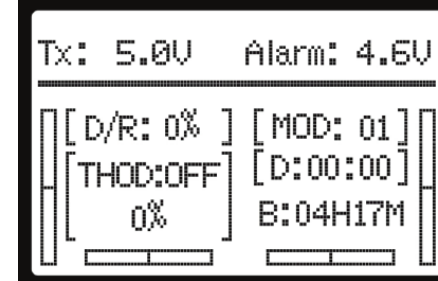
### 6. BINDING



Press the "ENT" button and switch on transmitter (Tx), the Tx LCD screen flashing and buzzer sound "B-B-B...". Radio system is now in Bind Mode. Connect the receiver (Rx) to power and the Rx green LED light slowly flashes. Keep the Rx BIND white button pressed until Rx green LED light flashes quickly several times followed by a slow flash, now release the button as it indicates a successful bind. Turn off Tx power and switch on it again. Then the Rx green LED light becomes solid , now the radio is in its working state and the radio system is bound.

NOTE: When binding, please don't put the receiver antenna too close to the transmitter antenna. It's better to be around a 20CM distance away as too close and the signal may jam, and the binding process will be unsuccessful.

### 7. MAIN SCREEN AND MAIN MENU



1. MONITOR	6. ABS
2. EPA	7. MODEL
3. REVERSE	8. FAIL SAFE
4. ST CURVE	9. SOUND
5. TH CURVE	10. SW SET
11. TH HOLD	12. D/R
12. D/R	13. MIXING
13. MIXING	14. TIMER
14. TIMER	15. ALARM VOLTAGE
15. ALARM VOLTAGE	16. REST

### 8. FUNCTION INTERFACE

#### Monitor

The Servo Monitor function displays the output levels of the four different channels in bar graph form and numbers, add numbers more intuitive expression, allowing you to monitor servo operation in a virtual manner. This allows you to see servo movement and make setting changes without having the receiver turned on. Using the Servo Monitor function while making setting changes can also make it easier to understand the setting changes, you're making. Operation of the Steering, or movement of the Throttle, or 3CH and 4CH movement, or TH HOLD setting range, when a mixing function setting, etc all can be easily checked in here.

CH1	1500
CH2	1500
CH3	1000
CH4	1000

#### TH Curve

This feature allows the end throttle and brake side direction servo operation to speed up or slow down but does not affect the total amount of servo travel.  
BACK EXP default value is 0%, the range of -100% - 100%, while a positive percentage, brake fast, slow and vice versa. FRONT EXP default value is 0%, -100% -100% range; positive percentage, start fast, slow and vice versa.

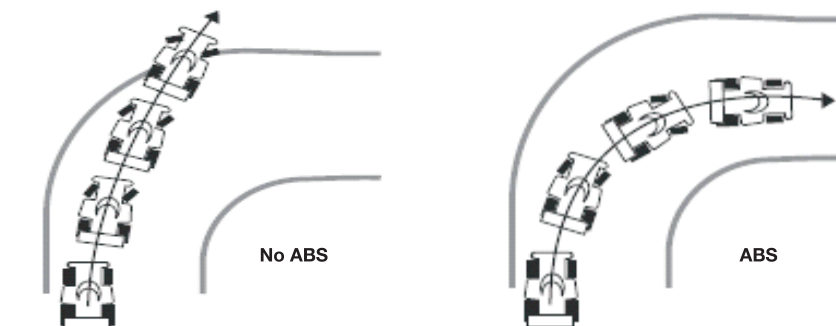
Press "ENT" into function menu  
Use the U+/D- Keys to select the TH CURVE function and press "ENT".  
Use the R+/L- Keys to change the parameter value.  
Press "EXT" button to save the settings and return to function menu.



#### ABS

ABS is a kind of anti-lock braking system security control, both ordinary braking system, but also to prevent wheel lockup, so that the model car in the braking state can still turn, guarantee or other large four-wheel drive model car, brake movement direction at high-speed stability, prevent skidding and deviation.

ABS:	OFF
PT:	0
WD:	0
CY:	0
DT:	0



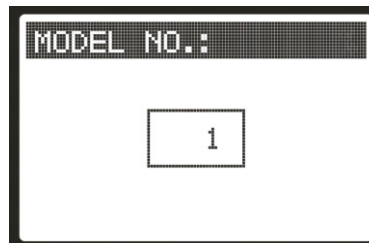
Press "ENT" into function menu  
Use the U+/D- Keys to select the ABS function and press "ENT", press the R+/L- Keys to select ON / OFF

Select PT items, adjusting Range: 0 ~ 100 (the default value is 0)  
Step with PT entry, select and set WD items. Range: 0 ~ 100 (default is 0)  
Step with PT entry, select and set CY items. Range: 0 ~ 30 (default is 0)  
Step with PT entry, select and set DT items. Range: 0 ~ 5 (default is 0)  
Press "EXT" button to save the settings and return to function menu.  
Notes abbreviated terms:  
PT - Position of the throttle trigger when ABS works.  
WD - Brake return amount.  
CY - Cycle speed. ABS operation cycle. The smaller value, the faster cycle.  
DT - From the braking point back to the time of the release point.

#### Model

This function is used to select the model memory, the transmitter has 6 model memories for use with different models

Press "ENT" into function menu  
Use the U+/D- Keys to select the MODEL function and press "ENT".  
Use the R+/L- Keys to change the parameter value.  
Press "EXT" button to save the settings and return to function menu. NOTE: When changing models, servos delay may happen, you can solve this question by turning off transmitter and switching it on again.



#### Fail Safe

If the signal loss occurs, the receiver can set the value of throttle servo to the fixed position.

Press "ENT" into function menu  
Use the U+/D- Keys to select the FAIL-SAFE function and press "ENT".  
Use the R+/L- Keys to select ON / OFF.  
Put the stick to the fixed position and "SETTING" showing the fixed value Use the U+/D- Keys to select "SET DONE", and press "ENT" button to finish the process.  
Press "EXT" button to save the settings and return to function menu.

FAIL SAFE:	OFF
SETTING	1000
TH STATE	1500
SET DONE	

TH STATE values: 1000US 2000US, 1500US default is neutral position.

#### Sound

This function is used to control the beep sound when pressing the buttons, select the sound On or Off.

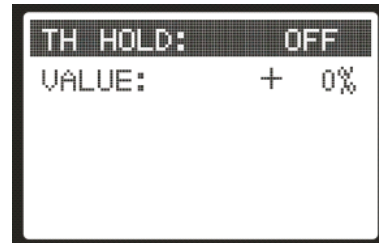
Press "ENT" into function menu  
Use the U+/D- Keys to select the SOUND function and press "ENT".  
Use the R+/L- Keys to change the parameter value.  
Press "EXT" button to save the settings and return to function menu.



#### Throttle Hold

The Throttle Hold function is used primarily with gas-powered models. For example, when set to a negative value, you can stop the engine with only a toggle switch. This feature is often used with R/C models and is also known as "Engine Cut". When set to a positive value, the throttle can be held open a desired amount with only by toggle switch. This feature is often used to hold the engine at a steady idle while refueling during a race.

Press "ENT" into function menu  
Use the U+/D- Keys to select the TH HOLD function and press "ENT".  
Use the R+/L- Keys to select ON / OFF and change the parameter value.  
Press "EXT" button to save the settings and return to function menu.

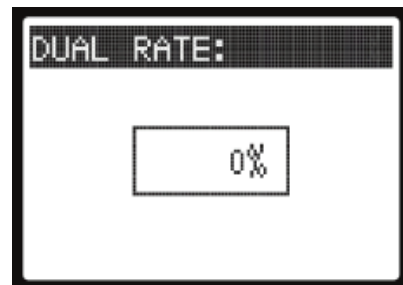


NOTE: When TH-HLD is active, the throttle servo is locked to the TH-HLD value, regardless of the current throttle stick position. So turn on TH HOLD function, it use the switch assigned this function. Seeing the function SW SET that SWITCH-R should be is THOLD.

#### D/R

D/R - Dual Rate, Decreases the vehicle's steering travel range.

Press "ENT" into function menu  
Use the U+/D- Keys to select the D/R function and press "ENT".  
Use the R+/L- Keys to change the parameter value.  
Press "EXT" button to save the settings and return to function menu.



NOTE: RATE: 0 (no steering at all) to 100% (same as EPA). Default: 0%.

#### 8 - 13 Mixing

Channel MIXING function, for example The Brake Mixing is used primarily with 1/5th scale gas-powered models or other types of models that use two separate brake servos. Brake servo Delay can be set for the 2nd channel brake, the 3rd channel brake, or the 4th channel brake either independently or at the same time.

Press "ENT" into function menu  
Use the U+/D- Keys to select the MIXING function and press "ENT".  
Use the R+/L- Keys to change the parameter value.  
Press "EXT" button to save the settings and return to function menu.

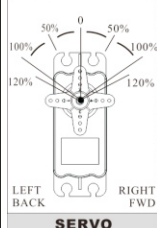


Press "ENT" button into function menu.  
Use the U+/D- Keys to select the MONITOR function and press "ENT".  
Pushing the ST and TH stick to check movement range, especially the neutral point value. Neutral position corresponding pulse width is 1500us (Allow positive and negative deviation 20us, 1480us -1520us is normal).  
TERMS: ST-Steering CH1, TH-THROTTLE CH2.

### EPA (End Point Adjustment)

CH1--UP:	100%
--DW:	100%
CH2--UP:	100%
--DW:	100%
CH3--UP:	100%
--DW:	100%

--DW:	100%
CH3--UP:	100%
--DW:	100%
CH4--UP:	100%
--DW:	100%



Use this when performing left and right steering angle adjustments, throttle high side/brake side operation amount adjustment, and channel 3 and 4 servo upside/downside operation amount adjustment during linkage.

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

Press "ENT" into function menu  
Use the U+/D- Keys to select the EPA function and press "ENT".  
Use the R+/L- Keys to change the parameter value.  
Press "EXT" button to save the settings and return to function menu. Abbreviations: CH1 - Steering, CH2 - throttle.

#### Reverse

This function reverses the direction of operation of the servos related to steering, throttle, and channel 3 and 4 operation.

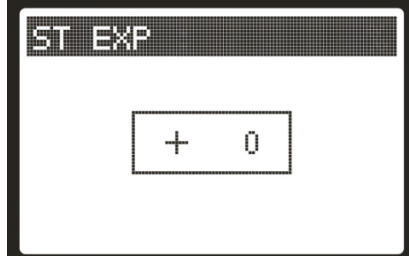
Press "ENT" into function menu  
Use the U+/D- Keys to select the REVERSE function and press "ENT".  
Use the R+/L- Keys to change the parameter value.  
Press "EXT" button to save the settings and return to function menu. Abbreviations: CH1 - Steering, CH2 - throttle.

CH1:	NOR
CH2:	NOR
CH3:	NOR
CH4:	NOR

#### ST Curve

This function is used to change the sensitivity of the sites around the steering servo, the servo does not affect the total amount of the stroke. Adjusting to positive 100% the rotation center position will be sensitive. To a 100% negative direction, rotation ends sensitive. When the setting is not identified or characteristics of the model is ambiguous, the value starts at 0%.

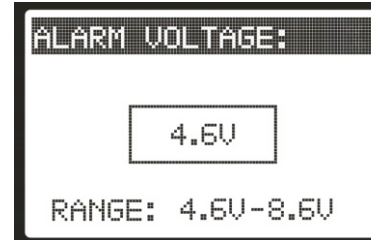
Press "ENT" into function menu  
Use the U+/D- Keys to select the ST CURVE function and press "ENT".  
Use the R+/L- Keys to change the parameter value.  
Press "EXT" button to save the settings and return to function menu. Adjustment range: - 100% - 100%, default: 0% (linear), EXP - Exponential



#### Timer

Timer starting put the TH stick the electronic value more than 1600US or less than 1400US, the Timer start UP timer or DOWN time. This function provides the user accurate time data for tracking laps, practicing, keeping track of fuel and battery usage, etc.

TIMER:	OFF	TIMER:	OFF
MODE:	DW	MODE:	UP
MIN:	0	MIN:	0
SCE:	10	SCE:	10



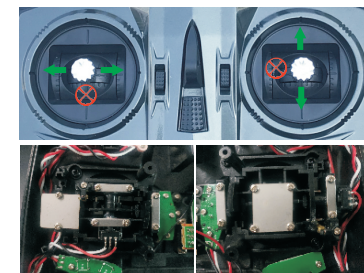
#### Alarm Voltage



#### Reset

#### Important Notice

Please do not forcefully move the sticks in the direction of the red indicators. The radio is a converted flight radio and for the purpose of use with surface models only. The sticks are fixed into the position and the internals can be damaged if the sticks are forced in the wrong direction, voiding any warranty.



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