

# AERO-MATE

## Multifunction Unit User's Manual

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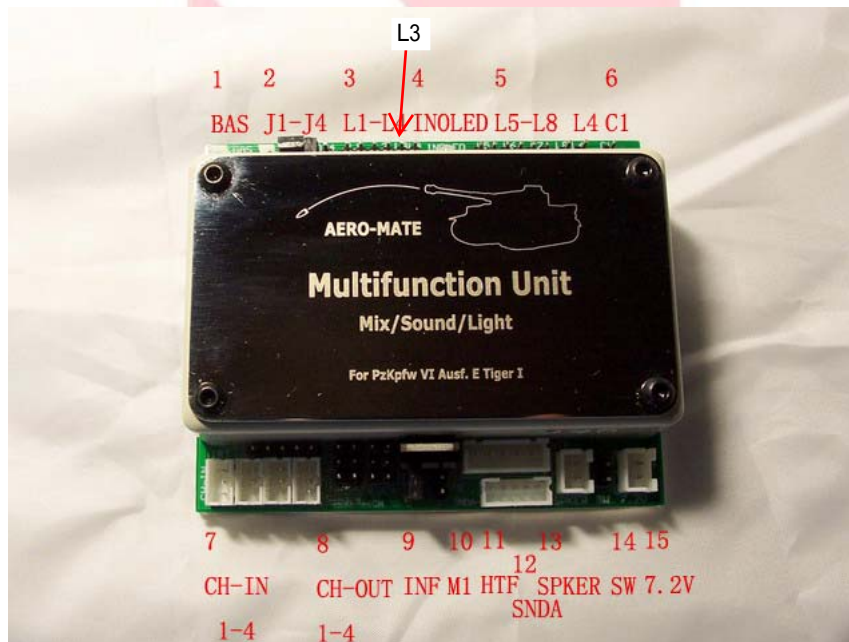


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# 1. Multifunction Unit Intro



## 1. BAS

BAS is an option part.

## 2. Jumper (J1—J4)

Description:

J1: Short: Setup mode (in condition of setup Transmitter & Receiver only)

Open: default, work mode

J2: Short: disable mix of Multi Unit (MIX)

Open: default, enable mix of Multi Unit

J3: Short: default, Simulating recoil movement



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Open: True recoil movement by Using C1

J4: Short: Disable whole vehicle recoil movement Simulation

Open: default, enable

**Caution: Set jumper when power is off.**

### 3. Light (L1-L4)

Connect to LED units.

L1: Front light, 2pcs

L2: Rear Light, 2pcs

L3: 88 Gun Firing Light

L4: MG34 Firing Light

### 4. INDLED: Multi Unit work status LED

1. When Multi unit works, LED is in 'green'; else 'Red', that means it has problems with it.

2. when multi Unit is in setup mode

LED changes from red/Green to indicate status of signals come from receiver, more info ,see below

### 5. Function Output(L5-L8)

L5: Elevation SW1



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L6: Elevation SW2

L7: Reverse LIGHT,2pcs

L8: LAZER LIGHT

**Caution: note polar of each wire. '+' is up, '-' is down**

## 6. Barrel Recoil Switch (C1)

Connect to Barrel Recoil Switch.

## 7. To Receiver (CH-IN):

1. 1ST: To **AILE**, for tank forward/backward
2. 2TH: To **ELEV**, for tank left/right
3. 3CH: To **THRO** , for tank functions selection/gun firing
4. 4CH: To **RUDD**, for tank functions selection/

## 8. To ESC (CH-OUT)

1. CH-OUT: E1, To Brushless ESC L or To Brushed ESC E1
2. CH-OUT: E2, To Brushless ESC R or To Brushed ESC E2
3. CH-OUT: E3, To Brushed ESC E3
4. CH-OUT: E4, To Brushed ESC E4

**Caution:**

Info-signal, white or orange wire

'+'-positive pole, red wire

'-'-negative pole, black wire



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## 9. +5V Power Supply For ESC (INF)

Short: enable

Open: disable

## 10. To Recoil Motor (M1)

Connect to Recoil Motor

## 11. To High Voltage Flash Unit (HTF)

Connect to **High Voltage Flash Unit**

## 12. To Vol ADJ (SNDA)

Connect to **Vol ADJ Unit**

## 13. To Speaker (SPKER)

Connect to Speaker

## 14. To Power Switch (SW)

Connect to **Power Switch**

## 15. To battery (7.2V)

Connect to battery. 6 cells Ni-xx (NiMH or NiCd) 2 cells Li-Po.



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## 2. Transmitter & Receiver setup

Need Transmitter & Receiver setup before using this Multi Unit.

1. First connect speaker/Power Switch/Battery to SPKER/SW/7.2V of Multi Unit.
2. Make sure J1 is short. Then connect **AILE** of receiver to CH-IN 1ST. Other channels are not connected.
3. Turn on transmitter
4. Switch on Multi Unit
5. You will hear a 'dong' sound indicating in setup mode
6. Adjust trim of **AILE** to fulfill conditions below:
  - a) In neutral: LED flashing in RED/GREEN alternately. Else you need adjust trim.



- b) Left (Up), LED in GREEN, Right (down) LED in RED. Else you need change N/R of AILE.



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1234

7. Switch off Multi Unit when finishing. Connect 1ST to ELEV/THRO/RUDD. Repeat steps until the completion of ELEV/THRO/RUDD. Power off the Multi Unit, make sure J1 in 'open' status.

**Caution: If any channel of your Transmitter can't fulfill conditions above, you may try a new Transmitter.**



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### 3. Connections

We use a FT06-A as an example.

CH1-AILE

CH2-ELEV

CH3-THRO

CH4-RUDD



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**Connection table**

AERO-MATE Multifunction Unit			Connect To	MEM
No	Name	Status		
1	BAS		BAS Unit	
2	J1	OPEN/SHORT		DEFAULT IN RED
	J2	OPEN/SHORT		
	J3	OPEN/SHORT		
	J4	OPEN/SHORT		
3	L1		FRONT LIGHT	
	L2		REAR LIGHT	
	L3		88 Firing LIGHT	
	L4		MG34 LIGHT	
4	INOLED	In 'GREEN'		
5	L5		Elevation SW1	
	L6		Elevation SW2	
	L7		Reverse LIGHT	
	L8		LAZER LIGHT	
6	L4		Coaxial MG34 LIGHT	
	C1		Recoil SW	
7	1ST		Receiver AILE	
	2END		Receiver ELEV	
	3RD		Receiver THRO	
	4TH		Receiver RUDD	
8	E1		Brushless ESC 1	Brushed ESC E1
	E2		Brushless ESC 2	Brushed ESC E1
	E3		Brushed ESC E3	Turret rotation
	E4		Brushed ESC E4	88 Gun elevation
9	INF	OPEN/SHORT		
10	M1		Recoil Motor	
11	HTF		High Voltage Flash	
12	SNDA		Vol Adj	
13	SPKER		Speaker	
14	SW		Power SW	
15	7.2V		Battery	



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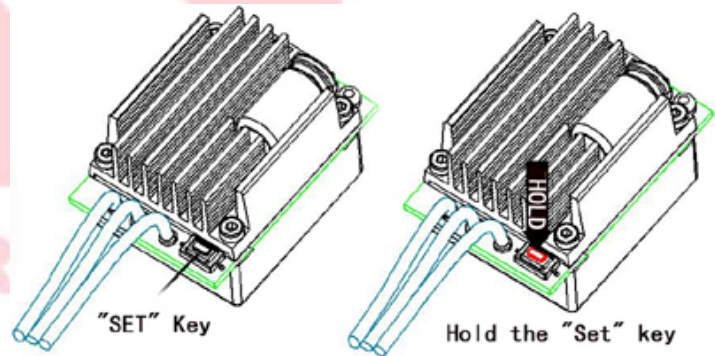
## 4. ESC SETUP- Throttle Range Calibration

4.1 Connect Battery (7.2V).

4.2 Turn on transmitter

4.3 Hold the "SET" key on the ESC and then switch on the Multi Unit(also ESC together), when the red LED begins to flash, release the key immediately.

(Please refer to the picture on the right side)



4.4 keep Engine On

'Stick R' down in 'Region PURPLE'. 'Stick L' moves to left. Engine starts.



4.5 Set the THREE points according to the steps shown in the picture below (ELEV 'stick L').

1) Neutral point: press "SET" key once, LED flashes 1 time, and motor emits 'beep' tone.

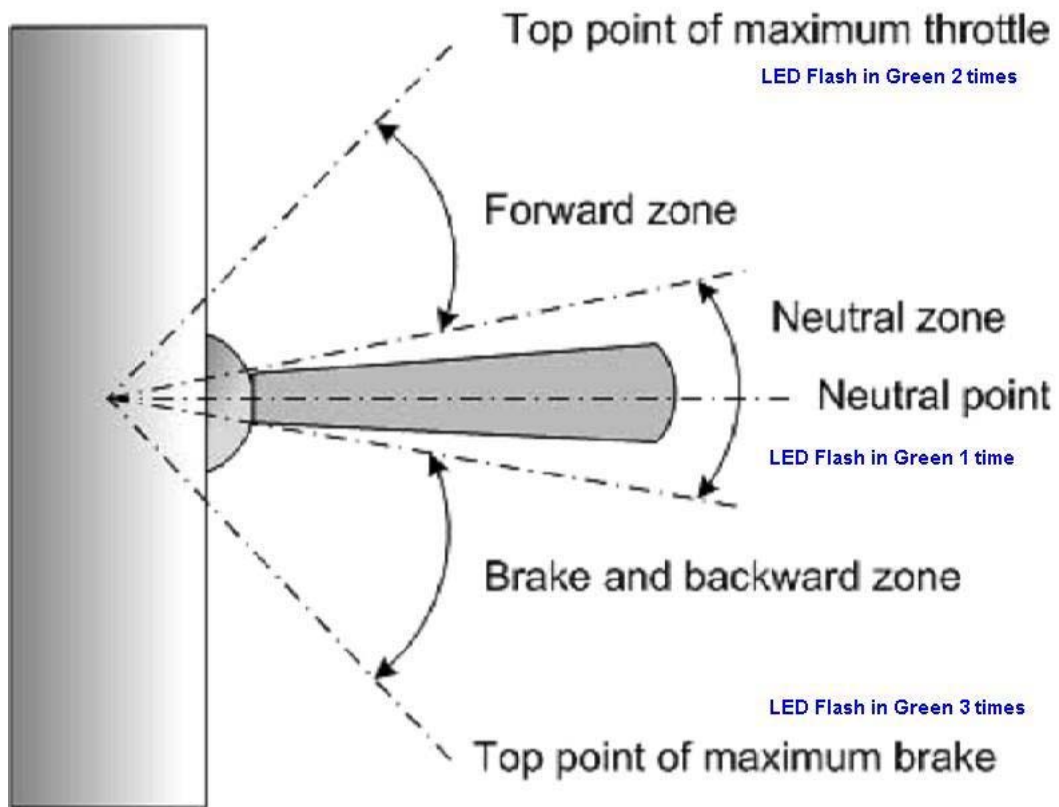


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- 2) End point of forward direction: press "SET" key once, LED flashes 2 times, and motor emits 'beep- beep' tone.
- 3) End point of backward direction: press "SET" key once, LED flashes 3 times, and motor emits 'beep- beep- beep' tone.



- 4) When the process of calibration is finished, the motor can be started after 3 seconds.

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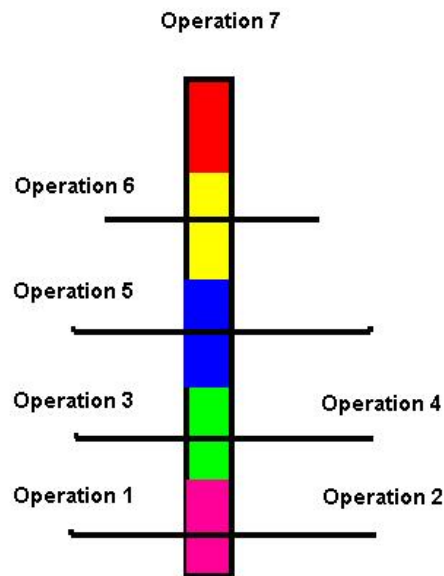
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## 5. HOW TO USE

We use a normal 4 channel transmitter to operate.

### 1.Functions On/Off



There are 5 function regions differing in 5 colors by using **THRO** sticker and 7 operations by using **RUDD** sticker describe below:

1. Region RED: 88 Gun Firing
2. Region YELLOW: Barrel Elevation
3. Region BLUE: Turret Rotation
4. Region GREEN: LIGHT On/Off
5. Region PURPLE: Engine On/Off and MG34 firing



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There are 7 operations .

### Operation1: Engine On/Off

'Stick R' down in 'Region PURPLE'. 'Stick L' moves to left. Engine starts. Then move to neutral. 'Stick L' moving to left again, Engine goes off.



### Operation2: MG34 Firing

'Stick R' down in 'Region PURPLE'. 'Stick L' moves to right, MG34 will keep firing. When moving to neutral, MG34 stops firing.



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**Operation3: Music On/Off (131Tiger I only)**

'Stick R' down in 'Region GREEN'. 'Stick L' moves to left, **Music** on.  
Then to neutral. 'Stick L' moves to left again, **Music** off.

**Operation4: Front / Rear LIGHT On/Off**

'Stick R' down in 'Region GREEN'. 'Stick L' move to right 1<sup>st</sup> time,  
Front LIGHT on. Then move to neutral. 'Stick L' move to left again,  
Rear LIGHT On.

'Stick L' move to right 3<sup>rd</sup> times, Front LIGHT goes off.

'Stick L' move to right 4<sup>th</sup> times, Rear LIGHT goes off.

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**Operation5: Turret Rotation**

'Stick R' in 'Region BLUE'. 'Stick L' moves to right, Turret starts a left rotation.



'Stick L' moves to left, Turret starts a right rotation.

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**Operation6: Barrel Elevation**

'Stick R' in 'Region YELLOW'. 'Stick L' moves to right, Barrel rises up.



'Stick L' moves to left, Barrel goes down.



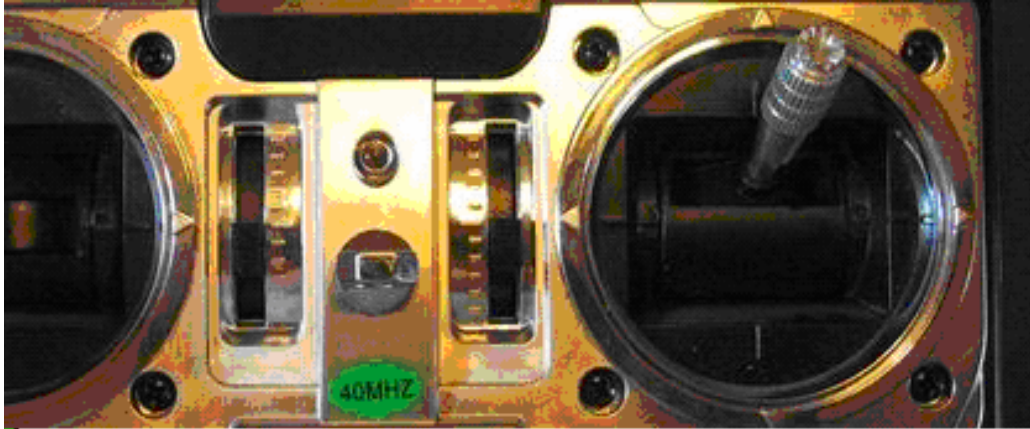
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## Operation 7: 88 Gun Firing

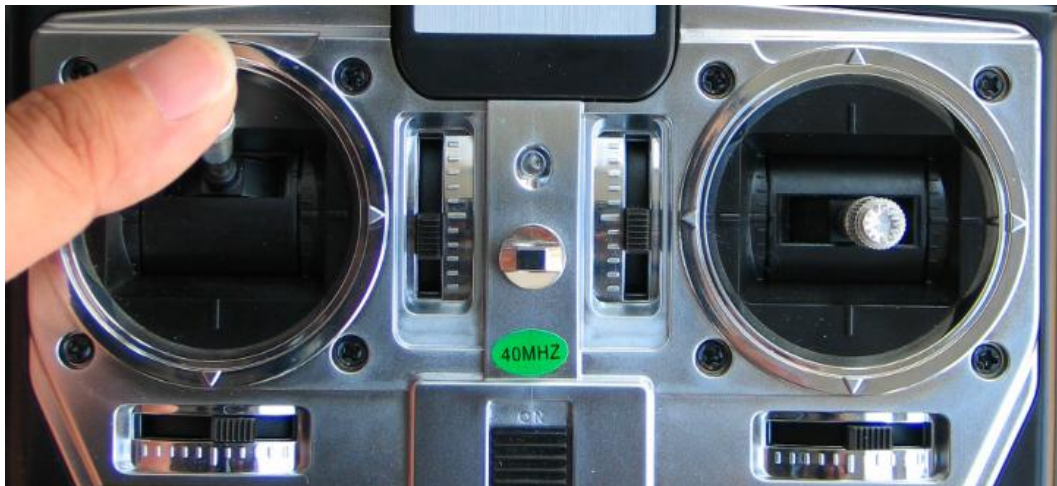
'Stick R' moving to 'Region RED', 88 Gun Firing.



## 2. Forward /Backward/Pivot turning/ Turing

### 1. Forward/Backward

When engine starts, 'stick L' forward, Tiger 1 moves forward.

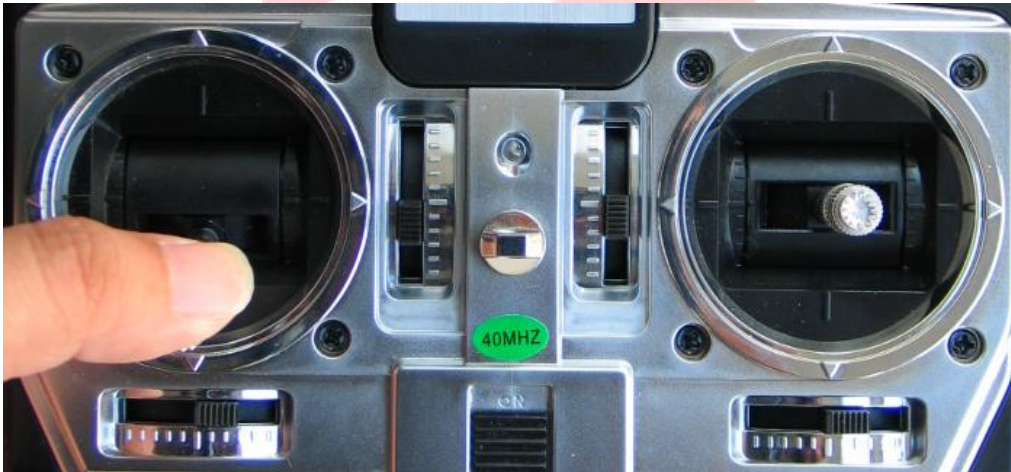


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'Stick L' backward, Tiger 1 moves backward.



## 2. PIVOT TURNING

When 'Stick L' in neutral, moving 'Stick R' to right, **then 'Stick L' to up**, Tiger 1 makes a right PIVOT TURNING.



When 'Stick L' in neutral, moving 'Stick R' to left, **then 'Stick L' to up**, Tiger 1 makes a left PIVOT TURNING.



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### 3. Left/right turning

When Tiger 1 is moving forward/backward, moving 'Stick R' to left/right, Tiger 1 will make a left/right turning.

## 6. Recoil Movement Setting

You can adjust Recoil movement yourself

1. Switch on transmitter.
2. Keeping 'Stick L' (used as throttle) in max of backward, switch on Multi Unit.



3. You will hear a 'dong' sound indicating in setup mode
4. Then 'Stick L' back in neutral.



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5. recoil backward adjustment

Push 'Stick R' (used as steer) to right (more pushing, more recoil), and hold on. Then push 'Stick L' to the max of forward. You will hear a 'dong' sound indicating the end of this procedure.

6. Switch off Multi Unit.

7. Recoil forward adjustment

Repeat step 1 to 4, after that, push 'Stick R' (used as steer) to left (more pushing, more recoil), and hold on. Then push 'Stick L' to the max of forward. You will hear a 'dong' sound indicating the end of this procedure.

8. Recoil reset

Repeat step 1 to 4, 'Stick R' in neutral, then push "Stick L' to max of forward. You will hear a 'dong' sound indicating the end of this procedure. Multi Unit has been reset to its default settings.



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## 7. Trouble Shooting

SN	Trouble	Possible Reason/Solution
1	Sound becomes worse	Low battery/Replace battery
2	No sound when it is running (such as after a rapid accelerating)	Low battery. Replace battery
3	Actual Operations are different as described above.	Different transmitters have different operations. Make sure, all connections are the same as above.
4	No output	Check VOL Adj.
5	When switch on Multi Unit, the INDLED is in RED or sound is not good.	The power is unstable/Turn off the SW of Multi Unit for 5 seconds. Then Switch on.



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