User Manual of Electric Skateboard Remote Controller MTSKR1712

V2.1

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I. Functions

1. 2.4GHZ two-way communication, 126 channel, automatic frequency modulation for anti-interference;
2. 40bit ID code, very low probability of repeated code;
3. 20 meters communication distance; 16 hours working time after fully charged;
4. Built-in 420Mah lithium battery, with USB Charger Port
5. With Blue/Green LED lights, remote case is strong, and resist cracks.;
6. High and low speed can be easily switched.
7. Automatic throttle calibration when power on;
8. Reminder when remote control and receiver lose communication; when signal losses for 5 minutes, remote will automatically shut down to save power;
9. When the remote control and receiver lose communication, receiver will turn off the throttle to protect the rider;
10. Match-code memory function, remote control and receiver has fast connection when power on.
11. LED will flash red when remote battery voltage is low;
12. Forward and Reverse switching function *
13. LED indicates Skateboard battery *

Note: Functions with * need to be used with dual ESC MTDU30A.

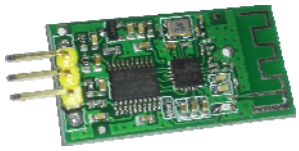
II. Technical specification

NO	Item	Specification
1	Remote battery	3.7V 420mAH
2	Output power	7dBm
3	Working current	26mA
4	Working time	16 hours
5	Control Distance	>20 meters

III. Product Details

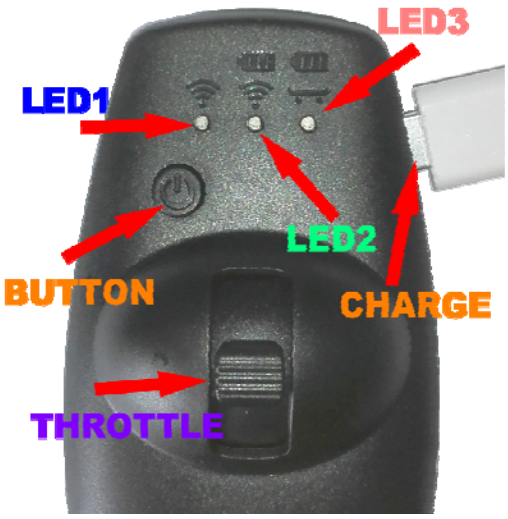
Remote control：

Receiver：



USB charging cable：

IV Structure Description：



LED1: Status Indicator
LED2: Remote Battery indicator
LED3: Skateboard battery indicator
BUTTON: Switch On/Off/High/Low speed
THROTTE: Direction & Speed Control
CHARGE: Micro USB charging port

V Preparation work before using：

1. Check remote and receiver surface, especially make sure there is no impurity and dust on receiver PCB.
2. Plug ESC signal connector to receiver contact pins in correct sequence:
If ESC signal connector is JR type, please connect "Yellow cable" to "THR" pin, "Red cable" to "+5V" pin, "White cable" to "GND" pin;
If ESC signal connector is FUTABA type, please connect "White cable" to "THR" pin, "Red cable" to "+5V" pin, "Black cable" to "GND" pin.
3. Select ESC with built-in BEC, and connect it to motor with no-load.
4. Pairing remote and receiver according to "VII".
5. After pairing successfully, shut down remote by pressing BTTON for 5 seconds. Then turn on remote, push THROTTLE, motor starts rotating; Keep pushing THROTTLE to max position, motor rotates faster. Then loose the THROTTLE and press BUTTON to switch speed, push THROTTLE again to observe motor speed.

VI Switch on/off

1. Switch on: Press BUTTON for 3 seconds,LED1/LED2/LED3 are on, then loose BUTTON, the remote is switched on successfully
2. Switch off: Press BUTTON for 3 seconds,LED1/LED2/LED3 are off, then loose BUTTON, the remote is switched off successfully.

VII Pairing

1. If remote and receiver are paired successfully before, then no need to pair them again.
2. If remote and receiver does not get paired before, please pair them according to below steps:
1) Turn off remote and receiver.

2) Press the remote control ON/OFF button for 2seconds. Remote has switched on when 3 leds light, continue to press the on/off button to enter self-detection status for 3 seconds, 3 leds flash quickly.

3) Connect power to receiver, LED 4(Red light) quickly flashes. The receiver is in searching status and auto-pairing with remote control. Red led lights steady. Pairing competed.

3. Receiver exit pairing status if it failed to search for remote when LED4 quick flashes(for about 3s), When LED4 starts slow flashing, the pairing fails.

VIII High speed/Low speed level

1. Whatever high speed level or low speed level, when THROTTLE is in middle position, receiver outputs 1.5ms PWM signal; and when push THROTTLE back to bottom, receiver outputs 1.0ms PWM signal.
2. If LED1 is slow flashing, it is low speed level. Push THROTTLE to top, receiver outputs 1.8ms PWM signal.
2. Click BUTTON and LED1 is quick flashing, it is high speed level. Push THROTTLE to top, receiver outputs 2.0ms PWM signal.

IX Forward/Backward

1. This function can be realized when this remote works with Maytech dual ESC (MTDU30A). Tt is unworkable for other ESCs.
2. Turn on remote and receiver, double click BUTTON, LED2 quickly flash 2 times, and light off for 1 second. It cycles 4 times like this. Then ESC is in Forward status.
3. Double click BUTTON again. LED2 quickly flash 1 time, and light off for 1 second. It cycles 4 times like this. ESC is in Backward status.

X LED1/LED2/LED3 status description

1. LED1/LED2/LED3 flash quickly at same time→ In Pairing status.
2. Working Status:

LED1 lights steady → Successful pairing with receiver.

LED1 slow flashing, → Unsuccessful pairing with receiver.

3. Working Status:

LED2 light off, remote battery voltage > 3.9V;

LED2 slowly flash, remote battery voltage is 3.65-3.9V;

LED2 quickly flash, remote battery voltage is 3.4-3.65V;

LED2 steadily light, remote battery voltage < 3.4V.

4. Working Status:

LED3 light off, skateboard battery voltage > 39V (with 10S battery);

LED3 slowly flash, skateboard battery voltage is 36.5-39V;

LED3 quickly flash, skateboard battery voltage is 34-36.5V;

LED3 steadily light, skateboard battery voltage < 34V.

Note: This function only is realized when working with Maytech dual ESC (MTDU30A) and the battery is 10S Lipo cells. It is not workable if with other brand speed controllers or the battery is other Lipo cells.

5. Battery charge status

LED2 light up. (If battery voltage is below 3.4V, LED2 light up steadily even remote is not charging. When charging, LED2 flashes every 0.5 second.)

When fully charged, LED2 light off.

X LED4 state description

1. Connect power to receiver, LED4 quick flashes for about 3 seconds, it is pairing status.
2. LED4 light on, Successful pairing with remote control;
3. LED4 slow flashing, Unsuccessful pairing with remote control.

XI Protection when signal loss

1. Receiver will output 1.5ms PWM signal to make ESC enter shutdown state.
2. When signal is lost for 5 minutes, remote control will automatically shut down to save power.

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