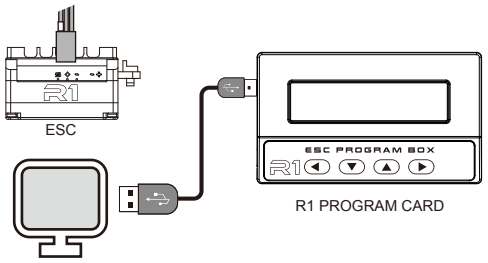
P.box USER MANUAL



■ PROGRAM SETUP YOUR ESC ■

The R1 spec has 19 different program functions available.
To customize the settings, you can connect your ESC directly to the R1 program card or connect to your PC.

■ How to use the R1 Program Card ■

***Recommended method*: Before starting, place your car on a stand and avoid touching any moving parts.

1) Insert the Rx cable into the upper input of the program card, and connect on the front side of the ESC.
   make sure to connect correctly.
   (Please use the connection at the front side of the ESC.)
2) The program card display will turn ON, and display the current software version.
3) Use scroll up and down to change the program function menu.
4) Press the select/save button.
5) Scrolling up and down can change your setting values.
6) To save the setting value, Press the select/save button again.
7) When the display has returned to the program menu, you can disconnect the ESC from the program card.
8) Turn OFF the ESC first before using again.

■ PROGAMMABLE FUNCTIONS ■

1. Operation Mode

This setting allows selection between Forward/Brake Only or Forward with Brake and Reverse or Forward with Reverse. (except brake function)
If you plan to use reverse drive, make sure to adjust the motor end bell timing to zero degree advance.

2. Reverse Speed

This setting adjusts the limit of maximum reverse speed. It offers four reverse speed values. Set a higher setting for a higher reverse speed.

3. Low Volt Cut (Battery Low Voltage Protection Threshold)

This setting adjusts the desired threshold for battery low voltage cut-off. Depending on the booster and turbo settings, battery voltage may drop significantly during high current discharge. If you need to change the value in detail, use the custom value.

4. Drag Brake

This setting adjusts the level of drag brake at neutral throttle position. Set a high level for stronger drag brake. You can change between 0% - 50% in 1% increments.

5. Initial Brake

This setting adjusts the initial (or minimum) brake level. Set a higher level for more initial bite. You can setup same to the drag brake value or adjust 0% - 50% in 1% increments.

6. Full Brake

This setting adjusts the maximum brake level at full brake position. Set a higher level for stronger brake force. Note the motor will also run hotter if the brake force is set too high.

7. Brake Frequency

This setting adjusts the brake PWM frequency.
The brake feel and efficiency will vary depending on the frequency and motor rpm. Set a lower frequency for more progressive brake feel and higher frequency for more initial bite. You can set it to 1Khz, 2Khz, 4Khz, 8Khz.

8. Power Level

This setting fine tunes the throttle response. Set a higher value for more immediate throttle response. Set a lower value for more smooth response. You may lower your motor temperature by using a lower setting. For modified motor, You can set it to Level 1 – Level 9.

9. Drive Frequency

This setting adjusts the throttle feel at partial throttle by varying the PWM frequency for forward drive.
Set a higher frequency for smoother feel at partial throttle and lower frequency for stronger acceleration.
You can set it to 2Khz, 4Khz, 8Khz, 16Khz.
***Caution:** If you set the frequency too high, ESC temperature will increase for stock and modified motors.*

10. Neutral Dead Band

This setting adjusts the width of neutral dead band suitable for your radio. Set a lower value for high quality 2.4GHz radio system. Set a higher value for low cost 2.4GHz or FM/AM radio system. Smaller value gives you more immediate response. If the value is set too small for your radio, the brake may be engaged accidentally at neutral. You can set it to 0%, 3%, 6%, 9%, 12%.

11. Temp Cut Set

This setting adjusts the thermal protection shut down temperature.
You can set it to three different values. (OFF, 176F/80celsius, 196F/90celsius.)
Note: the internal temperature sensor requires a brief moment to detect temperature change. In case of sudden current overload.

12. Boost Timing

This setting adjusts the level of boost timing available at the max boost timing. Set a higher boost timing to increase the overall available torque and rpm. Setting the boost too high will result in excessive current draw and high operating temperature of the ESC and motor.
As a general guide, we suggest to set boost between 10 – 30 for stock class motors and 0 – 20 for modify motors.
The combined total of Boost timing and Turbo timing should be below 60 to reduce risk of over loading the motor.

13. Boost RPM

This setting defines the starting motor rpm at which boost timing is activated. Boost timing is injected incrementally starting from the Boost RPM. Set a lower rpm for more low end torque and smoother boost engagement. Set a higher rpm to lower motor temperature.
As a general guide, we suggest to set the minimum Boost RPM over the 3000 for stock class motors and over the 12000 for modified motors.
Note: Booster timing will not engage if the Minimum Booster RPM is higher than the rated rpm of the motor.

This Setup is only used to R1 is disabled to menu.

14. Boost ACC (Boost Timing Acceleration)

This setting is the RPM increment of the boost timing.
Increase of 1 Degree. The lower the value it is, the more torque the motor will produce but at the expense of the motor increasing in temperature.
As a general guide, we suggest to set it over the 350RPM/ACC for stock class motors and over the 650RPM/ACC for modified motors.

15. Turbo Timing

This setting is the additional timing that is added to the Boosting Timing and is ONLY effective when the throttle is at 100% end point of activation.
The combined total of Boost timing and Turbo timing should be below 60 to reduce risk of over loading the motor.

16. Turbo Slope

This setting refers to the Turbo Timing increasing rate. The higher it is, the faster the Turbo Timing increases, and together with a quicker acceleration and higher motor temperature.

17. Turbo Delay

This setting is the amount of time “full throttle” must be held Before the turbo function engages. If the full throttle time is less than the setting value, the turbo function will NOT be activated.

18. Rotation Mode

This setting reverses the spinning direction of the motors. Use reverse setting if your chassis requires a reverse spinning direction.

19. Restore Default

Selecting this setting will erase and reset all settings to factory default values.

■ WARRANTY ■

Parts for defects and flaws of this product, please ask your dealer or distributor you purchased from along with the receipt within 120 days from the date of original purchase. The maximum amount of the above warranty, failure or defect normal wear and tear, incorrect use, due to improper repair or modification

- If you have connected in reverse polarity
- physical damaged case
- physical damage of the electronic component and the circuit board
- (except soldering external) of the circuit board soldering
- Before you send the product for warranty service, please check how to resolve the problem first and all component parts.
- To obtain warranty service for the product, you will need the receipt of the products you have purchased.
  (If you do not have a receipt, the warranty period will not be permitted).
- Please fill in the address and contact details of the defect for repairs and faster delivery.

■ PRODUCT REPAIR ■

- If the product needs to be repaired, you will need a receipt from the time of purchase.
- For repair of damaged parts, the cost of parts associated with each component will be charged.