Hifei® ESC-25A-G INSTRUCTION

Thanks to purchase the **Hifei®** brushless motor ESC produced by Chongqing EVERBEST Technology Ltd., please read this instruction carefully before use. wish you have a pleasant flight.

Warning

• When connecting the ESC, ensure that the polarity of battery is correct. Incorrect polarity may cause permanent damage to the ESC and such damage is not covered by the WARRANTY.

• When you use the ESC, turn on the transmitter BEFORE powering on the receiver.

• When you are finished, power off the receiver BEFORE turning off the transmitter.

• The limiting current is set to the standard mode in factory. It is suitable for use in most configurations. Only experienced technicians can adjust this programming.

• In Governor Mode, the brake is always disabled and the soft cutoff is always active.

• Changing the PWM may cause the motor to heat ahead of time.

• Do not play on or near water. Never allow water, moisture or any foreign object onto the PC board of the ESC.

• Damage to the controller as a result of excessively high current is not covered by the manufacturer's WARRANTY.

• Allowing water, lubricants, moisture or other foreign objects inside the ESC will VOID the WARRANTY. Exposure to CA glue or its fumes can cause damage and malfunction; this will also VOID the WARRANTY.

• Never disconnect the battery pack while the motor is running, as this could cause damage to the speed controller and/or motor.

• Never allow the separate heat sinks to touch each other or any exposed conductive surface. This may cause short circuit, damage the ESC, and VOID the WARRANTY.

• Connectors with low conductivity may cause erratic motor rotations or other unexpected movements

• If you are not using the BEC function of the ESC and are using a separate receiver battery instead you must disconnect the red wire from the controllers JR connector.

• The controller will automatically power off the motor if the battery voltage drops below the programmed cut-off voltage (factory preset at 5.0V).Try using a smaller prop on the motor, or using batteries with a higher rating. It is especially important for the user of Li-poly cells.

Features of the Hifei® ESC

• Microprocessor controlled

• Extremely low resistance

• 25A continuous (33A surge)

• Up to 12 cells NiMH/NiCad or 2~3 cell Lithium-polymer

• High rate adjustable switching (PWM:8KHz/12KHz/16KHz)

• BEC:2A

• Support 3~4 micro servos

• Auto Lipo Cells Detecting

• Programmable cutoff types (soft cutoff/hard cutoff)

• Programmable brake types (disable/soft brake/hard brake)

• Time advance programmable (low/middle/high/auto)

• Governor mode (low rpm governor/high rpm governor)

• Programmable current limiting (very sensitive/standard/insensitive/disable)

• Programmable startup types (very soft start/soft start/fast start)

• Thermal Protection (100 centigrade)

• Apply to most of inrunner and outrunner brushless motors.

• No complex programming, auto adapt work mode.

• A LED (flashes) indicates the current limiting or temperature protection is activated.

• Runs motor in forward or reverse by swapping any two motor wire connections.

• Safe "power on" arming program ensures motor will not accidentally turn on.

• Auto shut down when signal is lost or radio interference becomes severe for more than 3 seconds After radio connection has been reestablished, moving the throttle to the lowest position can restart the motor.

• The ESC is disabled when the voltage is over 15V at power-on.

Use the programmable features

1 Low Cut-off Voltage

Option 1:Auto Lipo	Auto Lipo Cells Detecting
Option2:5.0V(default)	6-8 cell NiCad or NiMH packs, or 2 cell Lithium packs
Option 3:6.0V	8 cell NiCad or NiMH packs, or 2 cell Lithium packs
Option 4:7.2V	9 cell NiCad or NiMH packs
Option 5:8.4V	10 cell NiCad or NiMH packs, or 3 cell Lithium packs
Option 6:9.0V	12 cell NiCad/ NiMH packs, or 3 cell Lithium packs
Option 7:12.0V	4 cell Lithium packs

NOTE: Low Cut-off Voltage can protect the main battery from discharged too low, and provide the normal operating voltage to receiver and servos.

2 Current Limiting

Option 1: Very Sensitivity	Low over-current threshold, will rapidly shut-down.
Option 2:Standard(default)	Moderate over-current threshold, will shut down after a slight delay. Recommended for inrunner motors.
Option 3:Insensitivity	High over-current threshold, will shut down after a slight delay. Recommended for outrunner motors. **Only experienced modelers should use this programming feature**
Option 4: disabled	Current limiting detection disabled. **Only experienced modelers should use this programming feature.**

NOTE: Default setting is recommended. If you change the setting, damage to the controller as a result of over current will be not covered by the manufacturer's warranty.

3 Brake Type

Option 1:Brake disabled (default)	Brake disabled is mainly used for helicopters.
Option 2:Soft brake	Soft brake provides 50% of full braking power. General aircraft use, with fixed or folding prop
Option 3:Hard brake	Hard brake is 70% braking power. Direct drive applications where more braking power is required. Hard brake should only be used below 12V.

4 Timing Advance

Option 1: Low advance timing 0°~ 15 °(default)	Recommended for more lower pole count motors. Gives more power and slightly less efficient.
Option 2: middle advance timing 5 °~ 20 °	Recommended for most motors .Gives a good balance of power and efficiency.
Option 3: High advance timing 15° ~ 30 °	Recommended for most of higher pole count motors
Option4:Auto	Recommended for most of all brushless motors.

5 Cutoff Type

Option 1 :Hard cutoff (default)	When battery voltage reaches cut-off voltage the motor will shutdown immediately., Motor can be restarted by closing the throttle to the lowest position and then move the throttle as
Option 2: Soft cutoff	When battery voltage reaches cut-off voltage, slowly reduces motor power to zero , you will notice a decrease in power and it is time to land, the throttle maintains its full linear.

NOTE: Soft cutoff is always automatically activated in Governor Mode.

6 Soft Start

Option 1: Very soft start	Recommended for helicopters
Option 2:Soft start (default)	Recommended for most of the fixed or fold prop airplanes, helicopters.
Option 3: Fast start	Recommended for fastest startup.

7 Governor Mode

Option 1: Auto calibrating throttle (default)	Recommended for general aircraft
Option 2: Low RPM Range	Recommended for collective pitch helicopters. Used for low pole count motors (Hacker, etc.) and low RPMs on higher pole count motors.
Option 3: High RPM Range	Recommended for collective pitch helicopters. Used for higher pole count motors and higher RPMs.

NOTE: The Governor mode acts as an RPM control. Throttle stick position determines the RPM that motor runs and the controller will attempt to hold that RPM regardless of load changes. In Governor Mo the brake is always disabled and soft cutoff is automatically active.

8 PWM Switching Rate

Option 1: 8 KHz (default)	Recommended for most brushless motors
Option 2: 12 KHz	Recommended for low inductance motors
Option 3: 16 KHz	Recommended for very low inductance motors

Note: we strongly recommend only the experienced modeler could change this setting.

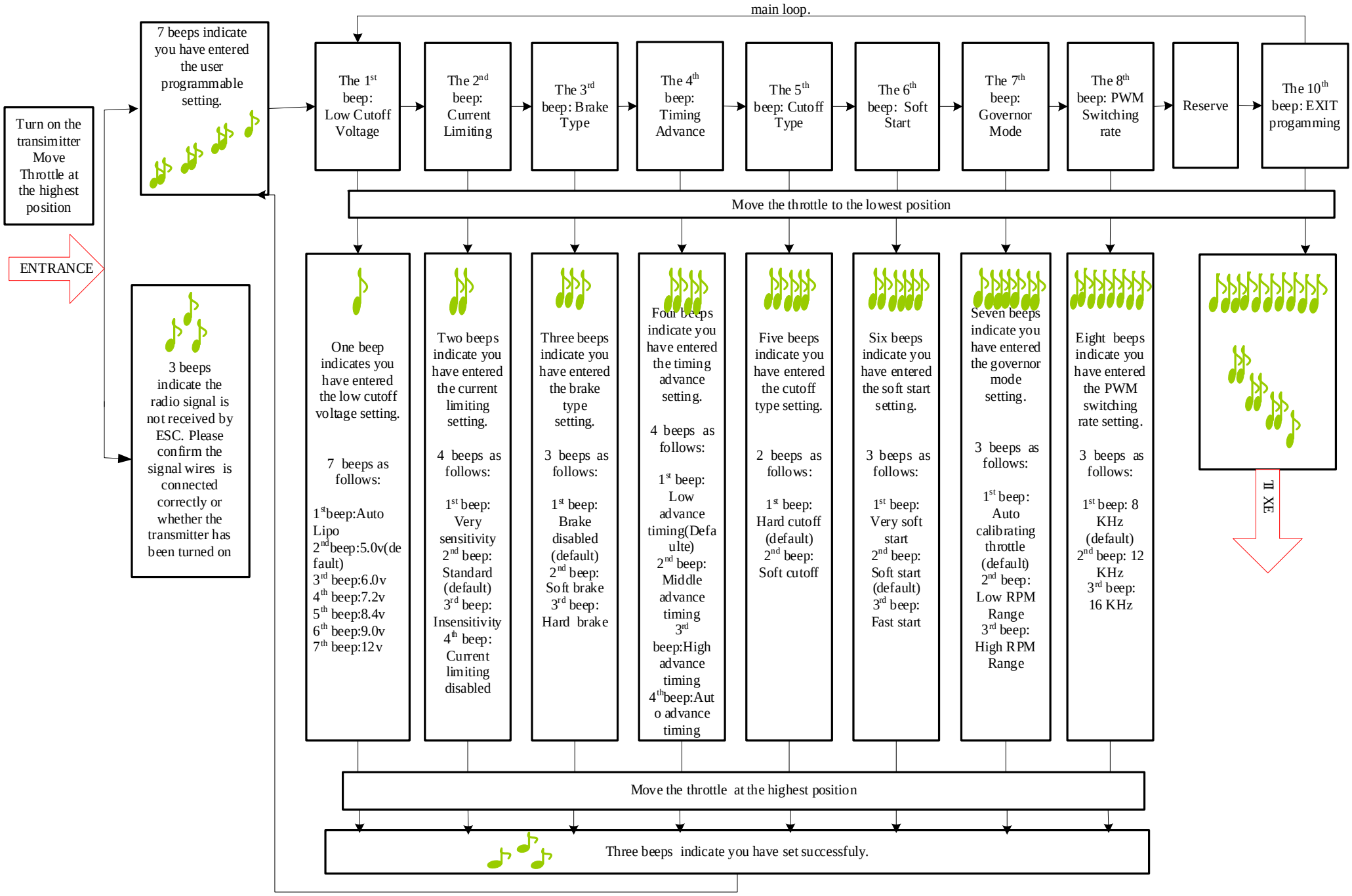

Figure 2 The User Programmable Setting Procedure