Basic installation guide

The installation of these ESC's is very simple & much like any other controller on the market.

Connect the ESC to your receiver using the servo lead, ensuring that it is plugged into the correct receiver channel (JR ch1, Futaba ch3).

Attach your motor to the 3 wires on the ESC either by using connectors or by soldering the wires together directly - the motor direction can be reversed by either: swapping any two wires or by programming if necessary.

You will also need to add your own connectors to attach to the battery. Please ensure that the connectors are rated suitably for your ESC & battery.

Take care to ensure the correct polarity of the battery connections - if these are reversed the controller will be damaged.

It is advisable to have as much airflow as possible over your ESC to help keep it cool.

Make sure that you don't apply more than the recommended maximum current to the ESC as this may permanently damage it.

Programming the RB plus controllers.

To enter programming mode:
1 - Make sure that the ESC is switched off with the power disconnected.

2 - Turn the transmitter on & move the throttle fully up (full throttle)

3 - Connect the battery to the ESC

4 - After about 2 seconds the ESC will emit a single beep & the LED will flash once - after a gap of 5 seconds you will hear 4 short beeps & 6 long beeps - these will repeat. Programming mode is now active.

5 - The long beeps represent settings that you can program - to choose one of these, move the throttle fully down on the desired beep/setting - see table A

TABLE A MENU

ESC Action	Setting	ESC Reaction	Next
1st Long Beep	Low Voltage Cutoff	1 Beep	See Table B
2nd Long Beep	Brake On/Off	2 Beeps	See Table C
3rd Long Beep	Timing Advance	3 Beeps	See Table D
4th Long Beep	Cutoff Type	4 Beeps	See Table E
5th Long Beep	Motor Direction	5 Beeps	See Table F
6th Long Beep	Exit Programming mode	2 Sec pause - then initialise	The ESC is ready to use!

Initial setup of the RB plus controllers for normal use.

- Turn on the transmitter.
- Make sure the throttle is at zero.
- Connect the battery to the ESC to turn it on.
- You should now hear a beep & the LED on the esc will flash once. The ESC will now pause for 2 secs & then beep & flash again, - this time it will either beep/flash once or twice depending on whether your brake is enabled or not.
(single beep/flash means no brake & a double beep/flash means the brake is on - *see programming Table C below*)
- Your speed controller is now ready for normal use.

Programming continued.

6 - To accept a setting, move the throttle stick to the maximum position on the beep corresponding to the setting that you want to choose.

7 - When you have set your chosen value from any of the tables below (B-F), you will go back to the Menu at Table A so you can either choose another parameter to program or exit programming mode.

Default values are indicated as '*'

TABLE B LOW VOLTAGE

ESC Action	Setting	Recommended For	ESC Response
One Short Beep			
1st Long Beep	4.8V Cutoff Voltage	6 cell NiCD/NiMH	1 Beep Back to Table A
2nd Long Beep	* 5.6V Cutoff Voltage	7 cell NiCD/NiMH 2 cell Lipo(2.8v/cell)	2 Beeps Back to Table A
3rd Long Beep	6.0V Cutoff Voltage	8 cell NiCD/Nimh 2 cell Lipo(3v/cell)	3 Beeps Back to Table A
4th Long Beep	7.2V Cutoff Voltage	9 cell NiCD/NiMH	4 Beeps Back to Table A
5th Long Beep	8.4V Cutoff Voltage	10 cell NiCD/NiMH 3 cell Lipo(2.8v/cell)	5 Beeps Back to Table A
6th Long Beep	9.0V Cutoff Voltage	12 cell NiCD/NiMH 3 cell Lipo(3v/cell)	6 Beeps Back to Table A
7th Long Beep	11.2V Cutoff Voltage	4 cell Lipo (2.8v/cell)	7 Beeps Back to Table A
8th Long Beep	12.0V Cutoff Voltage	4 cell Lipo (3v/cell)	8 Beeps Back to Table A

Using some of the ESC features

BEC - the Battery Elimination Circuit supplies power to your receiver, eliminating the need for a seperate receiver pack. If you wish to disable to the BEC, carefully cut the red wire in the trio of receiver wires - simply use a pair of wire cutters to remove a section of the red wire, ensuring that you insulate the cut wire with some electrical tape or something similar.

Low Voltage Cutoff - The power to the motor will be cut when the input voltage drops below a programmed cutoff voltage for more than half a second. It is advisable to select the hard cutoff in the programming menu for normal use.

Loss of transmitter signal, or excessive interference will result in the motor cutting out. If this happens, once the radio signal has become active again, the ESC can be restarted. Hold the throttle in the off position for four seconds - it will then be running again as normal.

The LED on the ESC will light up when full throttle has been reached.

TABLE C BRAKE ON/OFF

ESC Action	Setting	ESC Response
Two Short Beeps		
1st Long Beep	* Brake Off	1 Beep Back to Table A
2nd Long Beep	Brake On	2 Beeps Back to Table A

TABLE D TIMING ADVANCE

ESC Action	Setting	Recommended For	ESC Response
Three Short Beeps			
1st Long Beep	4° - 10°	12+ pole motors & Outrunners	1 Beep Back to Table A
2nd Long Beep	* 10° - 20°	6 or 8 pole motors	2 Beeps Back to Table A
3rd Long Beep	20° - 30°	High Rewving 2 or 4 pole motors	3 Beeps Back to Table A

TABLE E CUTOFF TYPE

ESC Action	Setting	ESC Response
Four Short Beeps		
1st Long Beep	Hard CutOff	1 Beep Back to Table A
2nd Long Beep	* Soften Power	2 Beeps Back to Table A

TABLE F MOTOR DIRECTION

ESC Action	Setting	ESC Response
Five Short Beeps		
1st Long Beep	* Motor normal direction	1 Beep Back to Table A
2nd Long Beep	Reverse Motor Direction	2 Beeps Back to Table A

10, 18, 25 & 36 Brushless Speed Controllers

Features of the controllers:

10 - 10amps continuous, 13amps peak*
18 - 18amps continuous, 25amps peak*
25 - 25amps continuous, 35amps peak*
36 - 36amps continuous, 45amps peak*

- 12 NiCD/NiMH or 4 Lipo's max w/BEC disabled
- upto 3 Lithium cells with 3 micro servos
- 1 amp BEC
- Low torque 'soft start'
- Over Temperature protection
- Voltage cut off selectable to:
  4.8v, 5.6v, 6.0v, 7.2v, 8.4v, 9.0v, 11.2v, 12.0v
- Programable timing
- Low Resistance
- 10kHz switching rate
- Auto shut down on signal loss
- Weight:
  05 plus - 8g/0.28oz
  10 plus - 14g/0.49oz (6g/0.21oz no wires)
  18 plus - 17g/0.6oz (7g/0.25oz no wires)
  25 plus - 18g/0.63oz (7g/0.25oz no wires)
  36 plus - 21g/0.74oz

**Peak ratings are for less than 15 secs*