Speed Controller Programming Instructions

For Advance programmable Normal Aircraft/Boat ESC

80A ESC

This is 80A ESC with 5V BEC. It comes with heatsink and a wrap for protecting the circuit. It is a programmable ESC and follow the instructions below for how to change the respective settings.

Phrases 1: Enter programming Mode

- Connect your motor and receiver to the speed controller, but do not connect the battery yet.
- Turn on your transmitter and move the throttle stick to the full throttle position (full up). Please Note: Most Futaba transmitters have the throttle channel reversed by default.
- Connect your battery and the controller will initialize with a musical tone.

Phrases 2: Programming

After 3 seconds, the controller will start beeping a sequence of tones – a musical tone followed by one or more beeps. Each sequence represents a parameter that you can program and is repeated 3 times. The parameters are:

♪—	Music Tone + 1 Beep	Options 1. Cell Type and No. of Cells
♪— —	Music Tone + 2 Beeps	Options 2. Throttle Setting
♪— — —	Music Tone + 3 Beeps	Options 3. Brake Setting
♪— — — —	Music Tone + 4 Beeps	Options 4. Direction and Cutoff Type
♪— — — — —	Music Tone + 5 Beeps	Options 5. Timing Mode
♪— — — — — —	Music Tone + 6 Beeps	Option 6. PWM setting

Step 1. Starting, Enter Sub-options. When you hear the sequence for the parameter you wish to program, move the throttle stick to the **Center Position to Enter Sub-options**. The controller will then start **beeping a Morse code sequence of** short and long beeps representing the possible options you may choose for the selected parameter. See table 2 for a list of all programmable options. Each option sequence is repeated 3 times.

Step 2. Select and save, the select the option, move the **throttle stick** back to **the Full-up-position**, When you hear the sequence for the option you wish to select. The controller will then save the selected option and **sound a long beep as a confirmation.** It then goes back to the beginning of the programming sequence (phrases 2).

Step 3. Complete programming and exit programming mode. Setup all the parameters you need to change. When complete, move the throttle stick to the **Lowest (Down) Position**. The controller will save all options and re-initialize in normal running mode so you can start your motor.

The table below summarizes the various programming options for each parameter:

Option 1.1 Cell Type and Number of Cells ♪—	**Only for 50A/60A/70A/ 100A-LV / 200A-LV 70A+UBEC 100A+UBEC (LV as 2S-7S)**
• — 1 Short + 1 Long	NiMh/NiCD Auto Cell Count - 0.8V/Cell Cutoff Voltage *
• — — 1 Short + 2 Long	7S Li-Po (25.9V) – 21V Cutoff Voltage
• — — — 1 Short + 3 Long	6S Li-Po (22.2V) –18V Cutoff Voltage
• — — — — 1 Short + 4 Long	5S Li-Po (18.5V) – 15V Cutoff Voltage
• — — — — —1 Short + 5 Long	4S Li-Po (14.8V) – 12V Cutoff Voltage
• — — — — — — 1 Short + 6 Long	3S Li-Po (11.1V) – 9V Cutoff Voltage
• — — — — — — — 1 Short + 7 Long	2S Li-Po (7.4V) – 6V Cutoff Voltage

Option 1.2 Cell Type and Number of Cells ♪—	**Only for 80A-HV/100A-HV (HV as 6S-10S)**
• — 1 Short + 1 Long	NiMh/NiCD Auto Cell Count - 0.8V/Cell Cutoff Voltage *
• — — 1 Short + 2 Long	10S Li-Po (37V) – 30V Cutoff Voltage
• — — — 1 Short + 3 Long	9S Li-Po (33.3V) – 27V Cutoff Voltage
• — — — — 1 Short + 4 Long	8S Li-Po (29.6V) – 24V Cutoff Voltage
• — — — — —1 Short + 5 Long	7S Li-Po (25.9V) – 21V Cutoff Voltage
• — — — — — — 1 Short + 6 Long	6S Li-Po (22.2V) – 18V Cutoff Voltage

Option 1.4 Cell Type and Number of Cells ♪—	**Only for 80A-12S/200A-12S (UHV as 8S-12S)**
• — 1 Short + 1 Long	NiMh/NiCD Auto Cell Count - 0.8V/Cell Cutoff Voltage *
• — — 1 Short + 2 Long	12S Li-Po (45.4V) – 39V Cutoff Voltage
• — — — 1 Short + 3 Long	11S Li-Po (41.7V) – 33V Cutoff Voltage
• — — — — 1 Short + 4 Long	10S Li-Po (37V) – 30V Cutoff Voltage
• — — — — —1 Short + 5 Long	9S Li-Po (33.3V) – 27V Cutoff Voltage
• — — — — — — 1 Short + 6 Long	8S Li-Po (29.6V) – 24V Cutoff Voltage

Option 1.5 Cell Type and Number of Cells ♪—	**Only for100A-SHV-15S / 200A-SHV-15S (SHV-15S LiPo)**
• — 1 Short + 1 Long	NiMh/NiCD Auto Cell Count - 0.8V/Cell Cutoff Voltage *
• — — 1 Short + 2 Long	15S Li-Po (45.4V) – 39V Cutoff Voltage
• — — — 1 Short + 3 Long	14S Li-Po (41.7V) – 33V Cutoff Voltage
• — — — — 1 Short + 4 Long	13S Li-Po (37V) – 30V Cutoff Voltage
• — — — — —1 Short + 5 Long	12S Li-Po (33.3V) – 27V Cutoff Voltage
• — — — — — — 1 Short + 6 Long	11S Li-Po (29.6V) – 24V Cutoff Voltage

Option 2. Throttle Setting ♪— —	
•• — 2 Short + 1 Long	Auto Throttle Range *
•• — — 2 Short + 2 Long	1.1ms to 1.8ms
•• — — — 2 Short + 3 Long	Hard Acc*
•• — — — — 2 Short + 4 Long	Soft Acc

Option 3. Brake Setting ♪— — —	
••• — 3 Short + 1 Long	No Brake
••• — — 3 Short + 2 Long	Soft Brake*
••• — — — 3 Short + 3 Long	Medium Brake
••• — — — — 3 Short + 4 Long	Hard Brake

Option 4. Direction and Cutoff Type ♪— — — —	
•••• — 4 Short + 1 Long	Clockwise Rotation *
•••• — — 4 Short + 2 Long	Counterclockwise Rotation
•••• — — — 4 Short + 3 Long	Soft Cutoff
•••• — — — — 4 Short + 4 Long	Hard Cutoff *

Option 5. Timing Mode Setting ♪— — — — —	
••••• — 5 Short + 1 Long	1° - For 2-4 Pole Inrunner Motors *
••••• — — 5 Short + 2 Long	7° - For 6-8 Pole Motors
••••• — — — 5 Short + 3 Long	15°- For 10-14 Pole Outrunner Motors
••••• — — — — 5 Short + 4 Long	30° - For 10-14 Pole High-RPM Outrunner Motors

Option 6. **Pulse Width Modulation(PWM) Setting** ♪— — — — — —	
•••••• — 6 Short + 1 Long 8KHz	– For low RPM and low pole count motors *
•••••• — — 6 Short + 2 Long 16KHz	– For most out runner motors

***Default Settings**