

Programming Instructions:

1. Connect your motor and receiver to the speed controller, but do not connect the battery yet.
2. Turn on your transmitter and move the throttle stick to the full throttle position (full up).
3. Connect your battery and the controller will initialize with a musical tone.
4. After 3 seconds, the controller will start beeping a sequence of tones – one to six short beeps. Each sequence represents a parameter that you can program and is repeated 3 times. The parameters are:

—	Tone + 1 Beep	Cell Type and Number of Cells
— —	Tone + 2 Beeps	Throttle Setting
— — —	Tone + 3 Beeps	Brake Setting
— — — —	Tone + 4 Beeps	Direction and Cutoff Type
— — — — —	Tone + 5 Beeps	Timing Mode
— — — — — —	Tone + 6 Beeps	Pulse Width Modulation (PWM)

Table 1 – Programming Parameters

5. When you hear the sequence for the parameter you wish to program, move the throttle stick to the center position.
6. 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. When you hear the sequence for the option you wish to select, move the throttle stick back to the full up position.
7. 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 (step 4)
8. 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:

1. Cell Type and Number of Cells		
• —	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
—		
2. Throttle Setting		
•• —	2 Short + 1 Long	Auto Throttle Range (Default)
•• — —	2 Short + 2 Long	1.1ms to 1.8ms
•• — — —	2 Short + 3 Long	Hard start (Default)
•• — — — —	2 Short + 4 Long	Soft start
3. Brake Setting		
••• —	3 Short + 1 Long	No Brake
••• — —	3 Short + 2 Long	Soft Brake (Default)
••• — — —	3 Short + 3 Long	Medium Brake
••• — — — —	3 Short + 4 Long	Hard Brake
4. Direction and Cutoff Type		
•••• —	4 Short + 1 Long	Clockwise Rotation (Default)
•••• — —	4 Short + 2 Long	Counterclockwise Rotation
•••• — — —	4 Short + 3 Long	Soft Cutoff
•••• — — — —	4 Short + 4 Long	Hard Cutoff (Default)
5. Timing Mode Setting		
••••• —	5 Short + 1 Long	1° - For lowest current draw and higher efficiency with lower RPM (Default)
••••• — —	5 Short + 2 Long	7° - Compromise setting for higher RPM than 1° and lower current draw than 15°
••••• — — —	5 Short + 3 Long	15° - For higher current draw and lower efficiency with higher RPM
••••• — — — —	5 Short + 4 Long	30° - For High-RPM Outrunner Motors
6. Pulse Width Modulation (PWM) Setting		
•••••• —	6 Short + 1 Long	8KHz – For low RPM and low pole count motors (Default)
•••••• — —	6 Short + 2 Long	16KHz – For most outrunner motors

Table 2 – Programming Values