Scorpion ESC Programming Card Instructions

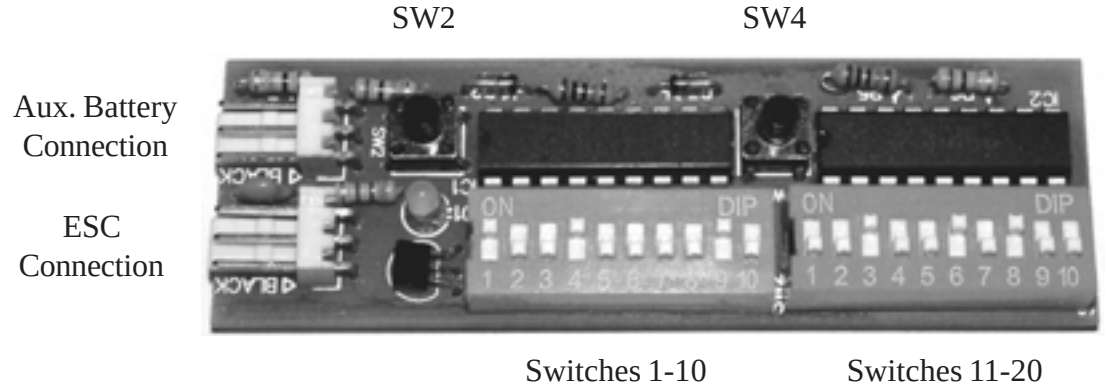


Figure 1: Programmer Layout

The Scorpion Programming Card is a very simple device that allows the user to set a variety of program options into their Scorpion Brushless Speed Controller. To use the programmer, you simply set the DIP switches to the positions indicated in the chart on page 2 of the instructions, power up the controller, and push two buttons. Please follow the complete step by step instructions below to successfully program your Scorpion Brushless Speed Controller.

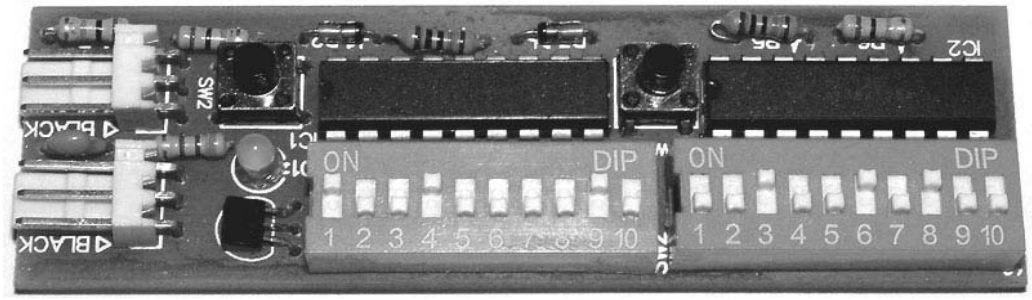
Step 1. Plug the Speed Controller signal lead into the ESC connection on the Programming Card, taking care to note the proper polarity. The word “Black” is printed on the edge of the connector that coresponds to the black or brown wire of your ESC lead. The ESC connection is the one closest to the 2 DIP switches as shown in Figure 1 above.

Step 2. Make sure that there is a motor attached to the output leads of the ESC, and then plug a battery pack into the input leads of the ESC. If you have an Opto-Coupled model ESC, you will need to plug an additional 4-cell receiver pack battery into the Auxillary Battery Connection shown above in Figure 1. The word “Black” is printed next to the edge of the connector to show the proper polarity for plugging in the auxillary battery.

Step 3. To use the default ESC parameters, set Switch #1 to the Off position. This disables the rest of the switches, and will load the factory default settings. For user selectable settings, set Switch #1 to the on position, and set the rest of the switches to the proper positions as shown on Page 2 to obtain the desired settings.

Step 4. Once the settings are selected, push the button labeled SW2 for 2 seconds and release. You will hear a tone come from the motor. Next, push the button labeled SW4 for 2 seconds and release. You will hear a second tone come from the motor, and that completes the programming sequence. Unplug the Programming Card and Auxillary battery if used, and plug the signal lead from the ESC back into the throttle channel on your receiver noting the proper polarity.

Congratulations! you have successfully programed your Scorpion ESC and it is now ready to use.



Switch 1-10 **Switch 11-20**

Scorpion Programming Card Switch Position Guide

Switch 1
Factory Default or User Settings Mode

	SW1
Factory Defaults	off
User Select Mode	on

Switch 2
Battery Type Selection (Default = Li-Po)

	SW2
Ni-CAD/Ni-MH	off
Li-Po	on

Switch 3-6
Cell Count Detection (Default = Auto)

	SW3	SW4	SW5	SW6
Auto Detect	off	off	off	off
2-Cell Li-Po	on	off	off	off
3-Cell Li-Po	off	on	off	off
4-Cell Li-Po	on	on	off	off

Switch 7 & 8
Battery Low-Voltage Cutoff (Default = 3.0/0.85)

Li-Po/Ni-XX	SW7	SW8
2.9v/0.80v	off	off
3.0v/0.85v	off	on
3.1v/0.90v	on	off
3.2v/0.95v	on	on

Switch 9
Power Cutoff Type (Default = 50% Reduction)

	SW9
Hard Cutoff	off
50% Power Reduction	on

Switch 10
Current Overload Protection (Default = Protection on)

	SW10
Protection On	off
Protection Off	on

Switch 11 & 12
Motor Braking Type (Default = Soft Brake)

	SW11	SW12
No Brake	off	off
Soft Brake	on	off
Medium Brake	off	on
Hard Brake	on	on

Switch 13 & 14
Motor Acceleration Time (Default = 0.3 Sec.)

	SW13	SW14
0.15 Second	off	off
0.30 Second	off	on
0.60 Second	on	off
1.00 Second	on	on

Switch 15 & 16
PWM Control Frequency (Default = Auto)

	SW15	SW16
Auto	off	off
8 KHz	on	off
16 KHz	off	on
32 KHz	on	on

Switch 17, 18 & 19
Timing Advance (Default = Auto)

	SW17	SW18	SW19
Auto	off	off	off
5 Degrees	on	off	off
15 Degrees	off	on	off
25 Degrees	on	on	off

Switch 20
Motor Rotation Direction (Default = Forward)

	SW20
Forward	off
Reverse	on