



HYBRID BOOST SOFTWARE (STOCK1) INSTRUCTIONS

The (STOCK1) software uses **Hybrid Boost Turbo** technology, a great innovation for advanced boost (stock or modified) racing. This software is targeted for 4.5R to 10.5R modified motors (**Hybrid Boost Turbo** software for higher turn motors will be available soon). When the ESC applies maximum timing to a 10.5R motor, the motor will run at an incredible 110,000+ peak RPM, when powered by a 2 cell Li-po battery. These speeds are much closer to the speed of a MODIFIED motor using traditional static timing technology which will only produce around 30,000 RPM.

The new technology with higher performance will have some side effects. Higher performance also will also increase power consumption, increase motor temperatures, and lower the efficiency of the entire system. **It is very important to set the programmable items of the ESC appropriately.**

The followings are LCD Programmer Card and PC Interface **HYBRID BOOST** details and instructions.

Item #7 Digital Racing Response System (DRRS 3.0): This setting refers to the RPM increment that triggers the ESC timing increase of 1 Degree at a time. A Higher Timing Punch setting will produce a faster acceleration and hotter motor temperatures.



Option	1	2	3	4	5	6	7	8	9
Punch Level	Level1	Level2	Level3	Level4	Level5	Level6	Level7	Level8	Level9

The different settings of **Hybrid Boost Start RPM (item #10)** and the **Digital Racing Response System (DRSS)** makes different internal timing change curves (ramps), which apply different acceleration effects to the motor. The ESC uses **END RPM** to preset the motor speed when the preset timing is fully applied to the motor.

Item #8 Hybrid Boost Active: This setting is effective throughout the entire throttle range and affects the motor speed at all times while racing. Please note, this setting refers to the maximum value of the ESC internal timing. The actual timing is always dynamically changing at every moment with respect to the motor RPM.



Option	1	2	3	4	5	6	7	8
Actual Maximum value	30%	40%	50%	60%	70%	80%	90%	100%

Item #9 Hybrid Boost Maximum: This setting is the additional timing that is added to the **Hybrid Boost Maximum** and is only effective when the throttle is fully opened. The setting is usually useful for long straightaways.



Option	1	2	3	4	5	6	7	8	9
Actual Maximum Value	110K	115K	120K	125K	130K	135K	140K	145K	150K

Item #10 Hybrid Boost Start RPM: This setting determines at what motor speed the ESC begins to increase the internal timing. A lower Boost Start RPM setting will allow the ESC to increase the internal timing sooner.



Option	1	2	3	4	5	6	7	8
Motor Rev. (RPM)	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000

Item #11 Hybrid Delay: This setting determines the time that must be achieved at wide open throttle to engage the turbo function. If the fully opened throttle period is less than the selected value, the turbo function will NOT be activated.



Option	1	2	3	4	5	6	7	8	9
Turbo Delay (in seconds)	0.0s	0.1s	0.2s	0.3s	0.4s	0.5s	0.6s	0.7s	0.8s

SUMMARY

1. To get higher motor speeds, please choose a higher **Hybrid Boost Maximum (item #9)** setting.
2. To get faster acceleration, please choose a lower **Hybrid Boost Start RPM (item #10)** and higher **Digital Racing Response System (DRRS 3.0 – item #7)** setting.
3. To get lower motor temperatures and longer run time, please choose a higher **Hybrid Boost Active** setting, higher **Hybrid Boost Start RPM (item #8)** and lower **Digital Racing Response System (DRRS 3.0 – item #7)** setting.

SUGGESTED SETTINGS

The following settings are suitable for 1/10 scale on-road touring cars running a modified 4Rmotor (Speed Passion V3 Competition MMM 4.0R brushless motor). The motor has mechanical timing adjustment (also called: Endbell timing) set at the default 15 Degree middle position.

1/10th scale Touring Car.

Motor: Speed Passion MMM 4.0R

Timing on motor: default 15* red ring in the middle, default rotor

Gear Ratio (Final drive); 7.98 ~ 8

Item	Parameter	Setting
#1	Running mode	Forward with brakes only
#2	Lipo cutoff	No protection
#3	Over Heat Protection (thermal):	No protection
#4	ABS Brake	70%
#5	Drag Braking	10%
#6	Neutral Range	6%
#7	DRRS 3.0	Level 7
#8	Hybrid Boost Active	90%
#9	Hybrid Boost Maximum	150,000 (150K)
#10	Hybrid Boost Start RPM	8,000 rpm
#11	Hybrid Boost Delay	0.2s

VIDEO & SUPPORT:

Reventon Pro http://www.youtube.com/playlist?list=PLy_s7LjuXIQHjLwwfLm7fYYdpTq1VZbJV or

Speed Passion Youtube Channel : <http://www.youtube.com/user/rcspeedpassion>

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