



Firmware Release Notes v. 3.13

May 7, 2009

Phoenix, Phoenix HV, Phoenix ICE

1. Complete rewrite of governor mode algorithms *
 - Provides less 'pulsing' behavior, even at high gains
 - Facilitates easier gain setup
 - Lower gains are now available
 - Governor mode has faster response
- *Note: Your governor gain value will likely need to be changed from your current setting.
2. Added ability to change the 'Auto-Lipo' cutoff voltages to values other than 3.0 volts per cell. Use this setting to change the Auto Lipo cutoff voltage to the value recommended by your battery manufacturer/vendor. Settings now include 3.0, 3.1, 3.2, 3.3, 3.4, & 3.5 volts per cell. Controller will initiate Low Voltage Cutoff behavior once the controller detects voltage dropping below this value times the number of cells detected in the power up sequence. User is always responsible for ensuring that packs are properly & fully charged prior to connection to Castle ESC and for ensuring that ESC has detected the proper number of cells. Failure to fully charge cells or to ensure that controller has detected the proper number of cells may result in discharge below the pre set limit. This may damage any and all components in your system.
 3. Added ability to turn off the power-on reminder beep.
 4. Added outrunner PWM rate option to improve efficiency and reduce harmonics when running fast commutation outrunners. Unfortunately this mode is only available on Phoenix ICE and Phoenix HV controllers manufactured after May 2007.
 5. Improved motor run routine for better performance on fast commutating outrunners
 6. Added Phoenix ICE features and support

Bug fix: Setting throttle response to 0 would not allow motor to run to full RPM

Bug fix: Setting voltage cutoff to 4V on Phoenix HV would cause error message

Bug fix: Stick programming when governor mode was selected could change start power

Thunderbird

1. New motor run routines and start routines for better starting behavior
2. Improved motor run routine for better performance on fast commutating outrunners

Mamba & Sidewinder

1. Added ability to change the 'Auto-Lipo' cutoff voltages
 2. Added ability to turn off the power-on reminder beep
 3. Improved low speed operation, detects and escapes cogging better
 4. Added ability to reverse motor direction by Castle Link software
 5. Added Mamba Max Pro software
- Bug fix: Rare instance where throttle was applied and controller would stay in idle
- Bug fix: Audible power pulse in transition from throttle to drag brake

Castle Link

1. Added Phonix ICE compatibility
 2. Added Mamba Max Pro compatibility
 3. Added data logging and graph viewing functionality for Phoenix ICE
 4. Added / revised USB connection help for multiple controllers.
- Bug fix: In the motor and gearing form, setting gear ratio above 16 would cause error
- Bug fix: In the motor and gearing form, setting KV above 6350 would cause error
- Bug fix: Berg connection diagram was incorrect, showed receiver pack at 12V
- Bug fix: Installer prerequisites were updated to correct changes in .NET install package