Items Needed to Perform Updates and Program your Spektrum Smart Avian ESC

→ Desktop or Laptop computer running Windows 7 or higher
→ Micro USB to USB Cable (included with SPMXCA200)
→ Male to Male Servo lead (included with SPMXCA200)
→ Spektrum Smart ESC Programmer (SPMXCA200)
→ Battery to Power the ESC

Connecting your Spektrum Smart ESC to the SmartLink PC App

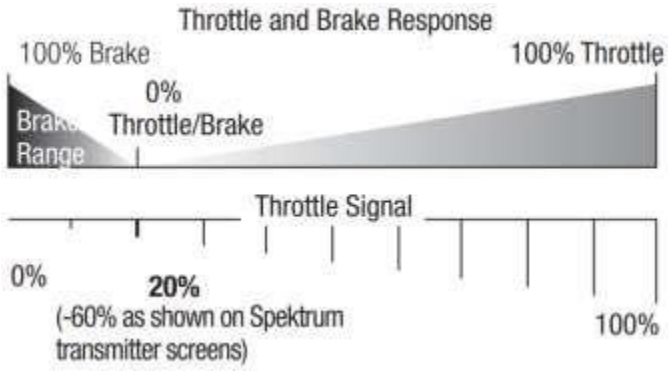
1. Download the latest Spektrum SmartLink updater app here
2. Once downloaded, extract the .ZIP file to a location that you can easily find, we suggest the Desktop
3. Locate and open the Spektrum USB SmartLink application
4. You will see this screen →

5. Connect your Firma or Avian Smart ESC to your SPMXCA200 Programmer via ESC port
   a. plug male to male servo lead into your ESC fan port (Avian 80 and 100amp / 85amp+ Firma Surface ESC)
   b. Plug into 3 Pin ESC program port (3 pin connector on Avian 15-60 amp and Firma 40 2 in 1)
6. Connect to your SPMXCA200 Programmer to your PC with the micro USB cable
7. Power on your Avian Smart ESC
8. The SmartLink app will connect to your Smart ESC

Using the Spektrum SmartLink App

GENERAL SETTINGS

- **Flight Mode**
  - Fixed Wing (*)Default – For use with Aircraft and non-governed Heli models
  - Helicopter – Enables the Speed governing "Govenor" mode for fixed RPM motor speeds
- **Brake Type**
  - Disabled (*) Default – Motor will free wheel when throttle position is zero
  - Normal – When throttle position is zero, the assigned brake force will be applied
  - Proportional - With this option selected the throttle range changes so the ESC will not start below 20%. The throttle will operate as normal above 20%, but moving the throttle below 20% will apply the brakes, increasing in strength as the signal drops to 0%.



- **Brake Force** – This option is adjustable from level 0 (* Default) to level 7. The higher the level, the stronger the braking effect. Brake Force is only effective in the "Normal brake" mode.
- **Voltage Cutoff Type**
  - Soft Cutoff: Selecting this option will gradually reduce the ESC output to 50% of the full power within 3 seconds after the low-voltage cutoff protection is activated.
  - Hard Cutoff: Selecting this option will immediately cut off the ESC output when the low-voltage cutoff protection is activated.
- **LiPo Cells** - Select Auto Calc to cause the ESC to automatically calculate the number of LiPo cells based on a 3.7V/cell default. Alternatively, you can select a specific sell count to set the ESC to a fixed battery configuration.
- **Cutoff Voltage** - Use this option to adjust the cutoff voltage from 2.8V to 3.8V/cell or disable the cutoff voltage completely. 3.0v is the default ***WARNING: Discharging a LiPo battery below 2.8V/ cell may damage the battery. Attempting to charge or discharge a damaged battery can cause a fire.***

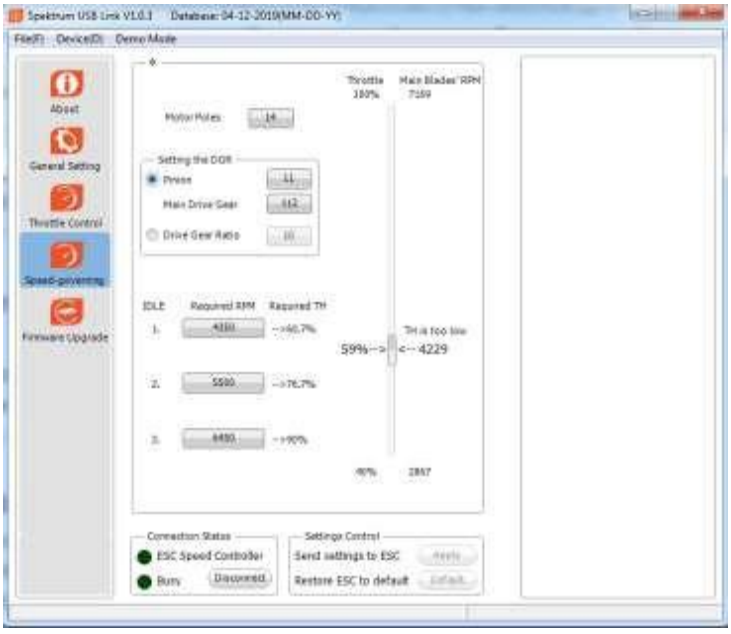
THROTTLE – CONTROL

- **BEC Voltage** - Select the BEC output voltage. Default and available settings per ESC.
- **Start-up Mode**
  - Normal Start-up: If this mode is selected, the motor will immediately increase in RPM to correspond to the throttle stick input.
  - Soft Start-up: If this mode is selected, the motor will gradually increase in RPM to correspond to the throttle stick input.

    TIP: We recommend using this soft start-up mode when using large diameter motors or gear drives.
- **Timing** - Select Low, Medium, or High motor timing.
- **Motor Rotation** - Adjust the rotation direction of the motor without changing wires.
- **Active Freewheeling** - This option can be set to Enabled or Disabled. Freewheeling can help provide better throttle linearity or smoother throttle response.

GOVERNOR SETUP

If the governor mode is activated, the ESC will try its best to hold the rotor head speed at a fixed value that you assign. In order for your Avian ESC to calculate the speed of the main rotor blades of your helicopter, you need to know the motor poles number and the gear ratio of main drive gear vs. the pinion. Below is an example of this screen with an Avian 100 setup for a Blade Fusion 480 model running a 14 pole motor, 11 tooth pinion and 112 tooth main gear.



When you adjust the throttle curve, please make sure that the motor can run at this preset speed even if the motor load is heaviest. Please note that the governor mode function is automatically disabled if the throttle volume is less than 60% or more than 90% to allow for proper motor control in high and low load scenarios.

BASIC

- **Running Mode** – Select between Forward and Brake (Fwd/Brk) or Forward, Reverse and Brake (Fwd/Rev/Brk) (* Default)
- **Lipo Cells** – Select between Auto-Calculation (* Default)– 8S Lipo Cutoff.
- **Low Voltage Cutoff** – Select between Auto Low – Auto Intermediate (*Default - Auto High

    - **Auto (Low)** - Low cutoff voltage, not very easy to get the LVC Protection activated, is applicable to batteries with poor discharge capability.
    - **Auto (Intermediate)** - Medium cutoff voltage, prone to getting the LVC Protection activated, is applicable to batteries with ordinary discharge capability.
    - **Auto (High)** - High cutoff voltage, very prone to getting the LVC Protection activated, is applicable to packs with great discharge capability.

- **BEC Voltage** – Select Between 6.0V (* Default) and 8.4V
- **Brake Force** – Select between 25% - 100% or Disabled

ADVANCED

- **Reverse Force** – Select between 25% and 50%. 25% is the default.
- **Start Mode (Punch)** –

You can adjust the throttle punch from level 1 (very soft) to level 5 (very aggressive) as per the track, tires, grip, your preference etc. This feature is very useful for preventing tires from slipping during the starting-up process. In addition, “level 4” and “level 5” have strict requirement on battery’s discharge capability. It may affect the starting-up if the battery discharges poorly and cannot provide large current in a short time. The car stutters/cogs or suddenly loses power in the starting-up process indicating the battery’s discharge capability is not adequate. Upgrade to higher C rating battery or you can reduce the punch or increase the FDR (Final Drive Ratio) to help.

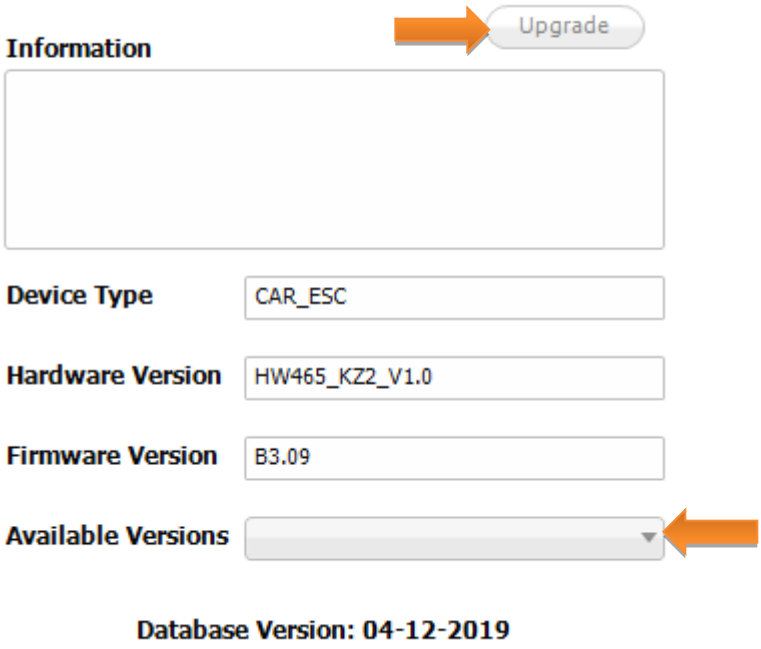
- **Timing Mode -** 0°/ 3.75° / 7.5° / 11.25° / *15° / 18.75° / 22.5° / 26.25°, default is 15°.

Usually, low timing value is suitable for most motors. But there are many differences among structures and parameters of different motors so please try and select the most suitable timing value according to the motor you are just using. The correct timing value makes the motor run smoothly. And generally, higher timing value brings out higher output power and higher speed/rpm. ***Note: After changing the timing setting, please test your RC model on ground prior to flight. Monitor for cogging, stuttering and excessive motor heat, if these symptoms occur, reduce timing.***

FIRMWARE UPGRADE

Updating you Spektrum Smart ESC is easy. Simply download the latest version of the SmartLink app, go to the Firmware Upgrade Tab and click ***Upgrade***. New ESC and Smart Technology features will be added in the future for applicable Smart ESCs. When that occurs a new SmartLink App version will be available. ***Note: When a Firmware upgrade is performed, all settings on your Smart ESC will return to the defaults, please confirm the proper settings for your model before use.***

- Select the top version from the "Available Versions" drop down box then click the "Upgrade" button to perform the update



- Once the Upgrade button has been selected to install the update on your Smart ESC, a progress bar will appear on your computer screen. Please allow the update to finish then click OK to save the settings. You can disconnect and use your Smart ESC with the improved firmware now.

Latest AVIAN Series Firmware Version

Avian 15A	**SPMXAE1015**	**New Firmware: 04.0.11**
Avian 30A	**SPMXAE1030**	**New Firmware: 04.0.21**
Avian 45A	**SPMXAE1045**	**New Firmware: 04.0.21**
Avian 60A	**SPMXAE1060**	**New Firmware: 04.0.21**
Avian 80A	**SPMXAE1080**	**New Firmware: 04.0.11**
Avian 100A	**SPMXAE1100**	**New Firmware: 04.0.26**
Avian 120A	**SPMXAE1120HV**	**New Firmware: 04.0.05**

Change Log - November 20th 2020

- Added: Smart ESC Programming Via TextGen (May require transmitter update)
  - Change Avian programmable settings via Spektrum DX \ iX \ NX transmitter and Smart receiver
    - See more about Smart ESC Prog./TextGen in the explanation section near the end of this document
- Improved: Motor compatibility
- Added: Each of the following adjustable parameters:
  - Reverse brake type (item #2)
  - Added "Surge" LVC option (item #4)
  - Governor gain set up (item #12)
  - Auto restart time (item #13)

Latest FIRMA Series Firmware Version

Firma 85A	**SPMXSE1085**	**New Firmware: B1.11**
Firma 100A	**SPMXSE1100**	**New Firmware: B1.25**
Firma 120A	**SPMXSE1060**	**New Firmware: B1.30**
Firma 130A	**SPMXSE1080**	**New Firmware: B1.65**
Firma 150A	**SPMXSE1150**	**New Firmware: B2.18 Off-Road**
Firma 150A	**SPMXSE1150**	**New Firmware: B2.21 On-Road**
Firma 160A	**SPMXSE1160**	**New Firmware: B4.12**
Firma 160A	**SPMXSE1160CP (Arrma Version)**	**New Firmware: B3.12**
Firma 160A	**SPMXSE1160M (Marine Version)**	**New Firmware: B1.07**

Change Log – January 6th 2021

- Added: Firma Smart ESC Programming via TextGen (May require transmitter update)
  - Change Firma programmable settings via Spektrum DX Surface transmitter and Smart receiver
    - See more about Smart ESC Prog./TextGen in the explanation section near the end of this document

Continue to the next page to see updated programming tables for all Avian and Firma Smart ESCs and descriptions of the firmware changes

SPMXSE1085	Firma 85 Amp Brushless Smart ESC 2S - 3S Hardware Version: HW495-KZ1-V1.0 Software Version: B1.10 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Battery Type	**LiPo**	NiMH							
2. Punch	Level 1	Level 2	**Level 3**	Level 4	Level 5				
3. Brake Force	25%	37.50%	50%	**62.50%**	75%	87.50%	100%		
4. Running Mode	**Forward/Reverse w/ Brake**	Forward w/ Brake							
5. Motor Rotation	**CCW**	CW							
6. BEC	**6.0V**	7.4V							

SPMXSE1100	Firma 100 Amp Brushless Smart ESC 2S - 3S Hardware Version: HW495_KZ1_V1.1 Software Version: B1.22 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Battery Type	**LiPo**	NiMH							
2. Punch	Level 1	Level 2	**Level 3**	Level 4	Level 5				
3. Brake Force	25%	37.50%	50%	**62.50%**	75%	87.50%	100%		
4. Running Mode	**Forward/Reverse w/ Brake**	Forward w/ Brake							
5. Motor Rotation	**CCW**	CW							
6. BEC	6.0V	**7.4V**							

SPMXSE1120	Firma 120 Amp Brushless Smart ESC 3S - 4S Hardware Version: HW495_KZ1_V1.2 Software Version: B1.29 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Battery Type	**LiPo**	NiMH							
2. Punch	Level 1	**Level 2**	Level 3	Level 4	Level 5				
3. Brake Force	25%	37.50%	**50.00%**	63%	75%	87.50%	100%		
4. Running Mode	**Forward/Reverse w/ Brake**	Forward w/ Brake							
5. Motor Rotation	**CCW**	CW							
6. BEC	6.0V	**7.4V**							

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SPMXSE1130	Firma 130 Amp Brushless Smart ESC 2S - 4S Hardware Version: HW451C_KZ1_1.1 Software Version: B1.63 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Running Mode	Forward & Brake	**Forward, Reverse & Brake**	Forward & Reverse						
2. Drag Brake	**0%**	5%	10%	20%	40%	60%	80%	100%	
3. Cutoff Voltage	None	2.6V/Cell	2.8V/Cell	**3.0V/Cell**	3.2V/Cell	3.4V/Cell			
4. Punch	Level 1	Level 2	Level 3	**Level 4**	Level 5	Level 6	Level 7	Level 8	Level 9
5. Brake Force	25%	50%	**75%**	100%	Disabled				
6. Reverse Force	**25%**	50%	75%	100%					
7. Initial Brake	**Drag Brake**	0%	20%	40%					
8. Neutral Range	6%	**9%**	12%						
9. Timing	0deg	3.75deg	7.50deg	11.25deg	**15deg**	18.75deg	22.5deg	26.25deg	
10. Thermal Protection	**Enable**								
11. Motor Rotation	**CCW**	CW							
12. LiPo Detection	**Auto Calc**	2S	3S	4S					

SPMXSE1150	Firma 150 Amp Brushless Smart ESC 3S - 6S Hardware Version: HW472_KZ2_1.0 Software Version: B2.18 (Off-Road w/ 37.5% Brake - Retail) and B2.19 (On Road w/ 75% Brake - OEM) and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Running Mode	Forward & Brake	**Forward, Reverse & Brake**							
2. Motor Rotation	**CCW**	CW							
3. Battery Mode	**LiPo**								
4. BEC Voltage	6.0V	**7.4V**							
5. Max Brake Force	25.0%	**37.5%**	50.0%	62.5%	75.0%	87.5%	100.0%		
6. Reverse Force	25%	**50%**	75%						
7. Start Mode (Punch)	Level 1	Level 2	Level 3	**Level 4**	Level 5	Level 6	Level 7	Level 8	Level 9
8. Timing	0.00	3.75	7.50	11.25	15.00	18.75	**22.50**	26.25	

SPMXSE1160 SPMXSE1160CP SPMXSE1160M	Firma 160 Amp Brushless Smart ESC 4S - 8S Hardware Version: HW465_KZ2_1.0 Software Version: B4.11 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Running Mode	Forward & Brake	**Forward, Reverse & Brake**							
2. Motor Direction	**CCW**	CW							
3. LiPo Cells	**Auto Calc.**	3S	4S	6S	8S				
4. Cutoff Voltage	Auto (High)	**Auto (Medium)**	Auto (Low)						
5. BEC Voltage	6.0V	**8.4V**							
6. Max Brake Force	25.0%	37.5%	**50.0%**	62.5%	75.0%	87.5%	100.0%	Disabled	
7. Max Reverse Force	**25.0%**	50.0%	75.0%	100.0%					
8. Punch	Level 1	Level 2	Level 3	**Level 4**	Level 5				
9. Timing	**0.0deg**	3.75deg	7.5deg	11.25deg	15.0deg				

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PMXAE1015	Avian 15 Amp Brushless Smart ESC 2S - 4S Hardware Version: HW196_V1.00456NB Software Version: 04.0.10 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Flight Mode	Fixed-wing	Helicopter (Store Govenor)							
2. Brake Type	Disabled	Normal	Proportional	Reverse					
3. Brake Force	0	1	2	3	4	5	6	7	
4. Voltage Cutoff Type	Soft Cutoff	Hard Cutoff	Surge SW						
5. LiPo Cells	Auto Calculation	2S	3S	4S					
6. Cutoff Voltage	Disabled	2.8V / Cell	3.0V / Cell	3.2V / Cell	3.4V / Cell	3.6V / Cell	3.8V / Cell		
8. Start-up Time	Normal	Soft							
9. Timing	Low (5°)	Medium (15°)	High (30°)						
10. Motor Rotation	CW	CCW							
11. Active FreeWheel	Enabled	Disabled							
12. Governor gain	Level1	Level2	Level3						
13. AutoRestart Time	0s	45s	90s						
14. Restart accl	1.0s	1.5s	2.0s						
15. Thrust Rev	CH5	CH6	CH7	CH8	CH9				

SPMXAE1030	Avian 30 Amp Brushless Smart ESC 3S - 6S Hardware Version: HW195_V1.00456NB Software Version: 04.0.21 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Flight Mode	Fixed-wing	Helicopter (Store Govenor)							
2. Brake Type	Disabled	Normal	Proportional	Reverse					
3. Brake Force	0	1	2	3	4	5	6	7	
4. Voltage Cutoff Type	Soft Cutoff	Hard Cutoff	Surge SW						
5. LiPo Cells	Auto Calculation	3S	4S	5S	6S				
6. Cutoff Voltage	Disabled	2.8V / Cell	3.0V / Cell	3.2V / Cell	3.4V / Cell	3.6V / Cell	3.8V / Cell		
7. BEC Voltage	6.0V	7.2V							
8. Start-up Time	Normal	Soft							
9. Timing	Low (5°)	Medium (15°)	High (30°)						
10. Motor Rotation	CW	CCW							
11. Active FreeWheel	Enabled	Disabled							
12. Governor gain	Level1	Level2	Level3						
13. AutoRestart Time	0s	45s	90s						
14. Restart accl	1.0s	1.5s	2.0s						
15. Thrust Rev	CH5	CH6	CH7	CH8	CH9				

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SPMXAE1045	Avian 45 Amp Brushless Smart ESC 3S - 6S Hardware Version: HW195_V100456NB Software Version: 04.0.21 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Flight Mode	Fixed-wing	Helicopter (Store Govenor)							
2. Brake Type	Disabled	Normal	Proportional	Reverse					
3. Brake Force	0	1	2	3	4	5	6	7	
4. Voltage Cutoff Type	Soft Cutoff	Hard Cutoff	Surge SW						
5. LiPo Cells	Auto Calculation	3S	4S	5S	6S				
6. Cutoff Voltage	Disabled	2.8V / Cell	3.0V / Cell	3.2V / Cell	3.4V / Cell	3.6V / Cell	3.8V / Cell		
7. BEC Voltage	6.0V	7.2V							
8. Start-up Time	Normal	Soft							
9. Timing	Low (5°)	Medium (15°)	High (30°)						
10. Motor Rotation	CW	CCW							
11. Active FreeWheel	Enabled	Disabled							
12. Governor gain	Level1	Level2	Level3						
13. AutoRestart Time	0s	45s	90s						
14. Restart accl	1.0s	1.5s	2.0s						
15. Thrust Rev	CH5	CH6	CH7	CH8	CH9				

SPMXAE1060	Avian 60 Amp Brushless Smart ESC 3S - 6S Hardware Version: HW195_V1.00456NB Software Version: 04.0.21 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Flight Mode	Fixed-wing	Helicopter (Store Govenor)							
2. Brake Type	Disabled	Normal	Proportional	Reverse					
3. Brake Force	0	1	2	3	4	5	6	7	
4. Voltage Cutoff Type	Soft Cutoff	Hard Cutoff	Surge SW						
5. LiPo Cells	Auto Calculation	3S	4S	5S	6S				
6. Cutoff Voltage	Disabled	2.8V / Cell	3.0V / Cell	3.2V / Cell	3.4V / Cell	3.6V / Cell	3.8V / Cell		
7. BEC Voltage	6.0V	7.2V							
8. Start-up Time	Normal	Soft							
9. Timing	Low (5°)	Medium (15°)	High (30°)						
10. Motor Rotation	CW	CCW							
11. Active FreeWheel	Enabled	Disabled							
12. Governor gain	Level1	Level2	Level3						
13. AutoRestart Time	0s	45s	90s						
14. Restart accl	1.0s	1.5s	2.0s						
15. Thrust Rev	CH5	CH6	CH7	CH8	CH9				

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SPMXAE1080	Avian 80 Amp Brushless Smart ESC 3S - 8S Hardware Version: HW197_V2.00456NB Software Version: 04.0.11 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Flight Mode	Fixed-wing	Helicopter (Store Govenor)							
2. Brake Type	Disabled	Normal	Proportional	Reverse					
3. Brake Force	0	1	2	3	4	5	6	7	
4. Voltage Cutoff Type	Soft Cutoff	Hard Cutoff	Surge SW						
5. LiPo Cells	Auto Calculation	3S	4S	5S	6S	8S			
6. Cutoff Voltage	Disabled	2.8V / Cell	3.0V / Cell	3.2V / Cell	3.4V / Cell	3.6V / Cell	3.8V / Cell		
7. BEC Voltage	6.0V	7.4V	8.4V						
8. Start-up Time	Normal	Soft							
9. Timing	Low (5°)	Medium (15°)	High (30°)						
10. Motor Rotation	CW	CCW							
11. Active FreeWheel	Enabled	Disabled							
12. Governor gain	Level1	Level2	Level3						
13. AutoRestart Time	0s	45s	90s						
14. Restart accl	1.0s	1.5s	2.0s						
15. Thrust Rev	CH5	CH6	CH7	CH8	CH9				

SPMXAE1100	Avian 100 Amp Brushless Smart ESC 3S - 6S Hardware Version: HW197_V1.00456NB Software Version: 04.0.26 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Flight Mode	Fixed-wing	Helicopter (Store Govenor)							
2. Brake Type	Disabled	Normal	Proportional	Reverse					
3. Brake Force	0	1	2	3	4	5	6	7	
4. Voltage Cutoff Type	Soft Cutoff	Hard Cutoff	Surge SW						
5. LiPo Cells	Auto Calculation	3S	4S	5S	6S				
6. Cutoff Voltage	Disabled	2.8V / Cell	3.0V / Cell	3.2V / Cell	3.4V / Cell	3.6V / Cell	3.8V / Cell		
7. BEC Voltage	6.0V	7.4V	8.4V						
8. Start-up Time	Normal	Soft							
9. Timing	Low (5°)	Medium (15°)	High (30°)						
10. Motor Rotation	CW	CCW							
11. Active FreeWheel	Enabled	Disabled							
12. Governor gain	Level1	Level2	Level3						
13. AutoRestart Time	0s	45s	90s						
14. Restart accl	1.0s	1.5s	2.0s						
15. Thrust Rev	CH5	CH6	CH7	CH8	CH9				

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SPMXAE1120HV	Avian 120Amp Brushless Smart ESC 6S - 14S Hardware Version: HW198_V1.00456NB Software Version: 04.0.05 and Programmer Version: V1.08								
Programmable Item	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9
1. Flight Mode	Fixed-wing	Helicopter (Store Govenor)							
2. Brake Type	Disabled	Normal	Proportional	Reverse					
3. Brake Force	0	1	2		4	5	6	7	
4. Voltage Cutoff Type	Soft Cutoff	Hard Cutoff							
5. LiPo Cells	Auto Calculation	6S	8S	10S	12S	14S			
6. Cutoff Voltage	Disabled	2.8V / Cell	3.0V / Cell	3.2V / Cell	3.4V / Cell	3.6V / Cell	3.8V / Cell		
7. BEC Voltage	6.0V	7.4V	8.4V						
8. Start-up Time	Normal	Soft							
9. Timing	Low (5°)	Medium (15°)	High (30°)						
10. Motor Rotation	CW	CCW							
11. Active FreeWheel	Enabled	Disabled							
12. Governor gain	Level1	Level2	Level3						
13. AutoRestart Time	0s	45s	90s						
14. Restart accl	1.0s	1.5s	2.0s						
15. Thrust Rev	CH5	CH6	CH7	CH8	CH9				

Additions and Changes Explained

Added: Avian and **Firma** Smart ESC Programming via TextGen

- Change and save programmable options directly from your Spektrum DX, iX or NX transmitter and Smart receiver. To enter the Avian Prog/Firma Prog (TextGen) menu, simply scroll to the last telemetry page on the main screen (this is NOT a menu located in the settings list). Once there, follow the on-screen prompts on your Spektrum transmitter to review, change and save programmable options that were once only able to be updated via the SPMXCA200 Smart ESC programmer or by using the SmartLink app. For Avian, use the aileron and elevator to navigate the menu and make selections. For Firma, use the Steering and Throttle to navigate the menu and make selections.

AVIAN ONLY

Added: "Reverse" Brake Type

- To use "Reverse" brake type select the option and then set a channel to activate the reverse thrust (option 15 on all Avian ESCs). When the reverse function is activated using the channel designated the ESC will cause the motor to stop then spin in the reverse direction and increase with throttle input.

Changed: The Cutoff Voltage (LVC) default was changed from 3.0V/cell to 3.4V/cell.

Changed: The Active FreeWheel default was changed from "Enabled" to "Disabled".

Added: "Governor Gain" (**Heli Mode only**)

- Controls how aggressively the governor maintains the set RPM
  - Level 1 (less) to Level 3 (more)

Added: "Auto Restart Time" (**Heli Mode only**)

- Set the auto-rotation bailout timing

Added: "Restart Accel." (**Heli Mode only**)

- Controls how aggressively RPMs are recovered

Added: "Thrust Reverse Ch."

- ** Requires Brake Type set to "Reverse" ** Select the channel that will control the reversing function

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