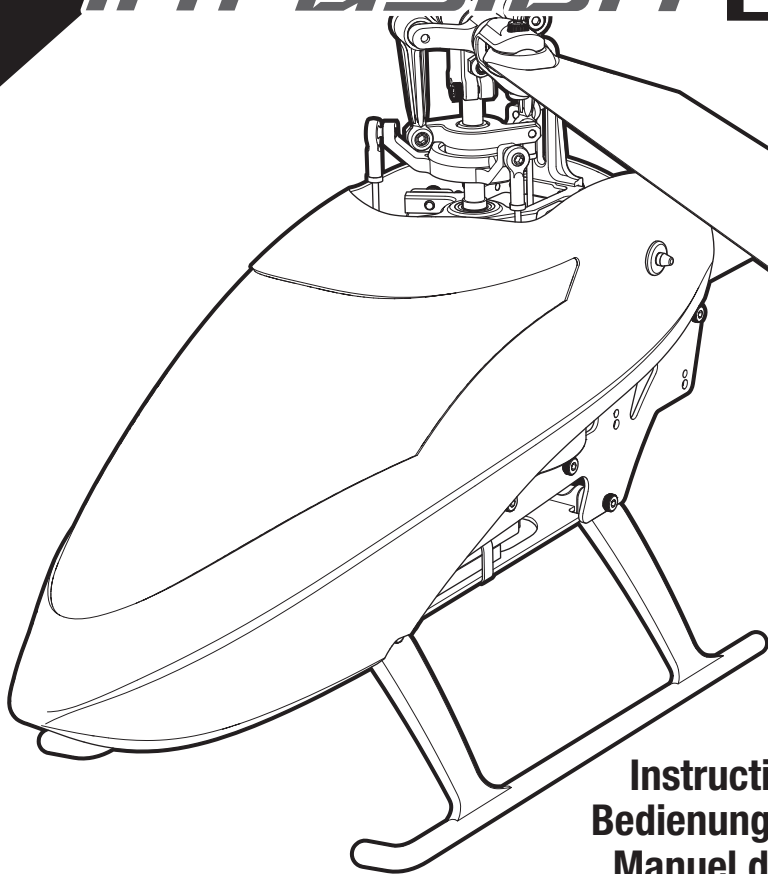


**BLADE®**

# Infusion 210



## Instruction Manual Bedienungsanleitung Manuel d'utilisation Manuale di Istruzioni

Scan the QR code and select the Parts and Support tab from the product page for the most up-to-date manual information.

Scannen Sie den QR-Code und wählen Sie auf der Produktseite den Reiter „Parts and Support“ (Teile und Hilfe), um die aktuellste Bedienungsanleitung zu erhalten.

Scannez le code QR et sélectionnez l'onglet Parts and Support sur la page du produit pour obtenir les informations les plus récentes sur le manuel.

Leggere il codice QR e nella pagina del prodotto selezionare la scheda “parti e supporto” per ottenere le informazioni più aggiornate.



BLH01550

859594  
Created 4/25

**HORIZON**  
H O B B Y

## NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, LLC. For up-to-date product literature, visit [horizonhobby.com](http://horizonhobby.com) or [towerhobbies.com](http://towerhobbies.com) and click on the support or resources tab for this product.

## Meaning of Special Language

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

**WARNING:** Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.

**CAUTION:** Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

**NOTICE:** Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.

 **WARNING:** Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

**Age Recommendation: Not for children under 14 years. This is not a toy.**

## Safety Precautions and Warnings

- Always keep a safe distance in all directions around your model to avoid collisions or injury. This model is controlled by a radio signal subject to interference from many sources outside your control. Interference can cause momentary loss of control.
- Always operate your model in open spaces away from full-size vehicles, traffic and people.
- Always carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.).
- Always keep all chemicals, small parts and anything electrical out of the reach of children.
- Always avoid water exposure to all equipment not specifically designed and protected for this purpose. Moisture causes damage to electronics.
- Never place any portion of the model in your mouth as it could cause serious injury or even death.
- Never operate your model with low transmitter batteries.
- Always keep aircraft in sight and under control.
- Always move the throttle fully down at rotor strike.
- Always use fully charged batteries.
- Always keep transmitter powered on while aircraft is powered.
- Always remove batteries before disassembly.
- Always keep moving parts clean.
- Always keep parts dry.
- Always let parts cool after use before touching.
- Always remove batteries after use.
- Never operate aircraft with damaged wiring.
- Never touch moving parts.

 **WARNING AGAINST COUNTERFEIT PRODUCTS:** If you ever need to replace your Spektrum receiver found in a Horizon Hobby product, always purchase from Horizon Hobby, LLC or a Horizon Hobby authorized dealer to ensure authentic high-quality Spektrum product. Horizon Hobby, LLC disclaims all support and warranty with regards, but not limited to, compatibility and performance of counterfeit products or products claiming compatibility with DSM or Spektrum technology.

# Table of Contents

First Flight Preparation..... 4

Flying Checklist ..... 4

Auto Transmitter Setup ..... 4

Manual Transmitter Setup ..... 5

Battery Charging..... 8

Installing the Flight Battery ..... 8

LED Indicator on Flight Controller ..... 8

Spektrum Smart™ Technology Telemetry..... 9

Low Voltage Cutoff (LVC) ..... 9

Transmitter and Receiver Binding..... 9

SAFE® Technology ..... 10

Flight Mode and Rate Selection..... 10

Panic Recovery ..... 10

Throttle Hold ..... 11

Control Tests..... 11

Understanding the Primary Flight Controls ..... 12

Flying the InFusion 210..... 12

Post-Flight Inspection and Maintenance Checklist..... 13

Advanced Tuning (Forward Programming) ..... 14

Advanced Tuning (Non-Forward Programming)..... 15

Troubleshooting Guide ..... 16

Exploded View ..... 18

Replacement Parts..... 18

Recommended Parts..... 19

Optional Parts ..... 19

Important Federal Aviation Administration (FAA) Information ..... 19

AMA National Model Aircraft Safety Code ..... 20

Limited Warranty ..... 20

Warranty and Service Contact Information ..... 21

FCC Information..... 22

IC Information ..... 22

Compliance Information for the European Union..... 22

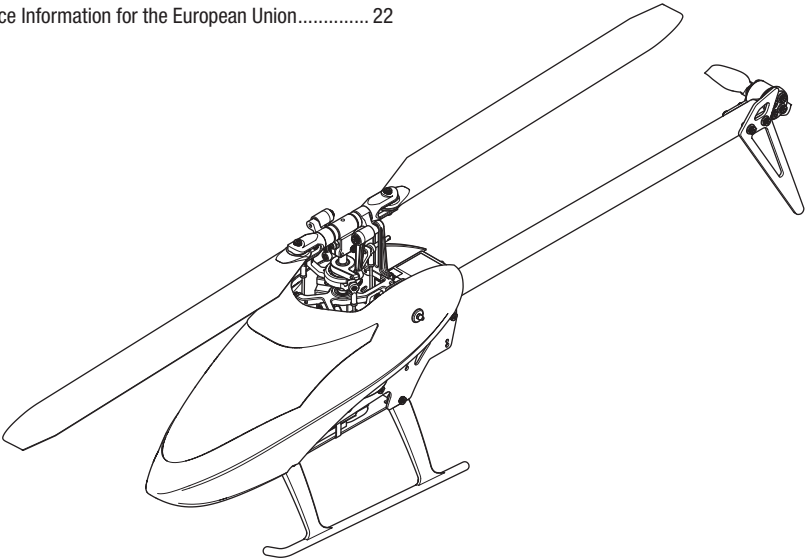
| Specifications      |                                                                                                |
|---------------------|------------------------------------------------------------------------------------------------|
| Length              | 18.3 in (465mm)                                                                                |
| Height              | 5.66 in (144mm)                                                                                |
| Main Rotor Diameter | 19.13 in (486mm)                                                                               |
| Tail Rotor Diameter | 3 in (75.4mm)                                                                                  |
| Weight*             | Without Battery: 10.19 oz (289g)<br>With Recommended 3S 850mAh Flight Battery: 12.66 oz (359g) |

\*The weight provided is for the aircraft and flight control components. No additional payload is allowed. MTOM is weight with recommended battery.

| Included Equipment       |                                              |
|--------------------------|----------------------------------------------|
| Main Motor               | Brushless Outrunner 3907-600kV (SPMX-1120)   |
| Tail Motor               | Brushless Outrunner, 1106-4200kV (SPMX-1121) |
| Receiver/ Flight Control | Receiver, Flight Control (SPMAR6250MHXF)     |
| ESC                      | Dual Brushless ESC (SPMXAE1020D)             |

| Required Equipment |                                              |
|--------------------|----------------------------------------------|
| Battery            | 850mAh 3S 11.1V 30C Li-Po (SPMX8503S30)      |
| Charger            | 2-3 Cell S120 USB-C Smart Charger (SPMX1020) |
| Adapter            | IC2 to IC3 charge adapter (SPMXCA320)        |
| Transmitter        | DSM2®/DSMX® Compatible Transmitter           |

| Recommended Equipment |                                  |
|-----------------------|----------------------------------|
| SPMXPSA100            | Smart G2 Air Powerstage Bundle 1 |



First Flight Preparation

- ☐ Remove and inspect contents
- ☐ Program the transmitter
- ☐ Charge the flight battery
- ☐ Install the flight battery
- ☐ Bind the transmitter (BNF only)
- ☐ Familiarize yourself with the controls
- ☐ Find a suitable area for flying

Auto Transmitter Setup

The included flight controller is programmed with an all-new version of AS3X/SAFE. This includes a Smart transmitter file, with the setup developed specifically for this aircraft. This allows you to quickly import the settings for your transmitter directly from your receiver during the binding process.

Supported Transmitters and Firmware Requirements

- All NX Transmitters (with firmware version 4.0.11+)
- iX14 (with app version 2.0.9+)
- iX20 (with app version 2.0.9+)

**IMPORTANT:** iX12 and DX transmitters do not support Smart transmitter file transfers at this time.

To load the Smart transmitter files:

1. Power ON the transmitter.
2. Create a new blank model file on your transmitter.
3. Power ON the receiver.
4. Press the bind button on the receiver.
5. Put the transmitter into bind mode. The model will bind normally.
6. Once binding is complete and telemetry has finished its auto configuration, the download screen will appear as shown at the right.
7. Select **LOAD** to continue.

The NOTICE screen, as shown at the right, is a warning that downloading will overwrite all the information of the current model. If this is a new “blank” model it will simply populate the transmitter parameters of the InFusion 210 into the selected model and rename it “InFusion 210 BLH01550.”

**NOTICE:** Confirming will override any previously saved transmitter setups.

8. Press CONFIRM to continue.
9. Once the download is complete the file will be installed on your transmitter and the telemetry information will be loaded automatically.

Once loading is complete the radio will return to the home screen, and you will see “InFusion 210 BLH01550.”

Transmitter setup is now complete.

Pre-Loaded Transmitter File Operation Notes  
Flight Timer

There is no flight timer loaded in the transmitter setup file. The voltage monitor provides alerts when the battery voltage has dropped to just above the LVC, indicating it is time to land.

iX series

The photo imported for the iX series is a representation of a sport plane. See your transmitter manual for instructions to change the photo, if desired.

Flying Checklist

- ☐ **Always turn the transmitter ON first**
- ☐ Plug the flight battery into the lead from the ESC
- ☐ Allow the receiver and ESC to initialize and arm properly
- ☐ Fly the model
- ☐ Land the model
- ☐ Unplug the flight battery from the ESC
- ☐ **Always turn the transmitter OFF last**

Smart Transmitter File

The receiver contains a pre-loaded Smart Transmitter file.  
RX Version: BLH01550 (Firmware version)  
Do you want to the load the file from the receiver

SKIP

LOAD

NOTICE

This WILL overwrite ALL current model settings.  
If stock BNF model hardware has changed, the receiver's file may not work properly- Do not use without checking everything.  
Do you want to the load the file from the receiver

BACK

CONFIRM

NX7e/NX7e+

The Smart Transmitter file imports with telemetry warnings set to Vibe/Voice, for NX7e/NX7e+ radios you will need to change this to Tone or you will not receive the low battery telemetry warning.

# Manual Transmitter Setup

## NX and DX Series Transmitter Setup

1. Power ON your transmitter, click on scroll wheel, roll to **System Setup**, and click the scroll wheel. Select **YES**.

2. Go to **Model Select** and choose <Add New Model> at the bottom of the list. The system asks if you want to create a new model, select **Create**.

3. Set **Model Type**: Select Helicopter Model Type by choosing the Helicopter. The system asks you to confirm model type, data will be reset. Select **YES**.

4. Scroll down and select **Model Name**: Input a name for your model file Scroll up to **BACK**, and press the scroll wheel to return to **System Setup**.

5. Scroll down and select **F-Mode Setup**. Set to: Switch 1: Switch B Hold Switch: Switch H  
Scroll up to **LIST**, and press the scroll wheel to return to **System Setup**.

6. Scroll down and select **Channel Assign**. Scroll down on the **Channel Input Config** screen, and set Ch 5 Gear to **F-Mode**. Scroll down to **Ch/Prt (Bold)**, **Aux 5** and select **B** as the input.

7. Select <Main Screen>. Click the scroll wheel to enter the **Function List**.

8. Scroll down to **Rates and Expo**, and press the scroll wheel. Scroll down to **Channel** and select **Aileron**.  
Set Switch: **Switch F**  
Move Switch F to the 0 position > Set High Rate %: 100 / 100; Expo %: 30 / 30  
Move Switch F to the 1 position > Set High Rate %: 100 / 100; Expo %: 30 / 30  
Move Switch F to the 2 position > Set Low Rate %: 75 / 75; Expo %: 30 / 30

9. Scroll up to **Channel** and select **Elevator**. Set Switch: **Switch F**  
Move Switch F to the 0 position > Set High Rate %: 100 / 100; Expo %: 30 / 30  
Move Switch F to the 1 position > Set High Rate %: 100 / 100; Expo %: 30 / 30  
Move Switch F to the 2 position > Set Low Rate %: 75 / 75; Expo %: 30 / 30

10. Scroll up to **Channel** and select **Rudder**. Set Switch: **Switch F**  
Move Switch F to the 0 position > Set High Rate %: 100 / 100; Expo %: 30 / 30  
Move Switch F to the 1 position > Set High Rate %: 100 / 100; Expo %: 30 / 30  
Move Switch F to the 2 position > Set Low Rate %: 75 / 75; Expo %: 30 / 30

11. Scroll up to **LIST**, and press the scroll wheel to return to the **Function List**.

12. Scroll down to **Throttle Curve**, and press the scroll wheel.  
Scroll to the **N** box for curve selection, and press the scroll wheel to select the **Normal** curve.  
Set the **Curve Values** to:

|   |    |    |    |    |
|---|----|----|----|----|
| 1 | 2  | 3  | 4  | 5  |
| 0 | 65 | 65 | 65 | 65 |

13. Scroll to the **#1** box for curve selection and press the scroll wheel to select the **Stunt #1** curve.  
Set the **Curve Values** to:

|    |    |    |    |    |
|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  |
| 80 | 80 | 80 | 80 | 80 |

14. Scroll to the **#2** box for curve selection, and press the scroll wheel to select the **Stunt #2** curve.  
Set the **Curve Values** to:

|    |    |    |    |    |
|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  |
| 90 | 90 | 90 | 90 | 90 |

15. Scroll to the **H** box for curve selection, and press the scroll wheel to select the **Hold** curve.  
Set the **Curve Values** to:

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 0 | 0 | 0 | 0 | 0 |

16. Scroll up to **LIST**, and press the scroll wheel to return to the **Function List**.

17. Scroll down to **Pitch** curve, and press the scroll wheel. Scroll to the **N** box for curve selection, and press the scroll wheel to select the **Normal** curve. Set the **Curve Values** to:

|    |    |    |    |     |
|----|----|----|----|-----|
| 1  | 2  | 3  | 4  | 5   |
| 25 | 37 | 50 | 75 | 100 |

18. Scroll to the **#1** box for curve selection and press the scroll wheel to select the **Stunt #1** curve.  
Set the **Curve Values** to:

|   |    |    |    |     |
|---|----|----|----|-----|
| 1 | 2  | 3  | 4  | 5   |
| 0 | 25 | 50 | 75 | 100 |

19. Scroll to the **#2** box for curve selection, and press the scroll wheel to select the **Stunt #2** curve.  
Set the **Curve Values** to:

|   |    |    |    |     |
|---|----|----|----|-----|
| 1 | 2  | 3  | 4  | 5   |
| 0 | 25 | 50 | 75 | 100 |

20. Scroll to the **H** box for curve selection and press the scroll wheel to select the **Hold** curve.  
Set the **Curve Values** to:

|    |    |    |    |     |
|----|----|----|----|-----|
| 1  | 2  | 3  | 4  | 5   |
| 25 | 37 | 50 | 75 | 100 |

21. Scroll up to **LIST**, and press the scroll wheel to return to the **Function List**.

22. Scroll down to **Mixing**, and press the scroll wheel. Select **Mix 1**. Select **Normal**.  
Select the first **INH**, and select the **I Switch**.  
Select the second **INH**, and select **A5**.  
Set the First Rate Value to: **0%** the Second Rate Value to: **-125%**.  
Set the **Offset** to **100**. Set the **Switch** to the **I button**.

23. Scroll up to **Back**, and press the scroll wheel to return to the **Function List**.

24. Scroll down to **Timer**, and press the scroll wheel. Set to:  
Mode: Count Down  
Time: 3:00  
Start: Throttle Out  
Over: 25%  
One Time: Inhibit

25. Scroll up to **LIST**, and press the scroll wheel to return to the **Function List**.

26. Scroll up to **<Main Screen>**, and press the scroll wheel.

See the Smart Throttle section for information on telemetry setup.

## iX Series Transmitter Setup

|                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Power ON your transmitter and begin once the Spektrum AirWare app is open. Tap the <b>orange pen</b> icon in the screen's upper left corner. The system asks for permission to <b>Turn Off RF</b> , select <b>PROCEED</b> .                                                                                                                                                             |
| 2. Select the three dots in the upper right corner of the screen, select <b>Add a New Model</b> .                                                                                                                                                                                                                                                                                          |
| 3. Select <b>Model Option</b> , choose <b>DEFAULT</b> , select <b>Helicopter</b> .<br>The system asks if you want to create a new heli model, select <b>Create</b> .                                                                                                                                                                                                                       |
| 4. Select the last model on the list: <b>Heli</b> . Tap on <b>Heli</b> , and rename the model to a name of your choice.                                                                                                                                                                                                                                                                    |
| 5. Tap and hold the <b>back arrow icon</b> in the upper left corner of the screen to return to the main screen.                                                                                                                                                                                                                                                                            |
| 6. Tap on the <b>Model Setup</b> button.                                                                                                                                                                                                                                                                                                                                                   |
| 7. Set <b>Flight Mode Setup</b> . <b>Switch 1: Switch B</b> . <b>Hold Switch: Switch H</b> .<br>Tap on the <b>arrow</b> in the upper left corner to return to the <b>Model Setup</b> menu.                                                                                                                                                                                                 |
| 8. Set <b>Channel Assign</b> . Set CH/Port 5 to <b>Aux 5</b> for Output and <b>Switch B</b> for Input.<br>Tap on the <b>arrow</b> in the upper left corner to return to the <b>Model Setup</b> menu.<br>Tap on the <b>arrow</b> in the upper left corner to return to the main screen.                                                                                                     |
| 9. Tap on the <b>Model Adjust</b> button.                                                                                                                                                                                                                                                                                                                                                  |
| 10. Tap on <b>Dual Rates and Exponential</b> . Tap on the pull down tab at Channel and select <b>Aileron</b> . Set Switch: <b>Switch F</b><br>Move Switch F to the 0 position > Set High Rate %: 100 / 100; Expo %: 30 / 30<br>Move Switch F to the 1 position > Set High Rate %: 100 / 100; Expo %: 30 / 30<br>Move Switch F to the 2 position > Set Low Rate %: 75 / 75; Expo %: 30 / 30 |
| 11. Tap on the pull down tab at Channel and select <b>Elevator</b> . Set Switch: <b>Switch F</b><br>Move Switch F to the 0 position > Set High Rate %: 100 / 100; Expo %: 30 / 30<br>Move Switch F to the 1 position > Set High Rate %: 100 / 100; Expo %: 30 / 30<br>Move Switch F to the 2 position > Set Low Rate %: 75 / 75; Expo %: 30 / 30                                           |

12. Tap on the pull down tab at Channel and select **Rudder**. Set Switch: **Switch F**  
Move Switch F to the 0 position > Set High Rate %: 100 / 100; Expo %: 30 / 30  
Move Switch F to the 1 position > Set High Rate %: 100 / 100; Expo %: 30 / 30  
Move Switch F to the 2 position > Set Low Rate %: 75 / 75; Expo %: 30 / 30

13. Tap on the **arrow** in the upper left corner to return to the **Model Adjust** menu.

14. Tap on **Throttle Curve**. Ensure **H Switch** is set to the 0 position. Set the **B Switch** to the 0 position to select the Normal Curve. Set the **Curve Values** to:

|   |    |    |    |    |
|---|----|----|----|----|
| 1 | 2  | 3  | 4  | 5  |
| 0 | 65 | 65 | 65 | 65 |

15. Set the **B Switch** to the 1 position to select the Stunt #1 curve. Set the **Curve Values** to:

|    |    |    |    |    |
|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  |
| 80 | 80 | 80 | 80 | 80 |

16. Set the **B Switch** to the 2 position to select the Stunt #2 curve. Set the **Curve Values** to:

|    |    |    |    |    |
|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  |
| 90 | 90 | 90 | 90 | 90 |

17. Set the **H Switch** to the 1 position to select the Hold curve. Set the **Curve Values** to:

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 0 | 0 | 0 | 0 | 0 |

18. Tap on the **arrow** in the upper left corner to return to the Model Adjust menu.

19. Tap on Pitch Curve. Ensure Switch H is set to the 0 position.  
Set the **B Switch** to the 0 position to select the Normal curve. Set the **Curve Values** to:

|    |    |    |    |     |
|----|----|----|----|-----|
| 1  | 2  | 3  | 4  | 5   |
| 25 | 37 | 50 | 75 | 100 |

20. Set the **B Switch** to the 1 position to select the Stunt #1 curve. Set the **Curve Values** to:

|   |    |    |    |     |
|---|----|----|----|-----|
| 1 | 2  | 3  | 4  | 5   |
| 0 | 25 | 50 | 75 | 100 |

21. Set the **B Switch** to the 2 position to select the Stunt #2 curve. Set the **Curve Values** to:

|   |    |    |    |     |
|---|----|----|----|-----|
| 1 | 2  | 3  | 4  | 5   |
| 0 | 25 | 50 | 75 | 100 |

22. Set the **H Switch** to the 1 position to select the Hold curve. Set the **Curve Values** to:

|    |    |    |    |     |
|----|----|----|----|-----|
| 1  | 2  | 3  | 4  | 5   |
| 25 | 37 | 50 | 75 | 100 |

23. Tap on the **arrow** in the upper left corner to return to the **Model Adjust** menu.

24. Tap on **Mixing**. Select **P-Mix 1**. Select **Normal**.  
Select the first **INH**, and select the **I Switch**.  
Select the second **INH**, and select **A5**.  
Set the First Rate Value to: **0%** the Second Rate Value to: **-125%**.  
Set the **Offset** to **100**. Set the **Switch** to the **I button**.

25. Tap on **Back** in the upper right corner to return to the **Mixing** menu.

26. Tap on the **arrow** in the upper left corner to return to the **Model Adjust** menu.

27. Tap on the **arrow** in the upper left corner to return to the main screen.

28. Tap on the **clock** icon in the **Timer 1** box. Set to:  
Mode: Count Down  
Time: 3:00  
Switch: Throttle Out  
Over Under Trigger: 25%  
Over Under: Over  
One Time: Toggle to activate

29. Tap on the **arrow** in the upper left corner to return to the main screen.

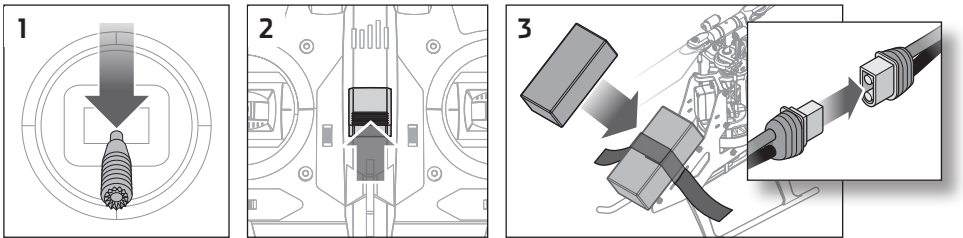
See the Smart Throttle section for information on telemetry setup.

# Battery Charging

We recommend a 3S 850mAh 30C Smart Technology LiPo battery with an IC2™ connector (SPMX8503S30) and an IC2 to IC3 adapter (SPMXCA320).

The aircraft ESC is equipped with an IC2 device connector. Ensure any battery you choose is compatible. Balance the model to the recommended center of gravity (CG). Follow the battery and battery charger instructions.

## Installing the Flight Battery



1. Lower the throttle stick to the lowest position.
2. Power ON the transmitter.
3. Center all transmitter trims.
4. Attach the hook material to the helicopter frame and the loop material to the flight battery.
5. Install the flight battery on the helicopter frame.  
Secure the flight battery with the hook and loop strap.

**CAUTION:** Connecting the battery to the ESC with reversed polarity will cause damage to the ESC, the battery or both. Damage caused by incorrectly connecting the battery is not covered under warranty.

**WARNING:** Always activate throttle hold and wait until the main rotor blades and tail rotor stop spinning before handling the model.

**CAUTION:** Always disconnect the Li-Po battery from the aircraft when not flying to avoid over-discharging the battery. Batteries discharged to a voltage lower than the lowest approved voltage may become damaged, resulting in loss of performance and potential fire when batteries are charged.

**IMPORTANT:** The throttle trim on the transmitter must remain at the center position. Raising the throttle trim above center may cause the main and tail motors to begin spinning.

If you experience issues during initialization, refer to the Troubleshooting Guide at the back of the manual.

## LED Indicator on Flight Controller

| LED Indicator on FC           | Indicator Description                                                                  |
|-------------------------------|----------------------------------------------------------------------------------------|
| Red Solid                     | AR6250MHXF waiting for receiver connection, system will not initialize until connected |
| Yellow Flashing               | Calibrating                                                                            |
| Slow Green Flashing           | Ready to Fly                                                                           |
| Slow Red Flashing             | Failsafe Active                                                                        |
| Red Solid and Yellow Flashing | Calibration Error, FC not level or is being moved during calibration                   |

# Spektrum Smart™ Technology Telemetry

## Smart Technology Electronic Speed Control (ESC)

This aircraft is equipped with an exclusive Smart technology electronic speed control that provides a variety of real-time power system related telemetry data, including motor RPM, current, battery voltage and more to compatible Spektrum AirWare™ equipped transmitters.

When powered on, the ESC sends the information below to the transmitter, where the information is displayed on the telemetry screen.

- RPM\*
- Voltage
- Current
- Throttle
- FET Temperature
- BEC Temperature

\*During binding the transmitter performs an auto configuration which populates the telemetry menus. Change the values in those menus to suit this aircraft and your needs.

### To enter the telemetry values:

(For iX series transmitters, select **Save** on each page)

1. Power on the transmitter.
2. Set the throttle cut to **ON**.
3. Power on the aircraft, and allow it to initialize.
4. In the transmitter, go to the **Function List (Model Setup)** in iX series transmitters).
5. Select the **Telemetry** menu option.
6. Go to the **Smart Battery** menu option.
7. Scroll down to **Startup Volts**, enter **4.0V/cell**.
8. Return to the **Telemetry** menu.
9. Go to the **Smart ESC** menu option.
10. Scroll down to **Low Voltage Alarm**, enter **3.40V/cell**.
11. Scroll down to **Poles**, enter **24**.
12. Scroll down to **Ratio**, enter **1**.
13. Return to the main screen.

### DX/NX screens shown below

Telemetry

LIST

Auto-Config

1: Smart Battery

2: Empty

3: GForce

4: Gyroscope

5: Smart ESC

6: Empty

7: Empty

8: Empty

9: Empty

10: Rx V

11: Flight Log

Smart Battery

BACK

Display: Act

Startup Volts Min: 4.00V/cell

Overcharge Max: 4.20V/cell

Imbalance Max: 200mV

Alarm

Tone

Tone

Tone

Smart ESC

BACK

Display: Act

Total Cells: 3

Low Voltage Alarm: 3.40V/Cell

Amps Max: 4A

FET Temp Max: 199F

Poles: 24

Ratio: 1.00:1

Status Reports: Inh

Warning Reports: Inh

Alarm

Tone

Inh

Inh

## Low Voltage Cutoff (LVC)

The ESC will continuously lower power to the motor until complete shutdown when the battery reaches 9V under load. This helps prevent over-discharge of the Li-Po battery. Land immediately when the ESC activates LVC. Continuing to fly after LVC can damage the battery, cause a crash or both. Crash damage and batteries damaged due to over-discharge are not covered under warranty.

Repeatedly flying the helicopter until LVC activates will damage the helicopter battery. Disconnect and remove the Li-Po battery from the aircraft after use to prevent trickle discharge. During storage, make sure the battery charge does not fall below 3V per cell.

## Transmitter and Receiver Binding

This product requires an approved Spektrum DSM2®/DSMX® compatible transmitter. Visit [www.bindnfly.com](http://www.bindnfly.com) for a complete list of approved transmitters.

| General Binding Procedure                                                                                              |
|------------------------------------------------------------------------------------------------------------------------|
| 1. Refer the Transmitter Setup Table to correctly set up your transmitter.                                             |
| 2. Lower the throttle stick to the lowest position. Set all trims to the center position.                              |
| 3. Power off the transmitter and move all switches to the 0 position.                                                  |
| 4. Install the bind plug in the receiver BIND/PROG port.                                                               |
| 5. Connect the flight battery to the ESC.                                                                              |
| 6. Put the transmitter into bind mode while powering on the transmitter.                                               |
| 7. Release the bind button/switch after 2–3 seconds. The helicopter is bound when the LED on the receiver turns solid. |
| 8. Disconnect the flight battery and power the transmitter off.                                                        |

Revolutionary SAFE® (Sensor Assisted Flight Envelope) technology uses an innovative combination of multi-axis sensors and software that allows model aircraft to perceive its position relative to the horizon. This spatial awareness is utilized to create a controlled flight envelope the aircraft can use to maintain a safe region of bank and pitch angles so you can fly more safely. Far beyond stability, this level of protection offers multiple modes so the pilot can choose to develop his or her skills with a greater degree of security and flight control that always feels crisp and responsive.

## Flight Mode and Rate Selection

In **Normal/Beginner Mode** the bank angle is limited. When the cyclic stick is released the model will return to level.

In **Stunt 1 Mode** the bank angle is not limited. When the cyclic stick is released the model will not return to level. This mode is great for learning forward flight and basic aerobatics such as stall turns and loops.

In **Stunt 2 Mode** the bank angle is not limited. When the cyclic stick is released the model will not return to level. This mode is great for 3D aerobatics such as stationary flips and tic-tocs.

## Panic Recovery

If you encounter distress while flying in any mode, activate the Panic Recovery function. Move the control sticks to neutral (50%), press and hold the Bind/Panic button until the model is upright. SAFE technology will immediately return the aircraft to an upright level attitude, if the aircraft is at a sufficient height with no obstacles in its path. Return the collective stick to 50% and deactivate the Panic Recovery Function to return to the current flight mode.

**NOTICE:** Before deactivating Panic Recovery, make sure the collective stick has been returned to the 50% position. Once the Panic Recovery has been deactivated, full negative collective becomes available, which could cause the helicopter to descend rapidly.

### SAFE technology delivers:

- Flight envelope protection you can enable at the flip of a switch.
- Multiple modes let you adapt SAFE technology to your skill level instantly.

Best of all, sophisticated SAFE technology doesn't require any work to enjoy. Every aircraft with SAFE installed is ready to use and optimized to offer the best possible flight experience.

Change rates in any mode by moving the two-position dual rate switch.

- Low rate reduces the control rates, providing an easier to fly model. Beginners should use low rate for initial flights.
- High rate provides full control and should be used by intermediate and experience pilots.

- This mode is intended to provide the pilot with the confidence to continue to improve their flight skills.
- Move the collective stick to 50% and return all other transmitter controls to neutral for the quickest recovery.
- Once the model has reached a level upright attitude, the negative collective is reduced to prevent the user from pushing the model into the ground.

## Throttle Hold

Throttle hold is used to prevent the motor from powering on inadvertently. For safety, turn throttle hold ON any time you need to touch the helicopter or check the direction controls.

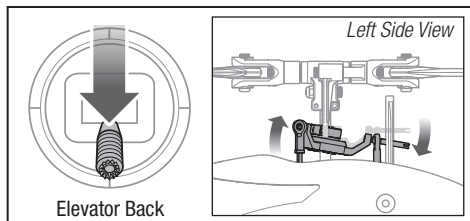
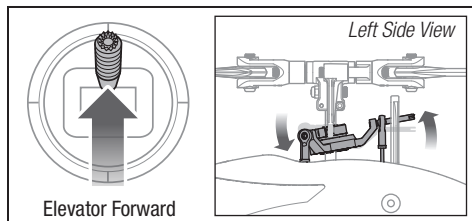
Throttle hold is also used to turn off the motor quickly if the helicopter is out of control, in danger of crashing, or both. The blades will continue to spin briefly when throttle hold is activated.

## Control Tests

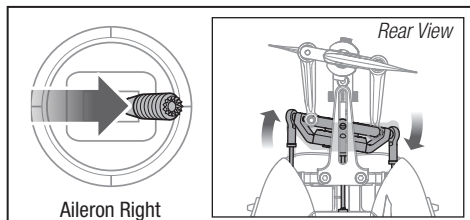
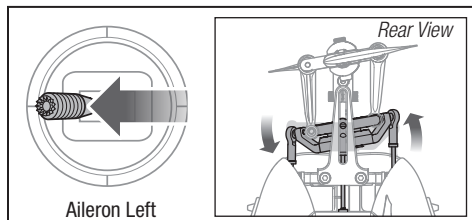
**Ensure the throttle hold is ON when doing the direction control tests.** Test the controls prior to the first flight to ensure the servos, linkages and parts operate correctly.

If the controls do not react as shown in the illustrations below, confirm the transmitter is programmed correctly before continuing on to the Motor test.

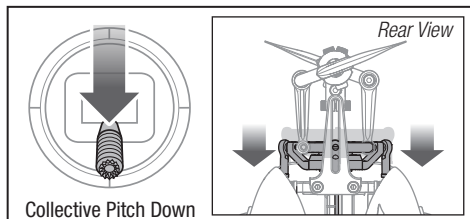
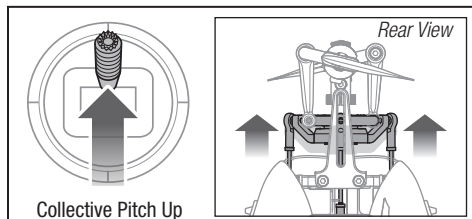
### Elevator



### Aileron



### Collective Pitch



## Motor

Place the helicopter outdoors on a clean, flat, level surface (concrete or asphalt) free from obstruction. Always stay clear of moving rotor blades.



**CAUTION:** Keep pets and other animals away from the helicopter. Animals may injure themselves if they attack or run toward the helicopter.

1. Confirm that throttle is at full low position.
2. Turn Throttle Hold OFF.



**WARNING:** Stay at least 30 feet (10 meters) away from the helicopter when the motor is running. Do not attempt to fly the helicopter at this time.

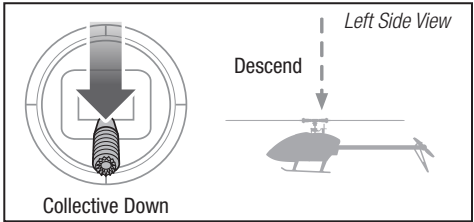
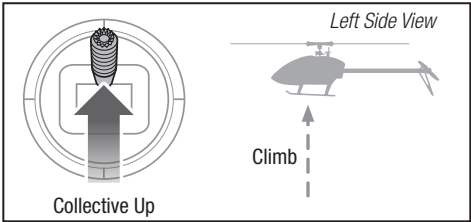
3. Slowly increase the throttle until the blades begin to spin. The main blades should spin clockwise when viewing the helicopter from the top. The tail rotor blades should spin counterclockwise when viewing the helicopter from the right side.

**NOTICE:** If the main rotor blades are spinning counterclockwise, reduce the throttle to low immediately. Disconnect the battery from the helicopter and reverse any two motor wire connections to the ESC and repeat the motor control test.

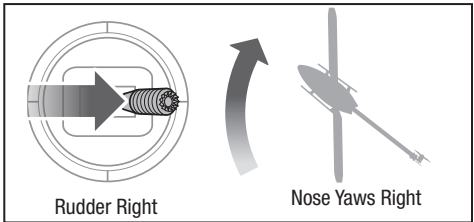
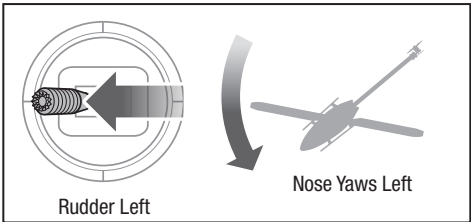
# Understanding the Primary Flight Controls

If you are not familiar with the controls of your aircraft, take a few minutes to familiarize yourself with them before attempting your first flight.

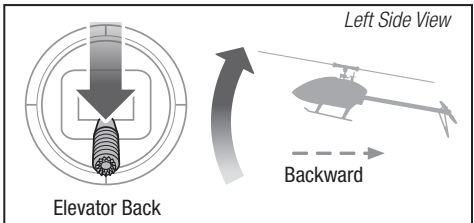
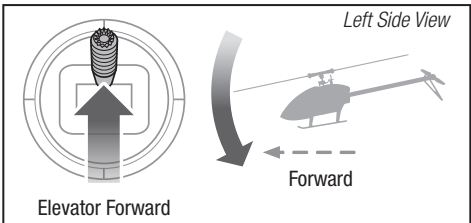
## Collective



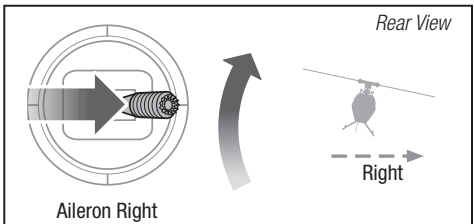
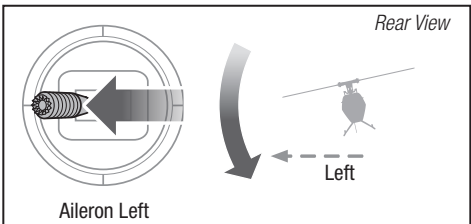
## Rudder



## Elevator



## Aileron



# Flying the InFusion 210

**Consult your local laws and ordinances before choosing a location to fly your aircraft.**

We recommend flying your aircraft outside in calm winds or inside a large gymnasium. Always avoid flying near houses, trees, wires and buildings. You should also be careful to avoid flying in areas where there are many people, such as busy parks, schoolyards or soccer fields. It is best to fly from a smooth flat surface as this will allow the model to slide without tipping over. Keep the helicopter approximately 2 ft (600mm) above the ground. Keep the tail

pointed toward you during initial flights to keep the control orientation consistent. Releasing the stick in Stability Mode will allow the helicopter to level itself. Activating the Panic Recovery button will level the helicopter quickly. If you become disoriented while in Stability Mode, slowly lower the throttle stick to land softly. During initial flights, only attempt takeoff, landing and hovering in one spot.

Takeoff

**NOTICE:** If the main motor or tail motor do not start up properly when throttle is first applied, immediately return the throttle to the low position and try again. If the problem persists, disconnect the flight battery, check for binding in the gear train and ensure no wires have become entangled within the gears.

Place the model onto a flat, level surface free of obstacles and walk back 30 feet (10 meters). Slowly increase the throttle until the model is approximately 2 ft. (600mm) off the ground and begin flying the model.

Hovering

Making small corrections on the transmitter, try to hold the helicopter in one spot. If flying in calm winds, the model should require almost no corrective inputs. After moving the cyclic stick and returning it to center, the model should level itself. The model may continue to move due to inertia. Move the cycle stick in the opposite direction to stop the movement. After you become comfortable hovering, you can progress into flying the model to different locations, keeping the tail pointed towards you at all times. You can also ascend and descend using the throttle stick. Once you're comfortable with these maneuvers, you can attempt flying with the tail in different orientations. It is important to keep in mind that the flight control inputs will rotate with the helicopter, so always try to picture the control inputs relative to the nose of the helicopter. For example, forward will always drop the nose of the helicopter.

Low Voltage Cutoff (LVC)

LVC decreases the power to the motors when the battery voltage gets low. When the motor power decreases and the red LED on the ESC flashes, land the aircraft immediately and recharge the flight battery.

LVC does not prevent the battery from over-discharge during storage.

**NOTICE:** Repeated flying to LVC will damage the battery.

**IMPORTANT:** High energy-demanding maneuvers may cause occasional voltage drops below the set value in the telemetry setup, causing momentary, premature low voltage telemetry warnings to occur. This is normal during more aggressive maneuvers. If the low voltage alarm sounds continuously while in a stable hover, land the aircraft and charge the battery.

Landing

To land, slowly decrease the throttle while in a low-level hover. After landing, disconnect and remove the battery from the aircraft after use to prevent trickle discharge. Review your manufacturers provided LiPo guidelines for charging and storage information.

Post-Flight Inspection and Maintenance Checklist

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ball Links | Make sure the plastic ball link holds the control ball, but is not tight (binding) on the ball. When a link is too loose on the ball, it can separate from the ball during flight and cause a crash. Replace worn ball links before they fail.                                                                                                                                                                                              |
| Cleaning   | Make sure the battery is not connected before cleaning. Remove dust and debris with a soft brush or a dry, lint-free cloth.                                                                                                                                                                                                                                                                                                                 |
| Bearings   | Replace bearings when they become notchy (sticky in places when turning) or draggy.                                                                                                                                                                                                                                                                                                                                                         |
| Wiring     | Make sure the wiring does not contact moving parts. Replace damaged wiring and loose connectors.                                                                                                                                                                                                                                                                                                                                            |
| Fasteners  | Make sure there are no loose screws, other fasteners or connectors. Do not over-tighten metal screws in plastic parts. Tighten screws so the parts are mated together, then turn the screw only 1/8th of a turn more.                                                                                                                                                                                                                       |
| Rotors     | Make sure there is no damage to rotor blades and other parts which move at high speed. Damage to these parts includes cracks, burrs, chips or scratches. Replace damaged parts before flying. Verify both main rotor blades have the correct and equal tension in the blade grips. When the helicopter is held up sideways, the main blades should support their own weight. When the helicopter is shaken lightly, the blades should fall. |
| Tail       | Inspect the tail rotor for damage and replace if necessary. Verify the tail motor bolts, tail rotor adapter bolts and tail motor mount bolts are properly tightened. Inspect the tail boom for any damage and replace if necessary.                                                                                                                                                                                                         |
| Mechanics  | Inspect the main frame and landing gear for damage and replace if necessary. Check the mainshaft for vertical play.                                                                                                                                                                                                                                                                                                                         |

## Advanced Tuning (Forward Programming)

**Applies to forward programming capable Spektrum Transmitters including: DX6e, DX8e, DX6G2, DX7G2, DX8G2, DX9, iX12, DX18, iX20, DX20, NX6, NX8, NX10.**

The aircraft default settings are appropriate for most users. We recommend flying with the default parameters before making any adjustments.

The flight controller may be programmed from any compatible Spektrum transmitter (visit [SpektrumRC.com](http://SpektrumRC.com) for more information).

The flight controller shipped with BNF models has a range of adjustable parameters suitable for the InFusion 210 helicopter and is not intended for use in other aircraft.

It is important to use the included servos with the BNF flight controller because the adjustable parameters available for the SPMAR6250MHXF are designed around the recommended servos. It is possible there may not be enough range for the helicopter to be tuned when using alternative servos.

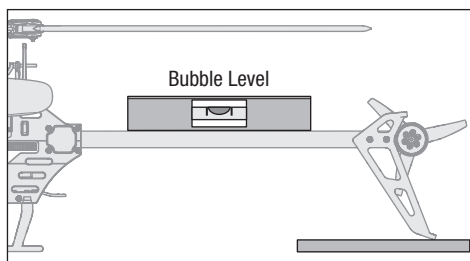
### Entering the Advanced Parameters Menu

With the helicopter bound to the transmitter and powered on, enter the Function List and select Forward Programming. A list of adjustable parameters and the range of values available for tuning have been tailored for this helicopter. Make small changes to one parameter at a time, and test fly the changes before modifying those parameters further.

### Calibration Procedure

If the helicopter is experiencing drift, perform the following calibration. The calibration procedure may also be needed following crash repairs.

1. Ensure the calibration surface is level.
2. Power ON the transmitter and activate throttle hold.
3. Connect the flight battery to the ESC and allowing the model to initialize.
4. Turn Throttle Hold ON.
5. Using a bubble level (as shown), place a shim under the landing skid level to the helicopter.
6. Enter the Function List on your transmitter.
7. Select Forward Programming.
8. Select System Setup.
9. Select Calibration.
10. Select Apply, and the calibration will begin. The LED flashes yellow, indicating the calibration is proceeding normally. If the LED flashes red, the model is not level or the model was moved. In this case, calibration restarts.



11. When calibration is complete, the receiver LED slowly flashes green.
12. Proceed to the pre-flight check list before flying your model.

### Factory Reset

If the process of tuning the aircraft results in undesirable flight performance, you can reset to factory defaults by selecting the Factory Reset option in Forward Programming.

1. Enter the Function List.
2. Select Forward Programming.
3. Select System Setup.
4. Select Factory Reset.
5. Select Apply.
6. Perform the Setup > Swashplate > Sub Trim function, and ensure the servos are properly trimmed.
7. Proceed with the pre-flight check list before flying the model.

# Advanced Tuning (Non-Forward Programming)

**Applies to Spektrum transmitters not capable of forward programming including DX6i, DX6e, DX7s DX8, and DX8e.**

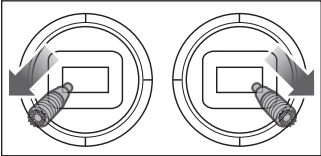
The aircraft was programmed and test flown at the factory. Servo adjustment might be necessary after a crash or after servo / linkage replacement.

For pilots flying with a non-forward programming transmitter, follow these steps to make servo adjustments and calibrate the helicopter.

The advanced tuning options must be entered within 30 seconds after initialization completes. In addition, the combination of dual rates and travel adjustments must result in a throw greater than 65% in order to enter the tuning modes.

## Entering Servo Adjustment Mode

1. Lower the throttle stick to the lowest position.
2. Power ON the transmitter, and activate throttle hold.
3. Install the flight battery,securing it with the hook and loop strap.
4. Connect the battery to the ESC.
5. After initialization is complete (indicated by a slow green flash), hold the left stick to the bottom left corner and the right stick to the bottom right corner as shown.



- Servo Adjustment Mode is indicated by the swashplate servos jumping and then slowly moving back to center.
6. Release the sticks, and proceed to the next step.

## Adjusting the Servo Neutral Position

With the model in Servo Adjustment Mode, the control stick and gyro inputs are disabled and the servos are held in the neutral position. Check the position of the servo arms to verify they are perpendicular to the servos.

- If the arms are perpendicular to the servos, no adjustment is necessary. Exit Servo Adjustment Mode.
- If one or more servo arm is not perpendicular to the servos, continue the servo adjustment process.

While watching the swashplate servos, apply fore or aft cyclic and release. One of the servos will jump, indicating the selected servo. Apply fore or aft cyclic and release until the servo that needs to be adjusted is selected.

Once the servo you wish to adjust is selected, move the cyclic stick left or right to adjust the servo neutral position in the desired direction.

To reset the current servo to the default neutral position, hold the rudder stick full right for two seconds.

The range of adjustment is limited. If you are unable to adjust the servo arm perpendicular to the servo, you must reset the servo to the default, neutral position, remove the servo arm, and place it back onto the servo as close to perpendicular as possible. You can then adjust the servo neutral position using left or right cyclic stick.

## Swashplate Leveling

Before saving your adjustments and exiting Servo Adjustment Mode, verify the swashplate is level and both main rotor blades are at 0 degrees pitch. If they are not, make linkage adjustments as necessary.

## Saving the Servo Adjustments

1. Lower the throttle stick to the lowest position and release the sticks.
2. Move the tail rotor stick to the left and hold for four seconds to exit Servo Adjustment Mode. The servos will jump indicating a return to normal operation.
3. Release the tail rotor stick.
4. Perform the pre-flight checklist procedure before flying your model.

| Servo Adjustment Mode           |                                                                   |
|---------------------------------|-------------------------------------------------------------------|
| Control Input                   | Action                                                            |
| Fore/Aft Cyclic                 | Select Previous or Next Servo                                     |
| Right/Left Cyclic               | Increase or Decrease Sub Trim Adjustment                          |
| Right Tailrotor                 | Hold for Two Seconds; Neutral Position is Reset on Selected Servo |
| Left Tailrotor and Low Throttle | Hold for Four Seconds; Exit Servo Adjustment Mode                 |

# Troubleshooting Guide

| Problem                                                                                                    | Possible Cause                                                                                                          | Solution                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Helicopter control response is inconsistent or requires extra trim to neutralize movement                  | Aircraft was not initialized properly or a vibration is interfering with the sensor operation                           | Disconnect the flight battery, center the control trim and re-initialize the helicopter                                                                                                                                                                                                                                                   |
| Helicopter will not respond to throttle                                                                    | Throttle too high and/or throttle trim is too high                                                                      | Disconnect the flight battery, place the throttle stick in the lowest position and move the throttle trim to the center position. Connect the flight battery and allow the model to initialize                                                                                                                                            |
|                                                                                                            | Helicopter moved during initialization                                                                                  | Disconnect the flight battery and re-initialize the helicopter while keeping the helicopter from moving                                                                                                                                                                                                                                   |
| Helicopter has reduced flight time or is underpowered                                                      | Flight battery charge is low                                                                                            | Completely recharge the flight battery                                                                                                                                                                                                                                                                                                    |
|                                                                                                            | Flight battery is damaged                                                                                               | Replace the flight battery and follow the flight battery instructions                                                                                                                                                                                                                                                                     |
|                                                                                                            | Flight conditions might be too cold                                                                                     | Make sure the battery is warm (room temperature) before use                                                                                                                                                                                                                                                                               |
| LED on receiver flashes rapidly and aircraft will not respond to transmitter (during binding)              | Transmitter too near aircraft during binding process                                                                    | Power off the transmitter. Move the transmitter a larger distance from the aircraft. Disconnect and reconnect the flight battery to the aircraft. Follow the binding instructions                                                                                                                                                         |
|                                                                                                            | Bind switch or button was not held while transmitter was powered on                                                     | Power off transmitter and repeat bind process                                                                                                                                                                                                                                                                                             |
|                                                                                                            | Aircraft or transmitter is too close to large metal object, wireless source or another transmitter                      | Move aircraft and transmitter to another location and attempt binding again                                                                                                                                                                                                                                                               |
| LED on the receiver flashes rapidly and the helicopter will not respond to the transmitter (after binding) | The bind plug was not removed from the receiver after binding                                                           | Disconnect the flight battery, remove the bind plug from the receiver and reconnect the flight battery.                                                                                                                                                                                                                                   |
|                                                                                                            | Less than a 5-second wait between first powering on the transmitter and connecting the flight battery to the helicopter | Leave the transmitter powered on. Disconnect and reconnect the flight battery to the helicopter                                                                                                                                                                                                                                           |
|                                                                                                            | The helicopter is bound to a different model memory (ModelMatch™ transmitters only)                                     | Select the correct model memory on the transmitter. Disconnect and reconnect the flight battery to the helicopter                                                                                                                                                                                                                         |
|                                                                                                            | Flight battery or transmitter battery charge is too low                                                                 | Replace or recharge batteries                                                                                                                                                                                                                                                                                                             |
|                                                                                                            | Aircraft or transmitter is too close to large metal object, wireless source or another transmitter                      | Move aircraft and transmitter to another location and attempt connecting again                                                                                                                                                                                                                                                            |
| Helicopter vibrates or shakes in flight                                                                    | Damaged rotor blades, spindle or blade grips                                                                            | Check main rotor blades and blade grips for cracks or chips. Replace damaged parts. Replace bent spindle                                                                                                                                                                                                                                  |
| Random movements in flight                                                                                 | Vibration                                                                                                               | Verify the receiver is properly attached to the helicopter. Inspect mounting tape for damage. Verify that no wires are contacting the receiver. Inspect and balance all rotating components. Verify the main shaft and tail rotor adapter are not damaged or bent. Inspect mechanics for broken or damaged parts and replace as necessary |
| Tail oscillation/wag or poor performance                                                                   | Damaged tail rotor, loose bolts, vibration                                                                              | Verify that the boom support bolts are tight and the plastic boom support ends are properly adhered to the boom support rods. Inspect the tail rotor for damage. Verify that all bolts on the tail assembly are properly tightened. Replace any damaged or worn components                                                                |

| Problem                                                    | Possible Cause                                      | Solution                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drift in calm winds                                        | Vibration, damaged linkage, damaged servo           | Under normal operation the transmitter trims should not require adjustment and the center positions are memorized during initialization. If you find that trim adjustments are necessary after take off, verify the balance of all rotating components, ensure the linkages are not damaged and make sure the servos are in proper working condition |
| Drift in wind                                              | Normal                                              | The model will drift with the wind but should remain level in flight. Simply hold the cyclic stick in the necessary position to keep the model stationary. The model must lean into the wind to remain stationary, if the model remains level then it will drift with the wind                                                                       |
| Panic Recovery or Return to Level does not level the model | Model was not initialized on a level, still surface | Re-initialize the model on a level and still surface                                                                                                                                                                                                                                                                                                 |
|                                                            | Model was not taken off of a level surface          | Always lift off from a level surface                                                                                                                                                                                                                                                                                                                 |
| Severe vibration                                           | Battery strapped too tightly to the model           | Loosen the battery strap                                                                                                                                                                                                                                                                                                                             |
|                                                            | Rotating component out of balance                   | Check the main shaft, tail rotor, main rotor blades, main frame and adapter for damage, replace as necessary. Vibration must be minimized for Panic Recovery and Return to Level functions to work properly                                                                                                                                          |

[illegible]

| Part #Description |          |                                         |
|-------------------|----------|-----------------------------------------|
| 1                 | BLH-2897 | Main Rotor head: InFusion 210           |
| 2                 | BLH-2898 | Servo Horn Set: InFusion 210            |
| 3                 | BLH-2899 | Swashplate Linkage Set: InFusion 210    |
| 4                 | BLH-2900 | Swashplate: InFusion 210                |
| 5                 | BLH-2901 | Main Shaft: InFusion 210                |
| 6                 | BLH-2902 | Rotor Linkage Set: InFusion 210         |
| 7                 | BLH-2903 | Main Rotor Blade Set: InFusion 210      |
| 8                 | BLH-2904 | Thrust Bearing Set: InFusion 210        |
| 9                 | BLH-2905 | Main Rotor Blade Grip: InFusion 210     |
| 10                | BLH-2906 | Damper set: InFusion 210                |
| 11                | BLH-2907 | Upper Bearing block: InFusion 210       |
| 12                | BLH-2908 | Boom Clamp: InFusion 210                |
| 13                | BLH-2909 | Landing Gear (white): InFusion 210      |
| 14                | BLH-2910 | Carbon Fiber Bottom Plate: InFusion 210 |
| 15                | BLH-2911 | Motor Mount: InFusion 210               |
| 16                | BLH-2912 | Battery Tray: InFusion 210              |
| 17                | BLH-2913 | Carbon Fiber Side Frame: InFusion 210   |
| 18                | BLH-2914 | Canopy Mount: InFusion 210              |
| 19                | BLH-2915 | Lower Bearing Block: InFusion 210       |

| Part #Description |               |                                                     |
|-------------------|---------------|-----------------------------------------------------|
| 20                | BLH-2916      | Carbon Fiber Receiver Plate: InFusion 210           |
| 21                | BLH-2917      | Foam Blade Holder: InFusion 210                     |
| 22                | BLH-2918      | Canopy: InFusion 210                                |
| 23                | BLH-2919      | Tail Rotor: InFusion 210                            |
| 24                | BLH-2920      | Tail Motor Mount: InFusion 210                      |
| 25                | BLH-2921      | Tail Fin: InFusion 210                              |
| 26                | BLH-2922      | Tail Boom: InFusion 210                             |
| 27                | BLH-2992      | Anti-Rotation Bracket: InFusion 210                 |
| 29                | BLH1502       | Spindle set Blade 230s, InFusion 210                |
| 30                | BLH1601       | Ball Bearing: M3 x 6 x 2.5                          |
| 31                | SPMAR6250MHXF | Replacement Flight Control: InFusion 210            |
| 32                | SPMSH3058M    | H3058M Sub-Micro Digital Metal Gear Heli Servo      |
|                   | SPM-1059      | Gear Set: H3058M servo                              |
| 33                | SPMXAE1020D   | Dual Brushless ESC                                  |
| 34                | SPMX-1120     | Brushless Outrunner 3907-600kv                      |
| 35                | SPMX-1121     | Brushless Outrunner, 1106-4200kv Tail: InFusion 210 |

## Recommended Parts

| Part #      | Description                       |
|-------------|-----------------------------------|
| SPMX8503S30 | 850mAh 3S 11.1V Smart G2 30C; IC2 |
| SPMXPSA100  | Smart G2 Air Powerstage Bundle 1  |

## Optional Parts

| Part #   | Description                                    |
|----------|------------------------------------------------|
| BLH-2923 | Tail Case: InFusion 210 BDC                    |
| BLH-2924 | Tail Pushrod: InFusion 210 BDC                 |
| BLH-2925 | Tail Servo Mount: InFusion 210 BDC             |
| BLH-2926 | Belt Guide Pulleys: InFusion 210 BDC           |
| BLH-2927 | Tail Pulley: InFusion 210 BDC                  |
| BLH-2928 | Rotor Blades, Carbon Fiber 210mm: InFusion 210 |
| BLH-2929 | Belt Conversion Kit: InFusion 210              |
| BLH-2930 | Tail Fin: Option, Carbon Fiber, InFusion 210   |
| BLH-2931 | Fiberglass option canopy, Orange: InFusion 210 |
| BLH-2932 | Pitch Slider Bellcrank: InFusion 210 BDC       |
| BLH-2933 | Tail Rotor Blade Set: InFusion 210             |
| BLH-2934 | Tail Rotor Hub: InFusion 210                   |
| BLH-2935 | Tail Rotor Grip Set: InFusion 210              |
| BLH-2936 | Tail Shaft with Pulley: InFusion 210           |
| BLH-2937 | Pitch Slider: InFusion 210                     |

| Part #     | Description                                                  |
|------------|--------------------------------------------------------------|
| BLH-2938   | Main Rotor Blade grip: InFusion 210 (option black)           |
| BLH-2939   | Swashplate: InFusion 210 (option black)                      |
| BLH-2940   | CNC Aluminum Tail Motor Mount: InFusion 210 (option black)   |
| BLH-2941   | Main Rotor Headblock: InFusion 210 (option black)            |
| BLH-2989   | Drive Belt: InFusion BDC 210                                 |
| BLH-3110   | Upper bearing block/servo mount (option black): InFusion 210 |
| BLH-3111   | Boom Clamp (option black): InFusion 210                      |
| BLH-3112   | Landing Gear (option black): InFusion 210                    |
| BLH-3113   | Lower bearing block/servo mount (option black): InFusion 210 |
| BLH-3114   | Fiberglass Option canopy, RWB: InFusion 210                  |
| SPMSH3059T | Servo, Digital, metal gear, heli tail                        |
| SPMXC2050  | S155 55W AC G2 Smart Charger                                 |

## Important Federal Aviation Administration (FAA) Information

### Recreational UAS Safety Test



Use the QR code to learn more about the Recreational UAS Safety Test (TRUST), as was introduced by the 2018 FAA Reauthorization Bill. This free test is required by the FAA for all recreational flyers in the United States. The completed certificate must be presented

upon request by any FAA or law enforcement official.

### FAA DroneZone



If your model aircraft weighs more than .55lbs or 250 grams, you are required by the FAA to register as a recreational flyer and apply your registration number to the outside of your aircraft. To learn more about registering with the FAA, use the QR code.

### Remote ID Regulations



According to FAA regulation, all unmanned aircraft over .55lbs (250 grams), flying in United States airspace are required to either fly within an FAA-Recognized Identification Area (FRIA) or continually transmit an FAA-registered remote identification

from a Remote ID broadcast module, such as the Spektrum™ Sky™ Remote ID module (SPMA9500). Use the QR code to learn more about the FAA Remote ID regulations.

# AMA National Model Aircraft Safety Code

## Effective January 1, 2018

A model aircraft is a non-human-carrying device capable of sustained flight within visual line of sight of the pilot or spotter(s). It may not exceed limitations of this code and is intended exclusively for sport, recreation, education and/or competition. All model flights must be conducted in accordance with this safety code and related AMA guidelines, any additional rules specific to the flying site, as well as all applicable laws and regulations.

As an AMA member I agree:

- I will not fly a model aircraft in a careless or reckless manner.
- I will not interfere with and will yield the right of way to all human-carrying aircraft using AMA's See and Avoid Guidance and a spotter when appropriate.
- I will not operate any model aircraft while I am under the influence of alcohol or any drug that could adversely affect my ability to safely control the model.
- I will avoid flying directly over unprotected people, moving vehicles, and occupied structures.

- I will fly Free Flight (FF) and Control Line (CL) models in compliance with AMA's safety programming.
- I will maintain visual contact of an RC model aircraft without enhancement other than corrective lenses prescribed to me. When using an advanced flight system, such as an autopilot, or flying First-Person View (FPV), I will comply with AMA's Advanced Flight System programming.
- I will only fly models weighing more than 55 pounds, including fuel, if certified through AMA's Large Model Airplane Program.
- I will only fly a turbine-powered model aircraft in compliance with AMA's Gas Turbine Program.
- I will not fly a powered model outdoors closer than 25 feet to any individual, except for myself or my helper(s) located at the flightline, unless I am taking off and landing, or as otherwise provided in AMA's Competition Regulation.
- I will use an established safety line to separate all model aircraft operations from spectators and bystanders.

## Limited Warranty

### What this Warranty Covers

Horizon Hobby, LLC, (Horizon) warrants to the original purchaser that the product purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase.

### What is Not Covered

This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, (vi) Product not compliant with applicable technical regulations, or (vii) use that violates any applicable laws, rules, or regulations.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

### Purchaser's Remedy

Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.

### Limitation of Liability

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user tare not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

### Law

These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

### WARRANTY SERVICES

#### Questions, Assistance, and Services

Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please visit our website at [www.horizonhobby.com](http://www.horizonhobby.com), submit a Product Support Inquiry, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with a Product Support representative.

Inspection or Services

If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available at [http://www.horizonhobby.com/content/service-center\\_render-service-center](http://www.horizonhobby.com/content/service-center_render-service-center). If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

**NOTICE:** Do not ship Li-Po batteries to Horizon. If you have any issue with a Li-Po battery, please contact the appropriate Horizon Product Support office.

Warranty Requirements

**For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date.** Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

Non-Warranty Service

**Should your service not be covered by warranty, service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost.** By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service. Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashier's checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our website [http://www.horizonhobby.com/content/service-center\\_render-service-center](http://www.horizonhobby.com/content/service-center_render-service-center).

**ATTENTION:** Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced. Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.

10/15

Warranty and Service Contact Information

| Country of Purchase      | Horizon Hobby                                            | Contact Information                                                                                          | Address                                               |
|--------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| United States of America | Horizon Service Center (Repairs and Repair Requests)     | <a href="http://servicecenter.horizonhobby.com/RequestForm/">servicecenter.horizonhobby.com/RequestForm/</a> | 2904 Research Rd<br>Champaign, Illinois, 61822<br>USA |
|                          | Horizon Product Support (Product Technical Assistance)   | <a href="mailto:productsupport@horizonhobby.com">productsupport@horizonhobby.com</a>                         |                                                       |
|                          | Sales                                                    | 877-504-0233                                                                                                 |                                                       |
|                          |                                                          | <a href="mailto:websales@horizonhobby.com">websales@horizonhobby.com</a>                                     |                                                       |
| European Union           | Horizon Technischer Service<br>Sales: Horizon Hobby GmbH | 800-338-4639                                                                                                 | Hanskampring 9<br>D 22885 Barsbüttel, Germany         |
|                          |                                                          | <a href="mailto:service@horizonhobby.eu">service@horizonhobby.eu</a><br>+49 (0) 4121 2655 100                |                                                       |

## FCC Information

### Contains FCC ID: BRWWAC01T

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and/or antenna and your body (excluding fingers, hands, wrists, ankles and feet). This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### Supplier's Declaration of Conformity

#### BLH InFusion 210 BNF Basic (BLH01550)

 This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



**CAUTION:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to

provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Horizon Hobby, LLC

2904 Research Rd.,

Champaign, IL 61822

Email: [compliance@horizonhobby.com](mailto:compliance@horizonhobby.com)

Web: [HorizonHobby.com](http://HorizonHobby.com)

## IC Information

### CAN ICES-3 (B)/NMB-3(B)

#### Contains IC: 6157A-WAC01T

This device contains license-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science, and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following 2 conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

## Compliance Information for the European Union



### EU Compliance Statement:

#### BLH InFusion 210 BNF Basic (BLH01550):

Hereby, Horizon Hobby, LLC declares that the device is in compliance with the

following: EU Radio Equipment Directive 2014/53/EU, RoHS 2 Directive 2011/65/EU, RoHS 3 Directive - Amending 2011/65/EU Annex II 2015/863.

The full text of the EU declaration of conformity is available at the following internet address: <https://www.horizonhobby.com/content/support-render-compliance>.

### Wireless Frequency Range and Wireless Output Power:

2402 – 2478 MHz

1.43dBm

### EU Manufacturer of Record:

Horizon Hobby, LLC

2904 Research Road

Champaign, IL 61822 USA

### EU Importer of Record:

Horizon Hobby, GmbH

Hanskampring 9

22885 Barsbüttel Germany

### WEEE NOTICE:



This appliance is labeled in accordance with European Directive 2012/19/EU concerning waste of electrical and electronic equipment (WEEE). This label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.





©2025 Horizon Hobby, LLC.

Blade, the Blade logo, E-flite, BNF, the BNF logo, DSM, DSM2, DSMX, SAFE, the SAFE logo, Spektrum AirWare and ModelMatch are trademarks or registered trademarks of Horizon Hobby, LLC.

The Spektrum trademark is used with permission of Bachmann Industries, Inc.

All other trademarks, service marks and logos are property of their respective owners.

US 9,930,567. US 10,419,970. Other patents pending.

Created 4/25

859594

BLH01550