JR
DSM

**JR R921X Receiver
User Guide**

⚠ **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 and NOT a toy. 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 attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby, Inc. 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.

DSMX™ User Guide

Spektrum launched the 2.4GHz RC revolution with its DSM2™ technology. Since then millions of hobbyists the world over have come to embrace 2.4 as the way to fly. Spektrum leads the way yet again with DSMX; the world's first wideband, frequency-agile 2.4GHz signal protocol.

How Does DSMX Work?

It's a crowded 2.4GHz world out there and every 2.4GHz system faces the same challenges. DSMX better equips you for these challenges by combining the superior data capacity and interference resistance of a wideband signal (like that used in DSM2) with the agility of frequency shifts.

Compared to the wideband signal of DSMX, the narrow band signal of other frequency hopping 2.4 transmitters is more likely to suffer data loss in the event of on-channel interference. Think of it as a river vs. a stream. It takes more interference to dam a river than it does a stream.

As more and more 2.4 transmitters vie for the same number of available channels, there is more interference and more of a risk for data loss. By adding the agility of frequency shifts to the superior interference resistance of a wideband signal, DSMX is far less likely to suffer significant data loss from on-channel interference. The result is quicker connection times and superior response in even the most crowded 2.4GHz environment.

DSMX Operational Differences

DSMX transmitters and receivers function nearly identically to Spektrum and JR® DSM2 systems. Binding, setting the failsafe, recording flight log data, as well as general use of the system is no different than using any current Spektrum or JR system.

Following are the operational differences:

Brownout Detection - Not Available on DSMX Receivers

DSM2 receivers feature Brownout Detection that flashes the receiver's LED if a power interruption occurs. While DSMX receivers have QuickConnect™ and recover instantly from a power interruption, the architecture of DSMX prevents Brownout Detection when operating in DSMX mode.

Flight Log Recording-Fades Higher than DSM2

Note that DSMX moves through the band while DSM2 finds two quiet channels and remains on those channels. Consequently because DSMX operates on quiet and noisy channels, it's common to have more Antenna Fades than when using DSM2, when used in busy 2.4GHz environments. When taking flight log data readings, the Frames and Hold Data are important and should be used as a reference while Fades are insignificant due to the nature of frequency agile systems. A 10-minute flight will typically result in less than 50 Frame Losses and no Holds.

Just How Good is DSMX?

In multiple tests, 100 DSMX systems were operated simultaneously for extended periods of time. During these tests each of the 100 systems was monitored in flight and on the ground. In every test not a single case of RF link loss, latency increase or control degradation was experienced or recorded.

Is DSMX Compatible with DSM2?

Yes. DSMX is fully compatible with all DSM2 hardware. In fact, many pilots may find the DSM2 equipment they have now is all they will ever need. Even if a new DSMX transmitter eventually comes along that they really want, all the DSM2 receivers they have now will work with it.

It is important to note, however, that while DSMX is compatible with DSM2, the only way to experience the full benefits of DSMX in a busy 2.4 environment is by pairing a DSMX transmitter with a DSMX receiver.

Are DSM2 Transmitters Eligible for a DSMX Add-on?

Yes. Any JR DSM2 integrated transmitter, X9303, X9503, 11X, 12X or 12MV is eligible for a $75 add-on by sending it to the Horizon Hobby Inc. Service Center. Any X9503, 11X, or 12X purchased November 1, 2010 or later is eligible for the add-on at no additional cost. Please note Spektrum transmitter modules or DSM2 receivers are not eligible for the DSMX add-on.

Does DSMX have ModelMatch and ServoSync?

Yes. DSMX will provide you with these and other exclusive Spektrum advantages you already enjoy with DSM2. Want to know more about DSMX? Visit spektrumrc.com for complete details on this as well as the many other reasons Spektrum is the leader in 2.4.

Note: DSMX receivers are not compatible with DSM2 remote receivers and DSM2 receivers are not compatible with DSMX remote receivers.

JR R921X Receiver User Guide

The R921X high-performance, DSMX™ 2.4GHz 9-channel receiver is intended for use in a wide variety of applications, ranging from sophisticated sport to ultimate performance projects. With Spektrum MultiLink DSMX technology, the R921X employs two internal and up to two external receivers for path diversity—ensuring that your receiver always "sees" a strong signal. In addition, Combined with the superior data capacity, interference resistance, and frequency shifting of DSMX technology, the R921X instills confidence in the most challenging RF environments. The JR R921X allows the use of an optional Flight Log Data Recorder (JRPA145). The Flight Log plugs into the data port and provides quality of RF link data of the previous flight, allowing the confirmation of the operational performance of the systems.

Features

- 9 channels
- 2 internal receivers
- 1 or 2 (optional) remote receiver(s)
- Patented MultiLink™ technology
- Two types of fail-safe—SmartSafe™ and Preprogrammed fail-safe
- Flight Log compatible

Specifications

Number of channels—9
Modulation—DSM2, DSMX
Band—2.400 to 2.4835GHz
**Dimensions (WxLxH)**—.35in x 2.06in x 0.55in
Weight—Main 15 g/.6 oz in Remote 3 g/.2 oz each
Current—70mA
Voltage range—3.5 to 9.6V

Installing the R921X Receiver

The R921X incorporates dual internal receivers and one or two remote receivers, offering the security of up to four simultaneous RF links for the ultimate in multi-path RF security. Two internal receivers are located on the main PC board, while a third remote receiver must be plugged into one of the antenna ports in order for the system to operate. Optionally, a second remote receiver can be plugged into the remaining remote antenna port giving a total of four operational receivers. By locating these receivers in different locations throughout the aircraft, each receiver is exposed to its own RF environment, greatly improving path diversity (the ability of the receiver to see the signal in all conditions).
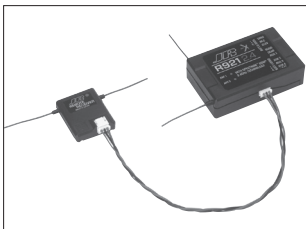

Note: The R921X requires that at least one remote receiver be used.

Install the main receiver using the same method you would use to install a conventional receiver in your aircraft. Typically wrap the main receiver in protective foam and fasten it in place using rubber bands or hook and loops straps. Alternately, in electric models or in jets (low vibration), it's acceptable to use thick double-sided foam tape to fasten the main receiver in place.

Mounting the remote receiver(s) in a different location(s) from the primary receiver gives tremendous improvements in path diversity. Essentially each receiver sees a different RF

environment, and this is the key to maintaining a solid RF link, even in aircraft that have substantial conductive materials (e.g., turbine engines with metal tail pipes, carbon fiber, tuned pipes, etc.) which can weaken the signal.

Using double-sided foam tape (servo tape), mount the remote receiver(s), keeping the remote antenna(s) at least 2 inches away from the primary antenna. Ideally, the antennas will be oriented perpendicular to each other; however, we've found this to not be critical. 6-inch, 9-inch, 12-inch, 24-inch and 36-inch leads are available and, in sophisticated aircraft, we've found it best to mount the remote receivers in different parts of the aircraft, keeping the remote antennas as far away as practical from any conductive materials. A typical installation would include the main receiver mounted in the conventional location in the fuselage and the remote antennas in the nose (jets) in the top turtle deck and even in the tail. The optimum location is as far away from any conductive materials as practical.
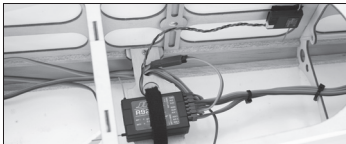
In helicopters, there is generally enough room on the servo tray to achieve the necessary separation. If space is limited, a mount can be made using clear plastic to mount the external antenna.
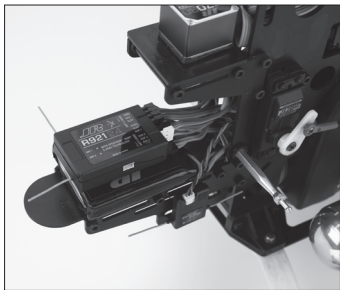

R921X Binding Instructions

The R921X receiver must be bound to the transmitter before it will operate. Binding is the process of teaching the receiver the specific code of the transmitter or transmitter module so it will connect only to that specific transmitter. Once bound, the receiver will only connect to that specific transmitter (module) or when used with a Spektrum™ or JR® transmitter that has ModelMatch™, the receiver will only connect when the previously bound model memory is selected. If another model memory is selected, the receiver will not connect. This feature is called ModelMatch and prevents flying a model using the wrong model memory.

QuickConnect™

In the event of a power interruption, the receiver will reconnect with the transmitter immediately when power is restored. This feature helps avoid control loss during short interruptions in power.

Note: The R921X receiver features DSM® technology and is compatible with all JR® and Spektrum™ aircraft radios that support DSM2 and DSMX technology including: JR12X, 12X MV, 11X, X9503, X9303, JR DX8, DX7, DX6i, DX5e and Module Systems.

1. With the system hooked up as shown, insert the bind plug in the charge plug receptacle. The switch must be a 3-wire type switch (JRPA001 or JRPA004) to enter the bind mode through the switch. If a 3-wire switch is not available, install the male bind plug into the charge plug receptacle and power the receiver through any other open port to enter bind mode.
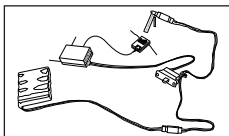
2. Turn on the receiver switch. Note that the LEDs on both receivers should be flashing, indicating that the receiver is ready to bind. To program SmartSafe™, leave the bind plug in the receiver during the entire bind process. To program Preset Fail-safe with the LEDs flashing, remove the bind plug prior to step 4. This will program the receiver in the Preset Fail-safe mode.

3. Establish the desired fail-safe stick positions: normally low throttle and flight controls neutral.

4. Press and hold the bind button on the back of the transmitter while turning on the power switch. The bind button should flash and within a few seconds the system should connect. The LEDs on the receivers should go solid, indicating the system has connected.

5. Remove the bind plug and store it in a convenient place.

6. After you've programmed your model, it's important to rebind the system so the true low throttle and neutral control surface positions are programmed.

   Note: To bind an aircraft with an electronic speed controller that powers the receiver through the throttle channel (BEC), insert the bind plug into the battery port and proceed to Step #2.

The R921X features two types of fail-safe:
SmartSafe™ Fail-safe

SmartSafe is ideal for most types of electric aircraft and is also recommended for most types of gas- and glow-powered models. With SmartSafe, when signal is lost the throttle channel only is driven to its preset fail-safe position (normally low throttle) while all other channels hold last command. Here's how SmartSafe works:

Receiver power only

When the receiver only is turned on (no transmitter signal is present), all servos except for throttle are driven to their preset fail-safe positions, normally control surfaces at neutral and the landing gear down. These fail-safe positions are stored in the receiver during binding. At this time the throttle channel has no output, to avoid operating or arming the electronic speed control. In glow-powered models, the throttle servo has no input signal so it remains in its current position.

After connection

When the transmitter is turned on and after the receiver connects to the transmitter, normal control of all channels occurs. After the system makes a connection, if loss of signal occurs SmartSafe drives the throttle servo only to its preset fail-safe position (low throttle) that was set during binding. All other channels hold their last commanded position. When the signal is regained, the system immediately (less than 4ms) regains control.

SmartSafe:

- Prevents unintentional electric motor response on start-up.
- Eliminates the possibility of over-driving servos on start-up by storing preset fail-safe positions.
- Establishes low-throttle fail-safe and maintains last-commanded control surface position if the RF signal is lost. Note: Fail-safe positions are stored via the stick and switch positions on the transmitter during binding.

Preset Fail-safe

Preset Fail-safe is ideal for sailplanes and is preferred by some modelers for their glow- and gas-powered aircraft. With Preset Fail-safe, if the signal is lost all channels are driven to their preset fail-safe positions. Here's how Preset Fail-safe works:

Receiver power only

When the receiver only is turned on (no transmitter signal is present), all servos except for throttle are driven to their preset fail-safe positions, normally control surfaces at neutral and the landing gear down. These fail-safe positions are stored in the receiver during binding. At this time the throttle channel has no output, to avoid operating or arming the electronic speed control. In glow-powered models, the throttle servo has no input signal so it remains in its current position.

After connection

When the transmitter is turned on and after the receiver connects to the transmitter, normal control of all channels occurs. After the system makes a connection, if loss of signal occurs Preset Fail-safe drives all servos to their preset fail-safe positions that were set during binding.

For sailplanes, it's recommended that the spoilers/flaps deploy to de-thermalize the aircraft, preventing a flyaway. Some powered modelers prefer to use this fail-safe system to program a slight turn and low throttle to prevent their aircraft from flying away. When the signal is regained, the system immediately (less than 4ms) regains control.

Preset Fail-safe:

- Prevents unintentional electric motor response on start-up.
- Eliminates the possibility of over-driving servos on start-up by storing preset fail-safe positions.
- Establishes preset fail-safe servo positions for all channels if the signal is lost.

   Note: Fail-safe positions are stored via the stick and switch positions.

Standard Range Testing

Before each flying session and especially with a new model, it is important to perform a range check. All JR aircraft transmitters incorporate a range testing system which, when activated, reduces the output power, allowing a range check.

Range Testing

30 paces (90 feet)

Press and hold the bind button
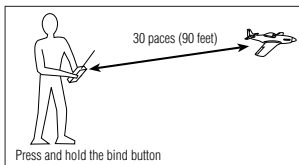
1. With the model resting on the ground, stand 30 paces (approx. 90 feet) away from the model.

2. Face the model with the transmitter in your normal flying position and depress and hold the bind button on the back of the transmitter. This causes reduced power output from the transmitter.

3. You should have total control of the model with the button depressed at 30 paces (90 feet).

4. If control issues exist, call Horizon Product Support at 1-877-504-0233 for further assistance.

Advanced Range Testing Using a Flight Log

While the above Standard Range Testing procedure is recommended for most sport aircraft, for sophisticated aircraft that contain significant amounts of conductive/reflective materials (e.g., turbine-powered jets, some types of scale aircraft, aircraft with carbon fuselages, etc.) the following advanced range check will confirm that all internal and remote receivers are operating optimally and that the installation (position of the receivers) is optimized for the specific aircraft. This Advanced Range Check allows the RF performance of each individual internal and remote receiver to be evaluated and to optimize the locations of each individual remote receiver.

Advanced Range Testing

1. Plug a Flight Log (JRPA145, optional) into the data port in the R921X receiver and turn on the system (transmitter and receiver).

2. Advance the Flight Log until F- frame losses are displayed, by pressing the button on the flight log.

3. Have a helper hold your aircraft while he observes the Flight Log data.

4. Standing 30 paces away from the model, face the model with the transmitter in your normal flying position and depress and hold the bind button on the back of the transmitter. This causes reduced power output from the transmitter.

5. Have your helper position the model in various orientations (nose up, nose down, nose toward the transmitter, nose away from the transmitter, etc.) while your helper is watching the Flight Log, noting any correlation between the aircraft's orientation and Frame Losses. Do this for 1 minute. The timer on the X9303 can be used here. For giant-scale aircraft, it's recommended that the airplane be tipped up on its nose and rotated 360 degrees for one minute, then record the data. Next place the airplane on its wheels and do a second test, rotating the aircraft in all directions for one minute.

6. After one minute, release the bind button. A successful range check will have recorded zero frame loses. Scrolling the Flight Log through the Antenna fades (A, B, L, R) allows you to evaluate the performance of each receiver. Antenna fades should be relatively uniform. If a specific antenna is experiencing a high degree of fades, then that antenna should be moved to a different location.

7. A successful Advanced test will yield the following:

   H- 0 holds

   F- 0 frame losses

   A, B, R, L- Antenna fades will typically be less than 100. It's important to compare the relative antenna fades and if a particular receiver has significantly higher antenna fades (2 to 3X), then the test should be redone, and if the same results occur, move the offending receiver to a different location.

Flight Log (JRPA145)—Optional for R921X Receiver
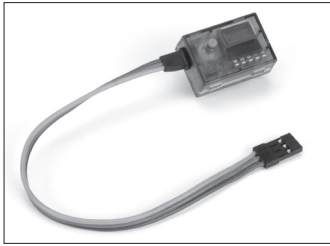
The Flight Log is compatible with the R921X receiver. The Flight Log displays overall RF link performance as well as the individual internal and external receiver link data. Additionally it displays receiver voltage.

Using the Flight Log

After a flight and before turning off the receiver or transmitter, plug the Flight Log into the Data port on the R921X receiver. The screen will automatically display voltage e.g., 6v2= 6.2 volts.

Note: When the voltage reaches 4.8 volts or less, the screen will flash indicating low voltage.

Press the button to display the following information:

- A - Antenna fades on the internal antenna
- B - Not used
- L - Not used
- R - Not used
- F - Frame loss
- H - Holds

Antenna fades—represents the loss of a bit of information on that specific antenna. Typically it's normal to have as many as 50 to 100 antenna fades during a flight. If any single antenna experiences over 500 fades in a single flight, the antenna should be repositioned in the aircraft to optimize the RF link.

Frame loss—represents simultaneous antenna fades on all attached receivers. If the RF link is performing optimally, frame losses per flight should be less than 20.

A hold occurs when 45 continuous (one right after the other) frame losses occur. This takes about one second. If a hold occurs during a flight, it's important to re-evaluate the system, moving the antennas to different locations and/or checking to be sure the transmitter and receivers are all working correctly.

Note: A servo extension can be used to allow the Flight Log to more conveniently be plugged in without having to remove the aircraft's hatch or canopy. On some models, the Flight Log can be plugged in, attached and left on the model using double-sided tape. Mounting the Flight Log conveniently to the side frame is common with helicopters.

Receiver Power System Requirements

With all radio installations, it is vital that the onboard power system provides adequate power without interruption to the receiver even when the system is fully loaded (servos at maximum flight loads). This becomes especially critical with giant-scale models that utilize multiple high-torque/ high-current servos. Inadequate power systems that are unable to provide the necessary minimum voltage to the receiver during flight loads have become the number one cause of in-flight failures. Some of the power system components that affect the ability to properly deliver adequate power include: the selected receiver battery pack (number of cells, capacity, cell type, state of charge), switch harness, battery leads, regulator (if used), power bus (if used).

While R921X receivers' minimum operational voltage is 3.5 volts, it is highly recommended the system be tested per the guidelines below to a minimum acceptable voltage of 4.8 volts during ground testing. This will provide head room to compensate for battery discharging or if the actual flight loads are greater than the ground test loads.

Recommended Power System Guidelines

1. When setting up large or complex aircraft with multiple high-torque servos, it's highly recommended a current and volt-meter (Hangar 9 HAN172) be used. Plug the voltmeter in an open channel port in the receiver and with the system on, load the control surfaces (apply pressure with your hand) while monitoring the voltage at the receiver. The voltage should remain above 4.8 volts even when all servos are heavily loaded.

   Note: The optional Flight Log has a built-in voltmeter and it can be used to perform this test.

2. With the current meter inline with the receiver battery lead, load the control surfaces (apply pressure with your hand) while monitoring the current. The maximum continuous recommended current for a single heavy-duty servo/battery lead is three amps while short duration current spikes of up to five amps are acceptable. Consequently, if your system draws more than three amps continuous or five amps for short durations, a single battery pack with a single switch harness plugged into the receiver for power will be inadequate. It will be necessary to use multiple packs of the same capacity with multiple switches and multiple leads plugged into the receiver.

3. If using a regulator, it's important that the above tests are done for an extended period of 5 minutes. When current passes through a regulator, heat is generated and this heat causes the regulator to increase resistance, which in turn causes even more heat to build up (thermal runaway). While a regulator may provide adequate power for a short duration, it's important to test its ability over time as the regulator may not be able to maintain voltage at significant power levels.

4. For really large aircraft or complex models (for example 35% and larger or jets), multiple battery packs with multiple switch harnesses are necessary or, in many cases, one of the commercially available power boxes/ busses is recommended. No matter what power systems you choose, always carry out test #1 above making sure that the receiver is constantly provided with 4.8 volts or more under all conditions.

5. The latest generation of Nickel-Metal Hydride batteries incorporate a new chemistry mandated to be more environmentally friendly. These batteries, when charged with peak detection fast chargers, have tendencies to false peak (not fully charge) repeatedly. These include all brands of Ni-MH batteries. If using Ni-MH packs, be especially cautious when charging making absolutely sure that the battery is fully charged. It is recommended to use a charger that can display total charge capacity. Note the number of mAh put into a discharged pack to verify it has been charged to full capacity.

Warranty and Repair Policy

Warranty Period

Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warranties that the Products purchased (the "Product") will be free from defects in materials and workmanship for a period of 3 years from the date of purchase by the Purchaser.

3 Year Limited Warranty

Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(a) This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. This warranty covers only those Products purchased from an authorized Horizon dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for all warranty claims.
(b) Limitations- HORIZON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

(c) Purchaser Remedy- Horizon's sole obligation hereunder shall be that Horizon will, at its option, (i) repair or (ii) replace, any Product determined by Horizon to be defective. In the event of a defect, these are the Purchaser's exclusive remedies. Horizon reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon. This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than Horizon. Return of any Product by Purchaser must be approved in writing by Horizon before shipment.

Damage Limits

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY. 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 are not prepared to accept the liability associated with the use of this Product, you are advised to return this 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).

Warranty Services

Questions, Assistance, and Repairs

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the Product has been started, you must contact 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 direct your email to productsupport@horizonhobby.com, or call 877.504.0233 toll free to speak to a Product Support representative. You may also find information on our website at www.horizonhobby.com.

Inspection or Repairs

If this Product needs to be inspected or repaired, please use the Horizon Online Repair 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 Repair Request is available at http://www.horizonhobby.com under the Repairs tab. 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 repair. 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 batteries to Horizon. If you have any issue with a battery, please contact the appropriate Horizon Product Support office.

Warranty Inspection and Repairs

To receive warranty service, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be repaired or replaced free of charge. Repair or replacement decisions are at the sole discretion of Horizon.

Non-Warranty Repairs

Should your repair not be covered by warranty the repair 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 repair you are agreeing to payment of the repair without notification. Repair estimates are available upon request. You must include this request with your repair. Non-warranty repair 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 cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for inspection or repair, you are agreeing to Horizon's Terms and Conditions found on our website under the Repairs tab.

Electronics and engines requiring inspection
or repair should be shipped to the following address:

    Horizon Service Center
    4105 Fieldstone Road
    Champaign, Illinois 61822
    USA

Online Repair Request visit:

    www.horizonhobby.com/repairs

All other Products requiring warranty inspection
or repair should be shipped to the following address:

    Horizon Product Support
    4105 Fieldstone Road
    Champaign, Illinois 61822
    USA

Please call 877-504-0233 with any questions or concerns regarding this product or warranty.

FCC Information

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.

This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400GHz to 2.4835GHz frequency range.