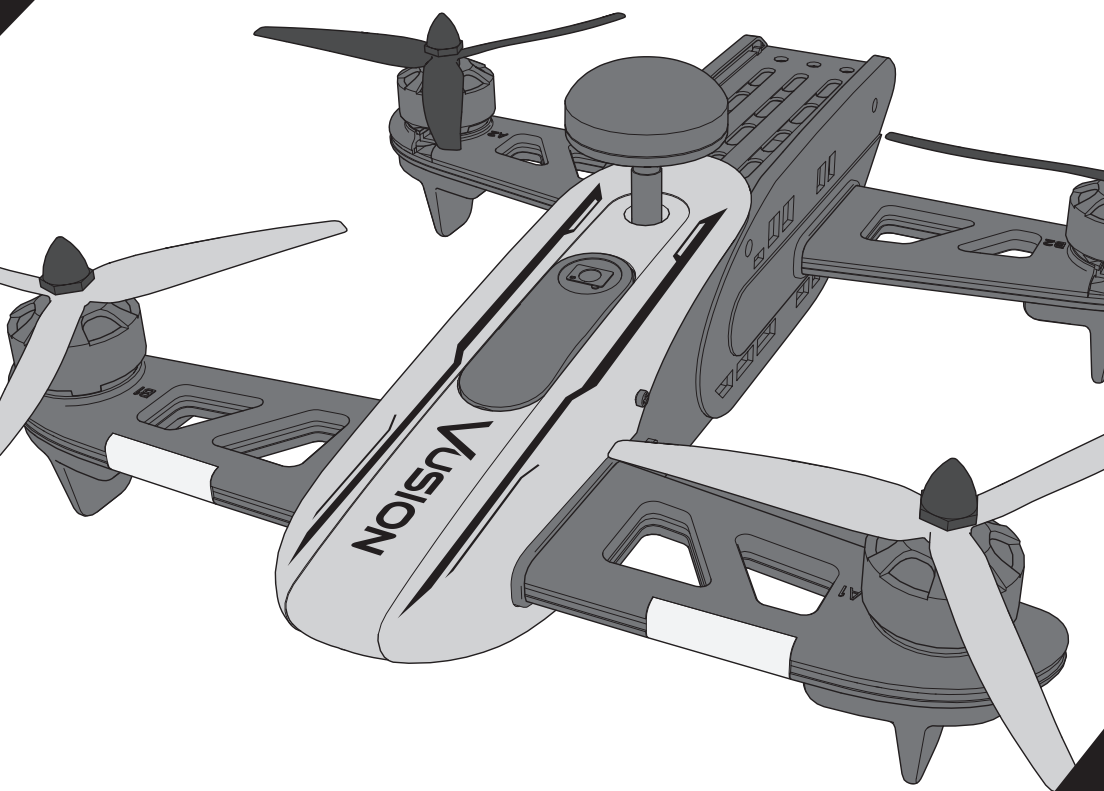


BLADE®

VUSION™

FPV-READY RACING DRONE

V2



Instruction Manual
Manuel d'utilisation

RTF



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 www.horizonhobby.com and click on the support 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.

If you are operating this product in North America, you are required to have an Amateur Radio (HAM) license. Visit www.arrl.org for more information.

This product uses Betaflight Third Party Software in portions of its coding. For more information on Betaflight Software, please visit: <https://github.com/betaflight/betaflight/wiki>.

THIRD PARTY SOFTWARE: This product may include code developed by one or more third parties ("Third Party Software"). Some Third Party Software may be subject to other terms and conditions that may be available for download with the product documentation. Notwithstanding the terms and conditions of this Agreement, the Third Party Software is licensed to you subject to the terms and conditions of the software license agreement identified in the open source software disclosure. If the third party terms and conditions include licenses that provide for the availability of source code (such as the GNU General Public License), the open source software disclosure or the media on which the software may be delivered will provide instructions where a copy of such source code can be obtained.

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Specifications

Length	9.9 in (252mm)	Max Propeller Diameter	5 in (127mm)
Width	9.5 in (241mm)	Flying Weight	17.7 oz (502g)
Height	2.7 in (69mm)		

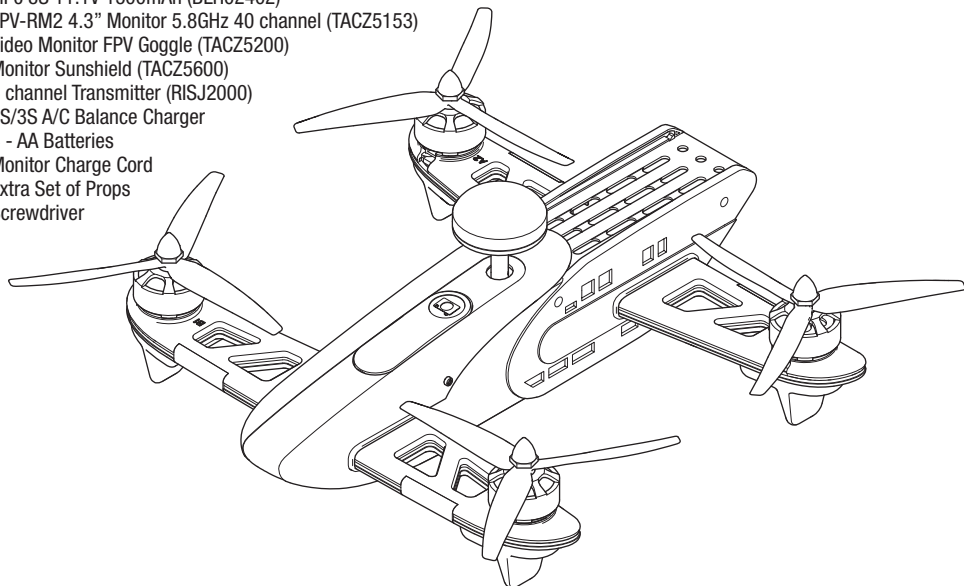
As of this printing, you are required to register with the FAA if you own this product.

For up-to-date information on how to register with the FAA, please visit <https://registermyuas.faa.gov/>.

For additional assistance on regulations and guidance on UAS usage, visit knowbeforeyoufly.org/.

Box Contents:

- Vusion™ 250 FPV Racer Quadcopter
 - Flight Controller (BLH02408)
 - VTX Camera 25/200mW Vusion V2 (BLH02417)
 - Omni Antenna Black R-SMA (BLH02420)
- LiPo 3S 11.1V 1500mAh (BLH02402)
- FPV-RM2 4.3" Monitor 5.8GHz 40 channel (TACZ5153)
- Video Monitor FPV Goggle (TACZ5200)
- Monitor Sunshield (TACZ5600)
- 6 channel Transmitter (RISJ2000)
- 2S/3S A/C Balance Charger
- 4 - AA Batteries
- Monitor Charge Cord
- Extra Set of Props
- Screwdriver



To receive product updates, special offers and more, register your product at www.horizonhobby.com.

NOTICE: Consult local laws and ordinances before operating FPV (first person view) equipment. In some areas, FPV operation may be limited or prohibited. You are responsible for operating this product in a legal and responsible manner.

First Flight Preparation

- Remove and inspect contents
- Begin charging the flight battery
- Install the transmitter batteries
- Install the video transmitter antenna
- Install the flight battery in the aircraft (once it has been fully charged)
- Bind your transmitter
- Familiarize yourself with the controls
- Find a suitable area for flying

Charging Warnings



CAUTION: All instructions and warnings must be followed exactly. Mishandling of Li-Po batteries can result in a fire, personal injury and/or property damage.

- **NEVER LEAVE CHARGING BATTERIES UNATTENDED.**
- **NEVER CHARGE BATTERIES OVERNIGHT.**
- By handling, charging or using the included Li-Po battery, you assume all risks associated with lithium batteries.
- If at any time the battery begins to balloon or swell, discontinue use immediately. If charging or discharging, discontinue and disconnect. Continuing to use, charge or discharge a battery that is ballooning or swelling can result in fire.
- Always store the battery at room temperature in a dry area for best results.
- Always transport or temporarily store the battery in a temperature range of 40–120° F (5–49° C).
- Do not store battery or model in a car or direct sunlight. If stored in a hot car, the battery can be damaged or even catch fire.

Battery Charging

The Vusion 250 quadcopter operates with a 3-cell (3S), 11.1V LiPo battery. The included charger is capable of charging 2 or 3S LiPo batteries.

To charge the included 3S LiPo battery:

1. Connect the AC power adapter to the charger.
2. Connect the AC adapter to 120V outlet.
3. Insert the flight battery balance connector to the 3S balance port on the charger. The charger will begin charging.
4. Disconnect the battery from the charger when the charging process is complete.

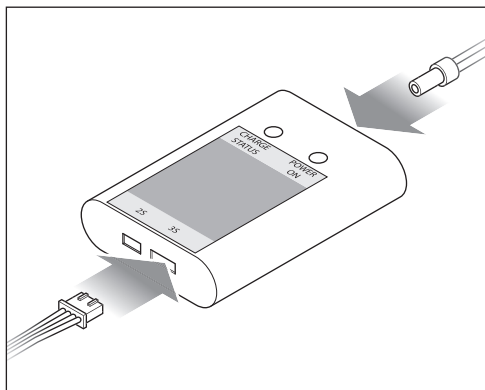
LED indicators:

- Power LED, Solid Red:** Power ON
- Charge LED, Solid Red:** Charging
- Charge LED, Solid Green:** Charge Complete
- Charge LED, Flashing Red:** Error

Flying Checklist

- ☐ **Always turn the transmitter on first**
- ☐ Plug the flight battery into the lead from the flight control board
- ☐ Allow the aircraft to initialize and arm properly
- ☐ Fly the aircraft
- ☐ Land the aircraft
- ☐ Unplug the flight battery from the flight control board
- ☐ **Always turn the transmitter off last**

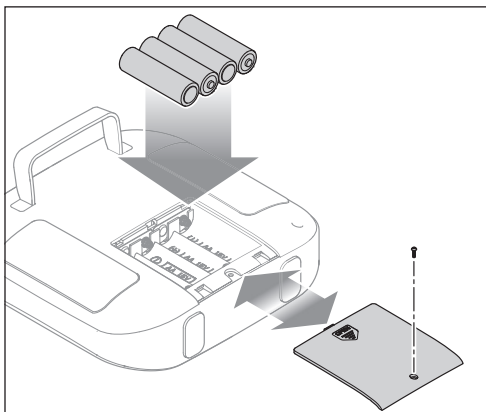
- Always charge batteries away from flammable materials.
- Always inspect the battery before charging.
- Always disconnect the battery after charging, and let the charger cool between charges.
- Always constantly monitor the temperature of the battery pack while charging.
- **ONLY USE A CHARGER SPECIFICALLY DESIGNED TO CHARGE LI-PO BATTERIES.** Failure to charge the battery with a compatible charger may cause a fire resulting in personal injury and/or property damage.
- Never discharge Li-Po cells to below 3V under load.
- Never cover warning labels with hook and loop strips.
- Never charge batteries outside recommended levels.
- Never charge damaged batteries.
- Never attempt to dismantle or alter the charger.
- Never allow minors to charge battery packs.
- Never charge batteries in extremely hot or cold places (recommended between 40–120° F or (5–49° C) or place in direct sunlight.



Installing the Transmitter Batteries

1. Remove the battery door screw.
2. Slide the battery door down to open.
3. Install 4 AA alkaline batteries in the transmitter.
4. Re-install the battery door and battery door screw.

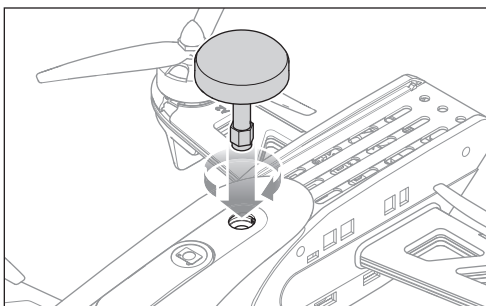
Replace the transmitter batteries when the transmitter indicates low voltage. The right LED flashes and the transmitter beeps when the battery voltage is low.



Installing the Video Transmitter Antenna

Install the video transmitter antenna in the top of the quadcopter as shown.

NOTICE: Never install the flight battery or power on the quadcopter without the video transmitter antenna installed. Doing so, even for a short time, will damage the video transmitter.



Installing the Flight Battery

1. Remove the battery compartment cover by pulling on the edge of the cover to unsnap it from the frame.
2. Slide the flight battery into the quadcopter frame and re-install the cover.
3. Lower the throttle to the lowest position.
4. Power on the transmitter.

IMPORTANT: Always power the transmitter on **before** powering on the aircraft.

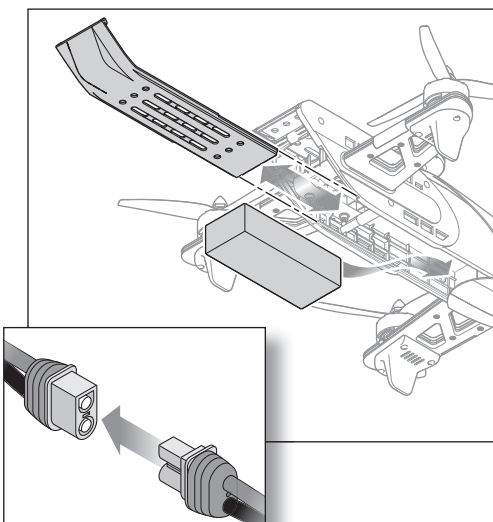
5. Connect the battery cable to the aircraft power lead, noting correct polarity. Do not move the quadcopter until the receiver initializes.



CAUTION: Connecting the battery to the aircraft power lead with reversed polarity will cause damage to the power distribution board, ESCs and the battery. Damage caused by incorrectly connecting the battery is not covered under warranty.

6. The quadcopter motors will beep once and the receiver status LED will glow solid red.

IMPORTANT: If the receiver status LED flashes red, the transmitter is not bound to the aircraft. See the *Binding* section to re-bind the aircraft to the transmitter.

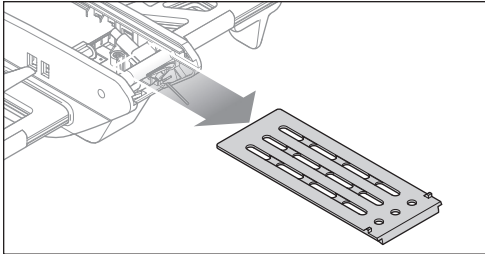


CAUTION: Always disconnect the Li-Po battery from the quadcopter when not flying to avoid over-discharging the battery. Batteries discharged to a voltage lower than the lowest approved voltage may become damaged, resulting in loss of performance and potential fire when batteries are charged.

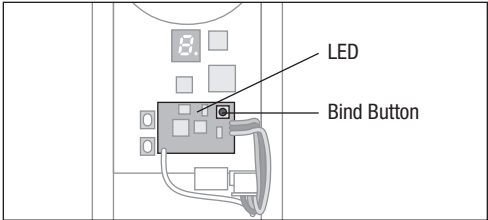
Binding

The transmitter included with this aircraft is pre-bound to the receiver at the factory. If it becomes necessary to re-bind the transmitter to the receiver, indicated by a red receiver status LED, follow the procedure given in the table.

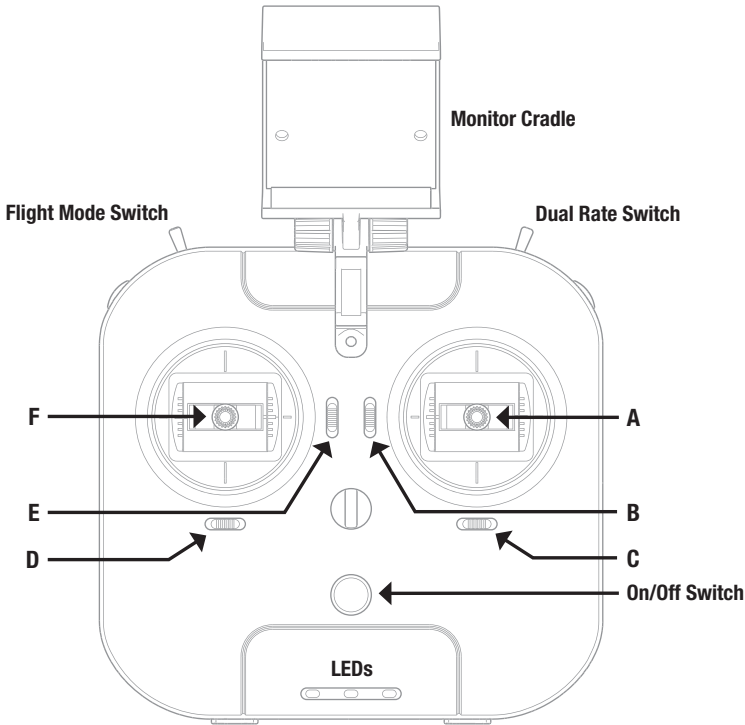
If you encounter problems, obey the binding instructions and refer to the troubleshooting guide for further instructions. If necessary, contact the appropriate Horizon Hobby product support office.



Binding Procedure	
1.	Power off your transmitter.
2.	Remove the upper rear cover of the aircraft. Press down on the rear edge of the cover and pull the cover out of the frame.
3.	Power on the aircraft.
4.	Press and hold the bind button until the red LED on the control board flashes rapidly.
5.	Power on the transmitter. The LED on the control board glows solid to show the bind was successful.



Transmitter Controls



A	B	C	D	E	F
Aileron (Roll) (Left/Right) Elevator (Pitch) (Up/Down)	Elevator Trim	Aileron Trim	Rudder Trim	Throttle Trim	Rudder (Yaw) (Left/Right) Throttle (Up/Down)

Failsafe/Beacon

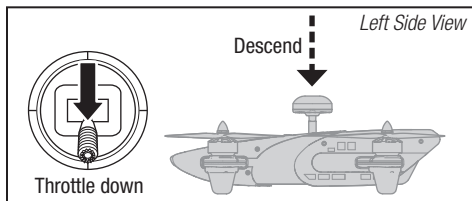
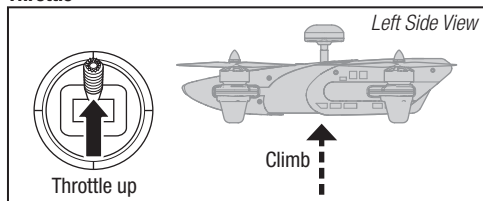
The quadcopter will autoland and start beeping if the signal from the transmitter is lost. This feature can be used as a beacon to help locate the quadcopter, if it has crashed, by

turning off the transmitter and listening for the beeping of the aircraft.

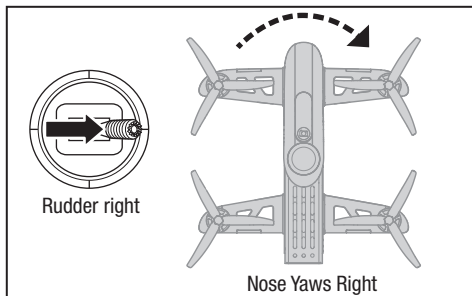
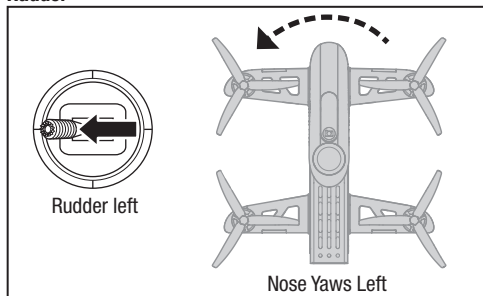
Understanding the Primary Flight Controls

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

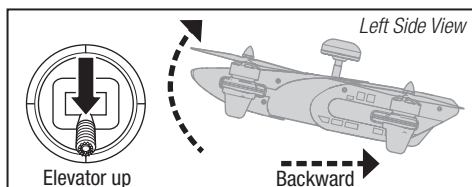
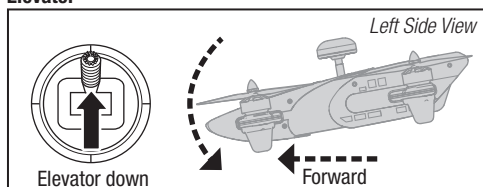
Throttle



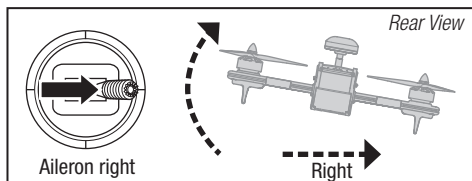
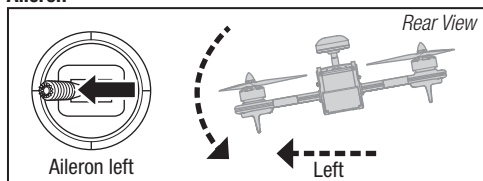
Rudder



Elevator



Aileron



Flight Modes

The quadcopter has 3 flight modes accessible by changing the flight mode switch position.

Angle Mode: This mode has auto level, mild roll rates and very limited tilt angles. Ideal for the pilot who is moving up from an entry level quadcopter.

Horizon Mode: This mode still has auto level, but has higher roll rates and a high tilt angle setting. This mode is for more experienced pilots.

Acro Mode: This mode has no limits on tilt and faster roll rates. The quad will not auto level in this mode. This mode offers the most maneuverability but requires the pilot to be able to control the attitude of the quadcopter.


Flight Modes				
	Switch Position	Stability Mode	Tilt Angle	Roll Rate
Angle Mode	Farthest	Stability	30	Low
Horizon Mode	Middle	Stability	45	Medium
Acro Mode	Closest	Rate	Unlimited	High

It normally takes a week or two of practice to learn to fly consistently in Acro Mode. Start by flying line of sight (no FPV) until you can comfortably control the quad. If possible, fly in an open area over tall grass to minimize damage to the aircraft when you crash. When you are comfortable making a flip in this mode, you should be ready for FPV.

Flying the Vusion 250

Motor Arming

Turn on the transmitter. Connect the flight battery to the aircraft. Place the quadcopter on a level surface and let it sit for 10 seconds to let the flight controller set up the gyros. Set the dual rate switch to high. The motors will not arm if the dual rate switch is in the low position. With the throttle at its lowest setting, hold the yaw control (left stick) to the right. The quadcopter will beep once to indicate the motors are armed. Advance the throttle to start the motors spinning.



CAUTION: Any throttle input while the motors are armed will cause the motors to spin. Always keep body parts, clothing and loose items away from the propellers.

To disarm the motors, lower the throttle to the lowest setting. Set the dual rate switch to high. Hold the yaw control to the left until the quadcopter beeps, indicating the motors are disarmed. The motors will also disarm if the throttle is at its lowest setting for more than 5 seconds.

Takeoff

With the motors armed and spinning, advance the throttle slowly to take off. Increase the throttle until the model is approximately 2 ft. (600mm) off the ground and check the trim so the model flies as desired. Once the trim is adjusted, begin flying the model. Flight times for the included battery will vary according to how aggressively the throttle is used.

Low Voltage Cutoff (LVC)

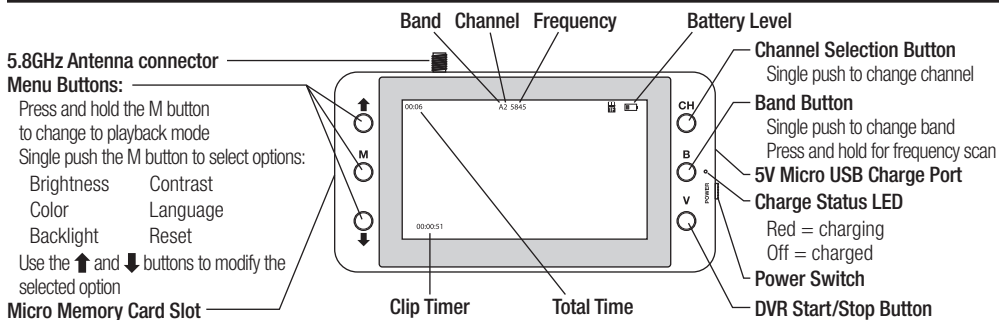
LVC decreases the power to the motors when the battery voltage gets low. When the motor power decreases, land the aircraft immediately and recharge the flight battery. LVC does not prevent the battery from over-discharge during storage.

NOTICE: Repeated flying to LVC will damage the battery.

Landing

To land, hover the aircraft over the landing spot and slowly reduce the throttle. When the aircraft touches down, lower the throttle fully. To disarm the motors, lower the throttle to the lowest setting. Set the dual rate switch to high. Hold the yaw control to the left until the quadcopter beeps, indicating the motors are disarmed. The motors will also disarm if the throttle is at its lowest setting for more than 5 seconds. Unplug and remove the battery.

4.3 inch Video Monitor with DVR Features



Monitor Band	FPV Band
A	A
B	B
C	E*
D	FS/IRC
E	Race

* The video transmitter on the quadcopter does not operate in the E band.

Using the Video Monitor



CAUTION: Do not power on the monitor without the antenna attached. Doing so will damage the video receiver amplifiers. Amplifier damage is not covered by warranty.

- Before using the 4.3 inch video monitor, make sure the monitor is fully charged. Connect the micro USB connector to a 5V USB power source. The charge indicator LED will glow red while charging and will go off when the monitor is fully charged.
- Open the sun shade, if installed.
- Insert a micro memory card (not included) in the slot on the side of the video monitor. Press the card in until it locks. To remove the card, press in slightly and release until the card is released. Always insert the memory card before powering on the video monitor.
- Power on the video monitor and look for a clear channel. Clear channels will have a consistent static background. Channels with interference will display horizontal static lines. Select one of the clear channels.
- Once you have chosen a clear channel on the monitor, select the same channel on the video transmitter.
- Place the monitor in the transmitter cradle or in the goggle mount.

Video Monitor FPV Goggle

The FPV Goggle is designed to hold the included video monitor for a more immersive view from the FPV camera. The goggle can also be used with mobile devices that are less than 5.9 x 3.15 inches to watch videos. The goggle is large enough that reading glasses can be used if needed to sharpen the image from the monitor.

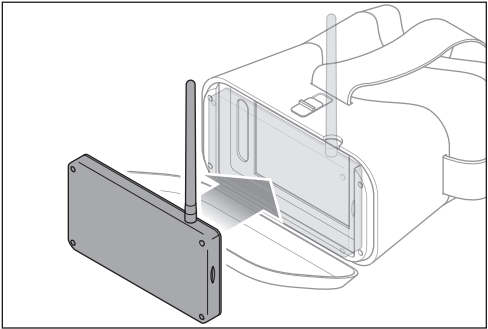
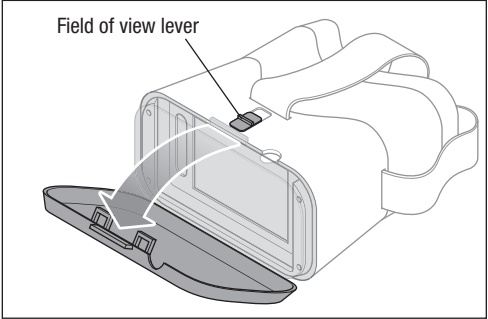
To install the video monitor in the goggle:

1. Remove the sunshade from the video monitor, if installed.
2. Pull on the goggle cover tab to open the goggle cover.
3. Place the monitor or mobile device in the compartment and close the goggle cover.

Pulling the field of view lever on top of the goggle closer to your eyes will slightly expand the field of view for use with devices that have a larger screen.

The length of the straps can be adjusted by moving the hook and loop pad at the end of each strap.

A small adhesive backed foam pad is included to use to secure a thin mobile device (less than 3/8"). The pad should be mounted in the center of the goggle cover. Do not use the pad with the included video monitor, the magnetic catch on the cover may not close securely.



Video Transmitter

The Vusion 250 quadcopter comes equipped with a selectable output (25mW or 200mW), 32 channel video transmitter installed. The VTX is capable of transmitting on A, B, FS/IRC and Race bands. The video transmitter includes a digital display which continuously scrolls through the active band and channel. Press down and pull on the rear of the top cover for access to the video transmitter.

To change the video transmitter output power level:

1. Press and hold band/channel button.
2. When the channel flashes on the LCD screen, press and hold the output power button.
3. Release the buttons when the output symbol, – or =, appears.
4. Press the band/channel button to change output level.
The following symbols indicate the selected output:
“–” = 25mW.
“=” = 200mW.

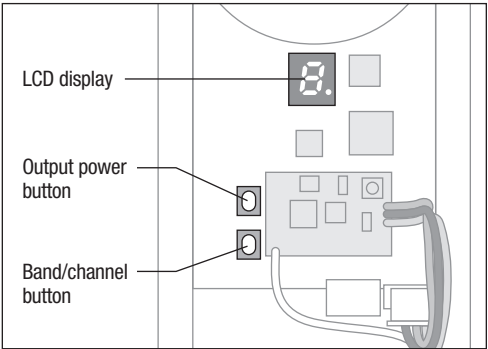
5. After 5 seconds of release channel/power selection will auto exit.

To change the band:

1. Press and hold the band/channel button until the active band continuously flashes in the display.
2. Press and release the band/channel button to scroll through the available bands.
3. Wait approximately 5 seconds until the digital display shows the band followed by the channel.

To change the active channel:

Press and release the band/channel button to scroll through the available channels within the active band.



Available Frequencies, (mHz):

Band	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8
Band A	5865	5845	5825	5805	5785	5765	5745	5725
Band B	5733	5752	5771	5790	5809	5828	5847	5866
FS/IRC	5740	5760	5780	5800	5820	5840	5860	5880
RaceBand	5658	5695	5732	5769	5806	5843	5880	5917

FPV Operation

Consult local laws and ordinances before operating FPV equipment. In some areas, FPV operation may be limited or prohibited. You are responsible for operating this product in a legal and responsible manner.

Flying FPV is more difficult than line of sight, because it is difficult to determine altitude with just the camera view. Practice in an open area with a spotter. If possible, fly over tall grass to minimize damage if you crash. When you are comfortable flying in an open area, practice flying a pre-set course. This will help you learn to corner faster.

The quadcopter has a built in camera and 32 channel VTX that transmits on A, B, F and Race bands. The included monitor must be set to the correct band and channel to display the feed from the camera.

Before powering on the quadcopter, always scan the available video frequencies, using the included video monitor, to find an open channel.



CAUTION: Do not power on the quadcopter while others are flying FPV around you without first knowing what band and channel both you and any other pilots are transmitting on. It is possible to swamp other nearby video transmitters, causing others to lose video feed and crash.

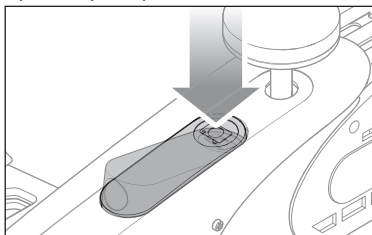
To scan all available frequencies:

1. Attach the antenna to the FPV monitor and power the monitor on.
2. Hold button B on the monitor for 2 seconds and release it. The monitor will scan all bands and channels and lock onto any currently occupied channel.
3. Press and release button B to change bands.
IMPORTANT: The video monitor displays A, B, E, F and Race bands. The quadcopter video transmitter does not operate in the E band.
4. Press button CH to change to an unoccupied channel.

When an unoccupied video frequency is located, change the video band and channel on the quadcopter to match the monitor.

To change the quadcopter video frequency:

1. Remove the rear top cover of the quadcopter.
2. Raise the camera by pushing down on the camera icon on the top of the quadcopter.



3. Power on the flight control transmitter.
4. Power on the aircraft and allow it to initialize. The digital display repeatedly shows the current band followed by the channel.
5. Press and hold the band/channel button until the digital display flashes the current band continuously.
6. Press and release the band/channel button to change to the desired band.
7. Wait approximately 5 seconds until the digital display shows the band followed by the channel.
8. Press and release the band/channel button to change to the desired channel. Confirm the video feed is clear in the monitor. Repeat steps 5-8 to find a different channel if the video is not clear.
9. Place the monitor in the cradle on the transmitter or inside the goggle frame and replace the rear top cover of the quadcopter.

Adding An External Spektrum™ Receiver

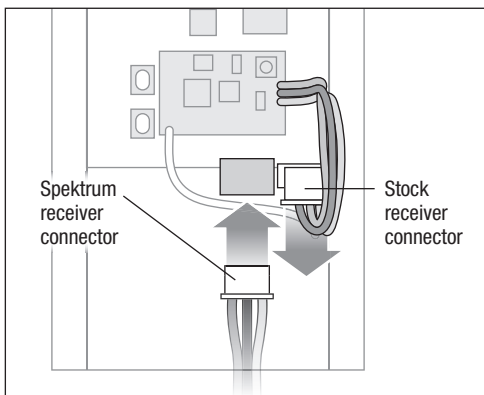


WARNING: Remove the propellers from the motors prior to performing any maintenance or changing any radio components. Failure to do so may cause serious injury if the motors start unexpectedly.

The Blade® Vusion™ quadcopter is compatible with the Spektrum™ DSMX® quad race serial receiver (SPM4648). After connecting the receiver, you must change the active receiver on the flight controller using Betaflight Configurator software, available at <https://github.com/betaflight>.

To install a remote receiver:

1. Remove the top rear cover by pressing down on the rear edge and pulling the cover out of the frame.
2. Disconnect the stock receiver from the flight control board.
3. Connect the Spektrum DSMX receiver connector to the flight control board as shown.
4. Secure the receiver in the frame.
5. Re-install the rear cover.
6. Load Betaflight Configurator.
7. Connect the quadcopter to the computer using the micro USB port.
8. Select "Receiver" from the Configurator menu.
9. Under "Channel Map" select "TAER 1234".
10. Select "Configuration" from the Configurator menu.
11. Under "Serial Receiver Provider" select receiver "SPEKTRUM2048"



Spektrum Transmitter Setup

Switch Functions:

Switch B: Flight Mode

Pos 0: Angle Mode

Pos 1: Horizon Mode

Pos 2: Acro Mode

Switch H: Motor Arm/Disarm

Pos 0: Disarmed

Pos 1: Armed

To arm the motors, lower the throttle fully and move switch H to position 1.

SETUP LIST		FUNCTION LIST			
Model Type		Servo Setup			
ACRO		Channel	Travel	Reverse	
F-Mode Setup		Throttle	150/150	Normal	
Switch 1	B	Aileron	150/150	Reverse	
Switch 2	H	Elevator	150/150	Normal	
Channel Assign		Rudder	150/150	Reverse	
Channel Input Config		Gear	100/100	Normal	
1 Throttle	Throttle	Aux1	100/100	Normal	
2 Aileron	Aileron	D/R & Expo			
3 Elevator	Elevator				
4 Rudder	Rudder	Channel	Sw Pos	D/R	Expo
5 Gear	B	Aileron	0	100/100	20%
6 Aux 1	H		1	100/100	20%
			2	100/100	20%
Frame Rate		Elevator	0	100/100	20%
22ms			1	100/100	20%
DSMX			2	100/100	20%
		Rudder	0	100/100	20%
			1	100/100	20%
			2	100/100	20%
Timer					
Mode			Count Down		
Time			6:00		
Start			Throttle Out		
Over			25%		
One Time			Inhibit		

Installing the Propellers

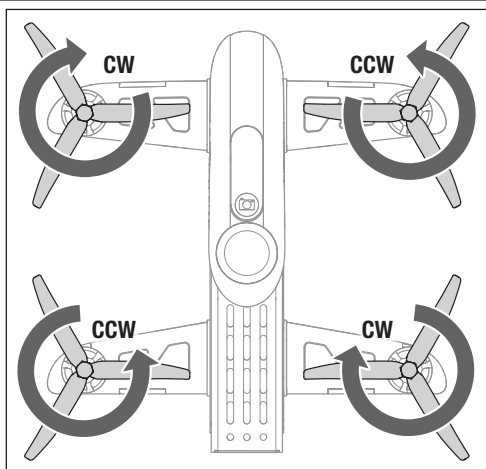
Refer to the illustration for the proper motor rotation and propeller location.

The propellers have “CW” or “CCW” marked on the blades to show proper location and rotation. Match the propeller location to the illustration.

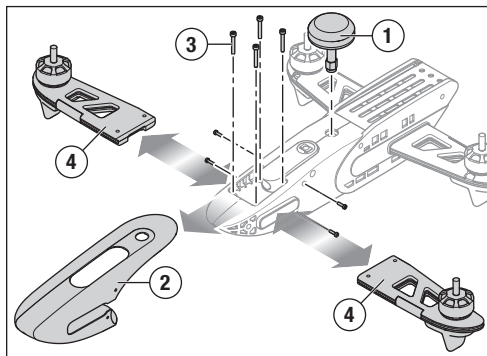
Secure the propellers using the propeller nuts.

Do not overtighten the nuts as damage to the propellers or motors may result.

IMPORTANT: The motor shafts and nuts at the “CW” propeller locations are reverse threads.

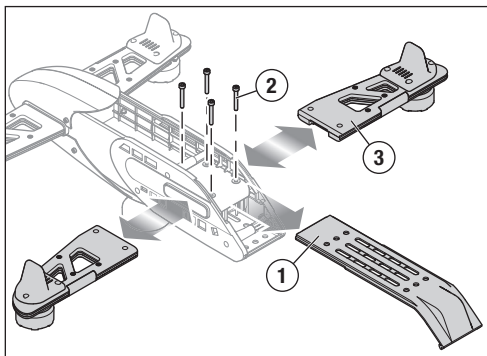


Replacing the Quadcopter Motor Arms



To replace the front motor arms:

1. Remove the video antenna.
2. Remove the four screws from the canopy and slide the canopy from the front of the quadcopter.
3. Remove the two screws from each of the motor arms.
4. Pull the arms from the side of the quadcopter frame.
5. Reverse the process for re-assembly.



To replace the rear motor arms:

1. Remove the battery compartment cover.
2. Remove the two screws from each of the motor arms.
3. Pull the arms from the side of the quadcopter frame.
4. Reverse the process for re-assembly.

Post-Flight Inspection and Maintenance Checklist



WARNING: Remove the propellers from the motors prior to performing any troubleshooting or maintenance. Failure to do so may cause serious injury if the motors start unexpectedly.

✓	
Cleaning	Make sure the battery is disconnected before cleaning. Remove dust and debris with a soft brush or a dry, lint-free cloth.
Motors	Replace the motor when the model will not fly steady or veers off when doing a climb out.
Wiring	Make sure the wiring does not block 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. Do not use threadlock on or near plastic parts.
Propellers	Make sure there is no damage to the propellers or other parts that move at high speed. Damage to these parts includes cracks, burrs, chips or scratches. Replace damaged parts before flying.

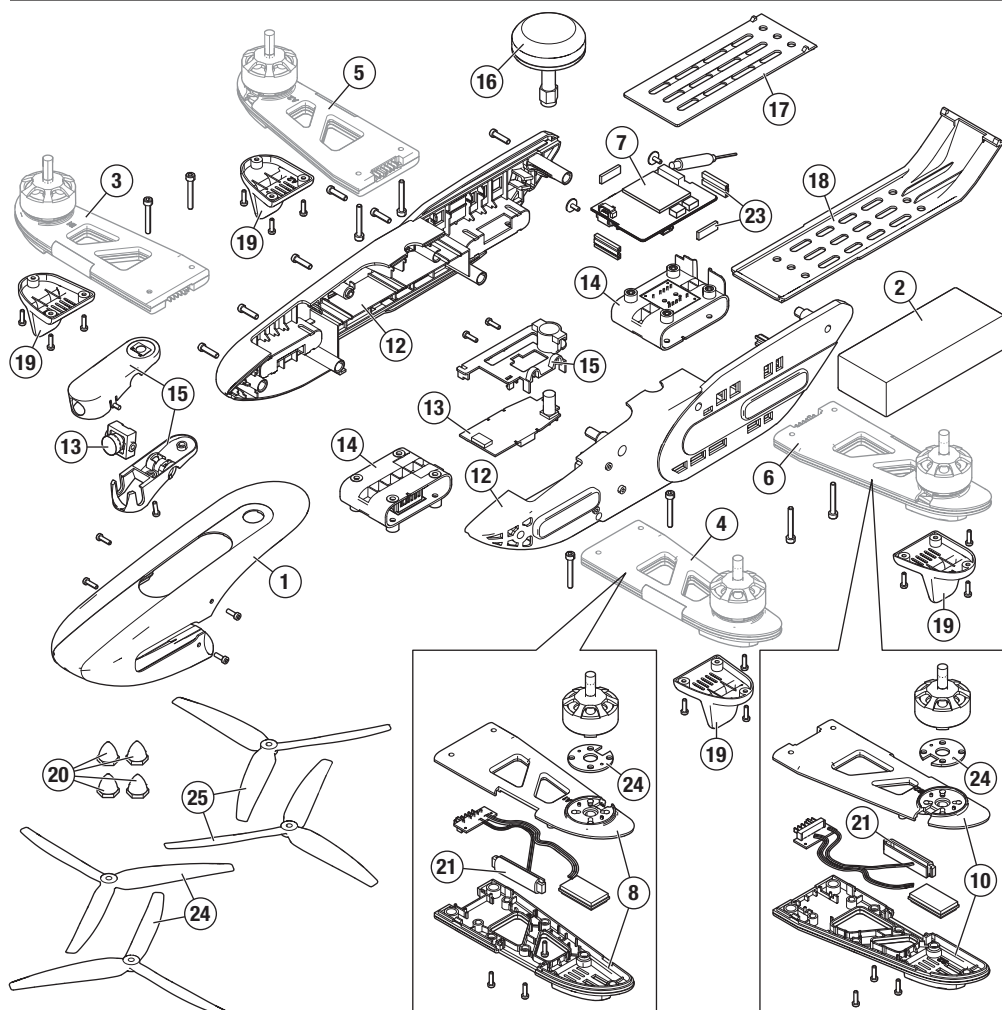
Troubleshooting Guide



WARNING: Remove the propellers from the motors prior to performing any troubleshooting or maintenance. Failure to do so may cause serious injury if the motors start unexpectedly.

Problem	Possible Cause	Solution
Quadcopter control response is inconsistent or requires extra trim to neutralize movement	Quadcopter not initialized on a level surface	Disconnect the flight battery, center the control trim and re-initialize the quadcopter
	Battery not correctly placed	Adjust battery position so quadcopter balances in the center of the frame
Quadcopter will not respond to throttle	Throttle too high and/or throttle trim is too high	Reset controls with the throttle stick and throttle trim at the lowest setting
	Quadcopter moved during initialization	Disconnect the flight battery and re-initialize the quadcopter while keeping the quadcopter from moving
	Throttle channel is reversed	Disconnect flight battery, reverse the throttle channel on the transmitter, reconnect flight battery
	Travel adjust settings not correct	Refer to the transmitter setup table for correct travel adjust settings.
Quadcopter does not function and smells burnt after connecting the flight battery	Flight battery connected with the wrong polarity	Replace the power distribution board. Connect the flight battery noting proper polarity
Quadcopter has reduced flight time or is underpowered	Flight battery charge is low	Completely recharge the flight battery
	Inadequate power to flight battery charger	Use a different power source for the charger
	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
Crashes immediately upon lift-off	Propellers in wrong locations or incorrect flight mode selected	Ensure propeller direction and motor direction are correct
Difficulty binding	Bind button not pressed while powering on the quadcopter	Power off quadcopter and repeat bind process
	Transmitter too near aircraft during binding process	Power off the transmitter. Move the transmitter a larger distance from the aircraft or shield the aircraft from the transmitter using your body. Disconnect and reconnect the flight battery to the quadcopter. Follow the binding instructions
	Quadcopter or transmitter is too close to large metal object, wireless source or another transmitter	Move quadcopter and transmitter to another location and attempt binding again
Difficulty connecting (after binding)	Transmitter not powered on before the quadcopter	Power the quadcopter off. Power on the transmitter first and then the quadcopter
	Less than a 5-second wait between first powering on the transmitter and connecting the flight battery to the quadcopter	Leave the transmitter powered on. Disconnect and reconnect the flight battery to the quadcopter
	Flight battery or transmitter battery charge is too low	Replace or recharge batteries
	Quadcopter or transmitter is too close to large metal object, wireless source or another transmitter	Move quadcopter and transmitter to another location and attempt connecting again
Static in FPV feed	Interference on chosen channel	Change the video transmitter and receiver channel
	Flying too close to 5.8 GHz WiFi source	Remove WiFi source or move to a different flying area

Parts Explosion



Parts Listings

Part #	Description
1	BLH02401 Canopy Vusion V2 Racer
2	BLH02402 LiPo 3S 11.1V 35C 1500mAh iC3
3	BLH02404 R/F Arm CCW 1806 Motor ESC V2
4	BLH02405 L/F Arm CW 1806 Motor ESC V2
5	BLH02406 R/R Arm CW 1806 Motor ESC V2
6	BLH02407 L/R Arm CCW 1806 Motor ESC V2
7	BLH02408 FC Board Module Set Vusion V2
8	BLH02411 L/F Arm Top, Bottom Vusion V2
9	BLH02412 R/F Arm Top, Bottom Vusion V2
10	BLH02413 L/R Arm Top, Bottom Vusion V2
11	BLH02414 R/R Arm Top, Bottom Vusion V2
12	BLH02415 Frame Left, Right Vusion V2
13	BLH02417 VTX Camera 25/200mW Vusion V2
14	BLH02418 Arm Receptacles Vusion V2
15	BLH02419 Camera VTX Case Vusion V2

Part #	Description
16	BLH02420 Omni Antenna Black R-SMA
17	RISE2001 Top Cover Vusion 250 Race Quad
18	RISE2002 Battery Cover Vusion 250 Race Quad
19	RISE2008 Landing Gear Vusion 250 Race Quad
20	RISE2009 Prop Nuts CW/CCW Vusion 250 Race Quad
21	RISE2016 LED Arm Covers Vusion 250 Race Quad
22	RISE2025 Flight Control Board Dampers Vusion
23	RISE2026 Motor Shields Vusion 250 Race Quad
24	BLHA1004GR 5x4 FPV Race Prop Set, Green
25	BLHA1004BK 5x4 FPV Race Prop Set, Black
	RISE2021 Screw Set Vusion 250 Race Quad
	RISJ2000 Transmitter, 6-Channel Vusion 250
	TACZ5153 FPV-RM2 4.3" Monitor 5.8GHz 40 channel
	TACZ5200 FPV-G1 Goggles without Monitor

Optional Parts

Part #	Description
BLHA1021	2205-2350kv FPV Racing Motor
DYNC2030	Prophet Sport Mini 50W Charger
DYNC2050	Prophet Sport 4 X 100W AC/DC Charger
SPM4648	DSMX Quad Race Receiver w/Diversity
SPMVM430C	Spektrum Headset Combo

Part #	Description
SPMVR2510	Focal V2 FPV Wireless Headset w/di
SPMVR2520	Focal DVR FPV Headset
	DX6e 6CH Transmitter Only
	DX9 Black Transmitter Only MD2

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 are 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, 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. 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 LiPo batteries to Horizon. If you have any issue with a LiPo 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.

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.

Warranty and Service Contact Information

Country of Purchase	Horizon Hobby	Contact Information	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/RequestForm/	2904 Research Road Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	

FCC Information

FCC ID: IYFJ2000

This equipment has been tested and found to comply with the limits for 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 to an outlet on a circuit different from that to which the receiver is connected.

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.

NOTICE: Modifications to this product will void the user's authority to operate this equipment.

IC Information

IC: 11104A-RISJ2000

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."



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