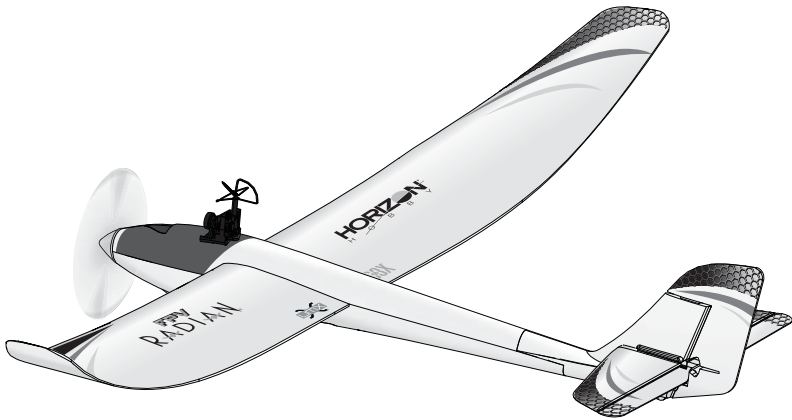


**HORIZON**<sup>®</sup>  
H O B B Y

**Eflite**<sup>®</sup>  
ADVANCING ELECTRIC FLIGHT

# UMX<sup>™</sup> FPV RADIANT<sup>®</sup>



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

**AS3X**<sup>®</sup>

Bind-N-Fly<sup>®</sup>

**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](http://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:

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

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

**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.



**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.**

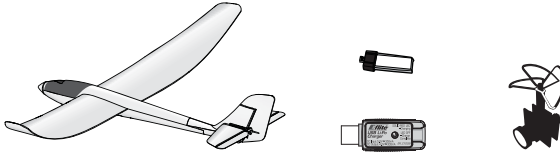
## Safety Precautions and Warnings

- 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 use fully charged batteries.
- Always keep the 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.
- Always ensure failsafe is properly set before flying.
- Never operate aircraft with damaged wiring.
- Never touch moving parts.

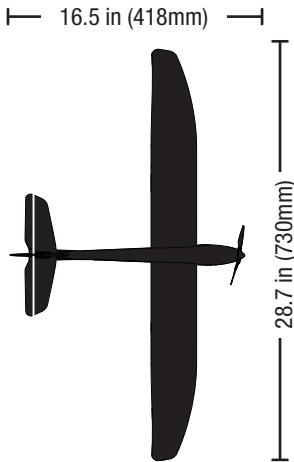
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## Box Contents



## Specifications



 1.75oz  
(49 g)

 **Wing Area:** 83.4 sq in  
(538 sq cm)

### Installed



**Motor:** 8.5mm Brushed Motor



**Receiver:** Spektrum™ DSMX® 5Ch UM AS3X® Receiver ESC



**Servo:** (2) 2.3-Gram Performance Linear Long Throw Servo (SPMSA2030L)

### Included



**Battery:** 150mAh 1S 3.7V 25C Li-Po (EFLB1501S25)



**Ultra Micro FPV Camera:** wide angle lens, Integrated CP antenna, Compatible with 5.8GHz Fat Shark systems 1A 7V4 (SPMVA1100)



**Battery Charger:** E-flite® 1S USB Li-Po Charger, 300mA (ELFC1008)

### Required to Complete



**Recommended Transmitter:** Spektrum™ DSM2®/DSMX® full range with dual-rates (DX4e and up)



**Fatshark headset with battery and charger:**


## Preflight Checklist

✓	
	1. Charge flight battery.
	2. Fully assemble aircraft.
	3. Install flight battery in aircraft (once it has been fully charged).
	4. Bind aircraft to transmitter.
	5. Make sure linkages move freely.
	6. Perform Control Direction Test with transmitter.

✓	
	7. Perform AS3X Control Direction Test with aircraft.
	8. Set dual rates.
	9. Adjust center of gravity.
	10. Find a safe and open area.
	11. Plan flight for flying field conditions.
	12. Set flight timer for 5 minutes for first flight.

## Charger Warnings

The battery charger (EFLC1008) included with your aircraft has been designed to safely charge the Li-Po battery.

 **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 the battery or model in a car or direct sunlight. If stored in a hot car, the battery can be damaged or even catch fire.
- 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 (5–49° C)) or place in direct sunlight.

## Battery Charging

### LED Indications

**CHARGING** (Solid Red) .....



**MAX CHARGE** (off) .....

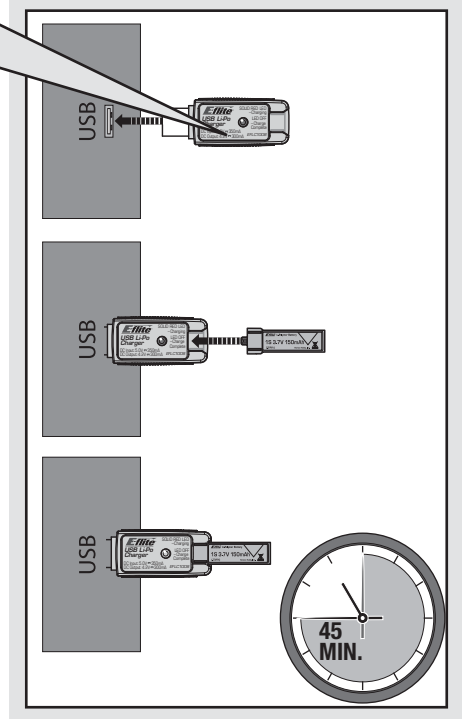


**CAUTION:** Never exceed the recommended charge rate.

**CAUTION:** Charge only batteries that are cool to the touch and are not damaged. Look at the battery to make sure it is not damaged e.g., swollen, bent, broken or punctured.

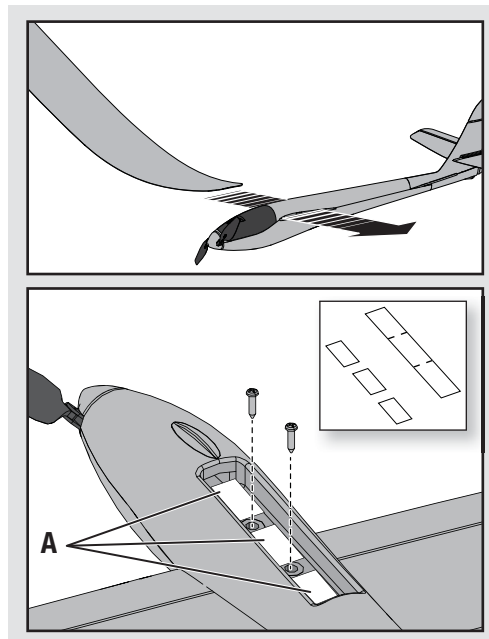
**CAUTION:** Always disconnect the flight battery from the charger immediately upon completion of charging.

Charging a fully discharged (not over-discharged) 150mAh battery takes approximately 30-45 minutes at the charger's 300mA charge rate.



## Wing Installation

1. Slide the wing into the wing slot on the fuselage until the holes line up with the screw holes on the bottom.
2. Secure the wing using 2 screws.
3. Cut the loop tape (A) into 3 pieces and apply them around the screws in the battery holder, as shown.



## Transmitter and Receiver Binding

Binding is the process of programming the receiver to recognize the GUID (Globally Unique Identifier) code of a single specific transmitter. You need to 'bind' your chosen Spektrum™ DSM2/DSMX technology equipped aircraft transmitter to the receiver for proper operation.

Any full range Spektrum DSM2/DSMX transmitter can bind to the DSM2/DSMX receiver. Please visit [www.bindnfly.com](http://www.bindnfly.com) for a complete list of compatible transmitters.

### ✓ Binding Procedure

**⚠ CAUTION:** When using a Futaba transmitter with a Spektrum DSM® module, you must reverse the throttle channel and rebind. Refer to your Spektrum module manual for binding and failsafe instructions. Refer to your Futaba transmitter manual for instructions on reversing the throttle channel.

	1. Refer to your transmitter's unique instructions for binding to a receiver (location of transmitter's Bind control).
	2. Make sure the flight battery is disconnected from the aircraft.
	3. Power off your transmitter.
	4. Connect the flight battery in the aircraft. The receiver LED will begin to flash rapidly (typically after 5 seconds).
	5. Make sure the transmitter controls are neutral and the throttle and throttle trim are in low position.
	6. Put your transmitter into bind mode. Refer to your transmitter's manual for binding button or switch instructions.
	7. After 5 to 10 seconds, the receiver status LED will turn solid, indicating that the receiver is bound to the transmitter. If the LED does not turn solid, refer to the Troubleshooting Guide at the back of the manual.

## Flight Battery Installation and ESC Arming

Arming the ESC also occurs after binding as previously described, but subsequent connection of a flight battery requires the following steps.

It is normal for linear servos to make noise. Noise is not an indication of a faulty servo.

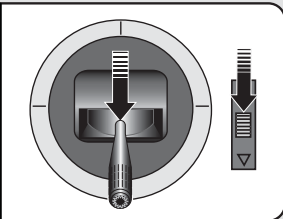
The AS3X® system will not activate until the throttle stick or trim is increased for the first time. Once active, the control surfaces may move rapidly and noisily on the aircraft. This is normal. AS3X technology will remain active until the battery is disconnected.

**CAUTION:** Always keep hands away from the propeller. When armed, the motor will turn the propeller in response to any throttle movement.

**CAUTION:** Always disconnect the Li-Po battery from the aircraft receiver 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.

- 1** Lower throttle and throttle trim to lowest settings.

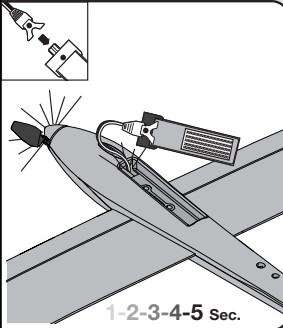
Power ON the transmitter, then wait 5 seconds


- 2** Connect the battery to the ESC, noting proper polarity.

Keep the plane immobile and away from wind for 5 seconds.

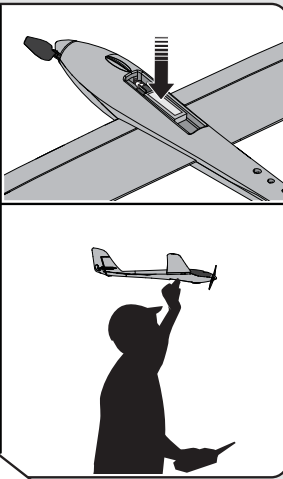
Continuous LED

1-2-3-4-5 Sec.


- 3** Secure the battery to the hook and loop strip on the battery holder.

Refer to the Center of Gravity Adjustment instructions for the battery's position.

FLY...



## Low Voltage Cutoff (LVC)

When a Li-Po battery is discharged below 3V per cell, it will not hold a charge. The aircraft's ESC protects the flight battery from over-discharge using Low Voltage Cutoff (LVC). Once the battery discharges to 3V per cell, the LVC will reduce the power to the motor in order to leave adequate power to the receiver and servos to land the airplane.

When the motor power decreases, land the aircraft immediately and replace or recharge the flight battery.

Always disconnect and remove the Li-Po battery from the aircraft after each flight. Charge your Li-Po battery to about half capacity before storage. Make sure the battery charge does not fall below 3V per cell. Failure to unplug a connected battery will result in trickle discharge.

For your first flights, set your transmitter timer or a stopwatch to 5 minutes. Adjust your timer for longer or shorter flights once you have flown the model.

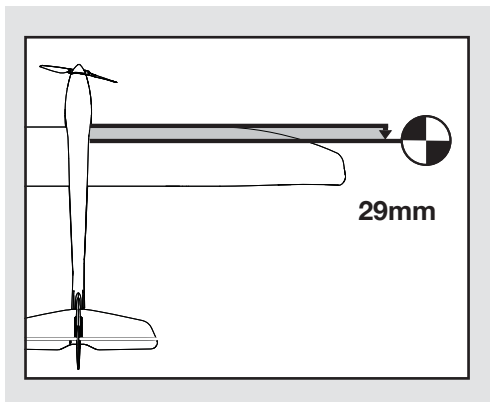
**NOTICE:** Repeated flying to LVC will damage the battery.

## Center of Gravity (CG)

The CG location is **29mm** back from the leading edge at the wing root.

This CG location has been determined with the included 1S 150mAh 3.7V Li-Po battery installed towards the rear of the battery cavity located on the bottom of the aircraft.

Balance the model on the edge of a metal ruler to find the Center of Gravity. Place the ruler on the underside of the airframe at the CG location shown in the image to the right. Move the battery forward or aft until the model closely balances at this location.

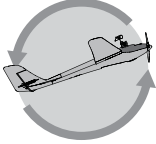
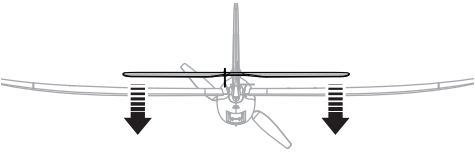
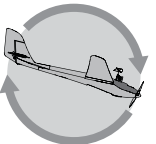
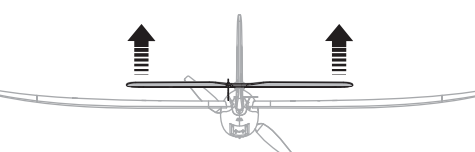
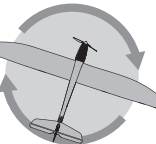
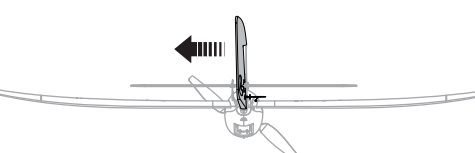

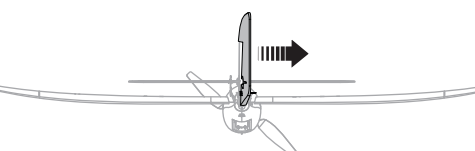


## Control Direction Tests

		Transmitter Input	Control Surface Movement
<p>Bind your aircraft and transmitter before doing these tests.</p> <p>Move the controls on the transmitter to make sure the aircraft control surfaces move correctly and in the proper direction. Make sure the tail linkages move freely and that paint or decals are not adhered to them.</p>	Elevator		<b>Down Elevator</b> 
			<b>Up Elevator</b> 
	Rudder		<b>Left Rudder</b> 
			<b>Right Rudder</b> 



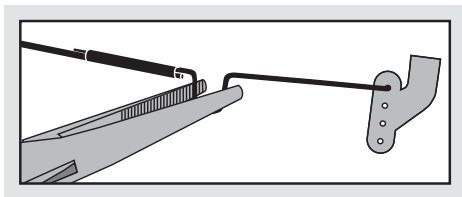
## Control Direction Tests *Continued*

		Aircraft Movement	AS3X Reaction
<p><b>AS3X® Control Direction Test</b></p> <p>This test ensures that the AS3X® control system is functioning properly.</p> <ol style="list-style-type: none"> <li>1. Advance the throttle to 25% to activate the AS3X system.</li> <li>2. Fully lower the throttle.</li> <li>3. Move the entire aircraft as shown and ensure the control surfaces move in the direction indicated in the graphic. If the control surfaces do not respond as shown, do not fly the aircraft. Refer to the receiver manual for more information.</li> </ol>	Elevator		
			
<p>Once the AS3X system is active, control surfaces may move rapidly. This is normal. AS3X is active until the battery is disconnected.</p>	Rudder		
			

## Control Centering

Before the first flights, or in the event of an accident, make sure the flight control surfaces are centered. Adjust the linkages mechanically if the control surfaces are not centered. Use of the transmitter sub-trims may not correctly center the aircraft control surfaces due to the mechanical limits of linear servos.

1. Make sure the control surfaces are neutral when the transmitter controls and trims are centered. The transmitter sub-trim must always be set to zero.
2. When needed, use a pair of pliers to carefully bend the metal linkage (see illustration).
3. Make the U-shape narrower to make the connector shorter. Make the U-shape wider to make the linkage longer.



### Centering Controls After First Flights

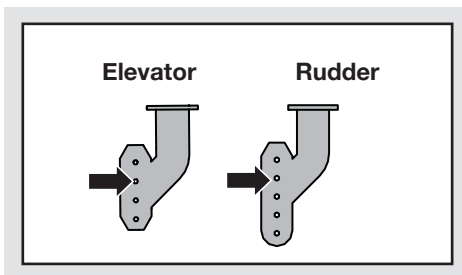
For best performance with AS3X, it is important that excessive trim is not used. If the aircraft requires excessive transmitter trim (4 or more clicks of trim per channel), return the transmitter trim to zero and adjust the linkages mechanically so that the control surfaces are in the flight trimmed position.

## Control Horn Settings

The table to the right shows the factory settings for the control horns. Fly the aircraft at factory settings before making changes.

After flying, you may choose to adjust the linkage positions for the desired control response.

**CAUTION:** When these are incorrectly connected for the pilot's skill level, unexpected aircraft response to controls can result. This can cause damage to the aircraft and personal injury.



## Dual Rates

To obtain the best flight performance, we recommend using a DSM2/DSMX radio capable of adjustable Dual Rates. The suggested settings shown here are the recommended starting settings. Adjust according to the individual preferences after the initial flight.

**NOTICE:** Do not set your transmitter travel adjust over 100%. If the TRAVEL ADJUST is set over 100%, it will not result in more control movement, it will overdrive the servo and cause damage.

It is normal for linear servos to make significant noise. The noise is not an indication of a faulty servo.

	Dual Rate	
	High	Low
Elevator	100%	70%
Rudder	100%	70%

**Tip:** For the first flight, fly the model in low rate.

# First Person View (FPV) Camera Installation

1. Carefully pull the receiver's FPV power connector out of the hole of the aircraft's canopy.
2. Align the wire colors and connect the FPV power connector to the camera unit.
3. Connect a flight battery to the aircraft, then remove the lens cap and test the FPV system.

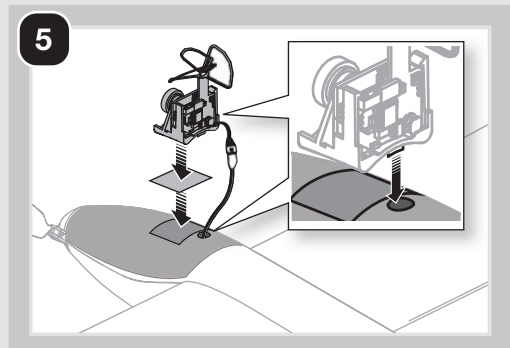
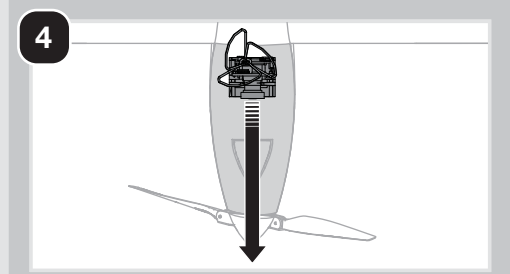
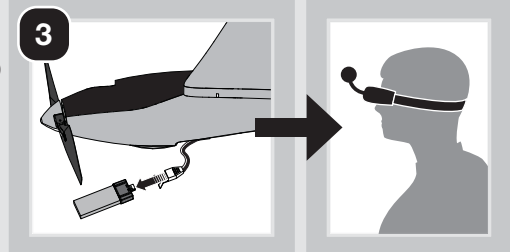
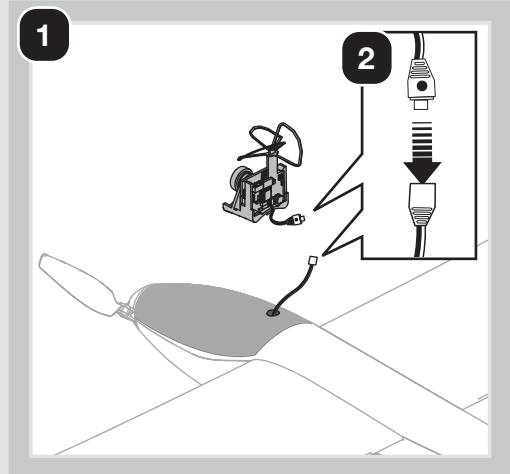
## FPV System Test

- Power on headset and ensure it is on CH 1, ensure no other video transmissions are on channel 1. If you see another video feed on CH 1 search for an open channel before powering on your camera.
- The camera is on CH 1 when it is first powered up, this is indicated by two illuminated LEDs. each press of the button advances the camera to the next channel. after channel 7 the next button press will set the camera back to Channel 1.

**Spektrum Ultra Micro  
FPV Transmitter Channels**

Channel 1	5740 MHz
Channel 2	5760 MHz
Channel 3	5780 MHz
Channel 4	5800 MHz
Channel 5	5820 MHz
Channel 6	5840 MHz
Channel 7	5860 MHz

4. Ensure the camera points directly forward.
5. Secure the camera unit on the fuselage using the included double-stick tape. Use the circular tab on the bottom of the camera mount to assist with the alignment.
6. Put excess wire in the hole.



## First Person View (FPV) System instructions

### Using the Ultra Micro FPV System

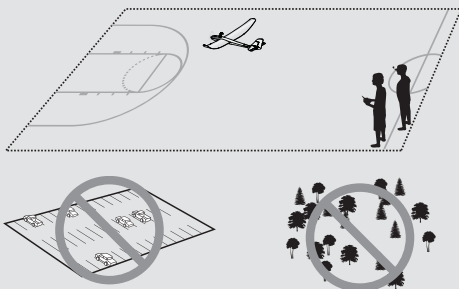
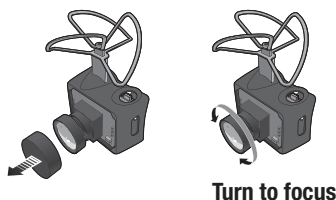
Consult local laws and ordinances before operating FPV equipment. In some areas, FPV operation may be limited or prohibited. You are responsible for operating this product in a legal and responsible manner.

1. Power on your radio transmitter, then power on the aircraft.
2. Remove the lens cap from the camera.
3. Power on the headset to make sure the channel is clear and then the video transmitter.
4. Perform a range test before flying.

**Tip:** If you are prone to motion sickness, sit in a chair. If you start to suffer from motion sickness, lower your chin against your chest.

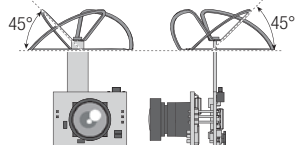
5. Fly in open areas, away from people, trees, cars, and buildings. The range of the system can be impacted by any obstructions blocking your signal. It is normal to see break up in the video going behind trees and other obstacles.

**NOTICE:** We do not recommend using the ultra micro FPV system in low light.



### Caring for the Video Transmitter Antenna

If your video transmitter antenna gets bent or flattened as a consequence of a hard landing, bend the antenna so the lobes are at a 45° angle to the bottom plane of the antenna, as shown at the right.

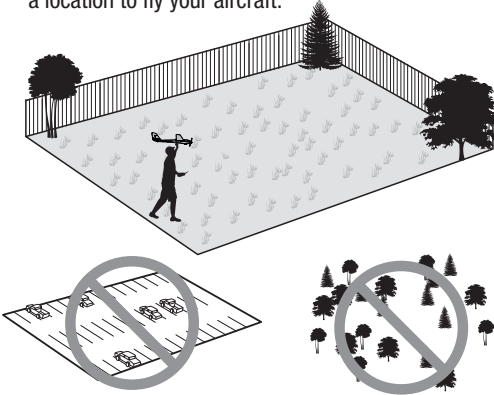


### Ultra Micro FPV Troubleshooting

Problem	Possible Cause	Solution
No image, display is completely dark	No power supplied to the video transmitter or headset	Check the power connections Make sure the battery is fully charged
No image, display is glowing dark gray	Video source switch is set to external receiver mode	Ensure the video source switch is switched to headset mode
Static on all channels	Video transmitter power is off	Make sure the video transmitter LED is on
Horizontal lines in the headset display	Interference on the selected channel	Choose a cleaner channel
Head tracking is not moving in correct direction	Digital head tracking is reversed	Refer to the SPMVR1100 or SPMSV1100 headset manual for more information on how to reset digital head tracking

## Flying Tips and Repairs

We recommend flying your aircraft outside in calm conditions. 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. Consult local laws and ordinances before choosing a location to fly your aircraft.



### Hand Launching

When hand-launching your aircraft alone, hold the aircraft in one hand and the transmitter in the other.

Apply about 1/2–3/4 throttle. Hold the aircraft on the underside and throw the aircraft directly into the wind, angled slightly up (5 to 10 degrees above the horizon). Climb to check the trim. Once the trim is adjusted, begin exploring the flight envelope of the aircraft.

### Soaring

Your aircraft can ascend on thermals and other updrafts to prolong its flight. There are many ways to stay aloft with a sailplane, such as ridge lifts and thermals. A thermal is simply a column of rising warm air. Once you get your aircraft into the air, watch your aircraft for a response to thermals. If the airplane randomly rolls on its own, it is likely that you only flew through the edge of the thermal, causing one side of the airplane to rise, rather than the entire airplane. Enter the thermal by turning your aircraft directly into it, circling to stay in the center of the thermal. Slow your forward speed by increasing up elevator trim so that your aircraft is moving just faster than stall (minimum sink speed). Make easy banking turns to find the area of highest lift (the thermal's core). When you find the core of lift, tighten your turns to stay near this position. Sometimes thermals drift downwind. It is best that you search for thermals upwind, so that you can follow a thermal downwind if it is pushed downwind.

With practice, you will find it easier to locate and anticipate the movement of thermals. Although thermals cannot be seen, you can see dust, insects or birds riding an updraft. Air movement of a thermal may be felt, so movement in an otherwise calm spot may show you the location of a nearby thermal. A shift in the wind (in a light breeze) can be airflow into a thermal.

### Landing

Land into the wind. Due to the high lifting efficiency of the sailplane design, landing requires a large landing area. While on your downwind leg, remember that the sailplane glides much better than other aircraft. You will need to setup for landing lower and with a more shallow descent than you may be used to. As you are on approach for landing, ensure that the model is descending slowly, but also not accelerating.

Maintain this descent and speed, and, as the model nears the ground (approximately 6 inches (15 cm)), slowly apply a small amount of up elevator. Before the aircraft touches down, always fully decrease throttle to avoid damage to the propeller, motor, ESC or other components.

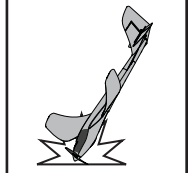


**CAUTION:** Never catch a flying aircraft in your hands. Doing so could cause personal injury and damage to the aircraft.

Failure to lower the throttle stick and trim to the lowest possible positions during a crash could result in damage to the ESC in the receiver unit, which may require replacement.

**NOTICE:** Crash damage is not covered under the warranty.

**NOTICE:** Always decrease throttle at propeller strike.



## Flying Tips *Continued*

### Low Voltage Cutoff (LVC)

Low Voltage Cutoff (LVC) pulses the power to the motor when the voltage gets low. When the motor power pulses, land the aircraft immediately and recharge the flight battery.

Disconnect and remove the Li-Po battery from the aircraft after use to prevent trickle discharge. Fully charge your Li-Po battery before storing it. During storage, make sure the battery charge does not fall below 3V per cell.

LVC does not prevent the battery from overdischarge during storage.

**IMPORTANT:** The connected camera is always drawing power from a connected battery.

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

### Repairs

Repair the aircraft using foam-compatible CA (cyanoacrylate adhesive) or clear tape. **Only use foam-compatible CA**, as other types of glue can damage the foam. When parts are not repairable, see the Replacement Parts List for ordering by item number.

For a listing of all replacement and optional parts, refer to the list at the end of this manual.

**NOTICE:** Use of foam-compatible CA accelerant on your aircraft can damage paint. DO NOT handle the aircraft until the accelerant fully dries.

**NOTICE:** When you are finished flying, never leave the aircraft in direct sunlight or in a hot, enclosed area such as a car. Doing so can damage the foam.

## Post Flight Checklist

✓	
	1. Disconnect the flight battery from the ESC (Required for safety and battery life).
	2. Power OFF the transmitter.
	3. Remove the flight battery from the aircraft.

✓	
	4. Recharge the flight battery.
	5. Store the flight battery apart from the aircraft and monitor the battery charge.
	6. Make note of the flight conditions and flight plan results, planning for future flights.

## Power Components Service

**CAUTION:** DO NOT handle propeller parts while the flight battery is connected. Personal injury could result.

### Disassembly

1. Disconnect the camera, then the battery from the ESC/receiver.
2. Carefully cut the tape and/or decals on the side of the fuselage to remove the top half of the fuselage.

**IMPORTANT:** Removing tape and/or decals can remove paint from the fuselage.

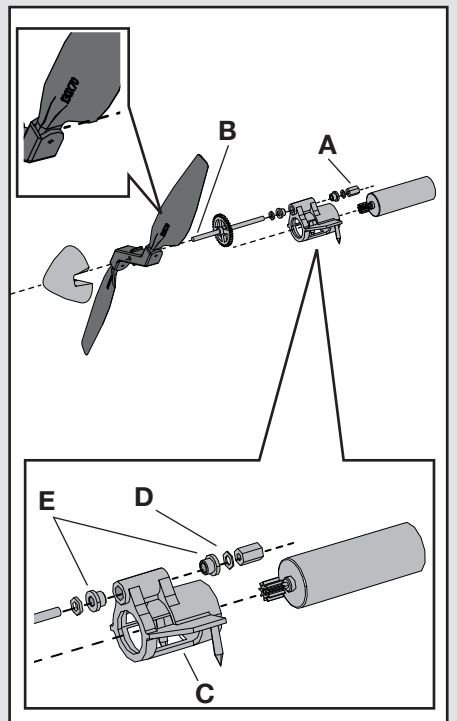
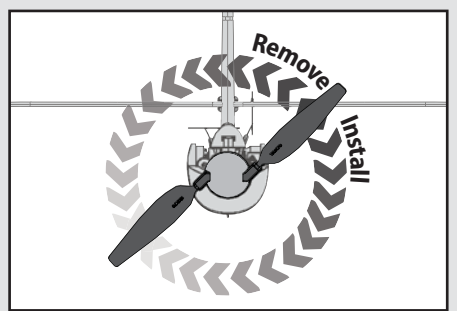
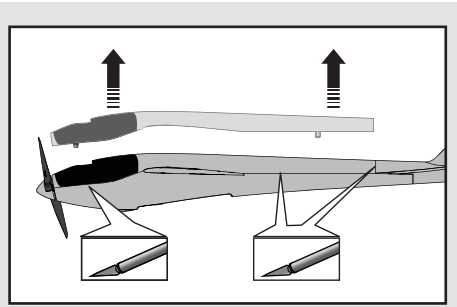
4. Hold the prop shaft using needle-nose pliers or hemostats.
5. Turn the propeller counterclockwise (facing the front of the model) to remove. Turn the propeller clockwise to install.
6. Hold the nut (A) on the end of the prop shaft using needle-nose pliers or hemostats.
7. Turn the gear on the shaft clockwise (facing the front of the model) to remove the nut.
8. Gently pull the shaft (B) from the gearbox (C) and make sure the washer (D) and two bushings (E) are not lost.
9. Disconnect the motor from the ESC/receiver.
10. Gently push the motor out of the gearbox and remove the motor through the top of the fuselage behind the ESC/receiver.

**NOTICE:** DO NOT remove the gearbox from the aircraft. Damage to the aircraft could result.

### Assembly

Assemble the aircraft using the instructions above in reverse order.

- Correctly align the prop shaft gear with the pinion gear on the motor.
- Connect the motor to the ESC/receiver so that the powered motor turns the propeller counterclockwise (facing the front of the model).
- Make sure the propeller size numbers (130 x 70) face away from the motor (see illustration).
- Assemble the fuselage using clear tape.
- Attach the spinner to the propeller using foamcompatible CA (Cyanoacrylate adhesive).



## Troubleshooting Guide

AS3X		
Problem	Possible Cause	Solution
Control surfaces not at neutral position when transmitter controls are at neutral	Control surfaces may not have been mechanically centered from factory	Center control surfaces mechanically by adjusting the U-bends on control linkages
	Aircraft was moved after the flight battery was connected and before sensors initialized	Disconnect and reconnect the flight battery while keeping the aircraft still for 5 seconds
Model flies inconsistently from flight to flight	Aircraft was not kept immobile for 5 seconds after battery was plugged in	Keep the aircraft immobile for 5 seconds after plugging in the battery
	Trims are moved too far from neutral position	Neutralize trims and mechanically adjust linkages to center control surfaces
Controls oscillate in flight, (model rapidly jumps or moves)	Propellers are unbalanced, causing excessive vibration	Remove propellers and rebalance or replace it if damaged

Problem	Possible Cause	Solution
Aircraft will not respond to throttle but responds to other controls	Throttle stick and/or throttle trim too high	Reset controls with throttle stick and throttle trim at lowest setting
	Throttle channel is reversed	Reverse throttle channel on transmitter
	Motor disconnected from receiver	Open fuselage and make sure motor is connected to the receiver
Extra propeller noise or extra vibration	Damaged propeller, gear or motor	Replace damaged parts
	Prop is out of balance	Remove and balance propeller, or replace with a balanced propeller
Reduced flight time or aircraft underpowered	Flight battery charge is low	Completely recharge flight battery
	Propeller is installed backwards	Install propeller with numbers facing forward
	Flight battery damaged	Replace flight battery and follow flight battery instructions
	Flight conditions may be too cold	Make sure battery is warm before use
	Battery capacity too low for flight conditions	Replace battery or use a larger capacity battery
LED on receiver flashes and aircraft will not bind to transmitter (during binding)	Transmitter too near aircraft during binding process	Power off transmitter, move transmitter a larger distance from aircraft, disconnect and reconnect flight battery to aircraft and follow binding instructions
	Bind switch or button not held long enough during bind process	Power off transmitter and repeat bind process. Hold transmitter bind button or switch until receiver is bound
	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



## Troubleshooting Guide (Continued)

Problem	Possible Cause	Solution
LED on receiver flashes rapidly and aircraft will not respond to transmitter (after binding)	Less than a 5-second wait between first powering on transmitter and connecting flight battery to aircraft	Leaving transmitter on, disconnect and reconnect flight battery to aircraft
	Aircraft bound to different model memory (ModelMatch™ radios only)	Select correct model memory on transmitter and disconnect and reconnect flight battery to aircraft
	Flight battery/transmitter battery charge is too low	Replace/recharge batteries
	Transmitter may have been bound to a different model (or with a different DSM Protocol)	Select the right transmitter or bind to the new one
	Aircraft or transmitter is too close to large metal object, wireless source or another transmitter	Move aircraft and transmitter to another location and attempt linking again
Control surface does not move	Control surface, control horn, linkage or servo damage	Replace or repair damaged parts and adjust controls
	Wire damaged or connections loose	Do a check of wires and connections, connect or replace as needed
	Flight battery charge is low	Fully recharge flight battery
	Control linkage does not move freely	Make sure control linkage moves freely
Controls reversed	Transmitter settings reversed	Adjust controls on transmitter appropriately
Motor loses power	Damage to motor or power components	Do a check of motor and power components for damage (replace as needed)
	Nut on prop shaft is too tight	Loosen prop shaft nut until propeller shaft turns freely
Motor power quickly decreases and increases then motor loses power	Battery power is down to the point of receiver/ESC Low Voltage Cutoff (LVC)	Recharge flight battery or replace battery that is no longer performing
Motor/ESC is not armed after landing	Over Current Protection (OCP) stops the motor when the transmitter throttle is set high and the propeller cannot turn	Fully lower throttle and throttle trim to arm ESC
Servo locks or freezes at full travel	Travel adjust value is set above 100%, overdriving the servo	Set Travel adjust to 100% or less and/or set sub-trims to Zero and adjust linkages mechanically

## 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, or

(vi) Product not compliant with applicable technical 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](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 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](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 Information

Country of Purchase	Horizon Hobby	Phone Number/Email Address	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/RequestForm/	4105 Fieldstone Rd Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	www.quickbase.com/db/ bghj7ey8c?a=GenNewRecord 888-959-2305	
	Sales	sales@horizonhobby.com 888-959-2305	
United Kingdom	Service/Parts/Sales: Horizon Hobby Limited	sales@horizonhobby.co.uk +44 (0) 1279 641 097	Units 1–4 , Ployters Rd, Staple Tye Harlow, Essex, CM18 7NS, United Kingdom
Germany	Horizon Technischer Service	service@horizonhobby.de	Christian-Junge-Straße 1 25337 Elmshorn, Germany
	Sales: Horizon Hobby GmbH	+49 (0) 4121 2655 100	
France	Service/Parts/Sales: Horizon Hobby SAS	infofrance@horizonhobby.com +33 (0) 1 60 18 34 90	11 Rue Georges Charpak 77127 Lieusaint, France
China	Service/Parts/Sales: Horizon Hobby – China	info@horizonhobby.com.cn +86 (021) 5180 9868	Room 506, No. 97 Changshou Rd. Shanghai, China 200060

## 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.

## ICC Information

This device complies with Industry Canada license-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.

## Compliance Information for the European Union

**EU Compliance Statement:** Horizon Hobby, LLC hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the R&TTE and EMC Directive.



A copy of the EU Declaration of Conformity is available online at:  
<http://www.horizonhobby.com/content/support-render-compliance>.

## Instructions for disposal of WEEE by users in the European Union



This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collections point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

## Replacement Parts – Ersatzteile – – Pièces de rechange – Pezzi di ricambio –

Part # • Nummer Numéro • Codice	Description	Beschreibung	Description	Descrizione
EFLU2903	Spinner Set (3): Ultra Micro Radian	Ultra Micro Radian: Spinner Set	Jeu de cônes (3) : Ultra Micro Radian	Set ogiva (3): Ultra Micro Radian
EFLU6701	Decal Sheet: UMX FPV Radian	E-flite UMX FPV Radian: Dekorbogen	Planche de décalcomanies : UMX FPV Radian	Foglio con decalcomanie: UMX FPV Radian
EFLU6702	Folding Propeller: Clear 130 x 70mm: UMX FPV Radian	E-flite UMX FPV Radian: Klapppropeller transp. 130 x70mm	Hélice repliable transparente 130 x 70mm : UMX FPV Radian	Elica ripiegabile trasparente 130 x 70mm: UMX FPV Radian
EFLU2920	Main Wing: Ultra Micro Radian	Ultra Micro Radian: Tragfläche	Aile : Ultra Micro Radian	Ala Principale: Ultra Micro Radian
EFLU2925	Tail Set: Ultra Micro Radian	E-flite Ultra Micro Radian: Leitwerk	Empennages : Ultra Micro Radian	Set coda: Ultra Micro Radian
EFLU2967	Fuselage: Ultra Micro Radian	E-flite Ultra Micro Radian: Rumpf	Fuselage : Ultra Micro Radian	Fusoliera: Ultra Micro Radian
EFLU2922	Pushrod Set: Ultra Micro Radian	Ultra Micro Radian: Schubstangensatz	Jeu tringleries : Ultra Micro Radian	Set asta di spinta: Ultra Micro Radian
EFLB1501S25	1S 3.7V 25C 150mAh Li-Po Battery	1S-3,7V-25C 150mAh-Li-Po- Akku	Batterie Li-Po 150 mAh 25C 3,7V 1S	Batteria Li-Po 1S da 3,7V, 25C 150 mAh
SPMAS5430L	AS5430L DSMX 5-CH AS3X Receiver with Brake: UMX Radian	AS5430L DSMX 5 Kanal AS3X Empfänger mit Bremsen: UMX Radian	Module AS5430L DSMX, 5 voies avec AS3X et frein : UMX FPV Radian	AS5430L DSMX ricevente AS3X 5 canali con freno: UMX Radian
EFLU2916	Motor: Ultra Micro Radian	E-flite Motor : Micro Radian	Moteur : Ultra Micro Radian	Motore Ultra Micro Radian
EFLU2927	Gearbox: Ultra Micro Radian	E-flite Getriebe : Ultra Micro Radian	Réducteur : Ultra Micro Radian	Riduttore: Ultra Micro Radian
EFL9054	Prop Shaft with gear (2) : Sukhoi Su-26m, Micro P-51	E-flite Ultra Micro 4-Site Luftschrauben- welle mit Getriebe	Arbre d'hélice avec réducteur (2) : Sukhoi Su-26m, Micro P-51	Albero dell'elica con ingranaggio (2): Sukhoi Su-26m, Micro P-51
EFLU6731	Camera Mount: UMX FPV Radian	E-flite UMX FPV Radian: Kamerahalter	Support de caméra : UMX FPV Radian	Supporto videocamera: UMX FPV Radian
SPMVA1100	Ultra Micro FPV Camera and Video Transmitter	Spektrum Ultra Micro FPV Kamera und Videosender	Module FPV ultra micro Caméra/ Emetteur vidéo : UMX FPV Radian	Ultra micro videocamera FPV e trasmettitore video
SPMVR1100	Teleporter V4 Video Headset with Head Tracking	Spektrum V4 Videobrille mit Head Tracking	Lunettes Teleporter V4 avec Head Tracking	Teleporter V4 occhiali con funzione head tracking
FSV1701	1000mAh 2S 7.4V Video Headset Li-Po Battery	FSV 1A 7V4 Headset Akkupack	Batterie Li-Po 2S 7.4V 1000mA pour lunettes	1000mAh 2S 7,4V batteria Li-Po per occhiali
SPMVC1101	Ultra Micro Y Harness for Single Battery FPV	Spektrum Ultra Micro Y-Kabel für 1-Akku-FPV Betrieb	Cordon Y d'alimentation pour Ultra micro module FPV	Ultra micro cavo a Y per batteria singola FPV

**– Optional Parts and Accessories –**  
**– Optionale Bauteile und Zubehörteile –**  
**– Pièces optionnelles et accessoires –**  
**– Pezzi opzionali e accessori –**

Part # • Nummer Numéro • Codice	Description	Beschreibung	Description	Descrizione
PKZ1039	Hook and Loop Set (5): Ultra Micros	Parkzone: Klettband Set Ultra Micros	Ultras Micros - Bande auto-agrippante (5)	Set fascette a strappo (5): Ultra Micro
DYNK0045	Foam Safe CA 1oz/ Activator, 2 oz. Combo Pack	Dynamite Schaumgeeigneter Sekundenkleber 1oz u. Aktivator 2 oz Combo Pack	Colle cyano polystyrène 28g + activateur cyano 56g	Confezione CA Safe per espanso (30g) / attivatore (60g)
EFLC1105	E-flite Ultra Micro-4, 4x9W Charger	E-flite Ultra Micro-4, 4x9W, AC/DC Akkuladegerät, EU	Chargeur E-flite Ultra Micro-4 4 x 9w	E-flite Ultra Micro-4, caricabatterie 4x9W
EFLC1004	Celectra 4-Port 1S 3.7V 0.3A DC Li-Po Charger	E-flite 4 Port Ladegerät 1S 3,7V 0,3A	Celectra 4 ports 1S 3.7V 0.3A	E-flite Celectra caricabatterie a 4 porte 1S 3,7V 0,3A DC Li-Po
EFLB1501S45	150mAh 1S 3.7V 45C LiPo Battery	E-flite 150mAh 1S 3.7V 45C LiPo Akku	Batterie Li-Po 1S 3.7V 150mA 45C	E-flite batteria Li-Po 150mAh 1S 3,7V 45C
EFLA208	Foam CA 1 oz/ Activator, 2 oz Pack	E-flite CA Kleber Schaum-geeignet / Aktivatorspray 2 oz. Pack	Pack Colle Cyano 29ml et Activateur 59ml compatibles polystyrène	Confezione CA per espanso (30g)/ attivatore (60g)
	DX5e DSMX 5-Channel Transmitter	DX5e DSMX 5-Kanal Sender	Emetteur DX5e DSMX 5 voies	DX5e DSMX Trasmittitore 5 canali
	DX6 DSMX 6-Channel Transmitter	DX6 DSMX 6-Kanal Sender	Emetteur DX6 DSMX 6 voies	DX6 DSMX Trasmittitore 6 canali
	DX7s DSMX 7-Channel Transmitter	Spektrum DX7s 7 Kanal Sender	Emetteur DX7s DSMX 7 voies	DX7s DSMX Trasmittitore 7 canali
	DX7 DSMX 7-Channel Transmitter	DX7 DSMX 7-Kanal Sender	Emetteur DX7 DSMX 7 voies	DX7 DSMX Trasmittitore 7 canali
	DX8 DSMX Transmitter	Spektrum DX8 nur Sender	Emetteur DX8 DSMX 8 voies	DX8 DSMX Solo trasmettitore
	DX9 DSMX Transmitter	Spektrum DX9 nur Sender	Emetteur DX9 DSMX 9 voies	DX9 DSMX Solo trasmettitore
	DX10t Transmitter	Spektrum DX10t nur Sender	Emetteur DX10t DSMX 10 voies	DX10t DSMX Solo trasmettitore
	DX18 Transmitter	Spektrum DX18 nur Sender	Emetteur DX18 DSMX 18 voies	DX18 DSMX Solo trasmettitore



# UMX™ FPV RADIAN®

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US 7,898,130. US D578,146. PRC ZL 200720069025. PRC ZL 2007001249.

Other patents pending.

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