SIDE ROBOTICS

Owner's Manual

Controller: FrSky Taranis X-Lite Pro

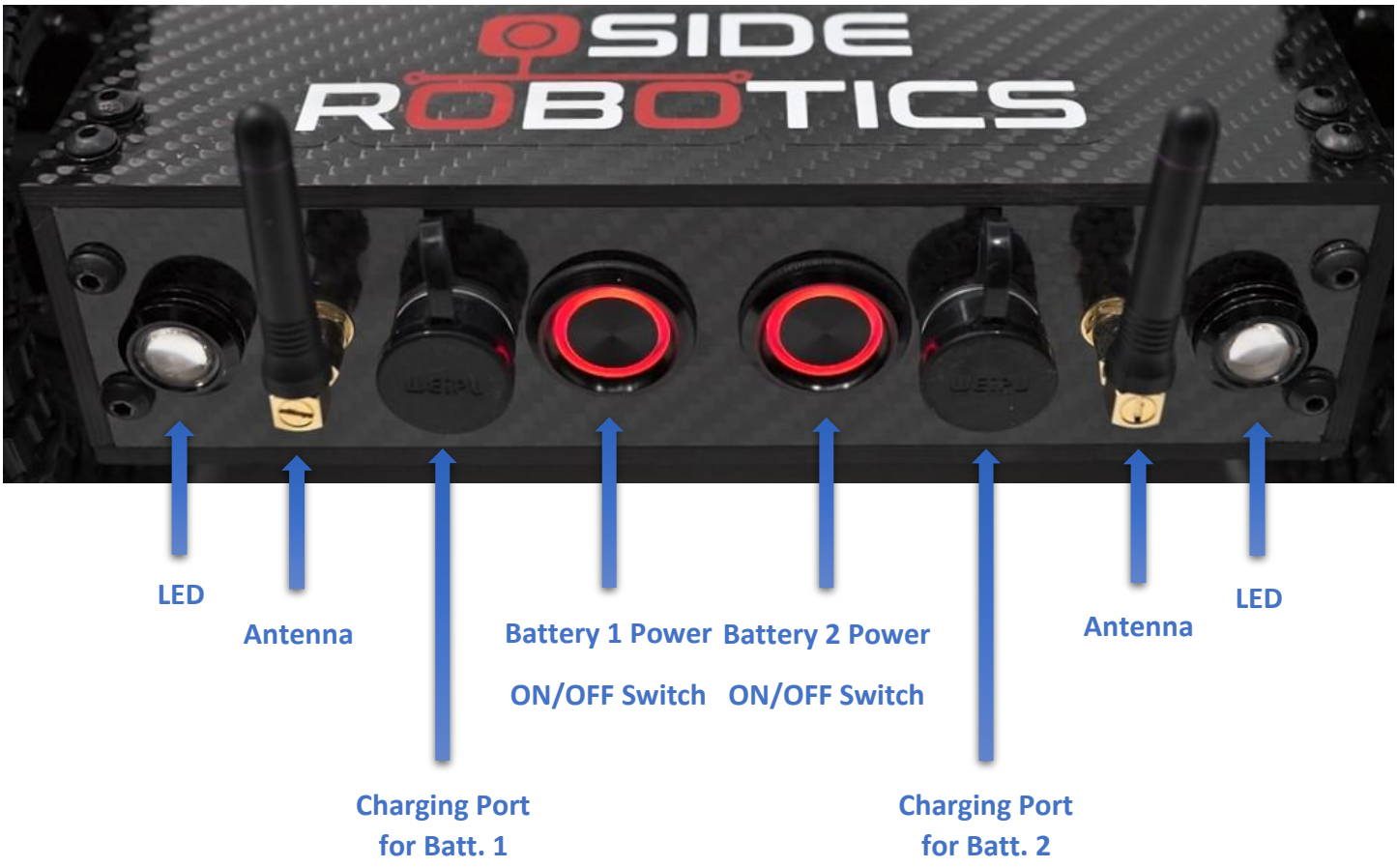
SA ⬆ 30% Speed (Down)
SA ⸺ 50% Speed (Middle)
SA ⬇ 1000% Speed (Up)

SB ⬆ Camera LED Ring Off (Down) *Inspection Platform Only
SB ⸺ Camera LED Ring On (Middle) *Inspection Platform Only
SB ⬇ Reverse Steering (Up). It works only with 100% speed.

SC ⬆ Platform Deactivate (Down)
SC ⬇ Platform Activate (Up)

SD ⬆ Main LED OFF (Down)
SD ⬇ Main LED ON (Up)

S1 Camera Tilt Control *Inspection Platform Only
S2 Camera 360 Arm Control *Inspection Platform Only


SIDE
ROBOTICS
LED
Antenna
Charging Port
for Batt. 1
Battery 1 Power
ON/OFF Switch
Battery 2 Power
ON/OFF Switch
Charging Port
for Batt. 2
Antenna
LED

Getting Started with Your 6WD Carbon Fiber Platform

Congratulations on acquiring your very own 6WD Carbon Fiber Platform! We're thrilled to have you join the Oside Robotics community. Here's a quick guide to get you up and running in no time:

Unboxing and Inventory

1. **Open the platform case:** Carefully unpack your platform and take a moment to familiarize yourself with all the included components.
2. **Identify the antennas:** You'll find two types of antennas in the package. The shorter antenna offers an approximate range of 555ft (169m), while the longer one extends your reach to 712ft (217m).

Mounting the Antennas

3. **Platform antenna:** Secure the chosen antenna (based on your desired range) to the designated mounting point on the back of the platform.
4. **Controller antenna:** Attach the “T” Typer antenna to the front of the controller.

Power Up and Connect

5. **Charge batteries:** To prevent battery degradation, all new platform batteries are shipped at a "storage charge" of approximately 3.8 volts per cell. This ensures a safe, mid-range charge level when the platform is not in use.
6. **Platform power:** Turn ON both power switches located on the back of the platform (Switch LED Ring should be illuminated red)
7. **Controller power:** With the platform powered ON, activate the power switch on your controller by pressing it for 3 seconds.
8. **Activate Platform:** Release safety switch **(SC)** to UP position.

Ready to use!

Once you've completed these steps, you're officially ready to take control of your brand new platform!

What's Included

- (1x) Ready-to-operate Carbon Fiber Platform.
- (1x) Transmitter with Batteries, Case, External Antenna, and SD Card
- (2x) Set of Antennas (medium for upside-down drivability and large for longer distance)
- (1x) Carry-on rugged Case with Wheels
- (1x) Main LiPo battery charger
- (1x) User Manual

Safety and Operation: Important Guidelines

For safe and optimal operation of your 6WD Carbon Fiber Platform, please follow these essential guidelines:

Power Management:

1. **Safety Switch (SC):** Always ensure the safety switch on the controller is activated (Down position) whenever the platform is not in use.
2. **Power Down Sequence:** Power down the platform completely before turning OFF the radio controller. This ensures a safe and orderly shutdown process.

Operation:

3. **Gradual Learning:** It's highly recommended to begin operating the platform at lower speeds (30%) to familiarize yourself with its controls and handling. Gradually increase speed as you gain confidence and experience.
4. **Safe Speed Limits:** Avoid using the platform at full speed for extended periods. The platform's weight and speed can pose a risk of bodily injury if not operated responsibly.
5. **Motor Maintenance:** Operating at full speed constantly can accelerate wear and tear on the motor gears. Vary your speeds and avoid unnecessary strain on the motors.
6. **Preventing Damage:** Avoid stalling the motors or directly hitting objects with the wheels. This can cause the driveshaft to bend or damage the gears.
7. **Not a Submarine:** This platform tackles wet conditions and even withstands submersion, but remember, it's not a submarine! Minimize water exposure for optimal performance.

Power Conservation and Safety:

7. **Power Down When Not In Use:** Never leave the platform or radio controller powered ON when they are not actively being used.
8. **Inactivity Alarm:** The radio controller will automatically activate an "Inactivity Alarm" after 10 minutes of inactivity to conserve battery life and prevent accidental operation.
9. **Push down switches:** Develop a habit of always pushing all switches DOWN on the controller when you're done with the operation.

SAFETY TIP: Prolonged direct eye contact with the front LED lights may cause eye strain. Please avoid looking directly at them for extended periods.

By following these safety and operation tips, you can ensure a fun and rewarding experience with your 6WD S Carbon Fiber Platform.

Battery Care:

Platform Battery Monitoring system:

1. **On-screen battery voltage status:** Slide the joystick down for one second to view the current battery voltage. To view the proper voltage of individual batteries, turn ON one battery at a time while the other is turned OFF.

2. **Audible feedback:** The radio provides audible feedback for different battery levels.

   Battery 1: Fully Charged (16.70V)
   Battery 2: Fully Charged
   Battery 1: 75% Remaining (15.93V)
   Battery 2: 75% Remaining
   Battery 1: 50% Remaining (15.34V)
   Battery 2: 50% Remaining
   Battery 1: 25% Remaining (14.99V)
   Battery 2: 25% Remaining
   Battery 1: 15% Running Low (14.85V)
   Battery 2: 15% Running Low
   Battery 1: Critical Level. Charge Immediately (14.75V)
   Battery 2: Critical Level. Charge Immediately
   Battery 1: Battery Safety Activated. Deactivate Rover and Start Charging process. (14.70V)
   Battery 2: Battery Safety Activated. Deactivate Rover and Start Charging process.

3. Proper Storage Voltage for a 4S LiPo Battery

If you plan not to use the platform for a while, make sure you follow the steps below:

- **Storage Voltage:** A 4S LiPo battery, consisting of four cells, should be stored at a voltage of 3.8-3.84 volts per cell. This equates to a total pack voltage of 15.2-15.36 volts.
- **Avoid Full Charge Storage:** Never store LiPo batteries fully charged for extended periods. This can lead to cell degradation and potential safety hazards.
- **Avoid Over-Discharging:** Over-discharging can damage your LiPo batteries. Monitor your battery's voltage during use. This is critical to prolonging the battery's lifespan.
- **Programmed safety:** Platform is programmed to stop operating when battery voltage reaches 14.70 volts.

% Capacity	1S Cell	2S Cell	3S Cell	4S Cell	5S Cell	6S Cell
100%	4,20	8,40	12,60	16,80	21,00	25,20
95%	4,15	8,30	12,45	16,60	20,75	24,90
90%	4,11	8,22	12,33	16,44	20,55	24,66
85%	4,08	8,16	12,24	16,32	20,40	24,48
80%	4,02	8,04	12,06	16,08	20,10	24,12
75%	3,98	7,96	11,94	15,92	19,90	23,88
70%	3,95	7,90	11,85	15,80	19,75	23,70
65%	3,91	7,82	11,73	15,64	19,55	23,46
60%	3,87	7,74	11,61	15,48	19,35	23,22
55%	3,85	7,70	11,55	15,40	19,25	23,10
50%	3,84	7,68	11,52	15,36	19,20	23,04
45%	3,82	7,64	11,46	15,28	19,10	22,92
40%	3,80	7,60	11,40	15,20	19,00	22,80
35%	3,79	7,58	11,37	15,16	18,95	22,74
30%	3,77	7,54	11,31	15,08	18,85	22,62
25%	3,75	7,50	11,25	15,00	18,75	22,50
20%	3,73	7,46	11,19	14,92	18,65	22,38
15%	3,71	7,42	11,13	14,84	18,55	22,26
10%	3,69	7,38	11,07	14,76	18,45	22,14
5%	3,61	7,22	10,83	14,44	18,05	21,66
0%	3,27	6,54	9,81	13,08	16,35	19,62

OPERATOR TIP: If you think one of the batteries is not fully charged or completely drained, don't press both power switches ON as this can provide incorrect voltage feedback. Make sure both batteries are fully charged so they can discharge evenly at the same rate. If one battery is at a different charge level, turn it OFF and operate on a single battery until the next charging cycle when both are fully charged.

Platform Charging

The platform is equipped with two independent LiPo batteries. Here's how to charge them:

Single Charger Method:

1. **Power Down Platform:** Ensure the platform is completely powered OFF before connecting the charger.
2. **Connect Charger:** Carefully connect the appropriate charger cable to the dedicated Charging Port 1 or 2 (Align Red Dots and push in the connector).
3. **Monitor Charging Status:** The charger will likely have LED indicators that display the charging progress. Refer to the charger's manual for specific interpretations of these lights.
4. **Charging Completion:** Once fully charged (approximately 1h 30min per battery), all LED lights on the charger will typically illuminate and remain solid, indicated by a blue light.

Align the 2 red dots and press in the connector

Controller Charging

The 6WD Carbon Fiber Platform controller offers two convenient charging methods:

Method 1: USB Charging

1. **Connect the USB Cable:** Carefully insert the provided USB cable into the dedicated USB charging port on the controller.
2. **Power Source:** Connect the USB cable's opposite end to a compatible USB power source, such as a wall adapter or portable power bank.

Method 2: External Charger (Optional)

For faster charging or simultaneous charging of multiple batteries, you can utilize an optional Nitecore D4 charger (not included).

Instructions:

1. **Battery Removal:** Twist the end caps on the controller handles to safely remove the li-ion batteries (18650).
2. **Charger Placement:** Carefully insert the removed batteries into the designated slots on the Nitecore D4 charger, ensuring proper polarity.
3. **Refer to Charger Manual:** For detailed charging instructions, recommended charging rates, and safety precautions, please consult the user manual for the Nitecore D4 charger.

Recommended Maintenance Schedule

Optimum performance and longevity for your 6WD Carbon Fiber Platform depend on regular maintenance. Here's a recommended service schedule:

Preventative Maintenance (Approximately every 160 Hours of Use or Annually):

- **Motor Maintenance:** Perform a comprehensive inspection and lubrication of the platform's motors, ensuring smooth operation and minimizing wear.
- **Thorough Inspection:** Inspection of the chassis will identify any loose parts, ensuring the platform remains structurally sound and safe for operation.
- **Seal Replacement:** All seals will be replaced to maintain optimal dust and water splash resistance, protecting internal components from the elements.
- **Operational Verification:** Verify the platform's proper operation.
- **LiPo Battery Replacement:** Replace both LiPo batteries.

Benefits of Regular Maintenance:

- **Enhanced Performance:** Regular maintenance promotes smoother operation, reduced noise levels, and improved overall platform performance.
- **Preserved Protection:** Replacing seals safeguards the platform's internal components from dust and water intrusion.
- **Safety Assurance:** Identifying and addressing loose parts ensures the platform operates safely and reliably.

LiPo Battery Service Life:

LiPo batteries typically have a lifespan of **300-400 charging cycles or 2-3 years**, depending on usage patterns. After this period, the batteries may require replacement to maintain optimal performance.

Contact Us for More Information:

For question related to service, pricing, or to schedule a maintenance appointment, please contact us at Info@OsideRobotics.com. We're committed to helping you keep your 6WD Carbon Fiber Platform operating at its peak for years to come.

Advanced User: Troubleshooting and Panel Removal

This section is intended for experienced users comfortable troubleshooting the 6WD Carbon Fiber Platform.

Accessing Internal Components:

For advanced troubleshooting purposes, you can gain access to the platform's internal components by removing the top panel Only.

Number of Screws (By Model):

- 4WD Model: The top panel is secured by 12 screws.
- 6WD Model: The top panel is secured by 16 screws.

Removal Process:

1. **Unscrew the Panel:** Carefully remove all the designated screws using a HEX 2.5mm wrench/driver.
2. **Breaking the Seal:** The panel may be additionally secured with double-sided tape. Gently pry the top panel open to avoid damaging it.

Locating Important Information:

Once the panel is open, you will find the platform's electronic components alongside a serial number and authenticity sticker for reference.

Reassembly:

Important: Before reassembling the platform:

- **Remove Old Seal:** Meticulously remove any remnants of the old double-sided tape to ensure a proper seal.

Resealing and Securing the Panel:

1. **New Seal Installation:** Apply a fresh strip of double-sided 3mm seal tape around the designated area on the top panel frame.
2. **Screw Tightening:** Carefully re-attach the top panel and tighten all the M4 x 6mm screws securely.
3. **Thread Lock Application:** For additional security, apply a small amount of BLUE thread lock to each screw thread before tightening.

Caution: Avoid using excessive thread lock, as this can make future disassembly difficult.

Product Highlights

- Lightweight and Extremely Durable Carbon Fiber Body
- Six high-torque Planetary Gear Motors and Aluminum Bead lock Wheels
- Two Hardcase 4S 5500mAh Batteries
- Linear Speed Control with 3 different Speed Modes and Reverse Steering Function
- Dual Battery Monitoring System
- Max Incline: 45 Degree
- Low Profile
- Water and Dust resistant
- Drives when flipped over
- Six Bright front LED, Two Rear LED, and Two Power Indicator Rings
- Includes High quality Radio Transmitter with all-metal CNC gimbal and pre-programmed voice feedback.
- Easy / intuitive to use.
- Ready to operate within minutes.

Specifications

- Chassis: Body frame made of 4mm Carbon Fiber panels (Water and Dust resistant)
- Motors: 6 Planetary Gear motors (313 RPM, 417 oz-in or 30 kgf-cm)
- Speed: Offers linear speed control in 3 available modes (30%, 50%, and 100%) + Reverse Steering at 100%.
  Mode 1: Max Speed 1.3 mph (2.1 km/h or 0.58 m/s)
  Mode 2: Max Speed 3.6 mph (5.8 km/h or 1.6 m/s)
  Mode 3: Max Speed 7.3 mph (11.7 km/h or 3.2 m/s)
- Power: Powered by Two Hardcase/Shockproof 4S (14.8V) 5500mAh LiPo Batteries
- Range: 555ft with medium size antennas or 712ft with full size antennas (169m and 217m)
- Wheels: Aluminum Bead Lock Wheels paired with soft and grippy tires
- Max Incline: 45 degree
- Controller Batteries: 18650

Radio Controls Specification:
Transmitter: FR Sky Taranis X-Lite Pro running on user friendly OpenTX firmware with ACCESS Protocol. Haptic Vibration Alerts with Pre-programmed voice feedback.
Receiver: FR Sky Receiver with ACCESS Protocol (5 PWM Channels left Available). SBUS ready for additional 8 Channels.

Dimensions:
Length: 21.25” (54cm)
Width: 13” (33cm)
Height: 5.8” (148cm)
Body surface area: 30cm x 20cm x 4.7cm
Weight: 15lbs (6.8kg)
Payload: 15lbs / 6.8 kg
Ground clearance: 1.8” (4.5cm)

Runtime:
30% Speed: 5h 55min
50% Speed: 3h 45min
100% Speed: 2h 15min

Charge Time: 1h 30min (per Battery)

Discharge spec:

6WD 100% Speed	**6WD 50% Speed**	**6WD 30% Speed**
100% 16.80V	100% 16.80V	100% 16.80V
75% 15.93V: 45min	75% 15.93V: 1h 20min	75% 15.93V: 2h 5min
50% 15.34V: 1h 35min	50% 15.34V: 2h 45min	50% 15.34V: 4h 22min
25% 14.99V: 2h	25% 14.99V: 3h 21min	25% 14.99V: 5h 20min
15% 14.83V: 2h 8 min	15% 14.83V: 3h 35min	15% 14.83V: 5h 45min
10% 14.75V: 2h 15min	10% 14.75V: 3h 45min	10% 14.75V: 5h 55min

Terms of Return - Oside Robotics, LLC

Oside Robotics, LLC offers a 14-day return policy for all products purchased on our website.

To be eligible for a return:

- The product must be in new, unused condition and in the original packaging.
- All returns must be made within 14 days of the purchase date.
- Proof of purchase (receipt or order confirmation) must be included with the return.

State of Return:

- All returns must be shipped back to Oside Robotics, LLC.

Reason for Return:

You may return an item for any reason, as long as it meets the conditions described above.

Process for Return:

1. **Contact Us:** Initiate a return by contacting us at Info@OsideRobotics.com within 14 days of purchase.
2. **Return Shipping: Customers are responsible for covering the cost of return shipping.** Securely pack the item in its original packaging.

Process of Refund:

- Once we receive your returned item and verify it meets the return conditions, we will process your refund within 7 business days.
- The refund will be credited to the original payment method used for the purchase, excluding the original shipping cost.

Exceptions:

There are a few exceptions to the 14-day return policy. These include:

- Items that have been used or damaged
- Items that are not in the original packaging

If you are unsure whether an item is eligible for a return, please contact us at Info@OsideRobotics.com before making your purchase.

Limited Warranty - Oside Robotics, LLC

Oside Robotics, LLC warrants all Carbon Fiber Platforms to be free from defects in materials and workmanship for a period of 6 months from the date of original purchase ("Warranty Period"). This warranty applies only to the original purchaser of the Product and is not transferable.

What Does This Warranty Cover?

This warranty covers defects in materials and workmanship encountered during normal use of the Product according to the included instructions. This specifically includes:

- The remote controller, including buttons, joysticks, and any electronic components affecting its functionality.
- The drivetrain, encompassing motors, gears, and any electronic components controlling their operation.
- All other electronic components within the Product, excluding batteries.

What Does This Warranty Not Cover?

This warranty does not cover:

- Normal wear and tear of the Product, including batteries, tires, wheels, and body scratches.
- Cracked LED Glass Lens due to impacts.
- Damage caused by impact, misuse, abuse, neglect, accident, improper use, or unauthorized modifications.
- Damage caused by service performed by anyone other than Oside Robotics or its authorized service providers.
- Damage caused by acts of God, such as fire, flood, or lightning.
- Cosmetic defects that do not affect the functionality of the Product.

What Are Your Remedies Under This Warranty?

If a defect covered by this warranty is discovered during the Warranty Period, Oside Robotics will, at its sole discretion, either:

- Repair the Product using new or refurbished parts.
- Ship replacement part to buyer.
- Replace the Product with a new or refurbished product of comparable value.
- Issue a full or partial refund of the original purchase price of the Product.

How to Obtain Warranty Service:

To obtain warranty service, please contact Oside Robotics customer service at Info@OsideRobotics.com within the Warranty Period. You will be required to provide a copy of your dated proof of purchase and a description of the defect. Oside Robotics will then provide you with instructions on how to return the Product for warranty service.

Shipping Costs:

You are responsible for shipping the Product to Oside Robotics for warranty service. Oside Robotics will cover the cost of shipping the repaired or replacement Product back to you.

Limitations:

This warranty is the sole and exclusive warranty made by Oside Robotics with respect to the Product, and supersedes all prior or contemporaneous communications, representations, or agreements, whether oral or written. Oside Robotics disclaims all other warranties, express or implied, including, without limitation, warranties of merchantability and fitness for a particular purpose. Oside Robotics's liability under this warranty is limited to the remedies set forth above. In no event shall Oside Robotics be liable for any special, incidental, indirect, or consequential damages whatsoever, including, without limitation, lost profits, loss of use, or other commercial damages, arising out of or in connection with the use or misuse of the Product, even if Oside Robotics has been advised of the possibility of such damages.