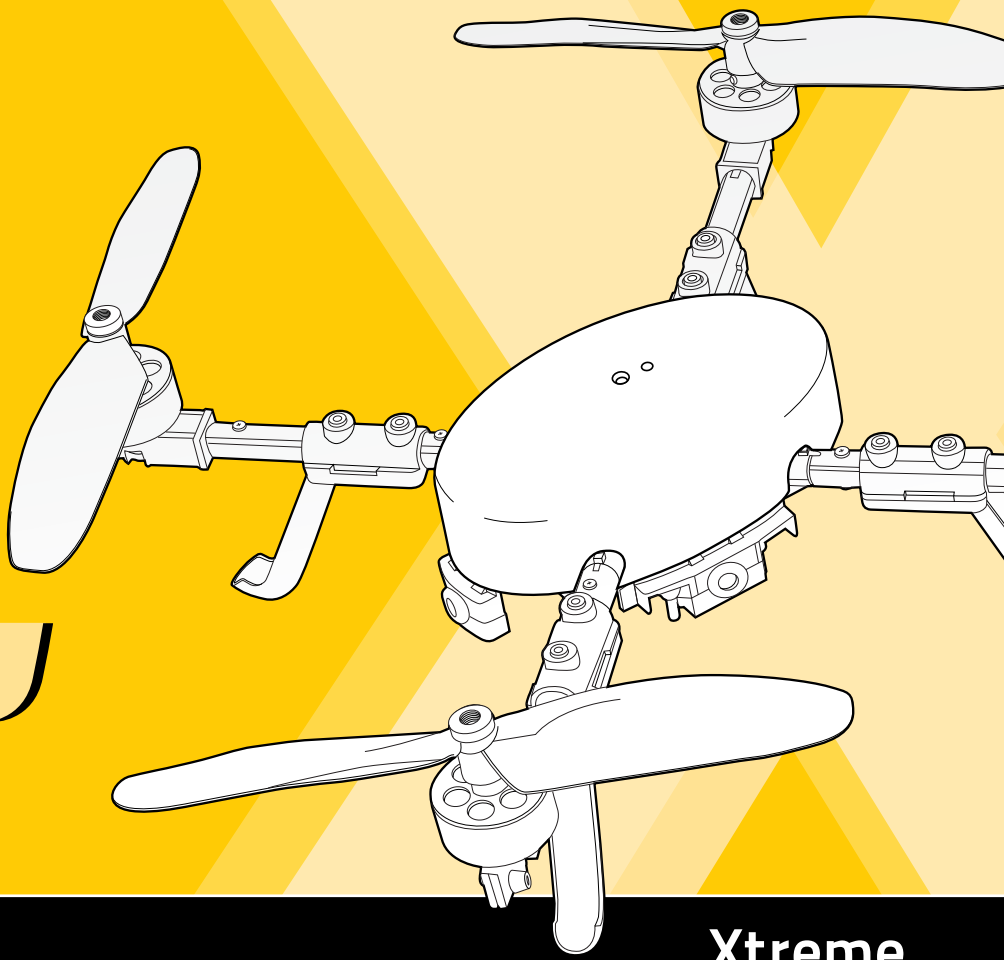
RC Logger®



GB **Operating instructions**

88007RC (Mode 1)
88008RC (Mode 2)
88009RC (ArF)

CE

Xtreme

EVER WONDERED WHAT INNOVATION LOOKS LIKE?

Xtreme.

TABLE OF CONTENTS

1. INTRODUCTION

Dear customer,

Thank you for making the excellent decision to purchase this RC Logger® product. You now have a high-quality product with a name that represents outstanding products.

This product complies with the applicable National and European standards and regulations. We kindly request the user to follow the operating instructions, to preserve this condition and to ensure safe operation! These operating instructions relate to this product. They contain important notices on commissioning and handling. Please take this into consideration when you pass the product on to third parties.

Please keep these instructions for future reference!

We wish you a great deal of enjoyment with your new RC Logger® product!

From here onwards the RC EYE One Xtreme is simply referred to as »Xtreme.

2. LATEST OPERATING INSTRUCTIONS

ENGLISH: Please download the latest version of the operating instructions from our website at www.rclogger.com. Navigate to the product page and open the "Downloads" tab. Click on "Operating instructions" to start the download.

DEUTSCH: Bitte laden Sie die neueste Ausgabe der Bedienungsanleitung von unserer Website herunter, unter www.rclogger.com. Navigieren Sie bis zur Produktseite und öffnen Sie das Register "Downloads" . Klicken Sie auf "Operating instructions", um den Download zu starten.

3. SYMBOLS

RED stands for danger and alert. Read these sections always to avoid accidents and product damage.

BLUE provides you with additional useful information, and highlights important facts.

GREEN stands for user safety. GREEN also stands for good practice, protecting your product from damage.

4. INTENDED USE

The »Xtreme is a toy model quad copter solely designed for private use in the model making area and the operating times associated with this. The »Xtreme is not suitable for other types of use, including commercial applications.

Any use other than the one described can damage the device. Moreover, this involves dangers such as short circuit, fire and electric shock, etc. Observe the safety information under all circumstances! The product must not become damp or wet.

This product is not a toy and not suitable for children under the age of 14.

For safety and approval purposes (CE), you must not rebuild and/or modify this product. If you use the product for purposes other than those described above, the product may be damaged. In addition, improper use can cause hazards such as short circuiting, fire, electric shock etc. Read the instructions carefully and keep them.

Make this product available to third parties only together with its operating instructions.

5. DELIVERY CONTENTS

1 x RC EYE One Xtreme

1 x Transmitter (Not available for the ArF version)

1 x LiPo Battery (800 mAh)

1 x USB Charger

4 x Propeller [5.43" (~138 mm), 2x red and 2x black]

2 x Spinner

2 x Spinner washer

2 x AAA battery (Not available for the ArF version)

1 x Sticker

1 x Trigger cable

1 x PPM Cable

1 x Operating instructions

6. COMPATIBLE ACCESSORIES

89064RC Xtreme Aerial Kit

4 x 5.91 inches (150 mm) Propellers (2 Red and 2 Black)

4 x 3.11 inches (79 mm) Landing Legs (2 Red and 2 Black)

2 x Spinners

2 x Washers

1 x Camera Tray

1 x LiPo Battery (1150 mAh)

89062RC Xtreme Case

1 x Xtreme Case

1 x Carrying Strap

89080RC Xtreme Adaptor Cable (for OneCam)

1 x Adaptors Set

1 x Operation Manual

89041RC RC EYE OneStation

1 x RC EYE OneStation

1 x Operating instructions

89036RC RC EYE OneLINK

1 x RC EYE OneLINK

1 x Connecting cable for Futaba® basic transmitter models

1 x Connecting cable for JR/Spectrum® basic transmitter models

1 x USB cable (for OneLINK firmware upgrade)

2 x 1.5 V AAA batteries

1 x Operating instructions

89049RC RC EYE OneCam TX

1 x RC EYE OneCam TX

2 x Double sided tape (30 x 8mm)

1 x Operating instructions

89050RC RC EYE OneCam 5.8 GHz RX

1 x RC EYE OneCam 5.8GHz RX

1 x USB cable

1 x AV cable (for AV IN)

1 x AV cable (for AV OUT)

1 x Back holder with DIN size tripod screw

1 x Antenna switch cable (to SMA female)

1 x Operating instructions

89042RC RC EYE OneCam 5.8 GHz FPV Kit

1 x RC EYE OneCam TX

1 x RC EYE OneCam 5.8 GHz RX

7. SPARE PARTS

89065RC Xtreme Canopy (Red)

1 x Xtreme Canopy (Red)

89066RC Xtreme Canopy (Black)

1 x Xtreme Canopy (Black)

89067RC Xtreme Battery Pack (1150 mAh)

1 x LiPo Battery (1150 mAh)

89068RC Xtreme Battery Pack (800 mAh)

1 x LiPo Battery (800 mAh)

89069RC Xtreme Main Frame

1 x Main Frame

2 x Plastic Washer (top)

2 x Plastic Washer (bottom)

2 x Washer (ø 0.13 x 0.02 inches) (ø 3.2 x 0.5mm)

2 x Screw (ø 0.07 x 0.2 inches) (ø 1.7 x 5 mm)

2 x Screw (ø 0.06 x 0.28 inches) (ø 1.4 x 7 mm)

89070RC Xtreme Flight Control Board

1 x PCBA

2 x Plastic Washer (top)

2 x Plastic Washer (bottom)

2 x Washer (ø 0.13 x 0.02 inches) (ø 3.2 x 0.5 mm)

2 x Screw (ø 0.07 x 0.2 inches) (ø 1.7 x 5 mm)

2 x Screw (ø 0.06 x 0.28 inches) (ø 1.4 x 7 mm)

89071RC Xtreme Propeller Set (138 mm)

4 x 5.43 inches (138 mm) Propellers (2 Red and 2 Black)

2 x Spinners

2 x Washers

89072RC Xtreme Propeller Set (150 mm)

4 x 5.91 inches (150 mm) Propellers (2 Red and 2 Black)

2 x Spinners

2 x Washers

89073RC Xtreme Landing Legs (79 mm)

4 x 3.11 inches (79 mm) Landing Legs (2 Red and 2 Black)

4 x Nut (M2 x 3 mm)

4 x Washer (ø 0.2 x 0.02 inches) (ø 5 x 0.5 mm)

4 x Screw (PM 2 x 16 mm)

89074RC Xtreme Landing Legs (38 mm)

4 x 1.50 inches (38 mm) Landing Legs (2 Red and 2 Black)

4 x Nut (M2 x 3 mm)

4 x Washer (ø 0.2 x 0.02 inches) (ø 5 x 0.5 mm)

4 x Screw (PM 2 x 16 mm)

89075RC Xtreme Motor

1 x Xtreme Motor (Pre-mounted on the holder)

89076RC Xtreme Replacement LED Set

3 x LED Light (red, green and white)

89077RC Xtreme Small Parts Set

4 x Screw (PM2 x 16 mm)

2 x Screw (ø 0.06 x 0.28 inches) (ø 1.4 x 7 mm)

2 x Screw (ø 0.07 x 0.2 inches) (ø 1.7 x 5 mm)

2 x Screw (PM2 x 8 mm)

2 x Washer (ø 0.13 x 0.02 inches) (ø 3.2 x 0.5 mm)

8 x Screw (ø 0.07 x 0.16 inches) (ø 1.7 x 4 mm)

6 x Nut (M2 x 3 mm)

8 x Washer (ø 0.2 x 0.02 inches) (ø 5 x 0.5 mm)

2 x Plastic Washer (top)

2 x Plastic Washer (bottom)

89078RC Xtreme USB Charger

1 x Xtreme USB Charger

89079RC Xtreme Cable Set

1 x Trigger Cable

1 x PPM Cable

8. SAFETY INSTRUCTIONS

Read the operating instructions carefully and especially observe the safety information. If you do not follow the safety instructions and information on proper handling in this manual, we assume no liability for any resulting personal injury or damage to property. Such cases will invalidate the warranty/guarantee.

8.1 Persons/Product

- The device is not a toy. Keep it out of the reach of children and pets.
- Do not leave packaging material lying around carelessly. These may become dangerous playing material for children.
- If it is no longer possible to operate the product safely, take it out of operation and protect it from any accidental use. Safe operation can no longer be guaranteed if the product:
  - is visibly damaged,
  - is no longer working properly,
  - has been stored for extended periods in poor ambient conditions, or
  - has been subjected to any serious transport-related stresses. The product must not become damp or wet. The »Xtreme uses delicate electronic components which are sensitive to temperature fluctuations and are optimised for a particular temperature range. Operating temperatures below 0°C must be avoided.
- Do not place the product under any mechanical stress.
- Handle the product carefully. Jolts, impacts or a fall even from a low height can damage the product.

8.2 Before commissioning

- Before every flight check the functional reliability of your model and the transmitter. Watch out for any visible damage such as defective plug connections or damaged cables and wires.
- All moving parts of the model must run smoothly but should not have any play in their bearings.
- Before each operation check the correct and secure position of the propellers.
- Charge the flight battery according to the steps provided in chapter “15. Battery” on page 19.
- Ensure sufficient residual capacity [battery tester (not included)] of the batteries inserted in the transmitter. If the batteries are empty, always replace the complete set, never individual cells only.
- Always switch on the transmitter first before connecting the battery to the »Xtreme.
- Set the throttle to zero before connecting the battery to the »Xtreme. The rotors might run unintentionally!

8.3 During Operation

- When the rotors are running, make sure that neither objects nor body parts are in the rotating and suction area of the propellers.
- Do not take any risks when operating the model! Your own safety and that of your environment is solely down to you being responsible when dealing with the model.
- Improper operation may cause serious injury and property damage! Therefore make sure to keep a sufficiently safe distance to persons, animals or objects during operation.
- Select an appropriate location for the operation of the »Xtreme.
- Fly the »Xtreme only if your ability to respond is unrestricted. The influence of tiredness, alcohol or medication can cause incorrect responses.

- Do not direct your model towards spectators or yourself.
- Motor, electronics and flight battery may heat up during operation. Wait 5 to 10 minutes before recharging or replacing the flight battery.
- Never switch off the transmitter while the »Xtreme is in use. After landing, always disconnect the flight battery first. Only then may the transmitter be switched off.
- In case of a defect or a malfunction, remove the problem before using the »Xtreme again.
- Never expose the »Xtreme or the transmitter to direct sunlight or excessive heat for an extended period of time.
- In the case of a severe crash (e.g. from a high altitude) the electric gyro sensors can be damaged and/or misadjusted. Therefore, full functionality must be tested before flying again without fail!
- In the event of a crash, the throttle should be immediately set to zero. Rotating propellers may be damaged if they come into contact with obstacles. Before flying again, these should be checked for possible tears or breakages!
- Observe the warn/safety signals emitted by the »Xtreme at all times to avoid damage (e.g. discharged battery).

8.4 Batteries

8.4.1 General information

- Correct polarity must be observed while inserting the batteries.
- Remove battery from the »Xtreme after every flight. Remove the batteries from the transmitter if you do not use it for a longer period of time. Discharged batteries may leak.
- Leaking or damaged batteries can cause acid burns when in contact with skin. Therefore use suitable protective gloves to handle corrupted and leaking batteries.
- Batteries must be kept out of the reach of children. Do not leave the batteries lying around. There is a risk that children or pets may swallow them.
- All batteries should be replaced at the same time. Mixing old and new batteries can lead to battery leakage and device damage.
- Batteries must not be dismantled, short-circuited or exposed to fire. Never recharge non-rechargeable batteries. There is a risk of explosion!
- Never mix regular batteries and rechargeable batteries!

8.4.2 LiPo batteries

After the flight, the LiPo flight battery must be disconnected from the »Xtreme.

Lithium is a highly reactive chemical element with a high energy density. In the case of overcharging, the LiPo rechargeable battery packs might catch fire or even explode. Therefore, LiPo rechargeable battery packs must always be put on a fire-proof surface for charging and the charging process must be supervised.

In no case must the maximum permissible battery pack temperature of +60°C be exceeded Otherwise the rechargeable battery may explode!

8.4.2.1 Hazards of LiPo flight batteries

- Do not leave the LiPo flight battery connected when you do not use it (e.g. during transport or storage). Otherwise, the LiPo flight battery may be fully discharged. This would destroy it and render it unusable! There is also a danger of malfunction due to interference. The rotors could start up inadvertently and cause damage or injury.
- Rechargeable LiPo batteries are very susceptible to moisture due to the chemicals they contain! Do not expose them to moisture or liquids. Risk of explosion!
- Do not expose the charger or LiPo flight battery to high/low temperatures or to direct solar radiation. When handling LiPo batteries, observe the special safety information of the battery manufacturer!
- Never charge the LiPo flight battery immediately after use. Always leave the LiPo flight battery to cool off first (at least 5-10 minutes).
- Only use the supplied USB LiPo charger or the “RC EYE OneStation” (89041RC) to charge the flight battery.
- Only charge intact and undamaged batteries. If the external insulation of the rechargeable battery is damaged or if the rechargeable battery is deformed or bloated, it must not be charged. In this case, there is immediate danger of fire and explosion!
- Never damage the exterior of a LiPo flight battery. Never cut the covering foil. Never stab any LiPo flight batteries with pointed objects.
- As the charger and the rechargeable LiPo flight battery both heat up during the charging procedure, it is necessary to ensure sufficient ventilation. Never cover the charger or the LiPo flight battery! Of course, this also applies for all other chargers and rechargeable batteries.
- Remove the LiPo flight battery that is to be charged from the model and place it on a fire-proof support (e.g. a plate). Keep a distance to flammable objects.
- Disconnect the LiPo flight battery from the charger when it is fully charged.
- Chargers may only be operated in dry rooms. The charger and the LiPo flight battery must not become damp or wet.
- Never take the rechargeable battery apart! The rechargeable battery may not be subjected to any mechanical strain! The contacts may not be short-circuited, as there is danger of fire and explosion!
- Do not expose rechargeable batteries to fire, as there is a risk of explosion!
- Keep rechargeable LiPo batteries away from children. Store rechargeable batteries in a dry, cool place.
- If a rechargeable battery is deformed or damaged during a crash, it must no longer be used. The same applies for “swollen” rechargeable batteries, or rechargeable batteries with other visible deformation or leaks. Do not attempt to charge such rechargeable batteries! Danger of fire and explosion!
- Dispose of such rechargeable batteries in an ecologically sound fashion.
- The general hazard notices for handling batteries and rechargeable batteries also apply for rechargeable LiPo batteries.

8.4.2.2 Total discharge

- Since discharging below 3.0 V per cell would lead to permanent damage of the rechargeable battery pack, this total discharging is to be prevented as far as possible.
- For safety reasons, programmable cruise controls/flight control systems should be set in such a way that the undervoltage detection has already responded before a voltage of 3.0 V per cell is reached (e.g. 3.2 V). Alternatively, the optical undervoltage displays are also recommended.

8.4.2.3 Correct dimensioning

- As the current drawn rises, the battery pack warms and the usable capacity is lowered. The ideal operating temperature during discharge is between **+20** and **+40 °C** and must not exceed **+60 °C** even under extreme load.
- The maximum short-time current that can be loaded to the battery pack is stated in the technical data sheets or can be read directly from the battery pack. The value “C” always refers to the capacity value of the respective battery pack.

Example:
A battery pack with a capacity of 2100 mAh and “20 C” can be loaded with 2100 mA x 20 = 42 A maximum.

- However, the maximum permissible continuous current is clearly lower. If there are no precise manufacturer’s specifications, the battery pack should not be loaded with more than approx. 50 % of the maximum permissible surge current over a long term.

8.5 Miscellaneous

- Consult an expert when in doubt about operation, safety or connection of the device.
- Maintenance, modifications and repairs are to be performed exclusively by an expert or at a qualified shop.
- If you have questions which remain unanswered by these operating instructions, contact our technical support service or other technical personnel.

9. PRODUCT DESCRIPTION

The »Xtreme is a pre-assembled quadcopter flight model with four rotors. In the professional field, such flight devices are already used for the most diverse of tasks. The latest micro processor controlled electronics with position control and acceleration sensor stabilize the »Xtreme. The »Xtreme is an ideal micro multirotor platform with the ability to lift a camera such as GoPro®, RC Logger PRO, SOCAM® or similar using the optional “RC Logger Aerial Kit” (89064RC).

High-quality direct current brushless motors in connection with a specially developed control permit a long, powerful flight operation. The new control and electronic self-stabilisation lead to great flight properties. Different flying programmes ensure that both beginners and experts will have fun.

You can operate the »Xtreme via:

- **Stock transmitter**
- **RC EYE OneLINK (89036RC) & Your own transmitter (e.g. Futaba, Spektrum)**
- **PPM (Pulse-position modulation) & Your own transmitter**

The »Xtreme can be operated both indoors and outdoors during calm weather conditions. The in-built electronic controls can balance out small undesired changes to the flight altitude. The low weight of the »Xtreme makes it react sensitively to wind or draughts.

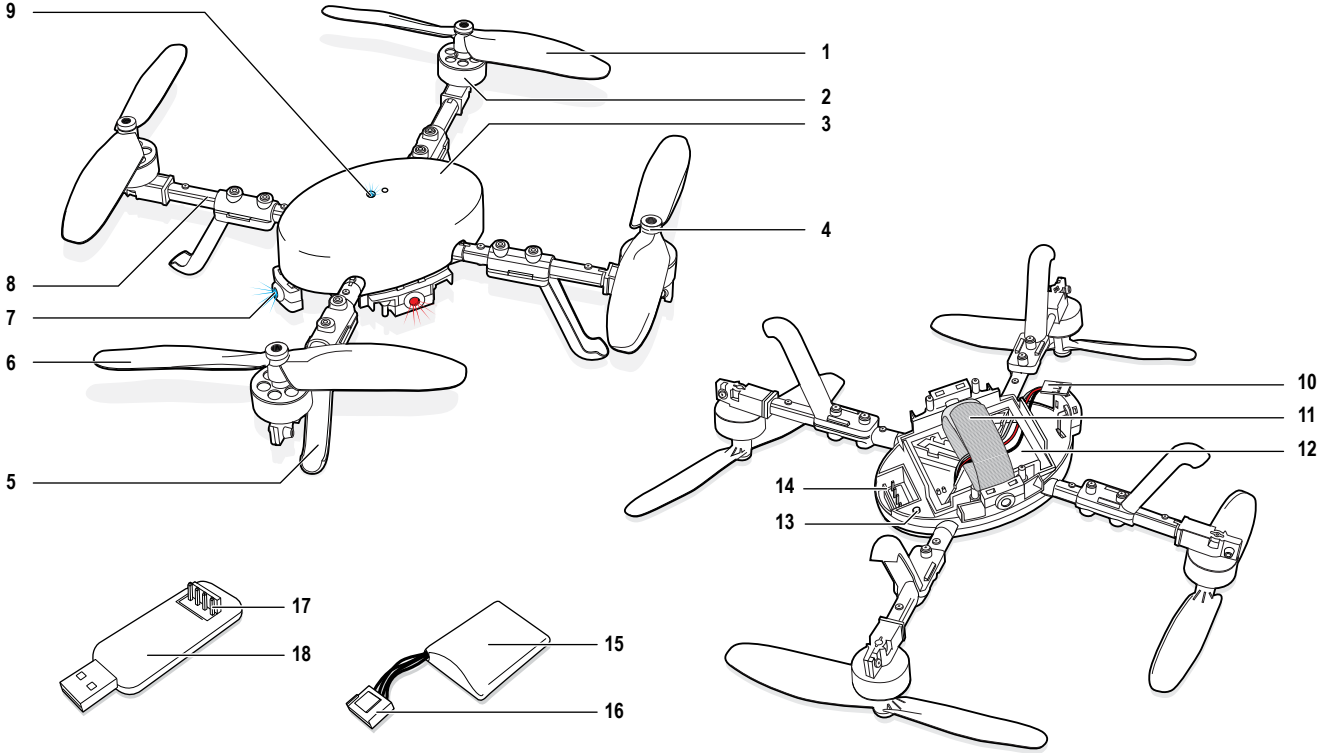
You can fly the »Xtreme in three different modes:

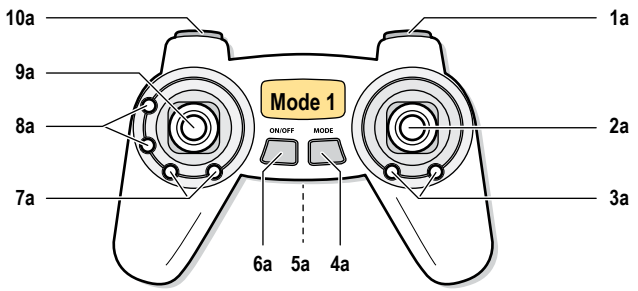
- **Beginner**
- **Sport**
- **Expert**

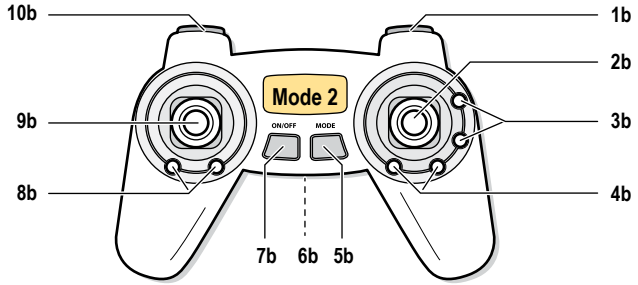
The model is designed for beginners as well as experienced model helicopter pilots.

Tap the model’s full potential through regular practice.

10. YOUR XTREME







Xtreme

1 Rear propeller (Black)
2 Rotor
3 Canopy
4 Spinner
5 Leg
6 Front propeller (Red)
7 Orientation LED
8 Boom
9 Status LED
10 PPM cable (here shown installed)
11 Adhesive-backed hook and loop strap
12 Battery tray
13 BIND button
14 Battery connection socket
15 Flight battery
16 4-pin battery plug
17 Charger socket
18 USB LiPo charger

Transmitter – Mode 1

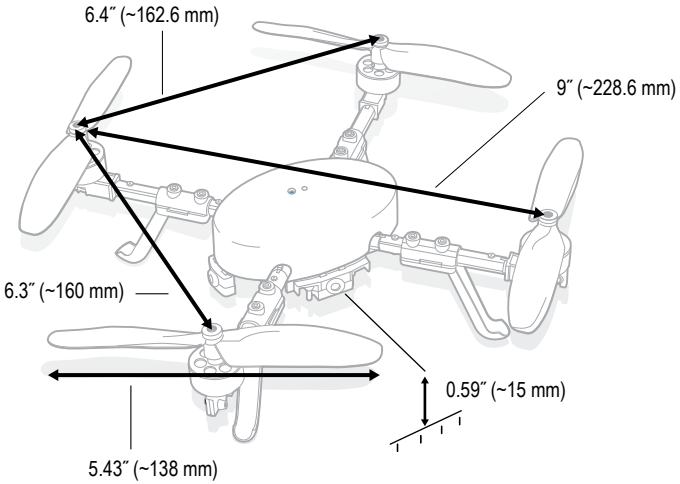
1a HEIGHT HOLD button
2a Right control lever (THROTTLE, AILERON)
3a Aileron trim buttons
4a MODE button
5a Battery compartment (underside)
6a ON/OFF button
7a Rudder trim buttons
8a Elevator trim buttons
9a Left control lever (ELEVATOR, RUDDER)
10a ACRO button

Transmitter – Mode 2

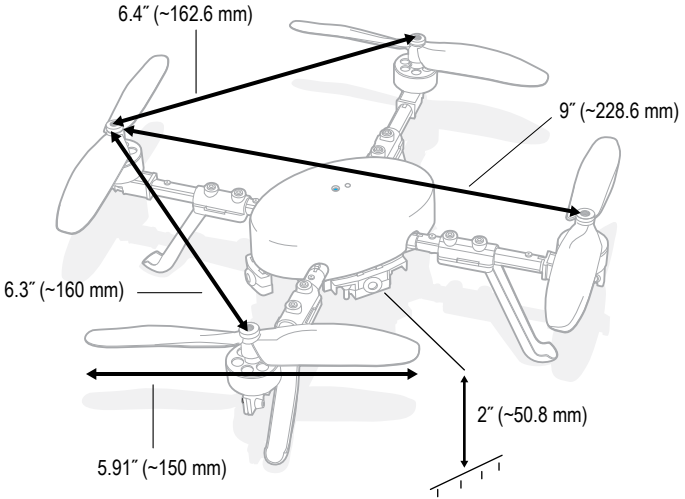
1b HEIGHT HOLD button
2b Right control lever (AILERON, ELEVATOR)
3b Elevator trim buttons
4b Aileron trim buttons
5b MODE button
6b Battery compartment (underside)
7b ON/OFF button
8b Rudder trim buttons
9b Left control lever (THROTTLE, RUDDER)
10b ACRO button

11. DIMENSIONS

Standard

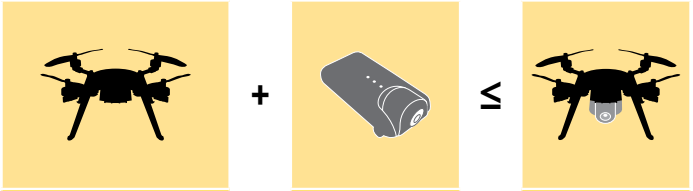


Xtreme Aerial Kit – 89064RC (not included)



12. WEIGHTS AND PAYLOAD

This is an important section to read. If you do not follow the instructions, the »Xtreme may not take off or even be damaged.



7.8 oz (~221 g)	**≤ 3.5 oz** (~100 g)	**11.3 oz** (~321 g)
Empty weight (incl. battery, camera tray)	Payload (camera)	Takeoff weight

Please note that EMPTY WEIGHT and TAKEOFF WEIGHT are fixed values. The only variable is the PAYLOAD, which is the camera's weight. **If the takeoff weight is exceeded the »Xtreme will not take off, due to insufficient lift.**

Wind conditions, altitude and temperature can have an impact on the takeoff weight. It is therefore advisable to not exploit the payload to the full.

13. DIRECTIONS

13.1 Front and back

Front and back of the »Xtreme are indicated by colour. The RED PROPELLERS (6) and LEGS (5) point to the front of the »Xtreme. The BLACK PROPELLERS (1) and LEGS point to the rear of the »Xtreme.

13.2 Orientation LED's

Position and colour of the orientation LEDs (7) are chosen according to the international standards used in the aviation industry. Note the following positions and colors in [Fig. 1]:

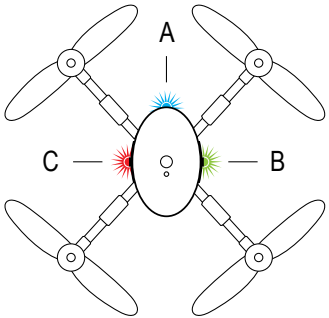


Fig. 1

A White LED (front)
B Green LED (right)
C Red LED (left)

14. QUICK START AVIATION TERMS

14.1 Rudder

- RUDDER denotes the rotation of the »Xtreme around the rudder axis (vertical axis). This movement either occurs unintentionally due to the speed torque of the propellers or intentionally as a flight direction change.
- For the »Xtreme, this movement is not controlled by a tail propeller, but through speed variation of the individual propellers. The two red propellers show FRONT.

14.2 Elevator

- ELEVATOR denotes the movement around the cross axis which can be compared to the nodding of a head.
- Through this, the »Xtreme gains flight speed forwards or backwards or decelerates.

14.3 Aileron

- AILERON denotes the movement around the centre line which can be compared to the sideways rolling of a ball (or the sideways crawl of a crab). In this way, through lifting one side the »Xtreme moves to the side independently of its forward direction.
- The two red propellers show FRONT.

14.4 Hover

HOVER denotes a flight status in which the »Xtreme neither rises nor falls so that the upwards directed uplift force is equal to the downwards directed weight.

14.5 Altitude height hold

- ALTITUDE HEIGHT HOLD is a product feature of the »Xtreme. Altitude height hold can be set via the transmitter. Once activated the »Xtreme will hold the altitude at which altitude height hold was activated.
- You may refer to chapter “18.7 Altitude height hold function” on page 50 for more information.

14.6 Mode 1, Mode 2

- MODE 1 and MODE 2 refer to the stick arrangement and their functions of the provided stock transmitter.
- Please refer to chapter “16. Transmitter” on page 22 for more information.

14.7 Binding

- BINDING refers to the pairing of transmitter and receiver (built into the »Xtreme). Once transmitter and receiver are bound, signal transmission can take place.
- To correctly bind the »Xtreme refer to section “16.1.3 Binding” on page 26.

15. BATTERY

15.1 Dangers

Only use the supplied flight battery or a suitable spare battery from RC Logger.

After the flight, the LiPo flight battery must be disconnected from the »Xtreme.

Make sure the transmitter is turned on before connecting the battery to the »Xtreme.

Avoid unexpected startup. This can lead to serious injury and damage the »Xtreme.

15.2 Charging the flight battery

Do not use any desktop or notebook USB port to power the USB charger. Doing so may damage the computer.

The flight battery cannot be charged with conventional LiPo chargers. Only use the included USB charger or other suitable RC Logger chargers to charge the flight battery.

Use a suitable plug-in mains adapter or a cigarette lighter adapter with one USB output socket each (output 5 V/DC, at least 2.0 A).

1. Connect the supplied USB LiPo charger (18) to a suitable adapter.
2. Connect the adapter to the mains supply. The LEDs in the charger flash.
3. Connect the supplied flight battery (15) to the charger socket (17). Observe the plug contour for this. If the battery is not defective (high-ohmic/interrupted) and mains supply is present, charging commences. See [Fig. 2].

> Two red LEDs indicate the charging states. The following indications are possible (each cell has its own LED):

- »» **Red LED is permanently lit:** The charging process is running.
- »» **Red LED flashes:** Defective battery and/or bad contact of the plugs, or if no battery is connected.
- »» **Red LED off:** Battery is fully charged or a fully charged battery is connected

> Individual battery cells of a battery pack are usually different. The USB charger has two separate chargers integrated. Therefore, it is possible that a battery cell is already charged (LED off) and the other battery cell is still being charged (LED on).

Wait until both LEDs have gone out before unplugging the battery.

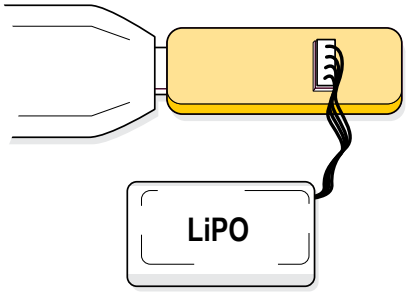


Fig. 2

15.3 Insert batteries into transmitter

1. Remove the lid of the battery compartment (5a) (6b) of the transmitter by pushing its lever slightly down and lifting the lid off.
2. Insert two micro/AAA size batteries into the battery recessions. Observe the correct polarity when inserting. Polarity indications are provided inside the compartment.
3. Replace the battery compartment lid again. Ensure proper locking of the lid lever.

Since the transmitter requires very little power, batteries will keep much longer. We recommend the use of high-quality alkaline batteries.

Rechargeable batteries:

Operation of the transmitter with rechargeable batteries is not recommended because of the lower cell voltage (battery = 1.5 V, rechargeable battery = 1.2 V) and the self-discharge of rechargeable batteries. Quick feedback of the transmitter on low charge status of the transmitter power supply would result.

15.4 Attaching the flight battery

Before you connect the battery to the »Xtreme turn on the transmitter. An unbound (transmitter and »Xtreme cannot communicate) aircraft is considered uncontrolled.

1. Carefully turn the »Xtreme upside down and place it on a stable and soft surface.
2. Sufficiently support the »Xtreme from below.
3. Plug the 4-pin battery plug (16) into the battery connection socket (14) at the underside of the »Xtreme. You can only connect the plug in one direction. **Do not force** the plug into the socket to avoid damage to the connectors. Ensure proper locking of the plug.

The »Xtreme is now live! Be attentive from now on!

4. Place the battery into the battery tray (12). The battery cables **must not be twisted**. To avoid twisting turn the battery by 180 degrees, if necessary.
5. Firmly secure the battery with the adhesive-backed hook and loop strap (11).

> To later remove the battery, open the adhesive-backed hook and loop strap and unlock the battery plug. You can now unplug and remove the flight battery from the »Xtreme.

15.5 Storage

> After every flight remove the battery from the »Xtreme and only then turn off the transmitter.

> Store the battery in a **dark**, **cool** and **dry** place, away from the reach of children. Moisture and direct sunlight can lead to battery damage or even explosion.

> It is best to use a specially designed storage container for LiPo batteries, which you can purchase from specialist shops.

16. TRANSMITTER

16.1 RC Logger transmitter

> Please note that no stock transmitter is supplied with model 88009RC (ArF).

16.1.1 Mode 1

> This section introduces the MODE 1 transmitter. Depending on your purchase you can skip this section and move on to Mode 2 section. Carefully read the following sections to acquire a good understanding of the transmitter's functionality.

> Some aviaton terms are used in this section. Please also refer to chapter "14. Quick start aviation Terms" on page 18.

> The upcoming term TRIM refers to equalizing unbalanced settings. Trimming counters the unbalanced setting. *Example: If the »Xtreme tends to turn left without user input, then counter with the right trim button. If the »Xtreme tends to move forwards, trim with the rear trim button.*

16.1.1.1 Hover flight

> See [Fig. 3].

> Hover flight is achieved at about the central throttle position. Push the THROTTLE/AILERON lever (2a) forward to increase the motor speed and lift up the »Xtreme.

> Pulling the THROTTLE/AILERON lever back causes the »Xtreme to drop. Pulling the throttle lever back all the way puts the engines into idle.

16.1.1.2 Rudder

> See [Fig. 4].

> If you move the ELEVATOR/RUDDER lever (9a) to the left, the »Xtreme will turn to the left. If you move ELEVATOR/RUDDER lever to the right, the »Xtreme will turn to the right.

> If the »Xtreme rotates slowly around its own axis in hover flight, trim it with the trim buttons. Push the corresponding trim buttons until the »Xtreme no longer rotates around its own axis.

16.1.1.3 Elevator

> See [Fig. 5].

> If you move the ELEVATOR/RUDDER lever (9a) to the front, the »Xtreme will float forwards. If you move the ELEVATOR/RUDDER lever to the rear, the »Xtreme will float backwards.

> If the »Xtreme slowly moves to the front or rear in hover flight, trim it with the trim buttons. Push the corresponding trim buttons until the »Xtreme no longer tilts to the rear or front.

16.1.1.4 Aileron

> See [Fig. 6].

> If you move the THROTTLE/AILERON lever (2a) to the left, the »Xtreme will tilt to the left. If you move the THROTTLE/AILERON lever to the right, the »Xtreme will tilt to the right.

> If the »Xtreme tilts slowly to the left or right in hover flight, trim it with the trim buttons. Push the corresponding trim buttons until the »Xtreme no longer tilts.

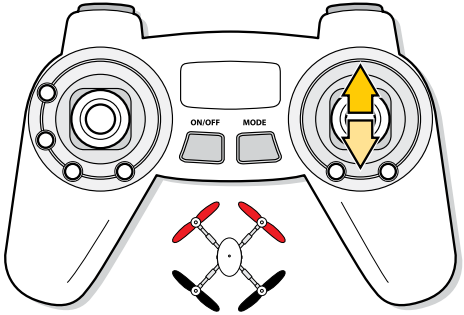


Fig. 3

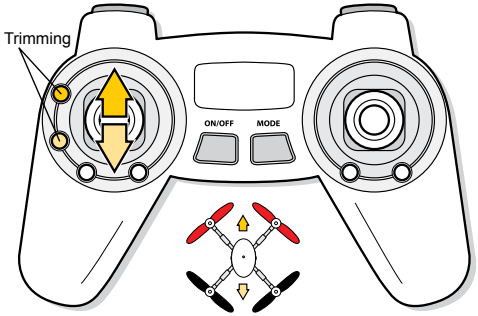


Fig. 5

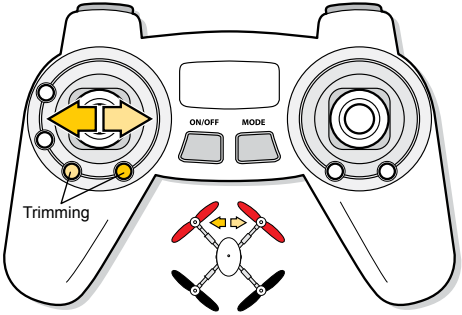


Fig. 4

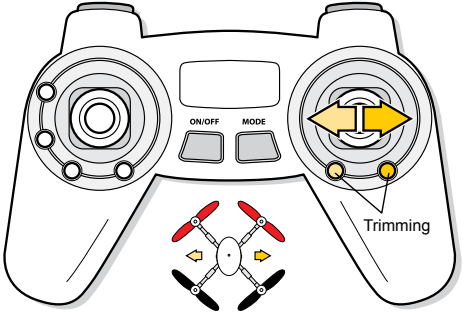


Fig. 6

16.1.2 Mode 2

> This section introduces the MODE 2 transmitter. Carefully read the following sections to aquire a good understanding of the transmitter's functionality.

> Some aviaton terms are used in this section. Please also refer to chapter "14. Quick start aviation Terms" on page 18.

> The upcoming term TRIM refers to equalizing unbalanced settings. Trimming counters the unbalanced setting. *Example: If the »Xtreme tends to turn left without user input, then counter with the right trim button. If the »Xtreme tends to move forwards, trim with the rear trim button.*

16.1.2.1 Hover flight

> See [Fig. 7].

> Hover flight is achieved at about the central throttle position. Push the THROTTLE/RUDDER lever (9b) forward to increase the motor speed and lift up the »Xtreme.

> Pulling the THROTTLE/RUDDER lever back causes the »Xtreme to drop. Pulling the throttle lever back all the way puts the engines into idle.

16.1.2.2 Rudder

> See [Fig. 8].

> If you move the THROTTLE/RUDDER lever (9b) to the left, the »Xtreme will turn to the left. If you move THROTTLE/RUDDER lever to the right, the »Xtreme will turn to the right.

> If the »Xtreme rotates slowly around its own axis in hover flight, trim it with the trim buttons. Push the corresponding trim buttons until the »Xtreme no longer rotates around its own axis.

16.1.2.3 Elevator

> See [Fig. 9].

> If you move the AILERON/ELEVATOR lever (2b) to the front, the »Xtreme will move forwards. If you move the AILERON/ELEVATOR lever to the rear, the »Xtreme will move backwards.

> If the »Xtreme slowly moves to the front or rear in hover flight, trim it with the trim buttons. Push the corresponding trim buttons until the »Xtreme no longer moves.

16.1.2.4 Aileron

> See [Fig. 10].

> If you move the AILERON/ELEVATOR lever (2b) to the left, the »Xtreme will tilt to the left. If you move the AILERON/ELEVATOR lever to the right, the »Xtreme will tilt to the right.

> If the »Xtreme tilts slowly to the left or right in hover flight, trim it with the trim buttons. Push the corresponding trim buttons until the »Xtreme no longer tilts.

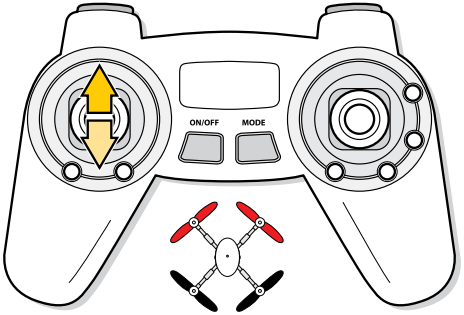


Fig. 7

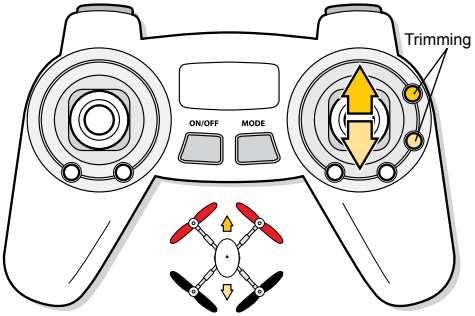


Fig. 9

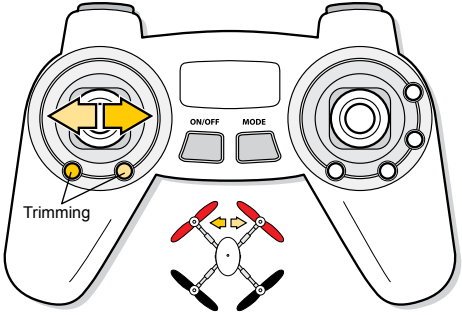


Fig. 8

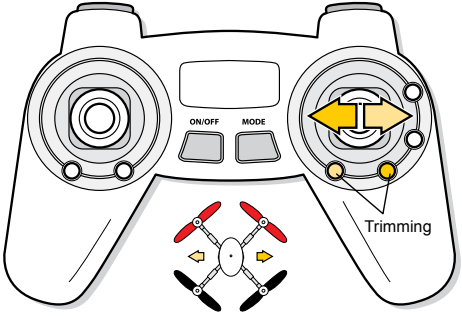


Fig. 10

16.1.3 Binding

Also refer to “14. Quick start aviation Terms” on page 18 for the meaning of BINDING.

Before you start binding your transmitter and »Xtreme make sure that you have installed batteries into the transmitter. Refer to section “15.3 Insert batteries into transmitter” on page 20.

1. Move the transmitter’s throttle stick to zero.
2. Install the flight battery into the »Xtreme and connect the battery. The »Xtreme status LED (9) should go solid green after a short time.
3. Press and hold the BIND BUTTON (13) of the »Xtreme, located next to the battery tray, until the status LED starts to flash red/green.
4. Turn the transmitter on (two beeps) and off again (one beep) with the ON / OFF button (6a)(7b).
5. Press and hold the ON / OFF button until you hear a beep sound every 3 seconds. You are now in binding mode. Release the button.
6. Wait until the »Xtreme’s status LED flashes in the corresponding color related to the selected flight mode indicating that the binding process has been completed. Additionally, two short beeps are emitted.

You need to perform steps 3 to 5 within a given time (approx. 30 seconds), otherwise binding cannot succeed.

16.1.4 FHSS – Frequency hopping

- This technology is commonly referred to as FREQUENCY HOPPING SPREAD SPECTRUM or simply FHSS.
- The »Xtreme’s transmitter and receiver are based on 2.4 GHz FHSS technology.
- This modulation technique repeatedly switches frequencies during radio transmission with the objective of minimizing the unauthorized interception and/or jamming by other transmitting or receiving devices such as cellphones, wireless networks, remote controlled toys and virtually any 2.4 GHz operated product.
- As a result, users are not required to select a specific radio channel, since this is done automatically via FHSS. Thus users may operate this product within a geographical area side by side with additional remote controlled products and other transmitting or receiving devices.

16.2 Your own transmitter

The »Xtreme allows you to control it with your own 2.4 GHz transmitter. You may operate it:

- via the “RC Logger OneLINK”, or
- via PPM

16.3 RC Logger OneLINK

When using the RC Logger OneLINK, turn off signal transmission via antenna on your transmitter. Signal should only be transmitted via the trainer port. Read the operating instructions of your transmitter for more information.

- The »Xtreme provides the option for users to add the “RC Logger OneLINK” to their existing transmitter in order to control the »Xtreme with a standard RC transmitter instead of the default stock transmitter.
- Once properly bound to your »Xtreme the “OneLINK” acts as an interface between your transmitter and the »Xtreme, allowing functional control.
- Refer to www.rclogger.com for the availability of “RC Logger OneLINK”.

16.3.1 Preparation

In order to make use of the “OneLINK” option you will need to prepare the following items:

- Your own transmitter with:
  - Min. 6 channels (7 channels are recommended)
  - Two 3-way-toggle-switches
  - One 2-way-toggle-switch
- **Note:** If your transmitter does not provide two 3-way-toggle-switches please refer to the workaround explained at the end of this chapter (“16.3.8 DX6I with only 2 position switch” on page 30).
- The “RC Logger OneLINK” (including two AAA batteries)
- The suitable interface cable. Depending on your transmitter this cable will interface between the trainer port of your transmitter and the “OneLINK”. The delivery contents of the “OneLINK” includes several interface cables. Choose the one suitable for your transmitter.

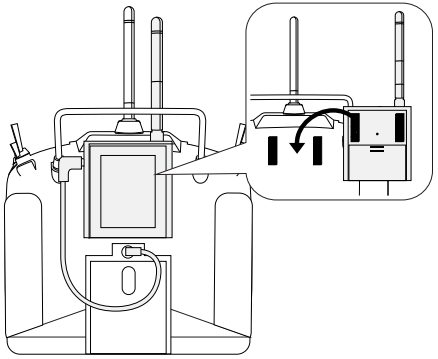


Fig. 11

16.3.2 Mounting the OneLINK to your transmitter

The best and easiest application is to use some adhesive-backed hook and loop fastener. The “OneLINK” can then be removed when not needed. Apply a small amount of either hook or loop to the back of your transmitter and the “OneLINK”. See [Fig. 11].

16.3.3 Preparing your OneLINK for Spektrum transmitters

In these operating instructions, the use of the “OneLINK” is described in combination with Spektrum® transmitters.

For use of the “OneLINK” in combination with other transmitter brands, refer to their corresponding operating instructions.

If using Spektrum DX6i please refer to the workaround at the end of this chapter to enable the 6th channel (see section ‘16.3.8 DX6I with only 2 position switch” on page 30).

1. **Create a new model**

First you will need to create a new model (Airplane type is recommended for Spektrum transmitters). Please make sure all assignable switches are in the top most position. Do not change the settings of the trainer function in the submenu. Leave this setting on “Inhibit”.

2. **Turn the transmitter off**

After the model is created turn off the transmitter. Once the “OneLINK” connector is installed in the trainer port the transmitter will power automatically.

3. **Install batteries**

Install two AAA batteries into the “OneLINK”. Refer to the supplied user instructions if necessary.

4. Connect interface cable

> Connect the interface cable (for this case: microUSB / 3.5 mm stereo jack) from the transmitter to the “OneLINK”. Power on the “OneLINK” via the top most button (Short press).

> Refer to the supplied user instructions if necessary.

16.3.4 Important notes in regards to learning the OneLINK

Verify all assignable switches are functioning via the Monitor display (Visible with DX8, DX7, DX7s, and DX6i). When toggling the assigned switches (Example for DX8: Flap/Gyro, Aux 2 / Gov, and Gear) movement of the icon should be observed. If the monitor icon does not move then the channel switch is inhibited and will need to be enabled.

To enable inhibited switches please consult your transmitter operating instructions. Refer to [Fig. 12] for more information on the monitor icon movement.

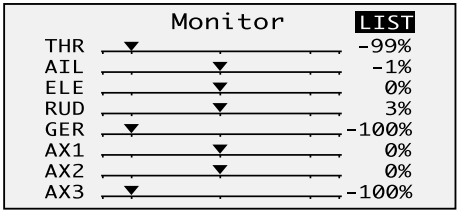


Fig. 12

16.3.5 Learning the OneLINK

For your own safety, remove the propellers before you start the learning procedure. After the test, following the learning procedure, is passed sucessfully you may mount the propellers again.

1. Prepare

> Turn on the “OneLINK”.

> Ensure it is connected to the trainer port of your Spektrum transmitter.

> Before starting the learning procedure, position all switches to their “OFF” position and move the throttle to the lowest position.

Notes:

> First assignable switch, toggled during process:

» Flight Mode Selector (Beginner, Sport, Expert)

> Second assignable switch, toggled during process:

» Acrobatic Mode / Normal Flight (center position) / Altitude height hold mode

> Third assignable switch, toggled during process:

» Trigger Port ON/OFF (optional and not required)

2. Initiate learning

The “OneLINK” will emit an audible beep indicating each step is completed and readyness for the next step!

> Press and hold the second button on the “OneLINK” until the top status LED starts to blink red one (1) time indicating Channel-1 learning is activated.

> An audible sound will be emitted acknowledging the programming mode is enabled.

3. **Learn throttle (Channel-1)**

> Move THROTTLE up and back down again (full up to full down).

> The LED will blink red 2 times indicating Channel-2 learning.

4. **Learn rudder (Channel-2)**

> Move RUDDER to the left and back to centre again.

> The LED will blink red 3 times indicating Channel-3 learning.

5. **Learn elevator (Channel-3)**

> Move ELEVATOR up and back to centre again.

> The LED will blink red 4 times indicating Channel-4 learning.

6. **Learn aileron (Channel-4)**

> Move AILERON to the left and back to centre again.

> The LED will blink red 5 times indicating Channel-5 learning.

7. **Learn AUX-1 (Channel-5)**

> Toggle AUX-SWITCH-1 (3 positions) from position 1 to 2, then 3 and back to 1.

> The LED will blink red 6 times indicating Channel-6 learning.

8. **Learn AUX-2 (Channel-6)**

> Toggle AUX-SWITCH-2 (3 positions) from position 1 to 2, then 3 and back to 1.

> The LED will blink red 7 times indicating Channel-7 learning.

9. **Learn AUX-3 (Channel-7)**

> Toggle AUX-SWITCH-3 (2 positions) from position 1 to 2 and back to 1.

> The LED will start to blink steadily.

A final longer sound will be emitted indicating learning is completed successfully (ready to test/fly).

If no input is detected from Channel-7 (approx. 5 seconds), learning will be completed automatically and the final 2 position switch (AUX-3) is ignored! (Applicable for DX6i)

Notes

Mode	Channel	Position	Function
AUX-1	Channel-5		Position 1: BEGINNER MODE Position 2: SPORT MODE Position 3: EXPERT MODE
AUX-2	Channel-6		Position 1: ACROBATIC MODE Position 2: NORMAL FLIGHT Position 3: ALTITUDE HEIGHT HOLD MODE
AUX-3	Channel-7		Position 1: TRIGGER OFF Position 2: TRIGGER ON (optional and can be ignored during learning; 5 seconds timeout during learning!)

To start test and/or flying in SPORT mode, make sure that AUX-1 is in centre position (position 2) and AUX-2 is in centre position (position 2).
THROTTLE must be at the lowest position.

16.3.6 Binding the OneLINK to the »Xtreme

1. Turn on the “OneLINK”.
2. Connect a fully charged battery to the »Xtreme. The status LED (9) lights up solid green. The LED of the “OneLINK” slowly flashes red.

3. Press and hold the bind button located next to the battery connector of the »Xtreme for 2 to 3 seconds. Wait until the status LED starts flashing red and green. The »Xtreme is now in bind mode.
4. Press and hold the middle button on the “OneLINK”. An audible signal will be emitted. The status LED on the »Xtreme will start flashing (green, orange, or red) depending on what flight mode is enabled on the transmitter.

16.3.7 Verify learning

IMPORTANT! Test 1 must be completed before flying! Ensure the »Xtreme stands on a level surface!

Test 1 - Gyro reset

> Move AILERON right and ELEVATOR up (top right corner).
> GYRO should initialize (the status LED of the »Xtreme turns green).

Test 2 - Orientation LEDs

> Move AILERON right and ELEVATOR down (bottom right corner).
> The ORIENTATION LEDs turn on or off depending on their state. Repeat the steps to switch states.

Test 3 - Flight modes

> Toggle the first assigned 3 position switch (AUX-1) (**throttle must be at zero**).
> Positions:
  » Position 1 = Green blinking (Beginner mode)
  » Position 2 = Orange blinking (Sport mode)
  » Position 3 = Red blinking (Expert mode)

Test 4 - Acrobatic/Normal/Height hold

Test 4 must be performed in SPORT mode!

To turn off altitude height hold mode toggle the second assigned switch (AUX-2) back to position 2 (centre) and move the throttle stick up or down.

> Toggle second assigned 3 position switch (AUX-2):
  » Position 1 = Fast blinking status LED (acrobatic mode activated)
  » Position 2 = Normal blinking (normal flight mode)
  » Position 3 = Fast blinking (altitude height hold mode)

16.3.8 DX6I with only 2 position switch

16.3.8.1 Workaround introduced

When using the Spektrum DX6i you cannot toggle between the 3 flight modes (Beginner, Sport, and Expert). Besides, it disables one of the two features in Sport mode as toggling between the 3 features requires a 3-position-switch.

> Both ALTITUDE HEIGHT HOLD function and ACROBATIC MODE are only engaged when flying in Sport mode, and are automatically omitted when flying in Beginner, or Expert mode.
> Users can, however, toggle between NORMAL FLIGHT and one special feature using the DX6i.

Please read the following sections to acquire more information about the possible workarounds.

16.3.8.2 Gear channel

The following setup will enable DX6i users to toggle from SPORT to EXPERT MODE using the GEAR CHANNEL on the transmitter (These modes have been selected as it will be the most commonly used by pilots using their own transmitter).

1. Begin by assigning a new model and verify model type is selected as “Airplane”.
2. Enter 🗁 “Adjust list menu” » 🗁 “Travel adjust” » scroll to “Gear”. With gear switch in position “0”, highlight and adjust the travel to “0%”. Refer to [Fig. 13]:
3. The GEAR channel is now set to be programmed.

> NOTE: To enable toggling between BEGINNER and SPORT mode simply adjust the travel in GEAR switch position “0” to “100%” and adjust the travel of GEAR switch position “1” to “0%”.

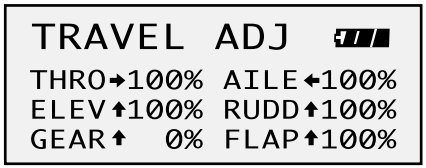


Fig. 13

16.3.8.3 Flap/gyro channel

The following setup will allow pilots to toggle between NORMAL and ALTITUDE HEIGHT HOLD modes when in SPORT flight mode only toggling. ACROBATIC mode will be omitted (These modes have been selected as it will be the most commonly used by pilots using their own transmitters).

1. Enter 🗁 “Adjust list menu” » 🗁 “Enter flaps scroll to flap – norm” » adjust to “5”. Carefully observe the direction of the arrow. See [Fig. 14].
2. Scroll to “Flap-land” » adjust to “100”. Carefully observe the direction of the arrow. See [Fig. 14].
3. Exit the “Flap” menu » scroll » enter 🗁 “Setup list”. Scroll and enter 🗁 “Reverse”. You will now need to reverse the “Flap” channel. See [Fig. 15].
4. Exit the “Setup list” menu.
5. The “Flap” channel is now set to be programmed.

> To enable toggling between ACROBATIC mode and NORMAL flight mode simply switch the values between NORM and LAND. Also, do not reverse the FLAP CHANNEL.

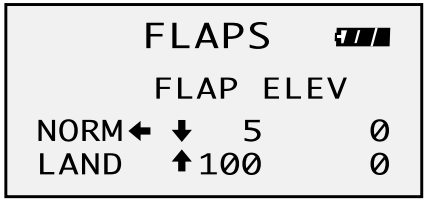


Fig. 14

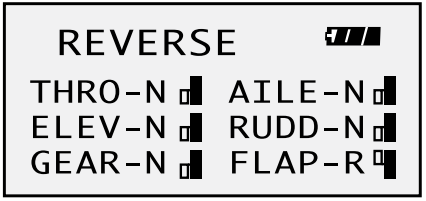


Fig. 15

16.3.8.4 Learning procedure DX6i

1. Prepare

Turn on the “OneLINK”, and ensure it is connected to the trainer port of your DX6i. Before starting the learning procedure, position all switches to their “0” position and move the throttle to its lowest position.

Notes

- The first assignable switch will be the GEAR switch during process:
  - Flight mode selector (Beginner / Sport, or Sport / Expert) depending on setup
- The second assignable switch will be the FLAP switch:
  - Acrobatic Mode / Normal Flight, or Altitude Height Hold / Normal Flight

2. Initiate Learning

The “OneLINK” will emit an audible beep indicating each step is completed and readyness for the next step!

- Press and hold the second button on the “OneLINK” until the top status LED starts to blink red one (1) time indicating Channel-1 learning is activated.
- An audible beep will be emitted acknowledging the programming mode is enabled.

3. Learn throttle (Channel-1)

- Move THROTTLE up and back to down again (full up to full down).
- The LED will blink red 2 times indicating Channel-2 learning.

4. Learn rudder (Channel-2)

- Move RUDDER to the left and back to centre again.
- The LED will blink red 3 times indicating Channel-3 learning.

5. Learn elevator (Channel-3)

- Move ELEVATOR up and back to centre again.
- The LED will blink red 4 times indicating Channel-4 learning.

6. Learn aileron (Channel-4)

- Move AILERON to the left and back to centre again.
- The LED will blink red 5 times indicating Channel-5 learning.

7. Learn AUX-1 (Channel-5)

- Toggle GEAR switch (2 positions) from position 0 to 1 and back to 1.
- The LED will blink red 6 times indicating Channel-6 learning.

8. Learn AUX-2 (Channel-6)

- Toggle FLAP/GYRO switch (2 positions) from position 0 to 1 and back to 1.
- The LED will blink red 7 times indicating Channel-7 learning.

After a short delay a final longer tone will be emitted indicating learning has completed successfully. Please continue to the binding procedure described in section ‘16.3.6 Binding the OneLINK to the »Xtreme” on page 29 and follow the remaining setup process.

16.4 PPM Mode

16.4.1 Introduction

The »Xtreme provides the option to allow users to install a PPM RECEIVER in order to control the »Xtreme with a standard RC transmitter instead of the default stock transmitter.

> Do not confuse PPM (Pulse-position modulation) and PWM (Pulse-width modulation).
>
> The PPM receiver uses PPM technology. However, you may operate the »Xtreme via an RC transmitter using PWM technology.

The »Xtreme detects the installed PPM receiver automatically. Auto-detection requires that the PPM receiver has been successfully paired (binding) with the respective, matching standard RC transmitter.

> If a PPM receiver is detected, inputs given from the default stock transmitter are ignored.

In order to make use of the PPM option you will need to prepare the following items:

- Your own RC transmitter:
  - Min. 6 channels (7 CH system recommended)
  - Two 3-way-toggle-switches
  - One 2-way-toggle-switch
- **Note:** If your transmitter does not provide two 3-way-toggle-switches please refer to the workaround explained at the end of this chapter (see “16.4.8 Futaba® transmitters without 3-way-toggle-switch” on page 38).
- A true PPM receiver supporting a minimum of 6 channels (7 CH system recommended). **PWM receivers are not suitable and will not work.**
- A receiver connection cable that connects your PPM receiver with the PPM socket of the »Xtreme (included in delivery).

The following sections will guide you through the installation process and set-up. Do not skip any sections as they are interdependent.

16.4.2 The canopy

16.4.2.1 Removing

Carefully pull the canopy (3) off the »Xtreme with one hand. All four sides have to detach simultaneously to avoid damaging the canopy.

> **After removing the canopy, the flight controller (main board) is exposed. Do not touch any electronic components. Electrostatic discharge causes damage.**

16.4.2.2 Mounting

- The canopy must only be mounted in one direction. The reason for it is the ATMOSPHERIC PRESSURE METER, which has to be covered by the FOAM CUSHION situated inside the canopy. The foam cushion minimizes interferences caused by airflow.
- Additionally, cables will not be pinched when mounting the canopy correctly. Observe [Fig. 16].

16.4.3 Preparing your TX on Futaba® based FASST systems

1. Create a new helicopter, type “H1” model profile.
2. Disable all mixers. On Futaba® FASST compatible systems use 7 CH mode.

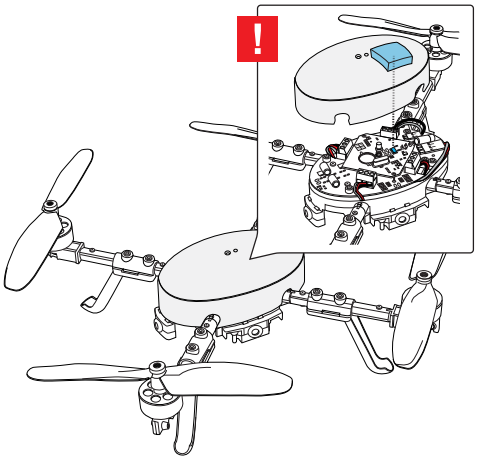


Fig. 16

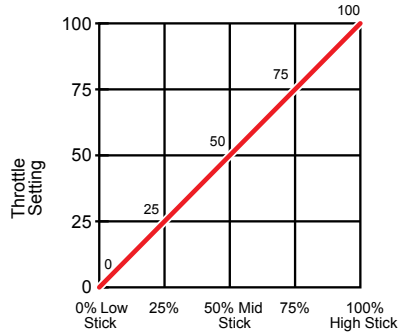


Fig. 17

3. Assign the transmitter channels as following:
   - » Channel 1: AILERON
   - » Channel 2: ELEVATOR
   - » Channel 3: THROTTLE
   - » Channel 4: RUDDER
   - » Channel 5: AUX-1 { FLIGHT MODE selector (Beginner, Sport, Expert), 3-way toggle switch }
   - » Channel 6: AUX-2 (ACROBATIC mode, NORMAL flight, ALTITUDE HEIGHT HOLD mode, 3-way toggle switch)
   - » Channel 7: AUX-3 (Optional trigger port, 2-way toggle switch)
4. Ensure to set your THROTTLE CURVE linear from full “0%” to “100%”. A PITCH CURVE is not needed and **must** be disabled. **Disable all mixing!** Refer to [Fig. 17].

16.4.4 Connecting and mounting the PPM receiver

WARNING!
Your PPM receiver may feature wire antennas to improve reception. DO NEVER let the wire antennas touch the orientation LED connections, or the main flight controller circuit will be destroyed immediately.

16.4.4.1 Mainboard connectors

16.4.4.2 PPM cable

1. Connect the PPM receiver cable (10) to the 3-pin header connector located on the upper main flight control circuit board of the »Xtreme. GROUND PIN (black) faces the capacitor, POSITIVE PIN (red) is in centre and the SIGNAL PIN (white) is facing the motor connector and boom. See [Fig. 18]. Note the following colour codes:

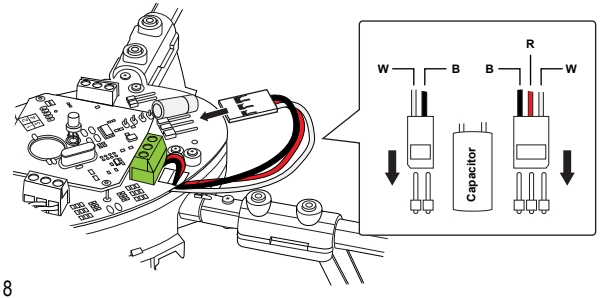


Fig. 18

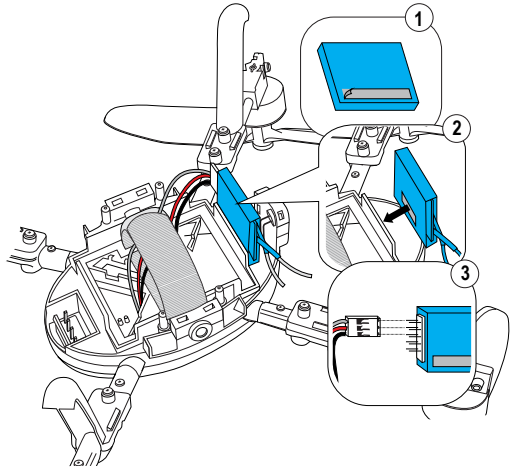


Fig. 19

- **W**: White
- **B**: Black
- **R**: Red

2. Route the PPM cable through the lower flight control circuit board and main frame towards the front orientation LED.
   - To best route the wire, make use of the gap near the motor wire socket as shown in [Fig. 18].
   - The cable **must not** obstruct any components of the upper circuit board as this may influence flight control sensors, leading to poor flight performance.
3. Install your PPM RECEIVER with double sided tape between the battery tray and front orientation LED. See [Fig. 19].
   - **Do not** guide any PPM receiver wire antennas above the battery tray.
4. Connect the PPM cable to the PPM receiver. Observe the manufacturer instructions of the PPM receiver for more information on pin allocation.
5. Replace the canopy.

Once the PPM cable is in place, check if the canopy rubs against the PPM cable when mounting it. Rubbing damages the wire insulation, which as a consequence can cause short-circuiting.

16.4.5 Binding

> Bind the PPM receiver with your transmitter. Refer to the operating instructions of your transmitter and PPM receiver.

> Use 7 CH mode on Futaba® FASST systems! If no PPM receiver is detected, learning mode will not be activated!

16.4.6 Learning procedure

For your own safety, remove the propellers before you start the learning procedure. After the test, following the learning procedure, is passed sucessfully you may mount the propellers again.

1. **Turn on transmitter**

> Switch to “H1 helicopter” mode. Apply no mixers.

> Make the following assignments:

» AUX-1: 3-position-switch { FLIGHT MODE selector (Beginner, Sport, Expert), (Channel-5) }

» AUX-2: 3-position-switch { ACROBATIC mode / NORMAL FLIGHT (centre position) / ALTITUDE HEIGHT HOLD mode (Channel-6) }

» AUX-3: 2-position-switch { TRIGGER PORT on/off (Channel-7, optional and not required) }

> Before starting the learning procedure, move all switches to their off position. Move the throttle to the lowest position.

2. **Connect Flight Battery**

When connecting the battery make sure to keep any body parts out of the rotor/propeller area.

3. **Initialize learning**

Press and hold the BIND BUTTON (13) on the »Xtreme until the status LED blinks one (1) time in red color indicating Channel-1 learning is activated

4. **Learn throttle (Channel-1)**

> Move THROTTLE up and back to down again (full up to full down).

> The LED will blink red 2 times indicating Channel-2 learning.

5. **Learn rudder (Channel-2)**

> Move RUDDER to the left and back to centre again.

> The LED will blink red 3 times indicating Channel-3 learning.

6. **Learn elevator (Channel-3)**

> Move ELEVATOR up and back to centre again.

> The LED will blink red 4 times indicating Channel-4 learning.

7. **Learn aileron (Channel-4)**

> Move AILERON to the left and back to centre again.

> The LED will blink red 5 times indicating Channel-5 learning.

8. **Learn AUX-1 (Channel-5)**

> Toggle AUX-SWITCH-1 (3 positions) from position 1 to 2 to 3 and back to 1.

> The LED will blink red 6 times indicating Channel-6 learning.

9. **Learn AUX-2 (Channel-6)**

> Toggle AUX-SWITCH-2 (3 positions) from position 1 to 2 to 3 and back to 1.

> The LED will blink red 7 times indicating Channel-7 learning.

10. **Learn AUX-3 (Channel-7)**

> Toggle AUX-SWITCH-3 (2 positions) from position 1 to 2 and back to 1.

> The LED will start to blink steadily indicating that PPM learning has completed successfully (ready to test / fly). This step can be ignored within 5 seconds.

If no input is detected learning will be completed automatically and Channel-7 (AUX-3) is ignored!

16.4.6.11 Notes

Mode	Channel	Switch	Function
AUX-1	Channel 5		Position 1: BEGINNER MODE Position 2: SPORT MODE Position 3: EXPERT MODE
AUX-2	Channel 6		Position 1: ACROBATIC MODE Position 2: NORMAL FLIGHT Position 3: ALTITUDE HEIGHT HOLD MODE
AUX-3	Channel 7		Position 1: TRIGGER OFF Position 2: TRIGGER ON (optional and can be ignored during learning; 3 seconds timeout during learning!)

To start test and/or flying in SPORT mode, make sure that AUX-1 is in centre position (position 2) and AUX-2 is in centre position (position 2).
THROTTLE must be at the lowest position.

16.4.7 Verify learning

IMPORTANT! Test 1 must be completed before flying!
Ensure the »Xtreme stands on a level surface!

1. **Test 1 - Gyro reset**

> Move AILERON stick right with ELEVATOR stick up (top right corner).

> GYRO should initialize (the status LED of the »Xtreme turns green).

2. **Test 2 - Orientation LEDs**

> Move AILERON stick right with ELEVATOR down (bottom right corner).

> The orientation LEDs turn on or off depending on their state. Repeat the steps to switch their states.

3. **Test 3 - Flight modes**

> Toggle AUX-1 **(throttle must be at zero)**

> Positions:

» Position 1 = Green blinking (Beginner mode)

» Position 2 = Orange blinking (Sport mode)

» Position 3 = Red blinking (Expert mode)

4. **Test 4 - Acrobatic/Normal/Height hold**

Test 4 must be performed in SPORT mode!

> Toggle the second assigned 3 position switch (AUX-2):

» Position 1 = Fast blinking status LED (acrobatic mode activated)

» Position 2 = Normal blinking (normal flight mode)

» Position 3 = Fast blinking (altitude height hold mode)

To turn off altitude height hold mode toggle the second assigned switch (AUX-2) back to position 2 (centre) and move the throttle stick up or down.

16.4.8 Futaba® transmitters without 3-way-toggle-switch

16.4.8.1 Workaround solution

IMPORTANT!
Channel 5 (CH 5) must include SPORT mode.
Channel 6 (CH 6) must include NORMAL FLIGHT.

In case you do not have a free 3-way toggle switch available on your transmitter, you may assign a 2-way-toggle-switch instead and shift your channel END POINT **after** performing the learning procedure on your transmitter. See [Fig. 20].

- By default the END POINT for Channel-5 (AUX-1, flight mode selector) is set to "135 100".
- The DEFAULT SETTING allows for toggling between BEGINNER and SPORT modes. To toggle between SPORT and EXPERT modes instead, simply shift the END POINT to "0 100" for the affected AUX-1 (Channel-5). See [Fig. 21].
- You may use the same approach for Channel-6 (AUX-2, Acrobatic, Normal and Altitude height hold mode).

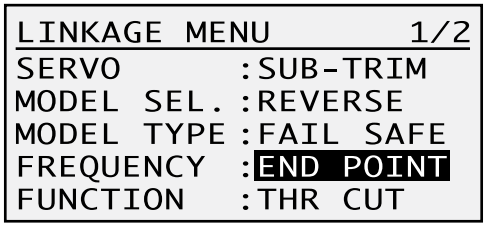


Fig. 20

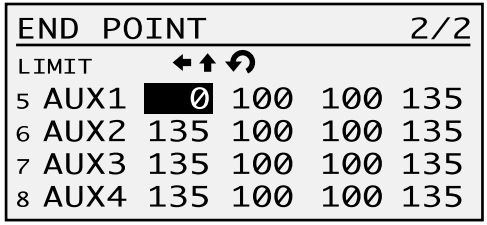


Fig. 21

17. USING A CAMERA

17.1 Introduction

You have the possibility to attach a camera to the »Xtreme by using the "RC Logger Aerial Kit" (89064RC). The "Aerial Kit" is not supplied with the »Xtreme. However, it is described here in detail as it is a necessary accessory when intending to attach a camera to the »Xtreme. The entire chapter will explain to you how to prepare the »Xtreme for use with a camera. The camera to be attached must be self-sufficient. Excepted is the RC Logger camera "RC EYE OneCam TX" (89049RC), which can be supplied with power via the »Xtreme's flight battery and adapter (89080RC).

17.2 Aerial kit

17.2.1 Aerial kit explained

17.2.1.1 Camera tray

The "Aerial Kit" will modify the »Xtreme in such a way that a camera can be attached.

- The supplied camera tray is a platform attachment to which you can attach a camera of suitable size and weight. Observe chapter "12. Weights and payload" on page 17.
- For instructions on how to attach the camera tray, refer to section "17.2.2 Attaching the camera tray" on page 39.

17.2.1.2 Legs

- The supplied legs are longer than the standard ones and sufficiently increase the clearance between camera tray and ground.
- For instructions on how to replace the legs, refer to section "17.2.3 Replacing legs" on page 39.

17.2.1.3 Propellers

- The standard propellers do not provide enough lift to carry a camera. Therefore, a set of larger propellers help increase lift, which in turn allow for a larger payload.
- For instructions on how to replace propellers, refer to section "19.3.1 Replacing propellers" on page 53.

17.2.2 Attaching the camera tray

- The camera tray can be mounted without any further modification on the »Xtreme. Carefully turn the »Xtreme upside down and place it on a soft surface. Study the diagrams from section "17.3 Attaching the camera" on page 41.
- Carefully guide the tray down the guiding rods until the clips lock. **Watch out! Be sure to sufficiently support the »Xtreme's body while fixing the tray so as not to damage the legs.**
- To later remove the tray, release the clips and carefully pull the tray off the »Xtreme.

17.2.3 Replacing legs

17.2.3.1 Direction

Mind the colour coding of the legs

Note that the RED LEGS indicate front. The BLACK LEGS indicate rear. When replacing the legs do not mix them up.

17.2.3.2 Replacement process

To replace the legs a small cross-headed screw driver is required (not supplied). Follow the illustration [Fig. 22], which explains the replacement process. Do not overtighten the screws.

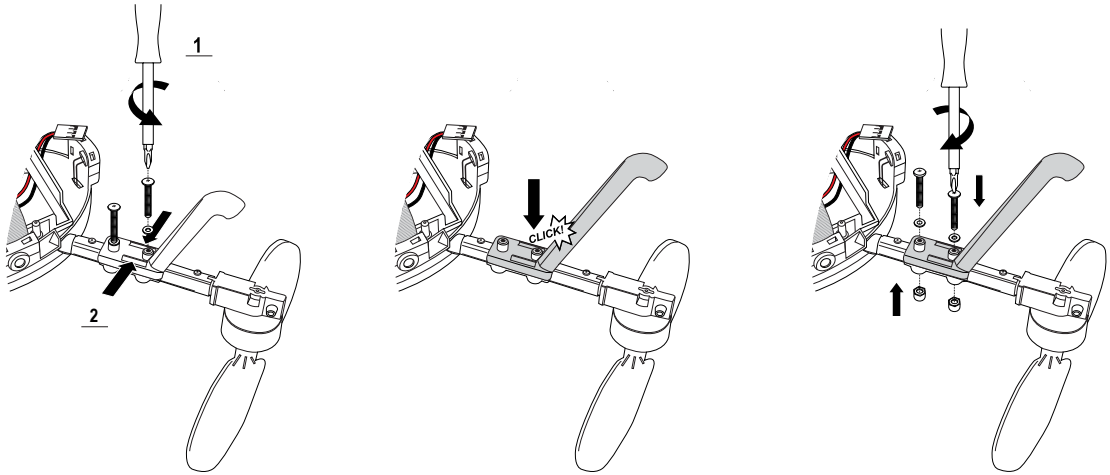


Fig. 22

17.2.4 Replacing propellers

17.2.4.1 Direction

Mind the colour coding and "R" and "L" markings of the propellers.

- Note that the RED PROPELLERS indicate front. The BLACK PROPELLERS indicate rear. When replacing the propellers do not mix them up.
- There is one more property to consider when replacing the propellers. Propellers are marked with "L" for left, and "R" for right. Never mix right and left up or the »Xtreme will not take off.

17.2.4.2 Replacement process

- To replace the propellers follow the instructions provided in section "19.3.1 Replacing propellers" on page 53.
- Use the larger propellers supplied with the "Aerial Kit" instead of replacement propellers.

17.3 Attaching the camera

17.3.1 Clearance

Make sure the camera is not taller than the AVAILABLE CLEARANCE between camera tray and ground. The »Xtreme must always stand on its own legs for takeoff and landing.

17.3.2 Action mounts

There are suitable action mounts available from www.rclogger.com. These action mounts can be directly mounted on the cameray tray and are compatible with some RC Logger action cameras.

17.3.3 Double-sided tape

- The easiest way to mount a camera is with double-sided tape. Ensure the tape can hold the weight of the camera, also during disturbances.
- Clean the CAMERA TRAY PLATFORM before attaching the tape. Fat, grease and dust decrease adhesive strength.
- See [Fig. 23] for the mounting procedure.

After sticking the tape to the tray platform, let it rest for 24 hours to increase adhesive strength.

17.3.4 Alternative mounting methods

Depending on your camera, the mounting may require some grade of improvising. Always make sure the weight is carefully balanced in all four directions and no part can touch the propellers/rotors during operation.

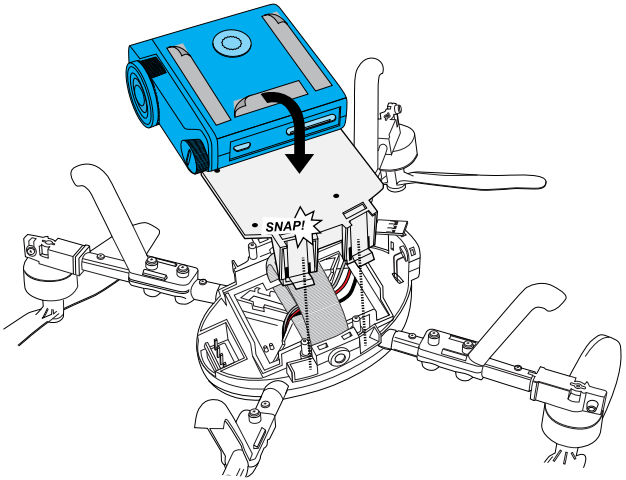


Fig. 23

17.4 Trigger port/channel

17.4.1 Introduction

- It is possible to send TRIGGERS SIGNALS from the transmitter to the attached camera provided the camera supports this function. Trigger signals allow the pilot to turn the camera on and off during flight.
- The provided transmitter does not support trigger signals. For this set-up to work you need a standard transmitter (not included). For more information refer to the following sections: “16.3 RC Logger OneLINK” on page 26 and “16.4 PPM Mode” on page 33.

18. FLYING THE XTREME

18.1 Built-in safety

18.1.1 General

The »Xtreme has a range of SAFETY FEATURES in the transmitter and model which protect the model from damage and/or should reduce possible damage to a minimum. The protection mechanisms are identified by LED indicators (»Xtreme) or an acoustic warning signal (transmitter).

18.1.2 Transmitter (Stock transmitter)

> The CHARGE CONDITION of the inserted batteries is inspected every time the transmitter is switched on:
  >> If the charge condition is too low, the transmitter switches off immediately again. The transmitter signals this by **three warning sounds**.
> The CHARGE CONDITION is continually inspected while the transmitter is in operation:
  >> If below a certain value, a **triple warning sound** is emitted. In this case, stop flying at once and replace the batteries of the transmitter.
> The transmitter also has an AUTOMATIC DEACTIVATION integrated:
  >> If no control element is operated for more than five minutes, the transmitter switches off automatically.

18.1.2.1 Fixed timer functions

Alarm I: 4 min 1 x beep [3 sec pause], 1 x beep [3 sec pause], 1 x beep [3 sec pause], 1 x beep

Alarm II: 5 min 2 x beep [3 sec pause], 2 x beep [3 sec pause], 2 x beep [3 sec pause], 2 x beep

Alarm III: 6 min 3 x beep [3 sec pause], 3 x beep [3 sec pause], 3 x beep [3 sec pause], 3 x beep

Alarm IV: 7 min 4 x beep [3 sec pause], 4 x beep [3 sec pause], 4 x beep [3 sec pause], 4 x beep

18.1.3 Xtreme

> The STATUS LED flashes:
  >> Flashes slowly if transmitter is bound and signal strength is sufficient.
  >> Flashes in the colour correspondent to the set flight mode.
> The STATUS LED is lit solid:
  >> If there is any interference with reception.
  >> If reception interferences are permanent during flight, the motors are switched off after approx. five seconds (EMERGENCY LANDING initiated).
  >> Short-term reception interferences are ignored. The »Xtreme retains the last flight condition.
> The CHARGING CONDITION of the connected battery is constantly monitored:
  >> If it falls below a critical level over a set period of time the status LED flashes orange.
  >> If the voltage undercut is permanent, the LED is solidely lit orange. In this case, an emergency landing is initiated after a short period and the motors and LED are deactivated.

Connecting a non-fully charged battery to the »Xtreme can lead to undervoltage detection and the motors do not start.

> MOTOR BLOCKAGE
  >> The motors are switched off if one or several propellers are blocked. The status LED flashes red fast. After the blockage is resolved the motors can be turned on again.

18.2 Accident prevention

18.2.1 General advice

The »Xtreme is a professional toy. Professional in this respect means having sufficient knowledge of its functions and the awareness of the possible dangers involved. Careless operation can cause serious damage and injury. Fly the »Xtreme with necessary caution and do not try any manoeuvers you do not feel comfortable with.

18.2.2 Visual inspection before every flight

- Inspect the »Xtreme for damage before every flight. Replace damaged components before flying again. Only use original spare parts.
- Observe the condition of each motor:
  - Motor shaft
  - Wire connections
  - Propeller position and condition
- Always replace defective parts immediately. If you are unsure about your product's condition consult an experienced RC pilot or contact customer support at contact@rclogger.com. Do not attempt any further flight until the »Xtreme is fit for flight.

18.2.3 Flying locations

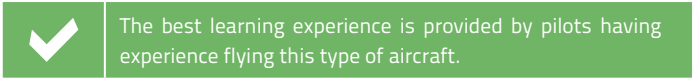
You can fly the »Xtreme indoors and outdoors during good weather conditions. Do not fly the »Xtreme during adverse weather (rain, snow, strong winds, etc.).

18.2.4 Area clearance

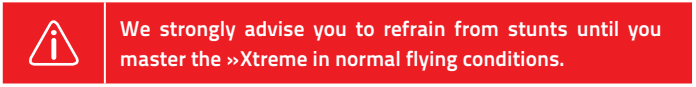
Do not fly the »Xtreme in the vicinity of people and animals. Keep a clearance area of at least 10 x 10 m.

18.2.5 Learn from experienced pilots

We consider it helpful that you consult a model craft flight trainer or an experienced model craft helicopter pilot to provide you the necessary guidance to get started with the »Xtreme.



18.2.6 No stunts/tricks at entry level



Once you master the »Xtreme you may gradually approach the advanced ways to fly the »Xtreme, including flipping (forward roll) and rolling (sidewards roll).

Again, advanced flying has its own learning curve. Advanced flying can easily lead to accidents and product damage if you lose control of the »Xtreme.

We advise you to consult an acrobatics flying expert to help you get started with the basics of advanced flying. Acrobatics are discussed in the corresponding section "18.6 Acrobatic mode" on page 48.

18.3 First steps

18.3.1 Turn transmitter on and off

The use of the supplied stock transmitter is described here. For your own transmitter refer to its operating instructions and your own configuration respectively.

> Make sure you have installed the batteries into the battery compartment.

> Press the ON/OFF button (6a) (7b) once to turn the transmitter on. The transmitter emits **two** short beep sounds.

> To turn the transmitter off, press the ON/OFF button again. The transmitter emits **one** short beep sound.

18.4 Flight mode selection

18.4.1 Switch mode via transmitter

The use of the supplied stock transmitter is described here. For your own transmitter refer to its operating instructions and your own configuration respectively.

1. Set THROTTLE back to zero.
2. Install the flight battery into your »Xtreme. The status LED flashes either green, orange or red, depending on the last set flight mode.
3. Press the MODE button two (2) times in short sequence to change the flight mode:
   - »» **One beep:** Beginner mode, LED flashes green (STRICTLY LIMITED)
   - »» **Two beeps:** Sport mode, LED flashes orange (SLIGHTLY LIMITED)
   - »» **Three beeps:** Expert mode, LED flashes red (NO LIMITS)

18.4.2 Beginner mode

> The BEGINNER MODE is specifically designed for users who are new to flying multi-rotor systems. The control respond is slow and may feel “slaggy” to some extend. This behavior is intentional, allowing pilots to get a first feeling as to how the »Xtreme responds to lever commands.

> AUTO-LEVELLING is enabled in beginner mode, thus if the pilot lets go the aileron and elevator control levers, the »Xtreme will regain relative horizontal level position. A small drift to any direction is normal, especially if conditions are not fully calm.

> Only use the beginner mode indoors or in complete calm conditions outdoors. The beginner mode is NOT DESIGNED FOR OUTDOOR FLYING in light or mild wind conditions since the motor power and agility are significantly reduced.

> A brief summary of the beginner mode:

   - »» Never fly the »Xtreme in beginner mode if conditions are not fully calm.
   - »» ACRO Mode is disabled in beginner mode.
   - »» ALTITUDE HEIGHT HOLD FUNCTION is disabled in beginner mode.
   - »» AUTO-LEVELLING is enabled in beginner mode.

> This mode is not recommended for carrying a camera or FPV equipment as the motors are restricted to allow for smoother operation.

18.4.3 Sport mode

> The SPORT MODE has added agility and power, banking angles are increased, allowing users to fly the »Xtreme outdoors at light or even mild wind conditions.

> Sport mode enables the ACRO function allowing semi-automatic flips and rolls.

> The ALTITUDE HEIGHT HOLD FUNCTION is enabled in sport mode allowing holding relative height above ground.

> The sport mode is designed for outdoor flying such as fast passes, fast circles and eight-loops. AUTO-LEVELLING is enabled in sport mode.

- Before moving on to EXPERT MODE, fully gain confidence in sport mode first. Do not progress too fast, be patient and disciplined before you move on to the next mode, to avoid crash and disappointment.
- A brief summary of the sport mode:
  - Sport mode is not designed for confined indoor flying.
  - Sport mode is ideal for AERIAL PHOTOGRAPHY and SEMI-AUTOMATIC ACROBATIC fun flying.
  - ACRO mode is enabled in sport mode.
  - ALTITUDE HEIGHT HOLD FUNCTION is **enabled** in sport mode.
  - AUTO-LEVELLING is enabled in sport mode.
- It is recommended to use this mode for carrying a camera and FPV equipment.

18.4.4 Expert mode

- The EXPERT MODE unleashes the full potential of the Xtreme, banking angles and power output are significantly increased, acceleration sensor is deactivated, allowing fully pilot controlled flipping and rolling.
- The expert mode has a similar feel as a 4-channel CCP model helicopter in heading hold mode. It is AGGRESSIVE and RESPONDS VERY DIRECTLY to the pilot's control lever inputs. Best results can be achieved in PPM configuration.
- This mode is designed for pilots who have fully gained experience and confidence with flying the »Xtreme. It allows fast passes, loops, rolls, flips at the pilots own ability since control functions such as AUTO-LEVELLING are completely disabled.
- A brief summary of the expert mode:
  - Expert mode is not designed for confined indoor flying.
  - Expert mode is ideal for pilot controlled ACROBATIC FUN FLYING.
  - ACRO mode is DISABLED in expert mode.
  - ALTITUDE HEIGHT HOLD FUNCTION is **disabled** in expert mode.
  - AUTO-LEVELLING is disabled in expert mode.

18.5 Your first flight

18.5.1 General information

- The »Xtreme is essentially equipped with the handling of a normal helicopter. The differences, however, are in the detail. For helicopters, the torque balance is stabilised by special gyros (in the rudder function). For this, there are two different systems: “Normal gyros” or gyros with the “heading lock” function.
- Normal gyros stabilise (cushion) the tail propeller against tipping motions which are caused by the pilots (driving speed and/or elevator changes and/or external influences (e.g. side wind). A gyro with “heading lock” function has a holding action against these tipping motions. Both systems respond after a control command – e.g. “rudder to the left” and subsequent neutral positioning with the immediate stopping of the tipping motion.
- In your »Xtreme, unlike in standard helicopters, there are six gyros installed for the rudder, elevator and aileron functions. The installed gyros are – in comparison with standard gyros – neither to be described as normal gyros nor with “heading lock” function.
- The gyros in the »Xtreme are linked together so that after the end of a control command the »Xtreme always attempts to reach neutral position (hovering flight). Of course, how well this works depends on the space available, the flight speed and/or the prevailing flight condition, the trim values of the »Xtreme and external flight conditions e.g. wind.
- **This control logic is deactivated in** EXPERT **mode.** The position and flight control of the »Xtreme corresponds to the last control command and is not neutralised.

18.5.2 Placement at start position

Place the model on a level surface as smooth as possible (e.g. stone floor). A carpet is less suitable because the landing legs may get caught in the carpet easily.

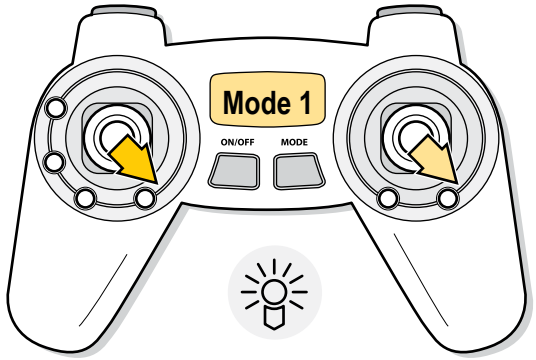


Fig. 24

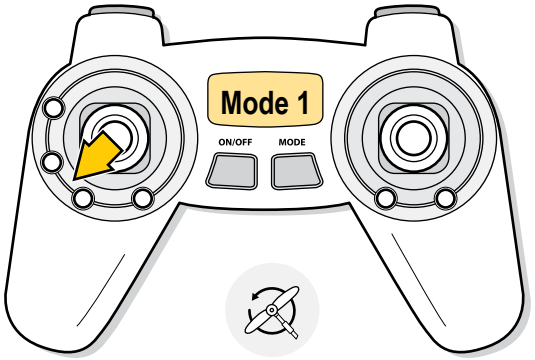


Fig. 26

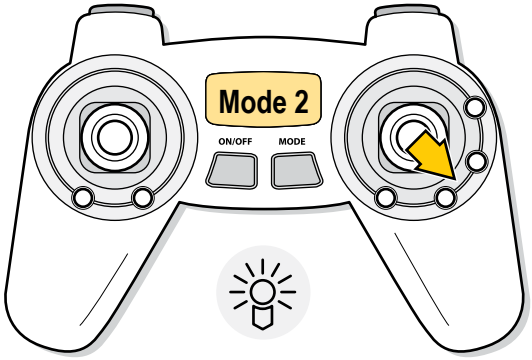


Fig. 25

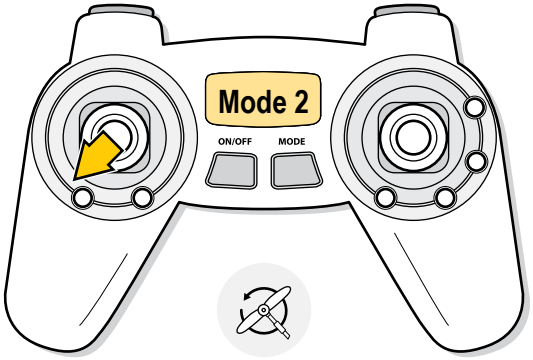


Fig. 27

18.5.3 Gyro reset

It is good practice to reset the gyros before every flight by following section "19.2 Resetting flight leveling gyro" on page 51.

18.5.4 Turning orientation LEDs on and off

The orientation LEDs (7) can be turned on and off via the transmitter. Turn them on or off before you start the engines.

The use of the supplied stock transmitter is described here. For your own transmitter refer to its user instructions and your own configuration respectively.

> MODE 1: Move the ELEVATOR/RUDDER lever and the THROTTLE/AILERON stick diagonally into their right bottom corner (see [Fig. 24]). The LED's turn on or off, depending on their state.

> MODE 2: Move the AILERON/ELEVATOR stick diagonally into the right bottom corner (see [Fig. 25]). The LED's turn on or off, depending on their state.

18.5.5 Starting the motors

The use of the supplied stock transmitter is described here. For your own transmitter refer to its user instructions and your own configuration respectively.

The procedure for starting and stopping the motors is mode dependent.

18.5.5.1 Mode 1

1. Start the engines by carefully moving the ELEVATOR/RUDDER lever diagonally into the left bottom corner (see [Fig. 26]). Hold this position until the motors turn on. It may be necessary to slighty move the lever until you find the correct position.
2. Turn the motors off by repeating the described steps.

18.5.5.2 Mode 2

1. Start the motors by carefully moving the THROTTLE/RUDDER lever diagonally into the left bottom corner (see [Fig. 27]). Hold this position until the motors turn on.
2. It may be necessary to slighty move the lever until you find the correct position.
3. Turn the motors off by repeating the described steps.

18.5.6 Directional checks

It is crucial to confirm the proper functioning of the transmitter before every flight.

> Test AILERON and ELEVATOR for their intended behaviour.

> Test THROTTLE and RUDDER for their intended behaviour.

18.5.7 Taking off

> Increase THROTTLE until the »Xtreme is at least 50 cm above the ground. At this height, you have passed the so-called GROUND EFFECT and the »Xtreme is more stable in its flight position and can be controlled more easily.

> You have now managed the critical part and can familiarize yourself with the »Xtreme by slow and careful throttle controlling motions.

During flight close above the ground and during take-off, turbulence and air flow can be experienced which may affect the »Xtreme. A quicker response to the controlling motions and slight swerving of the »Xtreme forwards, backwards or to the side may result from this. This so-called ground effect is no longer present starting at a flight altitude of approx. 50 cm.

18.5.8 Landing

- To land the »Xtreme again, decrease the THROTTLE slightly until the »Xtreme gravitates to the ground. A somewhat solid touchdown on the ground is no problem and should not be corrected with jerky throttle movements.
- Try to touch down where possible in vertical position (“helicopter landing”). Avoid landing with high horizontal speeds (“airplane landing”) to prevent the legs from getting entangled, which may result in a tumble.
- After landing, turn off the motors.

18.5.9 Trimming

- TRIMMING allows you to equalize drifting of the »Xtreme. Drifting refers to movement out of position when in hover flight without applying aileron or elevator.
- Carefully correct gentle drifting with the TRIM BUTTONS for rudder, elevator and aileron. Once the »Xtreme is high enough in the sky, decrease the throttle until the »Xtreme hovers.
- To equalize drift refer to chapter “16. Transmitter” on page 22. To equalize drift when using your own transmitter, refer to its operating instructions.

18.5.10 Gradual learning

- Practice taking off and landing a few times to get a feel for the »Xtreme.
- Once you are reasonably sure, you can begin to steer the flight direction with rudder, elevator and aileron. Always steer slowly and carefully and practice the processes before trying new flight manoeuvres.
- When you have familiarised yourself with the »Xtreme’s flight properties, you may perform additional exercises.
  - Start with simple flight manoeuvres like flying a meter forwards/back (nod function), then
  - Practice hovering to the left/right (aileron function). When you have the practice you need, start flying circles and figure eights.

Be careful when applying RUDDER, which will rotate the »Xtreme around its vertical centre axis, causing you to become disoriented. Study carefully how AILERON and ELEVATOR behave after applying RUDDER.

18.5.11 Turning off

1. Land the »Xtreme and turn the engines off.
2. Disconnect the battery and remove the battery from the battery tray.
3. Press the ON / OFF button to turn the transmitter off. **One beep sound** is emitted.

18.6 Acrobatic mode

Acrobatic mode is only activated in Sport mode.

While in Sport mode the »Xtreme will assist you in completing acrobactic manoeuvres.

18.6.1 Activate acrobatic flight mode

Make sure you have enough space for flipping. An open area of minimum 15 x 15 m is recommended.
Ensure you have sufficient open space for practicing and developing your skills!

You, the pilot are responsible for inspecting your unit and ensuring perfect condition and flight readiness before you attempt any kind of flight, regardless of whether you intend to perform acrobatic flight manoeuvres or casual flight.

Product warranty does not include replacement of parts, compensation for property damage of any kind, compensation for personal injury or injury to others resulting from any flight manoeuver where recommended safety guidelines have not been followed by the pilot.

- **Do not attempt** to perform ACROBATICS if you have not fully mastered the Sport and Expert mode as you may damage your unit, hurt yourself or others.
- Consult an expert pilot to assist you before you attempt your first acrobatic manoeuvre.

18.6.2 Preparation

- Test if all 4 motors are working perfectly. Push throttle to max while hovering. The copter should ascend straight upwards without leaning in any direction and without turning in its rudder axis.
- If the copter does not ascend straight upwards, change the motor (or only the propeller) where the copter is leaning to while at full throttle.
- Perform this step repeatedly until the copter climbs straight upwards.
- To prevent injury and property damage always re-perform this test after a crash or after part replacement.

18.6.3 Activation of acrobatic flight mode

The use of the supplied stock transmitter is described here. For your own transmitter refer to its operating instructions and your own configuration respectively.

- To enable the ACROBATIC MODE press and hold the ACRO button (10a)(10b) while in flight.
- When acrobatic mode is enabled, then:
  - the STATUS LED flashes continuously and fast
  - the ORIENTATION LEDS blink continuously with the pattern: 3 times fast, break
- To disable acrobatic mode release the ACRO button.

18.6.4 Flip and roll

The use of the supplied stock transmitter is described here. For your own transmitter refer to its operating instructions and your own configuration respectively.

- You FLIP by activating the acrobatic flight mode and move ELEVATOR to any maximum direction.
- You ROLL by activating the acrobatic flight mode and move AILERON to any maximum direction.

18.6.5 Your first acrobatic flight maneuver

The use of the supplied stock transmitter is described here. For your own transmitter refer to its user instructions and your own configuration respectively.

The status LED flashes fast while acrobatic mode is enabled. The orientation LEDs flash with the following sequence: Triple flash - Break - Triple flash - Break ...

18.6.5.1 SPORT mode flip recommendation

1. While hovering about 5 m above ground push and hold ACRO button.
2. Now push THROTTLE to maximum and after approx. 1 second, push AILERON (Roll) or ELEVATOR (Flip) to the desired direction and release again immediately.
3. Hold throttle at maximum until the copter is stabilized and starts ascending again.
4. The ACRO button can be released as soon as the copter starts flipping.
5. The more power you are using the less height the copter will loose.
6. In SPORT MODE the »Xtreme will decrease power by itself while the copter is upside down.

- Combined flips are not allowed.

18.6.5.2 EXPERT mode flip recommendation

1. Accelerate the »Xtreme upwards by pushing throttle to maximum.
2. Start flip by pushing AILERON (Roll) or ELEVATOR (Flip) to any maximum direction and reduce throttle to approx 25%.
3. As soon as the »Xtreme is back in upright position increase THROTTLE to help the copter stabilise again.
4. Compared to the SPORT MODE motor power will only be changed by the pilot's inputs and not by the »Xtreme.

18.7 Altitude height hold function

18.7.1 Introduction

The ALTITUDE HEIGHT HOLD function lets you hold the »Xtreme in a set flight altitude.

The status LED + orientation LEDs flash fast while the height hold function is enabled.

18.7.2 Activation

The use of the supplied stock transmitter is described here. For your own transmitter refer to its user instructions and your own configuration respectively.

> Altitude height hold function is only available in SPORT mode.

> When altitude height hold is enabled, then:

  » the STATUS LED flashes continuously and fast

  » the ORIENTATION LEDS blink continuously and fast

1. Activate SPORT mode.
2. Lift the »Xtreme up to the desired altitude. Keep the »Xtreme at a stable altitude.
3. Press the HEIGHT HOLD BUTTON.
4. You may now fly the »Xtreme without having to adjust the altitude via throttle input.
5. It is possible to use RUDDER, AILERON and ELEVATOR while this function is enabled. Pay careful attention not to accidentally move THROTTLE **too much** as this will disengage the ALTITUDE HEIGHT HOLD function.
6. To deactivate the height hold function decrease or increase throttle slightly.

19. MAINTENANCE, CARE AND REPAIR

19.1 Regular cleaning and maintenance

19.1.1 Cleaning

The »Xtreme is a simple but well-designed flying device. There are no mechanical parts that need to be lubricated or require special maintenance. However, after each flight operation you should clean the »Xtreme of possible dirt (wool strings, dust, etc.).

For cleaning, use a dry or slightly damp cloth and avoid contact between water and the electronics, rechargeable battery and motors.

Do not fly without covering the electronics (canopy). Please ensure that no moisture enters the inner central piece. Never fly when it is raining!

19.1.2 Maintenance and repairs

Defective components present a hazard. Replace all damaged components before flying the »Xtreme again.

It is important that you only use original spare parts. Non-original spare parts can lead to damage and accidents, or may not be of sufficient quality.

19.2 Resetting flight leveling gyro

19.2.1 General

- In case your »Xtreme appears to be drifting in one direction, noticeable especially in beginner mode, you may need to reset the sensor calibration.
- If you need to continuously trim the »Xtreme to ensure proper flying then this may be due to the following reasons:
  - A motor shaft might be slightly bent or a propeller is defective resulting in vibrations. Either replacing the motor(s) or installing a complete new set of propellers may solve this issue.
  - Crashing the »Xtreme, or exposing it to mechanical stress during transportation typically causes these phenomena.
- The onboard sensor has lost its factory calibration.
  - Typically this is caused by a hard hit (crashes), or exposure to high temperature. It can also be related to transport issues.

Cold temperature environmental conditions may require sensitive electronic components to reach ideal operating temperature slower as compared to under favourable environmental conditions such as room temperature. Under such cold conditions your unit may tend to drift in any direction, increasing gradually. This can be avoided by re-initializing the flight gyro after approx. 3 - 4 minutes into flight. Small drifts in any direction are normal, however. Drift may also be caused by propeller wash while flying close to ground surface. Ideally, avoid operating the unit in cold conditions (close to 32°F and 0 °C respectively) to prevent product damage.

19.2.2 Mode 1

The use of the supplied stock transmitter is described here. For your own transmitter refer to its user instructions and your own configuration respectively.

1. Place the »Xtreme onto an as flat as possible level surface.
2. Power on the transmitter and connect the flight battery.
3. Move the THROTTLE/AILERON lever diagonally into the right bottom position, and move the ELEVATOR/RUDDER lever fully up vertically. See [Fig. 28].
4. Hold the levers at their positions until the transmitter emits an ACOUSTIC SIGNAL and the »Xtreme's STATUS LED TURNS SOLID GREEN.
5. The calibration has been completed, no drift should be observed. In case the »Xtreme still drifts, the sensor may be defective or vibrations still remain.
   - ›› Replace all 4 motors.

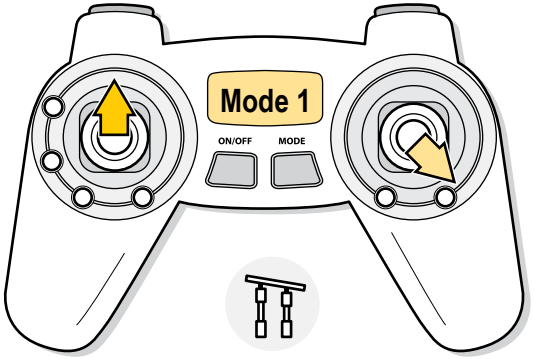


Fig. 28

19.2.3 Mode 2

The use of the supplied stock transmitter is described here. For your own transmitter refer to its user instructions and your own configuration respectively.

1. Place the »Xtreme onto an as flat as possible level surface.
2. Power on the transmitter and connect the flight battery.
3. Keep the THROTTLE/RUDDER lever at zero and move the AILERON/ELEVATOR lever diagonally into the top right corner. See [Fig. 29].
4. Hold the levers at their positions until the transmitter emits an ACOUSTIC SIGNAL and the »Xtreme's STATUS LED TURNS SOLID GREEN.
5. The calibration has been completed, no drift should be observed. In case the »Xtreme still drifts the sensor may be defective or vibrations still remain.
   - ›› Replace all 4 motors.

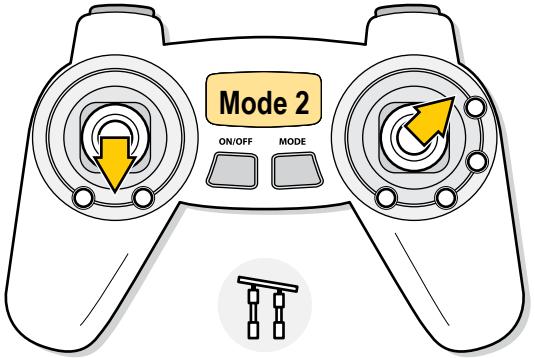


Fig. 29

19.3 After a crash

It is strongly suggested to always inspect for damage. Replace defective parts immediately. Defective parts can impact properly working parts!

- An easy way to maintain the »Xtreme's perfect condition is through visual inspection after every crash.
- During a crash motor mounts and motor arms can sometimes roll. This will cause the propeller to be out of alignment with the rest, and can cause problems. In this case check to make sure all screws are securely tightened. Adjust and realign if necessary. Replace parts with worn out or stripped set screw holes immediately.
- You can easily visually check if a propeller's tracking is out of alignment. Hover your »Xtreme around 2 meters away from yourself at eye-level. If one of the propellers appears to be visible "twice" (two lines), the tracking must be fixed immediately!

19.3.1 Replacing propellers

Observe the rotating direction of the respective motor and the choice of the corresponding propeller without fail. If these are incorrectly chosen, the model will not be able to fly and will act in an erratic way when started again! Loss of guarantee/warranty! The rotating direction is marked on the propellers ("L" or "R"). The mark "L" or "R" points up. The propellers marked "L" must be installed on the motors that turn LEFTWARDS (counter clockwise). The propellers marked "R" must be installed on the motors that turn RIGHTWARDS (clockwise).

19.3.1.1 Inspection

- If a propeller is damaged in a crash or other action, replace it immediately.
- This also applies if there are any fine tears or grazing in the propeller. Due to the high speed, material parts could come loose if the propellers are damaged and this could lead to damage to or endangerment of the environment.

19.3.1.2 Locating front and rear propellers and their rotation direction

Before you start replacing the propellers be aware of the following facts and study the diagram [Fig. 30] attentively.

- Motors turn in different directions (either clockwise or counter-clockwise).
- Propellers are either RED (indicating FRONT) or BLACK (indicating REAR).

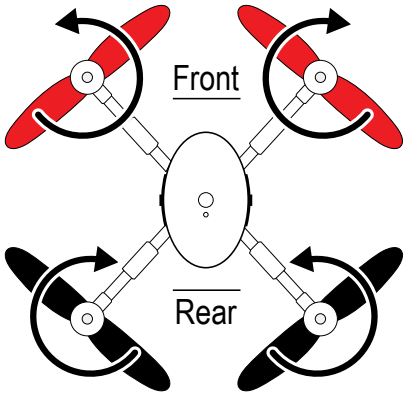


Fig. 30

19.3.1.3 Replacement

> See [Fig. 31].

1. Loosen the spinner (4) counter-clockwise and remove it.
2. Remove the washer and pull the propeller off the motor shaft.
3. Slide a new propeller (mind the direction: “L” or “R”) onto the motor shaft. The propeller only fits in one direction. You may need to turn it slightly to find the correct position.
4. Install a new washer.
5. Replace the spinner and tighten it with moderate force. Overtightening leads to damage of the motor shaft thread and propeller.

19.4 Replacing motor

1. Remove the canopy.
2. **Record the wiring (position, color)** of the defective motor attached to the flight controller board by writing or photo. Detach the motor wiring from the flight controller board.
3. Remove all screws including the leg (5) of the motor’s boom (8).
4. Remove the boom from the »Xtreme’s body.
5. Ensure the landing leg screws are removed to allow for easy passage of motor wires.
6. Detach the motor with motor holder from the boom. Pull the wiring out of the boom.
7. Loosen the motor clamp screw on the motor holder and remove the motor.
8. Follow the described steps in reverse order to mount a new motor.

Pay attention to the colour coding of the wiring. Serious damage can be the result of incorrect wiring.

Do not overtighten screws and nuts to avoid damage.

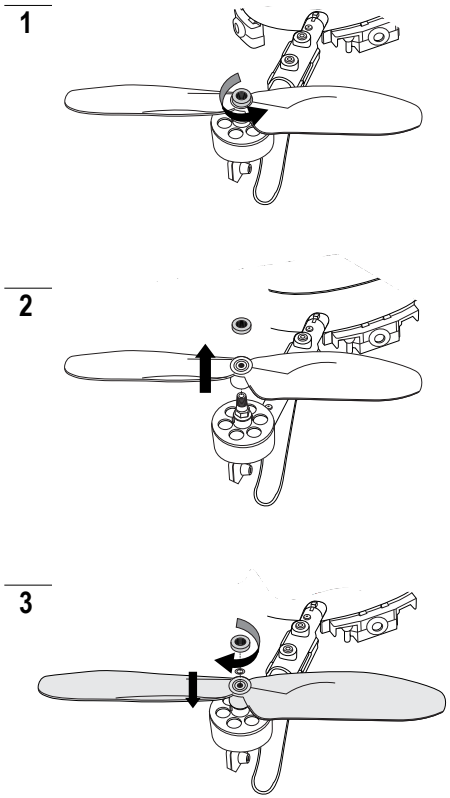


Fig. 31

20. DISPOSAL

20.1 General

In order to preserve, protect and improve the quality of environment, protect human health and utilise natural resources prudently and rationally, the user should return unserviceable product to relevant facilities in accordance with statutory regulations. The crossed-out wheeled bin indicates the product needs to be disposed separately and not as municipal waste.

20.2 Batteries

The user is legally obliged **(battery regulation)** to return used batteries and rechargeable batteries. **Disposing used batteries in the household waste is prohibited!** Batteries/ rechargeable batteries containing hazardous substances are marked with the crossed-out wheeled bin. The symbol indicates that the product is forbidden to be disposed via the domestic refuse. The chemical symbols for the respective hazardous substances are **Cd** = Cadmium, **Hg** = Mercury, **Pb** = Lead.

You can return used batteries/ rechargeable batteries free of charge to any collecting point of your local authority, our stores or where batteries/ rechargeable batteries are sold.

Consequently you comply with your legal obligations and contribute to environmental protection!

21. FCC COMPLIANCE STATEMENT

FCC ID: OMO-M-19

Statement according to FCC part 15.19

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

Statement according to FCC part 15.21

Modifications not expressly approved by this company could void the user's authority to operate the equipment.

22. PRODUCT SUPPORT

Visit "http://www.rclogger.com/index.php/contact-us" or call +852 2559 2662 for product support. Additionally visit our support forum at "http://rclogger.com/forum".

23. TECHNICAL DATA

23.1 Xtreme

Power supply	7.4 V LiPo rechargeable battery
Operating temperature	+32 to 104 °F (0 to +40 °C)
Operating humidity	max. 75 % RH, non-condensing
Operation environment	Indoor and outdoor (dry weather conditions)
Wind conditions	Zero to light wind
Diameter without propellers	7.09" (~180 mm)
Propeller diameter	5.43" (~138 mm), Standard 5.91" (~150 mm), Aerial kit
Height	3.15" (~80 mm), Standard legs 4.53" (~115 mm), Aerial kit legs
Flight time	5 to 7 min. (800 mAh battery without payload), (1150 mAh battery with payload)
Weight	5.54 oz (~157 g), Standard legs 5.68 oz (~161 g), Aerial kit legs
Payload	approx. 3.5 oz (~100 g), excluding »Xtreme, battery, and accessories
Take-off weight	9.18 oz (~260 g), Aerial kit and Payload

23.2 Remote control

Supply voltage	3 V/DC (2 x AAA batteries)
Transmission frequency	2.4 GHz
Number of channels	Auto selection by frequency hopping (FHSS)
Transmitter range	max. 400 ft (~122 m), open field
Dimensions (W x H x D)	5.91 x 3.94 x 2.76" (~150 x ~100 x ~70 mm)
Weight	4.59 oz (~130 g)

23.3 Charger

Supply voltage	5 V/DC
Input current	min. 2.0 A
Charging current	max. 1000 mA per charging channel

24. DECLARATION OF CONFORMITY

Manufacturer: CEI Conrad Electronic International (HK) Limited

License holder: CEI Conrad Electronic International (HK) Limited

Address: 18th Floor, Tower 2,
Nina Tower, No. 8 Yeung Uk Road,
Tsuen Wan, New Territories, Hong Kong

We declare on our own responsibility, that the product:

Kind of equipment: Quatro Copter

Model no: RC EYE One Xtreme
[88007RC (Mode 1) / 88008RC (Mode 2) / 88009RC (ArF)]

is in conformity with following directives and standards or regulations:

EN 300 440-1 V1.6.1 (2010-08)

EN 300 440-2 V1.4.1 (2010-08)

EN 301 489-1 V1.9.2 (2011-09)

EN 301 489-3 V1.6.1 (2013-08)

EN 60950-1:2006+A11:2009+A1:2010

CE marking on product:

CE

Christian Listl

CEI Conrad Electronic International (HK) Limited
18th Floor, Tower 2, Nina Tower, No. 8 Yeung Uk Road,
Tsuen Wan, New Territories, Hong Kong

Hongkong, 20/02/2014

Place and date of issue

Manufacturer/Authorized representative name and signature

25. LEGAL NOTES

These operating instructions are published by CEI Conrad Electronic International (HK) Limited, 18th Floor, Tower 2, Nina Tower, No. 8 Yeung Uk Road, Tsuen Wan, New Territories, Hong Kong.

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