



# ETHOS<sup>QX</sup><sub>130</sub>

## Instruction Manual



### Specifications

|                                |   |
|--------------------------------|---|
| Length:                        | 8.1 in (205mm)  |
| Length Including Rotor Blades: | 12.2 in (310mm)   |
| Height:                        | 2.8 in (70mm)   |
| Propeller/Main Rotor Diameter: | 5.7 in (145mm)  |
| Weight with Battery:           | 3.1 oz (90 g)   |
| Main Motor:                    | Geared micro coreless (4 installed)                                       |
| Battery:                       | 500mAh 1S 3.7V LiPo (included)  |
| Charger:                       | 1S 3.7V LiPo AC (included)  |
| Transmitter:                   | 4-channel 2.4GHz (included)   |
| On-Board Electronics:          | 5-in-1 receiver/4 ESCs/mixer/3-axis gyro/3-axis accelerometer (installed) |

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# Introduction

If you're ready to multiply your quadcopter fun, the Ares™ [*air-eez*] Ethos QX 130 is the quad for you. You'll enjoy flying the QX 130 because it's equipped with an advanced 3-axis gyro and 3-axis accelerometer control system that offers both agile flight and maximum stability out of the box. When you add Ares' exclusive software package to the mix, both first-time and experienced pilots will feel like they're "flying on rails". Another fun feature is the innovative 'Automatic Flip Mode' that allows nearly anyone to perform 360° flips in any direction with just the push of a button. The QX 130 is also large and powerful enough to fly outdoors in winds up to 7 to 10 mph, while still small enough to fly comfortably indoors. The QX 130 even comes with an integrated LED light system controlled from the transmitter that makes it visible when flying in the dark!

And if flying the Ethos QX 130 isn't enough for you, add the fun of optional accessory units like a high-resolution digital camera with 60 frames per second to capture stunning in-flight video and still shots; a rocket launcher that shoots plastic missiles; a water blaster squirt gun; a bubble machine that puts out a trail of bubbles as you fly; and a winch that tests your flight skills as you try to attach, lift, and carry a payload of your choice.

The Ethos QX 130 is a RTF (Ready-To-Fly) aircraft, so the lightweight and durable airframe arrives 100% factory-assembled and everything needed to fly is in the box, including AA batteries for the 2.4GHz technology equipped full-size 4-channel transmitter, a 500mAh 1S 3.7V LiPo battery and an AC charger for convenient charging from almost any outlet. With nothing extra to buy to get in the air, you can be flying within minutes of opening the box.

And although the Ethos QX 130 is ready to fly right out the box, please take the time to read through this manual for more information on battery safety and charging, flight controls and more before making your first flight. Please also visit our web site at [www.Ares-RC.com](http://www.Ares-RC.com) for additional information including product updates, bulletins, videos and more.

## Safety Precautions and Warnings

Failure to use this product in the intended manner as described in the following instructions can result in damage and/or personal injury. A Radio Controlled (RC) airplane/helicopter/quadcopter is not a toy! If misused it can cause serious bodily harm and damage to property.

Keep items that could become entangled in the propeller/rotor blades away from the propeller/rotor blades, including loose clothing, tools, etc. Be especially sure to keep your hands, face and other parts of your body away from the propeller/rotor blades.

As the user of this product you are solely and wholly responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others.

This model is controlled by a radio signal that is subject to possible interference from a variety of sources outside your control. This interference can cause momentary loss of control so it is advisable to always keep a safe distance from objects and people in all directions around your model as this will help to avoid collisions and/or injury.

- Never operate your model if the voltage of the batteries in the transmitter is too low.
- Always operate your model in an open area away from obstacles, people, vehicles, buildings, etc.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable batteries, etc.).
- Keep all chemicals, small parts and all electronic components out of the reach of children.
- Moisture causes damage to electronic components. Avoid water exposure to all electronic components, parts, etc. not specifically designed and protected for use in water.
- Never lick or place any portion of the model in your mouth as it could cause serious injury or even death.

## FCC Information

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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

The associated regulatory agencies of the following countries recognize the noted certifications for this product as authorized for sale and use: USA

## Ethos QX 130 RTF Contents

| Item                         | Description   |
|------------------------------|---|
| Not Available Separately.... | Ethos QX 130 Ultra-Micro RTF Airframe                 |
| AZSH1308M2 .....             | 4HPQ 4-Channel HP Quadcopter Transmitter, Mode 2      |
| Not Available Separately.... | AA Batteries (4pcs)                                   |
| AZSB5001S25J .....           | 500mAh 1-Cell/1S 3.7V 25C LiPo Battery, JST Connector |
| AZSH1254.....                | 1-Cell/1S 3.7V LiPo, 0.5A 110-240V AC Charger         |



## Required to Complete

The Ethos QX 130 RTF includes everything needed to fly right out of the box. There's nothing extra to buy or provide!

## Before the First Flight Checklist

**PLEASE NOTE:** This checklist is NOT intended to replace the content included in this instruction manual. Although it can be used as a quick start guide, we strongly suggest reading through this manual completely before proceeding.

- ❑ Remove and inspect all contents
- ❑ Plug the AC charger into a suitable outlet/power source
- ❑ Begin charging the flight battery (connect it to the charger)
- ❑ Install the four (4) AA batteries in the transmitter
- ❑ Install the LiPo flight battery in the quadcopter (after it's been fully charged) and connect it to the control unit
- ❑ Familiarize yourself with the controls
- ❑ Test the controls to confirm proper operation
- ❑ Find a suitable area for flying

## Flight Checklist

**PLEASE NOTE:** This checklist is NOT intended to replace the content included in this instruction manual. Although it can be used as a quick start guide, we strongly suggest reading through this manual completely before proceeding.

- ❑ Always turn the transmitter on first
- ❑ Connect the LiPo flight battery to the control unit (within 5 seconds of turning on transmitter)
- ❑ Allow the control unit to initialize and arm properly (on a flat/level surface)
- ❑ Fly the model (take-off from a flat/level surface)
- ❑ Land the model (land on a flat/level surface)
- ❑ Unplug the flight battery from the model
- ❑ Always turn the transmitter off last

# LiPo Battery Warnings and Usage Guidelines

**IMPORTANT NOTE:** Lithium Polymer batteries are significantly more volatile than the alkaline, NiCd or NiMH batteries also used in RC applications. All instructions and warnings must be followed exactly to prevent property damage and/or personal injury as mishandling of LiPo batteries can result in fire.

By handling, charging or using the included LiPo battery you assume all risks associated with LiPo batteries. If you do not agree with these conditions please return the complete product in new, unused condition to the place of purchase immediately.

And although the 500mAh 1-Cell/1S 3.7V 25C LiPo Battery (AZSB5001S25J) included with the Ethos QX 130 is intended to be charged safely using the included 1-Cell/1S 3.7V LiPo, 0.5A 110-240V AC Charger (AZSH1254) you must read the following safety instructions and warnings before handling, charging or using the LiPo battery.

- You must charge the LiPo battery in a safe area away from flammable materials.
- Never charge the LiPo battery unattended at any time. When charging the battery you should always remain in constant observation to monitor the charging process and react immediately to any potential problems that may occur.
- After flying/discharging the battery you must allow it to cool to ambient/room temperature before recharging.
- To charge the battery you must use only the included 1-Cell/1S 3.7V LiPo, 0.5A 110-240V AC Charger (AZSH1254) or a suitably compatible LiPo battery charger. Failure to do so may result in a fire causing property damage and/or personal injury. DO NOT use a NiCd or NiMH charger.
- If at any time during the charge or discharge process the battery begins to balloon or swell, discontinue charging or discharging immediately. Quickly and safely disconnect the battery, then place it in a safe, open area away from flammable materials to observe it for at least 15 minutes. Continuing to charge or discharge a battery that has begun to balloon or swell can result in a fire. A battery that has ballooned or swollen even a small amount must be removed from service completely.
- Store the battery at room temperature, approximately 68–77° Fahrenheit (F), and in a dry area for best results.



- **When transporting or temporarily storing the battery, the temperature range should be from approximately 40–100°F. Do not store the battery or model in a hot garage, car or direct sunlight whenever possible. If stored in a hot garage or car the battery can be damaged or even catch fire.**
- **Do not over-discharge the LiPo flight battery. Discharging the LiPo flight battery too low can cause damage to the battery resulting in reduced power, flight duration or failure of the battery entirely.**

**LiPo cells should not be discharged to below 3.0V each under load. In the case of the 1-Cell/1S 3.7V LiPo battery used to power the Ethos QX 130 you will not want to allow the battery to fall below 3.0V during flight.**

**The 5-in-1 control unit features a low voltage cutoff (LVC) that cuts power to the motors completely (regardless of the power level you have set with the left-hand/throttle stick) if the voltage of the battery falls below the 3.0V minimum. If the LVC ever occurs it will be indicated by a blinking red LED on the control unit (the LEDs of the integrated light system will also blink). However, to prevent an unexpected loss of power due to triggering the LVC, if you ever find that more than the typical amount of throttle/power is required to hover and/or the quadcopter will not ascend/climb even at full power you should land the model and disconnect the battery immediately to prevent over-discharge.**

**And while it is possible to power the model up and fly again after the LVC occurs this is NOT recommended. Continued discharging can cause permanent damage to the LiPo battery resulting in reduced power output and/or shortened flight durations during subsequent flights (or failure of the battery entirely).**

**Also, it is not recommended that you fly to the LVC every time you fly. Instead you should be aware of the power level of the battery/quadcopter throughout the flight, and if at any time the quadcopter begins to require more throttle/power than typical to maintain hover, and/or will not ascend/climb even at full power, you should land the quadcopter and disconnect the LiPo battery immediately. Constantly discharging the battery to the LVC can still cause permanent damage to the battery so it's best to use a timer or stop-watch to time the duration of your flights and to stop flying at a reasonable time before the LVC is reached.**

## Charging the LiPo Flight Battery

You must charge the included 500mAh 1-Cell/1S 3.7V 25C LiPo Battery (AZSB5001S25J) using only the included 1-Cell/1S 3.7V LiPo, 0.5A 110-240V AC Charger (AZSH1254) or a suitably compatible LiPo battery charger. Charging the LiPo battery using a non-LiPo battery compatible charger (such as a NiCd or NiMH battery charger), or even a different LiPo battery charger with the incorrect settings, may result in damage to the battery or even fire resulting in property damage and/or personal injury.

Please follow these steps to charge the LiPo flight battery with the included charger:

- ❑ Plug the AC charger into a compatible 110-240V AC outlet. The LED indicator will glow solid green indicating that the charger is powered on and ready to charge.
- ❑ Connect the red JST connector on the battery to the mating connector on the charger. **YOU MUST BE CAREFUL TO ENSURE PROPER POLARITY BEFORE MAKING THE CONNECTION. By orienting/aligning the wire leads of the battery and charger so they're 'red to red' and 'black to black' you'll be able to make the connection with correct polarity.** And although the red JST connectors are 'keyed' to minimize the risk of a reverse polarity connection, if you force them it is possible to make connection with the incorrect polarity potentially causing damage to the battery and/or charger. When the connectors are properly aligned for correct polarity, connecting them should require only a moderate amount of pressure to achieve the 'click' that indicates a secure connection.



- ❑ When the battery is connected to the charger securely and with the proper polarity the LED indicator will glow solid red. The battery will be charging anytime the LED indicator is glowing solid red.
- ❑ It will take approximately 1.0–1.5 hours to fully charge a mostly or fully discharged (not over-discharged) battery. And when the battery is fully charged the LED indicator will change to glow solid green. When the LED is glowing solid green you can disconnect the battery from the charger as it is now fully charged and ready for use.

**NOTE:** The LiPo battery included with your new model will arrive partially charged. For this reason the initial charge may only take approximately 30–45 minutes.

**NOTE:** It's safer and better for the longevity of the battery to store it only partially charged for any length of time. Storing the battery at approximately 50% charge (which is approximately 3.85V per cell) is typically best, however, it will take some careful management of the charge time and the use of a volt meter to achieve this voltage. If you have the equipment and skills to achieve the 50% charge level for storage it is recommended. If not, simply be sure to not store the battery fully charged whenever possible. In fact, as long as the battery will be stored at approximately room temperature and for no more than a few weeks before the next use, it may be best to store the battery in the discharged state after the last flight (as long as the battery was not over-discharged on the last flight).

## Installing the Transmitter Batteries

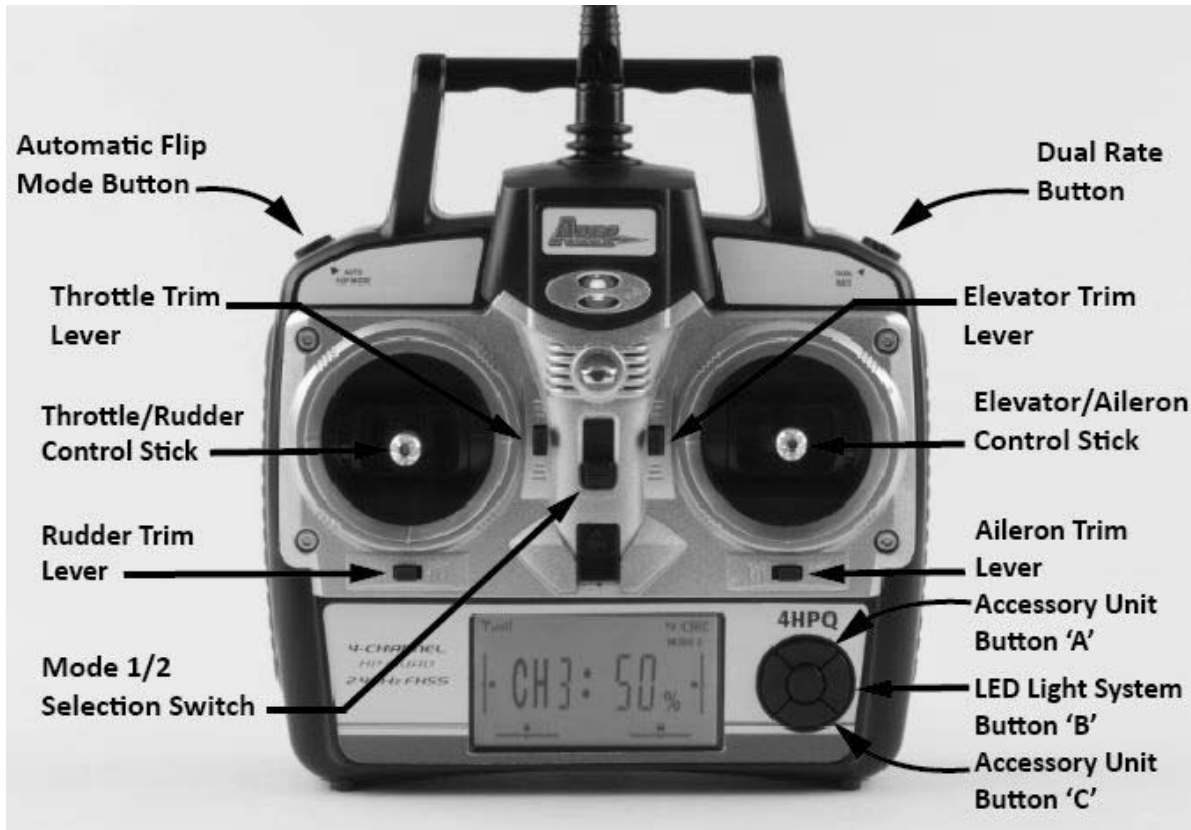
Install the four included AA batteries in the back of the transmitter by opening the hinged battery compartment cover/door. Ensure proper polarity of the batteries before installing them as indicated by the markings molded into the battery compartment then close the compartment cover/door.

Check for proper operation of the transmitter by sliding the power switch to the ON position (slide it upward). The red LED indicator at the top of the transmitter will begin to glow solid and the LCD screen will power on. This indicates the transmitter is powered on and the AA batteries are installed correctly.

**NOTE:** The transmitter is equipped with a low voltage battery alarm. If at any time the audible alarm is on it will be necessary to replace the AA batteries with new ones.

# Transmitter Details

The Ethos QX 130 includes a 4HPQ 4-Channel HP Quadcopter Transmitter equipped with 2.4GHz technology, dual rates, digital trims and a backlit LCD screen.



## Automatic Flip Mode Button

The button located near the top left-hand corner of the transmitter is used to activate the 'AUTOMATIC FLIP MODE'. Please see the 'Automatic Flip Mode' section of this manual for more information.

## Dual Rate Button

The button located near the top right-hand corner of the transmitter is used to toggle between the 'Dual Rates' available for the aileron and elevator controls/channels. Please see the 'Transmitter Dual Rates' section of this manual for more information.

## A, B, C and D Buttons

The group of four buttons located near the bottom right-hand corner of the transmitter are used to control functions of the optional accessory units (buttons 'A' and 'C') and the integrated LED light system (button 'B'). Please see the 'Accessory Unit' and 'LED Light System' sections of this manual for more information regarding the specific functions of these buttons (NOTE: Button 'D' is not used to control any functions of the Ethos QX 130 or any accessories).

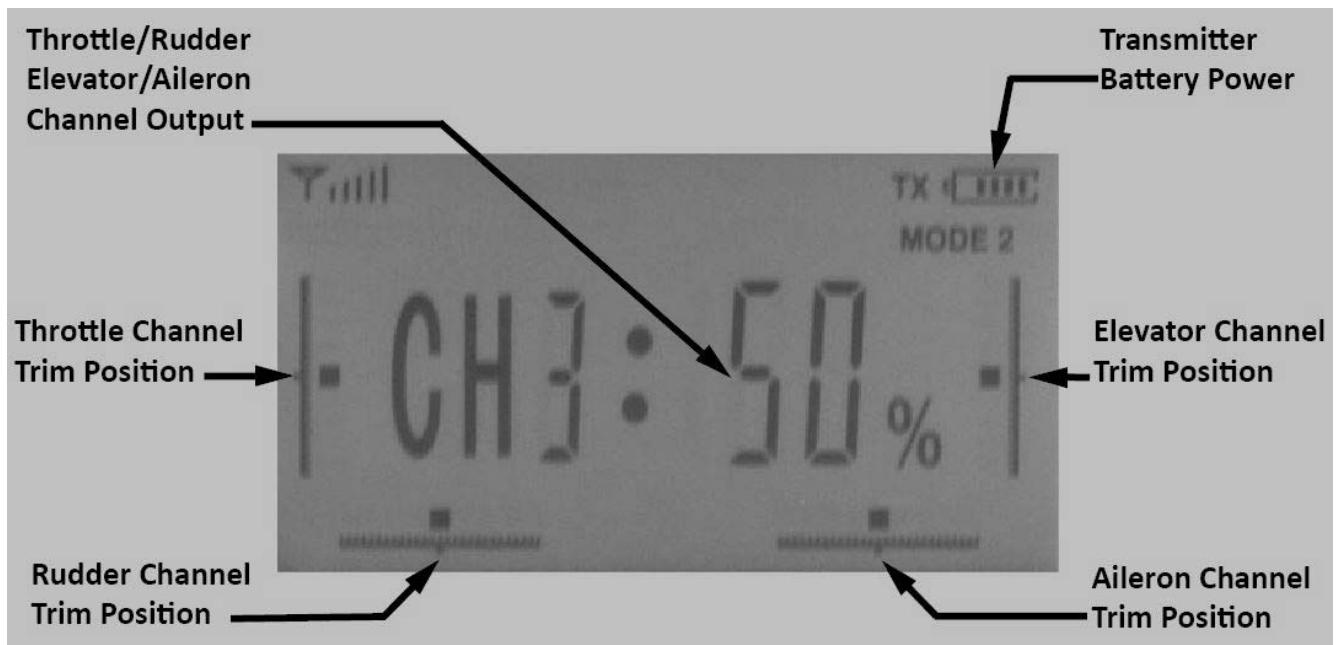
### Mode 1/Mode 2 Selection Switch

The 4HPQ transmitter is equipped with a unique Mode 1/Mode 2 selection switch that makes it quick and easy to set the preferred control mode. In most areas Mode 2 (with the throttle channel/control on the left-hand stick) is the standard and preferred control mode. As a result we do not typically recommend using the mode selection switch (and all of the information included in this instruction manual pertains to Mode 2).

**However, if you choose to use the switch to change the control mode it is very important that you only change the position of the switch when both the quadcopter and transmitter are NOT powered on.** When the position of the switch is changed it changes both the control mode in the software and the mechanical function of the left and right-hand sticks.

### LCD Screen

The unique backlit LCD screen displays a variety of data when the transmitter is powered on:



### Battery Power Indicator

This indicator shows the approximate amount of AA battery power remaining for the transmitter.

**NOTE:** The transmitter is also equipped with a low voltage battery alarm. If at any time the audible alarm is on it will be necessary to replace the AA batteries with new ones.

### Throttle, Rudder, Elevator and Aileron Channel Output/Stick Position Value

This value indicates the approximate percentage (%) of channel output/stick position or trim position for a given channel/function. The value shown is from the most recent control stick movement; for example, after moving the left-hand/throttle stick down to the lowest possible position the value shown will be '00%'.

### **Dual Rate Output/Value**

This indicator, which shows in place of the throttle/rudder/elevator/aileron channel output/stick position value when the Dual Rate button is toggled, shows the control rate mode currently selected; '100%' for high rate and '60%' for low rate (please see the 'Transmitter Dual Rates' section of this manual for more information).

### **Throttle Channel Trim Position Indicator**

This indicator shows the approximate throttle channel trim position. The trim should be set to the middle position for all flights.

### **Rudder Channel Trim Position Indicator**

This indicator shows the approximate rudder channel trim position. The trim position should be adjusted as needed during flight to ensure the nose of the quadcopter does not constantly turn (yaw) left or right when 'hovering' and without any rudder channel/control input.

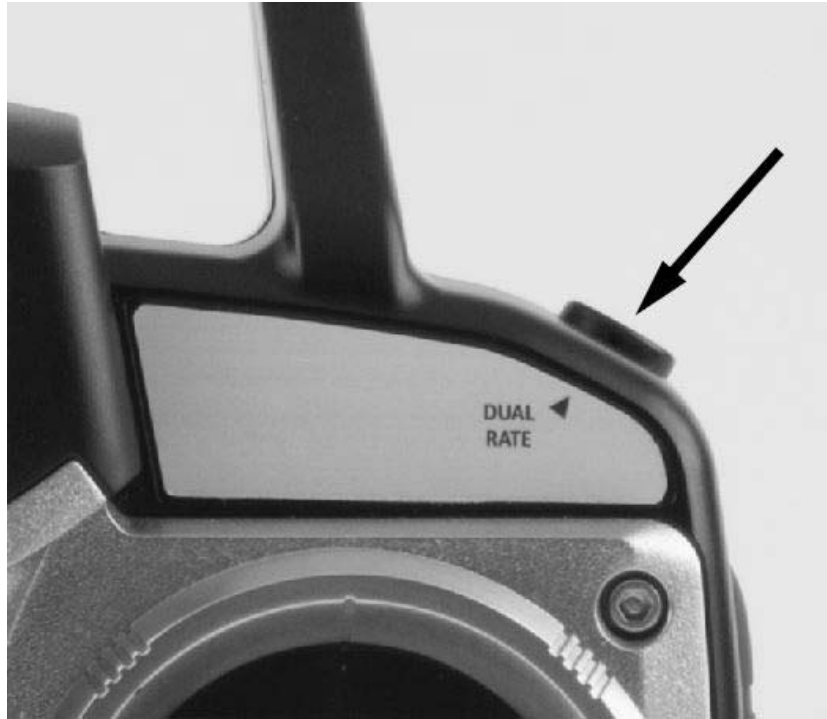
### **Elevator and Aileron Channel Trim Position Indicators**

These indicators show the approximate elevator and aileron channel trim positions. The trim positions should be adjusted as needed during flight to ensure the quadcopter does not constantly 'drift' forward/backward (elevator) or left/right (aileron) when hovering and without any corresponding channel/control input. These trim positions will not often change after they've been set correctly.

## **Transmitter Dual Rates**

The 'DUAL RATE' button (located near the top right-hand corner of the transmitter) is used to toggle between the 'High' (100%) and 'Low' (60%) control rates, also known as 'Dual Rates', available for the aileron and elevator controls/channels. You can toggle between the high and low rates by pressing the button, after which you should feel a 'click' and also hear an audible beep/tone. The selected control rate will be displayed as '100%' for high rate and '60%' for low rate on the LCD screen.

**IMPORTANT NOTE:** The transmitter will automatically default to the 'Low' (60%) rate mode each time the transmitter is powered on.



In the 100%/high rate mode the controls are allowed to reach their maximum values. This mode is typically preferred by experienced pilots interested most in maximum control authority.

By pressing the dual rate button while in the 100%/high rate mode you'll switch to the 60%/low rate mode. You'll know you've switched to the 60%/low rate mode after feeling a 'click' and hearing a single beep/tone.

The 60%/low rate mode is typically preferred by (and recommended best for) first-time, low-time and other pilots interested most in a reduced amount of control authority that allows for even smoother and more easily controlled hovering and flying.

If you ever switch to the 60%/low rate mode you'll know you've switched back to the 100%/high rate mode by pressing the dual rate button, feeling the click and also hearing a single beep/tone.

## Flight Controls and Trimming

In the event you are not familiar with the controls of the Ethos QX 130 please take the time to familiarize yourself with them as follows and before proceeding with your first flight:

The left-hand stick on the transmitter controls both throttle (climb/descend) and rudder (yaw left/right) channels. When the left-hand stick (also known as the 'throttle' stick) is in the lowest possible position the propellers/rotor blades will not spin. Moving the stick upward will increase the speed of the propellers/rotor blades. Increasing the speed of the propellers/rotor blades will cause the model to climb.



Decreasing the speed of the propellers/rotor blades by lowering the left-hand stick will cause the model to descend.



After lifting the model off the ground you can 'hover' by carefully moving the left-hand stick up and down slightly as needed so the model will maintain altitude without climbing or descending.



Moving the left-hand stick to the left will turn (yaw) the nose of the quadcopter to the left about the vertical axis. This is accomplished by increasing the speed of the left-front and right-rear propellers/rotor blades while decreasing the speed of the right-front and left-rear propellers/rotor blades.



Moving the stick to the right will turn (yaw) the nose of the quadcopter to the right about the vertical axis. This is accomplished by increasing the speed of the right-front and left-rear propellers/rotor blades while decreasing the speed of the left-front and right-rear propellers/rotor blades.



The rudder trim lever (located immediately below the left-hand stick) can be used to help keep the nose of the quadcopter from turning (yawing) to the left or right when 'hovering' and without any left-hand stick/rudder control input. For example, if the nose of the quadcopter turns to the right when hovering add left rudder trim by pressing the lever to the left until the nose of the quadcopter stays as close to 'straight' as possible with no further input.

The right-hand stick controls both the elevator (pitch fore/aft) and aileron (roll) channels. Pushing the stick forward will pitch the nose of the quadcopter downward, allowing it to be flown forward.

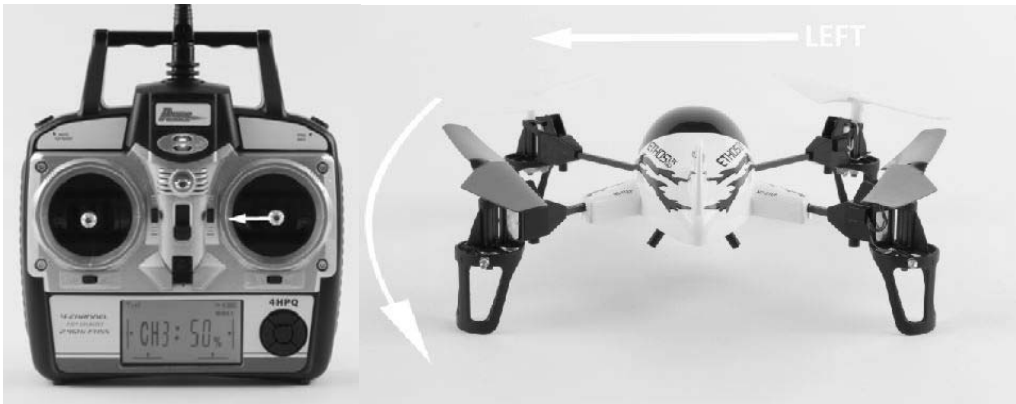


Pulling the stick backward will pitch the tail the quadcopter downward, allowing it to be flown backward.

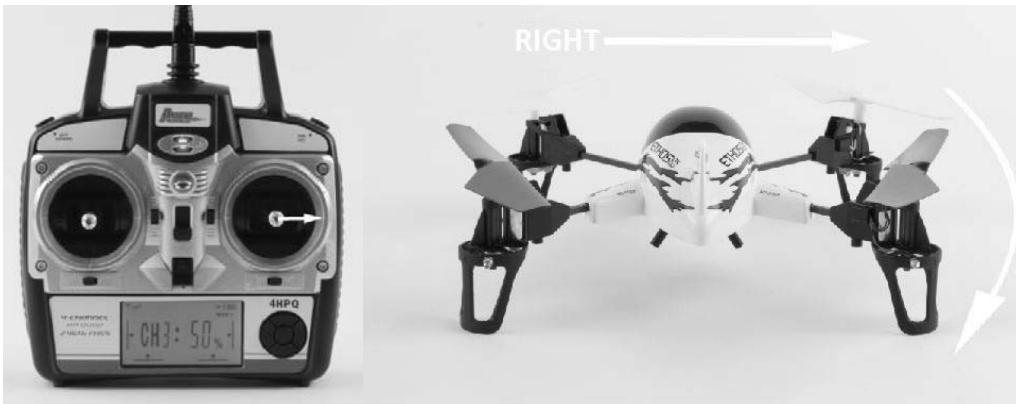


The elevator trim lever (located immediately to the left of the right-hand stick) can be used to help keep the quadcopter from drifting forward or backward when hovering and with no right-hand stick/elevator control input. For example, if the quadcopter drifts forward when hovering add back/up elevator trim by pressing the lever downward until the quadcopter hovers as level as possible without drifting forward.

Moving the stick to the left will roll the quadcopter to the left, allowing it to be flown to the left.



Moving the stick to the right will roll the quadcopter to the right, allowing it to be flown to the right.



The aileron trim lever (located immediately below the right-hand stick) can be used to help keep the quadcopter from drifting left or right when hovering and with no right-hand stick/aileron control input. For example, if the quadcopter drifts to the right when hovering add left aileron trim by pressing the lever to the left until the quadcopter hovers as level as possible without drifting to the right.

And once you're familiar with the primary controls of the quadcopter you're almost ready to fly!

## Installing the LiPo Flight Battery

**IMPORTANT NOTE:** You must ALWAYS turn the transmitter on BEFORE connecting the LiPo flight battery to the control unit. And before proceeding with the following steps please be sure that the left-hand/throttle stick is in the lowest possible position.

After the LiPo flight battery has been fully charged it's ready to be installed in the quadcopter. With the side of the battery that has the label oriented downward (toward the ground and away from the quadcopter), and with the wire leads and connector oriented towards the back of the quadcopter, slide the battery into the battery mount until the plastic 'cap' on the battery comes into contact with the mount.



**IMPORTANT NOTE:** It's important that you connect the LiPo flight battery to the 5-in-1 control unit within 5 seconds of powering on the transmitter. Failure to connect the battery to the control unit within 5 seconds of powering on the transmitter will prevent the transmitter from binding/linking to the receiver/control unit.

**NOTE:** While the 'JST' connectors installed on the wire leads of the battery and the 5-in-1 control unit are 'keyed' to minimize the risk of a reverse polarity connection, if you force them it is possible to make connection with incorrect polarity potentially causing damage to the control unit and/or battery. When the connectors are properly aligned for correct polarity, connecting the JST connectors should require only a minimal amount of pressure to achieve the light 'click' that indicates secure connection.

**YOU MUST BE CAREFUL TO ENSURE PROPER POLARITY BEFORE CONNECTING THE BATTERY TO THE 5-IN-1 CONTROL UNIT.** By orienting/aligning the wire leads of the battery and control unit so they're 'red to red' and 'black to black' you'll be able to make the connection with correct polarity.

**IMPORTANT NOTE: ONCE THE BATTERY IS CONNECTED TO THE CONTROL UNIT IT'S IMPORTANT TO QUICKLY SET THE QUADCOPTER DOWN ON A STABLE, FLAT AND LEVEL SURFACE IN ORDER FOR THE 3-AXIS GYRO/3-AXIS ACCELEROMETER SYSTEM TO INITIALIZE/CALIBRATE PROPERLY. FAILURE TO QUICKLY SET THE QUADCOPTER DOWN CAN PREVENT THE SYSTEM FROM INITIALIZING/CALIBRATING PROPERLY RESULTING IN UNSTABLE (OSCILLATING) FLIGHT PERFORMANCE. Alternatively you can connect the battery to the control unit while the quadcopter is set on a stable, flat and level surface.**



When the battery is connected securely carefully 'tuck' the wire leads and connectors into the body/canopy of the quadcopter.

To remove the LiPo flight battery carefully disconnect it from the 5-in-1 control unit then remove it from the battery mount. **DO NOT** turn off the transmitter until the LiPo flight battery is removed from the quadcopter and the 5-in-1 control unit is powered off. **REMEMBER: The transmitter is always on first and always off last!**

## Control Unit Initialization and Arming

The Ethos QX 130 is equipped with a compact and advanced 5-in-1 control unit. The control unit is a lightweight combination of a 2.4GHz receiver, four electronic speed controls (ESCs), a mixer, a 3-axis gyro and a 3-axis accelerometer. The control unit is also equipped with LEDs that provide various indications.

The following checklist includes the steps you must follow to ensure proper initialization, arming and operation of the control unit:

- ❑ Before each flight you must always turn the transmitter on before connecting the flight battery to the control unit. Never connect the flight battery to the control unit before powering the transmitter on first. After each flight you should always disconnect the flight battery from the control unit before turning the transmitter off.

**IMPORTANT NOTE:** It's important that you connect the battery to the 5-in-1 control unit within 5 seconds of switching on the transmitter. Failure to connect the battery to the control unit within 5 seconds of switching on the transmitter will prevent the transmitter from binding/linking to the receiver/control unit.

- ❑ The left-hand/throttle stick must be set in the lowest possible position in order for the control unit to arm properly. Failure to lower the stick to the lowest possible position can prevent the ESCs from arming and/or the 3-axis gyro/3-axis accelerometer system from initializing properly resulting in unstable (oscillating) flight performance.



- ❑ Slide the LiPo flight battery into the battery mount (located on the bottom of the main frame). Power the transmitter on and confirm that the LED indicator is glowing solid red, then connect the flight battery to the control unit.

**NOTE:** If this will be the first flight, or the first flight following repairs, you should 'center' the elevator and aileron channel trims (rudder trim defaults to 'center' when the transmitter is turned on). Use the digital trim levers to determine the center trim position by referencing the LCD screen (please see the 'Transmitter Details' section of this manual for more information).

- With the flight battery connected to the control unit the LED indicator on the control unit will blink red rapidly then glow solid red.

**IMPORTANT NOTE: ONCE THE BATTERY IS CONNECTED TO THE CONTROL UNIT IT'S IMPORTANT TO QUICKLY SET THE QUADCOPTER DOWN ON A STABLE, FLAT AND LEVEL SURFACE IN ORDER FOR THE 3-AXIS GYRO/3-AXIS ACCELEROMETER SYSTEM TO INITIALIZE/CALIBRATE PROPERLY. FAILURE TO QUICKLY SET THE QUADCOPTER DOWN CAN PREVENT THE SYSTEM FROM INITIALIZING/CALIBRATING PROPERLY RESULTING IN UNSTABLE (OSCILLATING) FLIGHT PERFORMANCE. Alternatively you can connect the battery to the control unit while the quadcopter is set on a stable, flat and level surface.**

**If you do not set the quadcopter down quickly after the battery is connected you must disconnect it from the control unit and repeat the initialization/calibration process.**

- **When the LED indicator glows solid red the control unit is initialized and ready for flight. Use caution as all four propellers/rotor blades will now spin with left-hand/throttle stick input!**

#### **In case the LED indicator does not glow solid red:**

- If the red LED indicator is blinking slowly and the LED light system is powered on you do not have a positive radio frequency (RF) link between the transmitter and receiver of the control unit. First, check to be sure the transmitter is powered on and the LED indicator on the transmitter is solid red. If the transmitter is powered on and functioning properly, disconnect the flight battery from the control unit. Power the transmitter off then on again, and within 5 seconds connect the flight battery to the control unit. The control unit should now initialize properly.
- If the red LED indicator is blinking slowly and the LED light system is powered off you have a positive RF link between the transmitter and receiver of the control unit but the ESCs/motors did not 'arm' because the left-hand/throttle stick may not be set to the correct position. Check to be sure the left-hand/throttle stick is in the lowest possible position, and once in the correct position the red LED indicator will glow solid indicating the ESCs/motors are now armed.

After confirming the control unit is initialized and the ESCs/motors have armed properly your Ethos QX 130 is ready to fly. However, please review the following sections of the manual BEFORE proceeding with the first flight.

# Selecting a Flying Area

Before proceeding with your first flights indoors or out please be sure to review the details in this section to ensure you're choosing suitable spaces and conditions to achieve the best possible performance and flying experience.

**IMPORTANT NOTE: If you are a first-time or low-time pilot we strongly recommend allowing a more experienced pilot to test fly and properly trim the model before attempting your first flight. A proven flyable and properly trimmed model is significantly easier and more enjoyable to fly! Please contact your local hobby shop and/or flying club to find a more experienced pilot near you.**

## Indoor Flying Areas

When flying indoors you'll want to select an open area free of people and obstructions. We suggest an area with at least 12-feet by 12-feet of floor space and no less than 8-foot ceilings when making your first few flights.

After you've properly trimmed the quadcopter and become familiar with its handling and capabilities you may be able to fly in other smaller and less open areas too. However, it's always more fun to fly indoors in spaces that are larger and/or more open when possible.

## Outdoor Flying Areas/Conditions

When flying outdoors it's best to fly the Ethos QX 130 at a local park, schoolyard or other area that's large enough and free of people and obstructions. We also suggest flying over grass as it's a much more 'forgiving' surface that causes less damage in the unfortunate event of a crash. **DO NOT fly in parking lots, crowded neighborhood areas or in areas that are not free of people and obstructions.**

Also, it's typically best to fly on days that are calm/with no wind, especially when making your first few flights. We strongly suggest flying only in calm conditions until you're familiar with the controls and handling of the model. Even light winds can make it much more difficult to fly, and in some cases can even carry the model beyond your line of sight. After you've properly trimmed the quadcopter in calm conditions and become familiar with its handling/capabilities it can be flown outdoors in light wind conditions.

**IMPORTANT NOTE: Do NOT fly on days when significant moisture, such as rain or snow, is present!**

**NOTE: If you plan to perform 'flips' we suggest practicing them outdoors first, preferably over grass, whenever possible. Otherwise we suggest an indoor area with approximately 15+ feet by 15+ feet of floor space and 15+ foot high ceilings. Then, after you've become familiar with the handling/capabilities of the quadcopter when performing flips you'll be able to perform them in smaller indoor spaces (please see the 'Automatic Flip Mode' section of this manual for more information).**



# Flying

Now that you've selected a suitable flying area you're ready to fly! And when making your first flights we suggest following these steps:

- With the left-hand/throttle stick still in the lowest possible position, press the dual rate button located on the top right 'corner' of the transmitter to enter the 60%/low rate mode (you should feel a 'click' and also hear a single beep/tone as noted in the 'Transmitter Dual Rates' section of this manual).
- **Increase the speed of the propellers/rotor blades until the model begins to lift off by raising the left-hand/throttle stick SLOWLY. DO NOT raise the stick too quickly as the model could climb too fast causing you to lose control and/or make contact with the ceiling or other objects above (this is one of the most common ways most first-time pilots crash).**
- Lift the model off the ground approximately 20-24 inches and concentrate on balancing the left-hand/throttle stick position so the quadcopter holds a steady hover altitude. It may also be helpful to make a few short 'hops' to an altitude of just a few inches until you're familiar and more comfortable with the control inputs and trim settings required to maintain a steady hover and altitude. However, keep in mind that when only a few inches off the ground you'll be in 'ground effect' which will cause the quadcopter to move around more than it typically would at approximately 20-24 inches of altitude.
- You'll find that it sometimes takes minor throttle adjustments to maintain altitude in hover. Remember to keep these adjustments as minimal as possible as large adjustments could result in a loss of control and/or a possible crash.
- While attempting to establish a low-level hover out of ground effect (approximately 20-24 inches high or higher) you can check to see if any trim adjustments are required to help keep the quadcopter from constantly drifting in various directions. If you find the quadcopter constantly drifts without any directional control input it may be best to land the model before making any adjustments to the trim positions using the trim buttons on the transmitter (you can find more information regarding the location and function of the trim buttons in the 'Transmitter Details' and 'Flight Controls and Trimming' sections of this manual):
  - If the nose of the quadcopter is drifting to the left or right adjust the rudder trim.
  - If the quadcopter is drifting forward or backward adjust the elevator trim.
  - If the quadcopter is drifting to the left or right adjust the aileron trim.

It's important to continue making trim adjustments as needed until the quadcopter can hover at an altitude of approximately 20-24 inches (or higher) with very little drifting or directional control input. And while it's not possible to eliminate all drifting completely using the trims it is possible to get very close. Also, if this is your first quadcopter model it may be best to enlist the help of an experienced quadcopter or helicopter pilot to trim the model for you before making your first flight.

- When the quadcopter is properly trimmed, maintain a stable hover and practice using the rudder, elevator and aileron controls to get a feel for how the quadcopter responds to various control inputs. Remember to keep the control inputs as minimal as possible to prevent over-controlling the quadcopter.
- Continue to practice until you're comfortable hovering the quadcopter at approximately 20-24 inches high. Then you can transition to hovering the quadcopter at higher altitudes of approximately three to four feet.
- Don't be afraid to set the quadcopter down on the ground quickly by lowering the throttle when approaching walls or other obstacles to help prevent an impact.
- **IN THE UNFORTUNATE EVENT OF A CRASH, NO MATTER HOW MAJOR OR MINOR, YOU MUST LOWER THE LEFT-HAND/THROTTLE STICK TO THE LOWEST POSSIBLE POSITION AS QUICKLY AS POSSIBLE TO PREVENT DAMAGE TO THE ESCS OF THE CONTROL UNIT.**

**If you do not lower the left-hand/throttle stick to the lowest possible position in the event of a crash it can result in damage to the ESCs of the control unit which may require replacement of the control unit.**

**Note: Crash damage is not covered under warranty.**

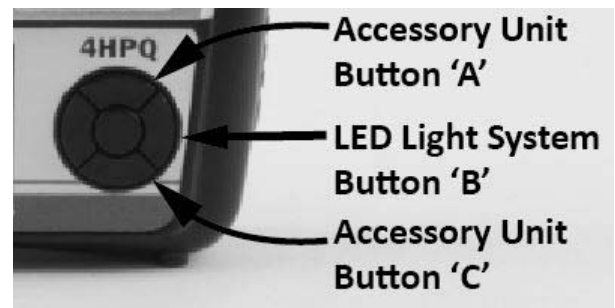
- Once you've gained experience and confidence hovering your quadcopter you can attempt more advanced maneuvers including these:

Forward Flight  
Backward Flight

Pirouettes  
Spot Landings

## LED Light System

The factory-installed LED light system offers improved visibility in low-light and even dark conditions. It can also help with overall orientation and can be turned on and off remotely from the transmitter. Each time the quadcopter is powered on and properly initialized the LED light system will be powered off and you can use button 'B' at the right of the group of four buttons located near the bottom right-hand corner of the transmitter to toggle the system on and off.



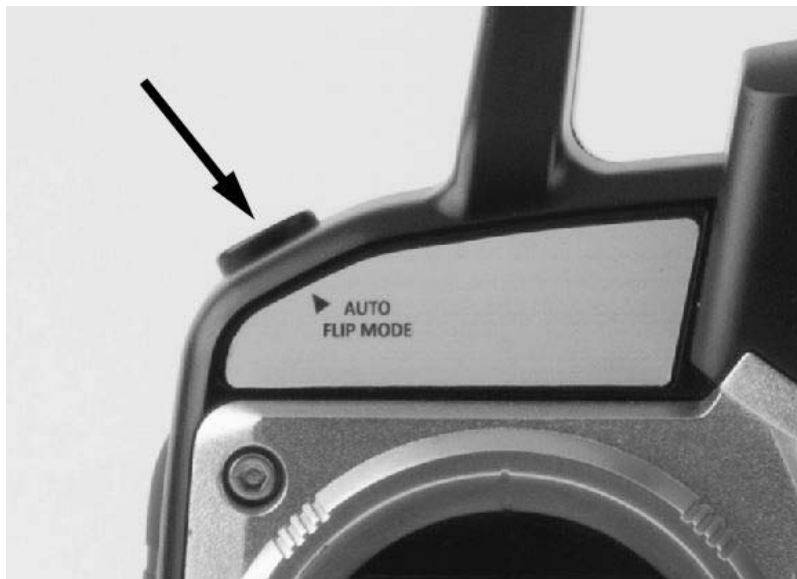
## Automatic Flip Mode

After gaining experience performing maneuvers such as forward flight, backward flight and pirouettes, you can use the innovative 'Automatic Flip Mode' to perform more advanced maneuvers with your quadcopter including:

Stationary Forward/Backward Flips  
'Traveling' Forward/Backward Flips  
Multiple Forward/Backward Flips

Stationary Left/Right Rolls/Flips  
'Traveling' Left/Right Rolls/Flips  
Multiple Left/Right Rolls/Flips

**IMPORTANT NOTE:** It's important that you **ONLY** attempt these maneuvers with enough altitude to allow the model to recover after performing the maneuver and until you are familiar with the handling/capabilities of the quadcopter. We also suggest flying the model and first practicing flips outdoors in calm wind conditions, over grass and at an altitude of at least 10+ feet high. Then, after you've become familiar with the handling/capabilities of the quadcopter when performing flips you'll be able to perform them successfully from lower altitudes, in smaller areas and even indoors.



The Automatic Flip Mode (AFM) is activated by pressing the 'AUTO FLIP MODE' button located on the top left-hand 'corner' of the transmitter. You will feel a 'click' and also hear continuous audible beeps/tones that indicate you've activated AFM after pressing the button.

**When AFM is activated you can control the timing and direction of the flip with the elevator and aileron controls on the right-hand stick. ALSO, IT'S VERY IMPORTANT TO NOTE THAT ONCE YOU MOVE THE RIGHT-HAND STICK MORE THAN APPROXIMATELY 1/2 OF THE AVAILABLE TRAVEL IN ANY DIRECTION THE QUADCOPTER WILL AUTOMATICALLY PERFORM A FULL 360 DEGREE FLIP IN THAT DIRECTION. AS A RESULT WE STRONGLY RECOMMEND THAT YOU ONLY ACTIVATE AFM AFTER PLACING THE QUADCOPTER IN THE POSITION AND AT THE ALTITUDE YOU PREFER, AND AFTER ESTABLISHING A STATIONARY HOVER (later on you can experiment with 'traveling' flips that occur during forward/backward or left/right sideways flight but for at least the first few flips it's best to keep them 'stationary').**

**PRO TIP:** It's typically helpful to add some amount of throttle/power above the amount required to maintain hover right before and right after the flip is performed to minimize loss of altitude. With the right timing and application of throttle before and after the flip it's actually possible to eliminate most or even all loss of altitude (however, please note that the timing, amount of throttle and the loss of altitude can vary based on the performance of a given model and flight battery, the current weather conditions, altitude, etc.). In fact in some cases you may find that it's easiest to simply go to full throttle/power before and to maintain full throttle/power throughout the flip to minimize or even eliminate all loss of altitude.

**After activating AFM:**

Pushing the right-hand/elevator stick forward to the highest possible position will cause the quadcopter to automatically flip a full 360 degrees forward from the starting position.



Pulling the right-hand/elevator stick backward to the lowest possible position will cause the quadcopter to automatically flip a full 360 degrees backward from the starting position.



Moving the right-hand/aileron stick all the way to the left will cause the quadcopter to automatically flip a full 360 degrees to the left from the starting position.



Moving the right-hand/aileron stick all the way to the right will cause the quadcopter to automatically flip a full 360 degrees to the right from the starting position.



After the 360 degree flip is complete the transmitter will automatically deactivate AFM and the audible beeps/tones will stop (indicating AFM is no longer active). You can continue to fly 'normally' until you're ready to perform your next flip by pressing the AFM button again.

**PRO TIP: To perform single flips allow the right-hand stick to return to the neutral position immediately after the flip begins. To perform multiple flips continue to hold the right-hand stick in the direction of the flip, then allow the stick to return to the neutral position when you're ready to stop flipping (NOTE: When performing multiple flips it's important to stop flipping when the quadcopter still has enough altitude to recover without hitting the ground).**

## Transmitter and Receiver Binding/Linking

Binding/linking is the process of programming the receiver in the control unit to recognize the Globally Unique Identifier (GUID) code of a single specific transmitter.

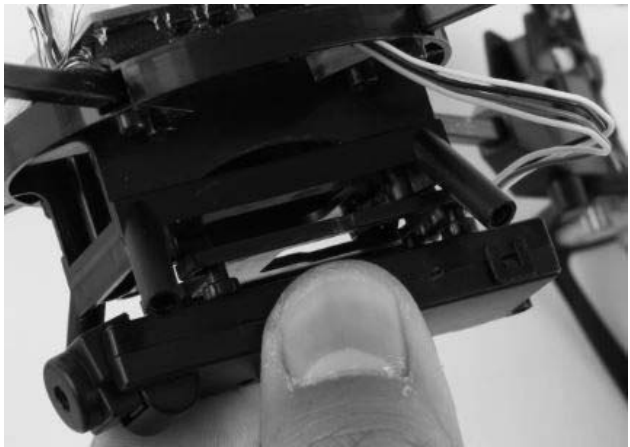
The Ares Ethos QX 130 features user-friendly technology that automatically binds/links your receiver to the transmitter by simply turning the transmitter on first then connecting the LiPo flight battery in to power on the receiver/control unit within 5 seconds (please see the 'Control Unit Initialization and Arming' section of this manual for more information).

## Optional Digital Video/Still Camera

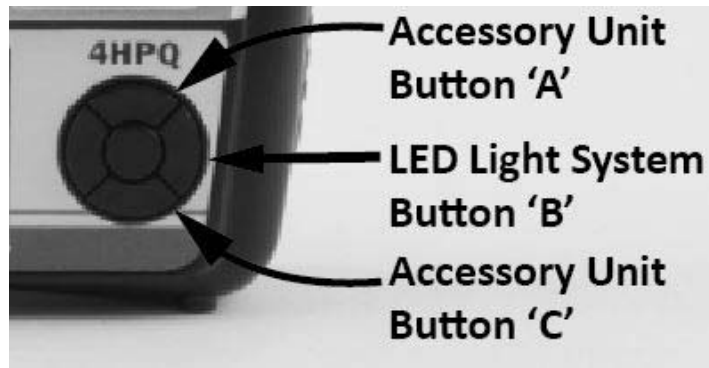
The optional Digital Video/Still Camera (AZSH1322; sold separately) is easy to install and allows you to capture video and still photos during flight. The included 2GB memory card can store up to 90 minutes of video or hundreds of photos that are easy to access using the USB card reader.

The following steps outline installation and use of the digital camera:

- ❑ Route the wire leads/connector through the opening on the left side of the main frame then plug the connector into the 'Camera' port on the 5-in-1 control unit.
- ❑ Carefully attach the camera to the accessory unit mount located below the main frame by sliding the mounting 'hooks' on the camera forward into the corresponding slots on the mount. The camera will be mounted securely when it 'clicks' into place.



- ❑ The camera will power on automatically after the LiPo flight battery is connected to the control unit. However, it will not record video or take still photos until you activate those modes using the corresponding buttons on the transmitter. Button 'A' at the top of the group of four buttons located near the bottom right-hand corner of the transmitter is used to toggle video recording on an off. Button 'C' at the bottom is used to take still photos.



- The status LED on the camera indicates the following:

**LED Off:** The memory card is not installed (when the camera and LiPo flight battery are connected to the control unit and powered on)

**Green Solid:** The memory card is installed, the camera is powered on and ready to record video/take photos

**Continuous Red Blinking/Flashing:** The camera is recording video

**Red Blinking/Flashing 3 Times:** The camera is taking a still photo

- When the status LED on the camera is glowing solid green the memory card is installed, the camera is powered on and ready to record video/take photos. After pressing the 'A' button once the LED will change to blinking/flashing red continuously indicating that the camera is recording video. Pressing the 'A' button again will stop the recording.

After pressing the 'C' button once the LED will change to blink/flash 3 times indicating that the camera is taking a still photo. **NOTE:** You cannot take still photos while recording video. You must stop recording video before pressing the 'C' button to take a still photo.

- To access your recorded videos and photos remove the memory card from the camera then insert it into the included USB Card Reader. Plug the card reader into a suitable USB port on your laptop or desktop computer, and if the system does not automatically prompt you, locate and open the 'Removable Disk/Storage' drive (typically found under 'Computer' on Windows operating systems) associated with the USB port you have the card reader plugged into. Access your videos by clicking on the 'VIDEO' folder and your still photos by clicking on the 'PHOTO' folder.



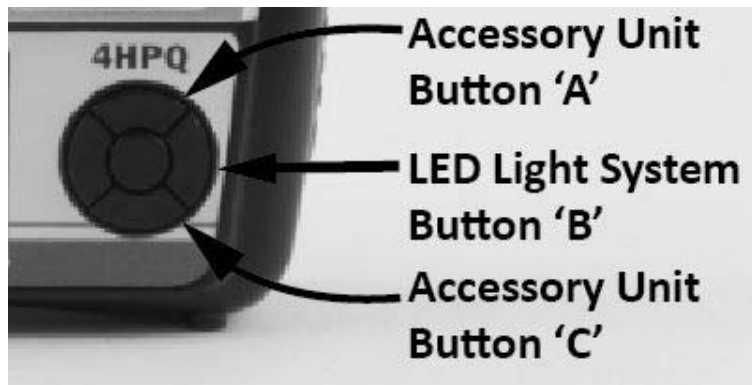
## Optional Rocket Launcher Unit

The following steps outline installation and use of the optional Rocket Launcher Unit (AZSH1323; sold separately):

**WARNING: NEVER launch the plastic rockets toward people, animals or fragile objects as the rockets can cause property damage and/or personal injury. As the user of this product you are solely and wholly responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others.**



- ❑ Route the wire leads/connector through the opening on the left side of the main frame then plug the connector into the 'Rocket Launcher' port on the 5-in-1 control unit.
- ❑ Carefully attach the Rocket Launcher to the accessory unit/landing gear mount located below the main frame by sliding the mounting 'hooks' on the unit forward into the corresponding slots on the mount. The unit will be mounted securely when it 'clicks' into place. Then, install the 'extended height' landing gear (included in the package with the Rocket Launcher Unit) in the corresponding openings in the accessory unit/landing gear mount.
- ❑ Insert the plastic rockets into the Rocket Launcher Unit until they 'click' into place. Use extreme care as each rocket will now 'fire' individually when you press button 'A' at the top of the group of four buttons located near the bottom right-hand corner of the transmitter. You can also press button 'C' to automatically launch all of the rockets immediately one after the other.





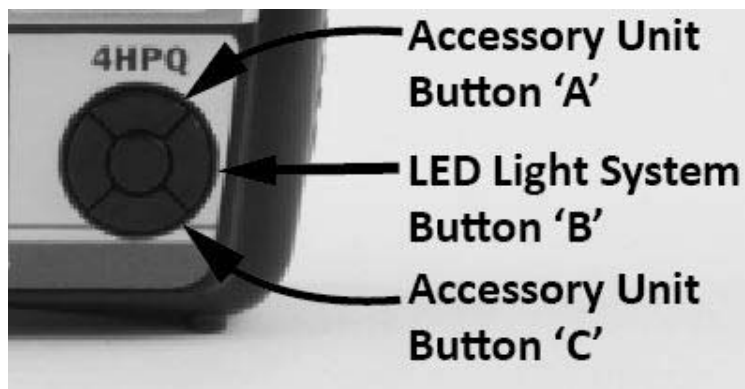
## Optional Water Blaster Unit

The following steps outline installation and use of the optional Water Blaster Unit (AZSH1324; sold separately):

**WARNING: NEVER fill the tank/reservoir with anything other than clean water. NEVER blast water toward people, animals or fragile objects as the water can cause property damage and/or personal injury. As the user of this product you are solely and wholly responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others.**



- ❑ Route the wire leads/connector through the opening on the left side of the main frame then plug the connector into the 'Water/Bubble' port on the 5-in-1 control unit.
- ❑ Carefully attach the Water Blaster to the accessory unit/landing gear mount located below the main frame by sliding the mounting 'hooks' on the unit forward into the corresponding slots on the mount. The unit will be mounted securely when it 'clicks' into place. Then, install the 'extended height' landing gear (included in the package with the Water Blaster Unit) in the corresponding openings in the accessory unit/landing gear mount.
- ❑ Fill the included 'filler bottle' with clean water then fill the tank/reservoir of the Water Blaster Unit. Quickly press or hold button 'A' at the top of the group of four buttons located near the bottom right-hand corner of the transmitter to blast water.

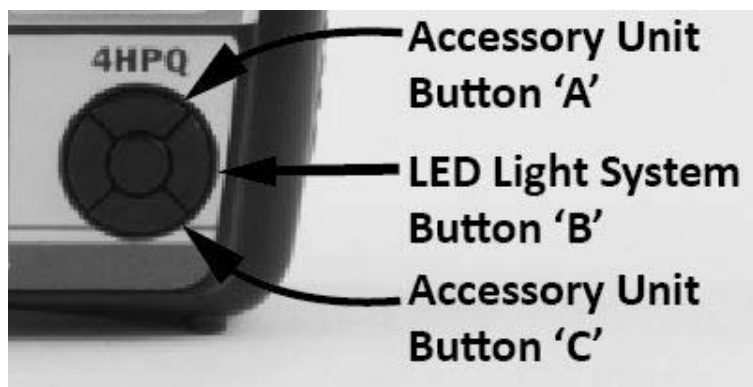


## Optional Bubble Machine Unit

The following steps outline installation and use of the optional Bubble Machine Unit (AZSH1325; sold separately):

**WARNING: NEVER fill the tank/reservoir with anything other than suitable 'bubble solution'.**

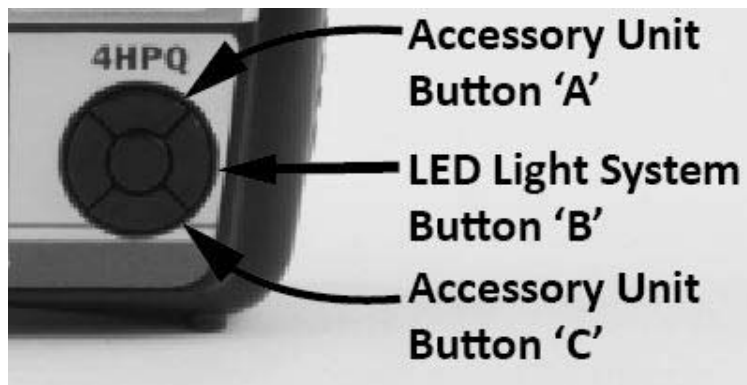
- ❑ Route the wire leads/connector through the opening on the left side of the main frame then plug the connector into the 'Water/Bubble' port on the 5-in-1 control unit.
- ❑ Carefully attach the Bubble Machine to the accessory unit/landing gear mount located below the main frame by sliding the mounting 'hooks' on the unit forward into the corresponding slots on the mount. The unit will be mounted securely when it 'clicks' into place. Then, install the 'extended height' landing gear (included in the package with the Bubble Machine Unit) in the corresponding openings in the accessory unit/landing gear mount.
- ❑ Fill the included 'filler bottle' with suitable bubble solution then fill the tank/reservoir of the Bubble Machine Unit. Press and hold button 'A' at the top of the group of four buttons located near the bottom right-hand corner of the transmitter to activate the Bubble Machine.



## Optional Winch Unit

The following steps outline installation and use of the optional Winch Unit (AZSH1326; sold separately):

- ❑ Route the wire leads/connector through the opening on the left side of the main frame then plug the connector into the 'Winch' port on the 5-in-1 control unit.
- ❑ Carefully attach the Winch to the accessory unit/landing gear mount located below the main frame by sliding the mounting 'hooks' on the unit forward into the corresponding slots on the mount. The unit will be mounted securely when it 'clicks' into place. Then, install the 'extended height' landing gear (included in the package with the Winch Unit) in the corresponding openings in the accessory unit/landing gear mount.
- ❑ Press and hold button 'A' or 'C' in the group of four buttons located near the bottom right-hand corner of the transmitter as needed to raise and lower the winch.



## Warranty, Support and Service

### 30-Day Limited Warranty Term Period:

We warranty that the Product(s) purchased (the “Product”) will be free from defects in materials and workmanship when the product is new (before being used) for the limited warranty term period, 30 days, from the date of purchase by the Purchaser.

If you believe a defect in material, workmanship, etc. was not apparent when the Product was new and only became evident after the Product was used, take the following steps. If you purchased the Product at a HobbyTown store, please contact your local HobbyTown store for warranty support and/or service. If you purchased the Product from the Firelands website, use the contact information found under the Support heading to contact Firelands directly.

If you contact Firelands, you may be asked to send the product to Firelands, at your cost, for inspection. Provided the warranty conditions have been met within the warranty term period, the components that are found to be defective, incorrectly manufactured or assembled may be repaired or replaced, at the sole discretion of Firelands. Your warranty item will be returned to you at Firelands’ expense. In the event your product needs repair or a replacement part that is not covered by this warranty, your local HobbyTown store or Firelands can assist you with support and in obtaining the genuine replacement parts to repair your Product. Firelands will charge \$40.00 per hour plus the cost of replacement parts to service your vehicle if after contacting you, you so authorize such repairs. Your product will be returned to you at your expense.

If you purchased your Product from a HobbyTown Internet site not affiliated with a local store, please consult that site for its support and service policies. You can also find more information at

[www.Hobbytown.com](http://www.Hobbytown.com)., by emailing [customerservice@firelandsgroup.com](mailto:customerservice@firelandsgroup.com) or call 800-205-6773

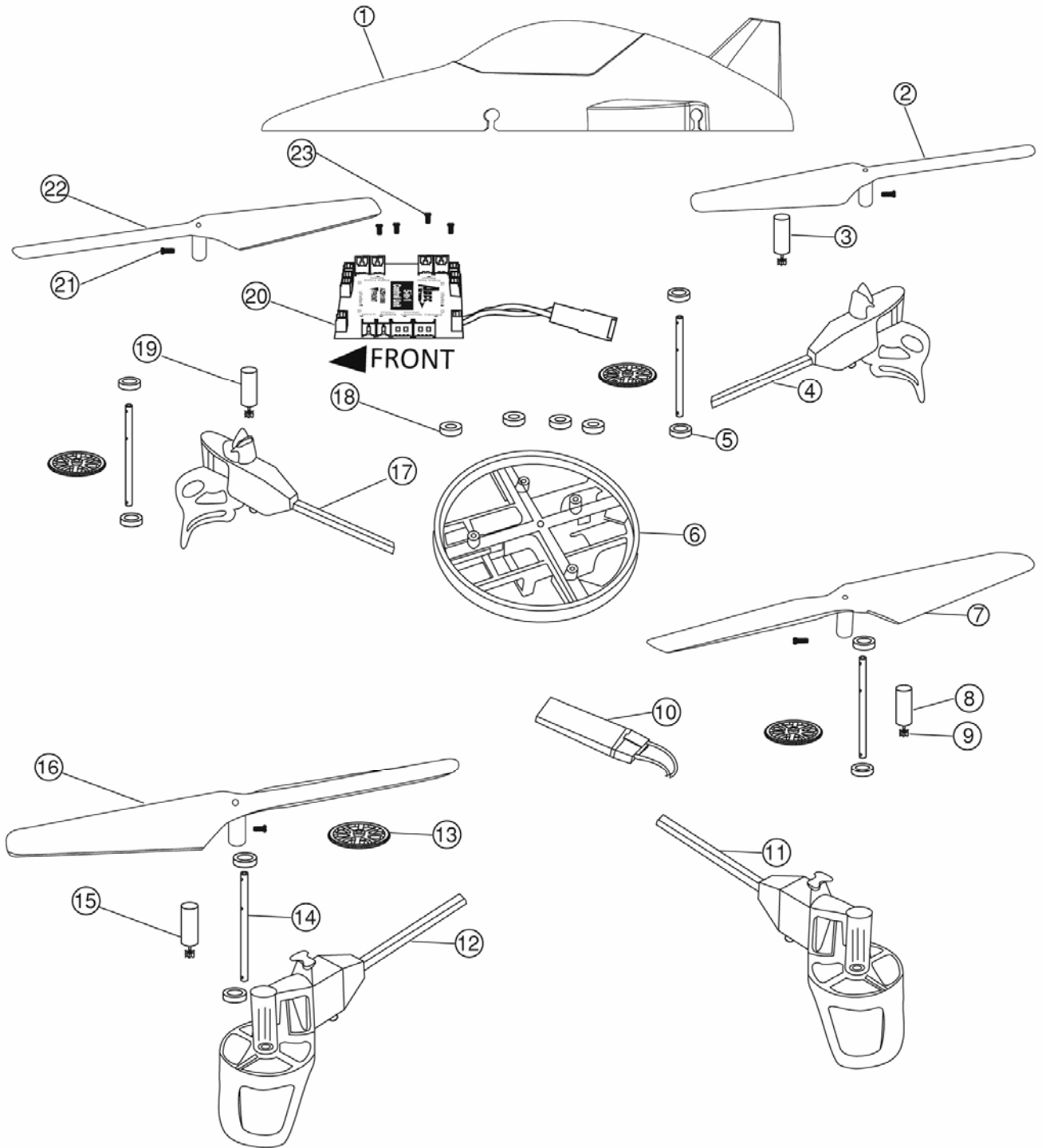
# Replacement Parts List

| <b>Item Number</b> | <b>Description</b>  |
|--------------------|---|
| AZSB5001S25J       | 500mAh 1-Cell/1S 3.7V 25C LiPo Battery, JST Connector: Ethos QX 130               |
| AZSH1306           | 5-in-1 Control Unit, Rx/ESCs/Mixer/3-Axis Gyro/3-Axis Accelerometer: Ethos QX 130 |
| AZSH1308M2         | 4HPQ 4-Channel HP Quadcopter Transmitter, Mode 2: Ethos QX 130                    |
| AZSH1309           | Motor Mount/Landing Skid and Boom Assembly, Left Front w/White LED: Ethos QX 130  |
| AZSH1310           | Motor Mount/Landing Skid and Boom Assembly, Right Front w/White LED: Ethos QX 130 |
| AZSH1311           | Motor Mount/Landing Skid and Boom Assembly, Left Rear w/Red LED: Ethos QX 130     |
| AZSH1312           | Motor Mount/Landing Skid and Boom Assembly, Right Rear w/Red LED: Ethos QX 130    |
| AZSH1313           | Motor w/Pinion Gear and Wire Leads, Clockwise Rotation: Ethos QX 130              |
| AZSH1314           | Motor w/Pinion Gear and Wire Leads, Counter-Clockwise Rotation: Ethos QX 130      |
| AZSH1315           | Propeller/Rotor Blade Shaft: Ethos QX 130   |
| AZSH1316           | Bearing, 3x6x2mm (2pcs): Ethos QX 130   |
| AZSH1317           | Main Gear: Ethos QX 130   |
| AZSH1318B          | Propeller/Rotor Blade, Clockwise Rotation, Black (2pcs): Ethos QX 130             |
| AZSH1318W          | Propeller/Rotor Blade, Clockwise Rotation, White (2pcs): Ethos QX 130             |
| AZSH1319B          | Propeller/Rotor Blade, Counter-Clockwise Rotation, Black (2pcs): Ethos QX 130     |
| AZSH1319W          | Propeller/Rotor Blade, Counter-Clockwise Rotation, White (2pcs): Ethos QX 130     |
| AZSH1320           | Main Frame: Ethos QX 130  |
| AZSH1321B          | Body/Canopy, Blue: Ethos QX 130   |
| AZSH1321R          | Body/Canopy, Red: Ethos QX 130  |
| AZSH1322           | Camera (Video/Still) w/2GB Memory Card and USB Card Reader: Ethos QX 130          |
| AZSH1323           | Rocket Launcher Unit: Ethos QX 130  |
| AZSH1324           | Water Blaster Unit: Ethos QX 130  |
| AZSH1325           | Bubble Machine Unit: Ethos QX 130   |
| AZSH1326           | Winch Unit: Ethos QX 130  |
| AZSH1327           | Landing Gear Set for Accessory Units: Ethos QX 130                                |

## Exploded View Parts Listing

| Exploded View # | Description (Total Quantity Used)                                       | Included In Item #                                      |
|-----------------|---|---|
| 1               | Body/Canopy (1)   | AZSH1321B or AZSH1321R                                  |
| 2               | Black Clockwise Rotation Propeller/Rotor Blade (1)                      | AZSH1318B   |
| 3               | Counter-Clockwise Rotation Motor (2)                                    | AZSH1313  |
| 4               | Motor Mount/Landing Skid and Boom Assembly, Right Rear w/Red LED (1)    | AZSH1312  |
| 5               | Bearing, 3x6x2mm (8)  | AZSH1316  |
| 6               | Main Frame with Accessory Unit/Landing Gear Mount (1)                   | AZSH1320  |
| 7               | Black Counter-Clockwise Rotation Propeller/Rotor Blade (1)              | AZSH1319B   |
| 8               | Clockwise Rotation Motor (2)  | AZSH1314  |
| 9               | Pinion (4)  | AZSH1313 and AZSH1314                                   |
| 10              | Battery (1)   | AZSB5001S25J  |
| 11              | Motor Mount/Landing Skid and Boom Assembly, Left Rear w/Red LED (1)     | AZSH1311  |
| 12              | Motor Mount/Landing Skid and Boom Assembly, Left Front w/White LED (1)  | AZSH1309  |
| 13              | Main Gear (4)   | AZSH1317  |
| 14              | Propeller/Rotor Blade Shaft (4)   | AZSH1315  |
| 15              | Counter-Clockwise Rotation Motor (2)                                    | AZSH1313  |
| 16              | White Clockwise Rotation Propeller/Rotor Blade (1)                      | AZSH1318W   |
| 17              | Motor Mount/Landing Skid and Boom Assembly, Right Front w/White LED (1) | AZSH1310  |
| 18              | Foam Rubber Vibration Dampeners   | AZSH1306 or AZSH1320                                    |
| 19              | Clockwise Rotation Motor (2)  | AZSH1314  |
| 20              | 5-in-1 Control Unit (1)   | AZSH1306  |
| 21              | M1.2x5mm Screw (4)  | AZSH1318B or<br>AZSH1318W,<br>AZSH1319B or<br>AZSH1319W |
| 22              | White Counter-Clockwise Rotation Propeller/Rotor Blade (1)              | AZSH1319W   |
| 23              | M1.2x5.8mm Screw (4)  | AZSH1306  |

# Exploded View





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