ARES

LINE

CROSS FIRE

Owner's Manual & Technical Information (USA)

Specification

All-up weight: 560g

Weight without battery:.....390g

Size (motor diagonals): 280mm

Length:.....232mm

Width:.....234mm

ESCs (x4):.....12A continuous; 15A peak; ONE-SHOT enabled

Camera: .....Semi wide-angle lens

Video Transmitter: .....200mW – 40 channels on 5 bands

Video antenna: .....Protected cloverleaf, circular polarized

Flight time:.....5–7 minutes

Propellers:.....6 x 4.5" (clockwise and counterclockwise rotation)

Battery: 3S 2200mAh 25C

In This Manual

IMPORTANT! This radio control model is not a toy. It must be operated and flown according to these instructions and may cause serious injury to persons or damage to property if not used responsibly or if operated without due caution. Unsuitable for children under 14 years of age.

Introduction

The Ares Z-line Crossfire Racing Quad is a high-performance quad that's ideal for getting started in 250 class racing. The Crossfire provides natural flight characteristics designed and tuned for FPV racing through a custom flight controller that's preloaded with the latest Cleanflight software and supports future updates via a micro USB port. The 32bit flight controller is also customizable with multiple flight modes, including Acro (3-axis) and Self-Leveling (6-axis) mode. Powerful and efficient brushless race motors provide the Crossfire's speed and are complemented by 12amp ESCs with ONE-SHOT enabled software.

A unique low-profile design and streamlined body combine to give the Crossfire improved aerodynamics and protection for the electronics against the elements. The airframe is made from high-quality 3k twill weave matte carbon fiber for strength and lightweight performance. The Crossfire comes with a choice of two pre-painted, race-inspired stock canopies (red and blue) with two alternate choices (green and orange) offered separately, allowing you to race in your choice of colors. To top off the attractive design, bright red LED tail lights help with visibility and make sure your competitors know who's in front of them on the course. As for a video system, the Crossfire comes with a pre-installed ultra-micro, 200mW, 40-channel, 5-band VTX (video transmitter) and a 640 x 480 camera with 120 degree FOV (field-of-view) that combine to provide a crisp FPV experience. The VTX is compatible with your favorite goggles or a quality 5.8GHz video receiver / monitor, like the newly released Ares Z-line monitors.

Perhaps best of all, the Ares Z-line Crossfire arrives fully assembled out of the box and includes pretty much all the components you need to race – even a 3S 2200mAh battery that's easily removed without taking off the canopy. All you need to add is your own standard-size (end pin) or satellite receiver and you'll be heading out to race your new Crossfire before you know it.

Contents

1 x Factory assembled Crossfire racer quad.

1 x 3S 11.1V 2200mAh LiPo battery.

1 x USB to micro USB cable.

4 x 6 x 4.5" (CW & CCW) propellers.

1 x Cloverleaf antenna.

1 x 8mm wrench for cloverleaf antenna.

1 x 1.5mm L-shape hex drive.

1 x Quick-start guide.

Required To Complete

1 x 6-channel (minimum) computer radio set.

1 x 6-channel (minimum) end pin receiver.

1 x Strip of self-adhesive hook and loop tape.

1 x Suitable 3S LiPo battery charger.

You will also need access to Cleanflight open-source software in order to configure your Crossfire's flight control board.

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
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

Safety Precautions

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) 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 propellers away from the propellers, including loose clothing, tools, etc. Be especially sure to keep your hands, face and other parts of your body away from the propellers.

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's 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. that are not specifically designed and protected for use in water.

LiPo Battery Warnings

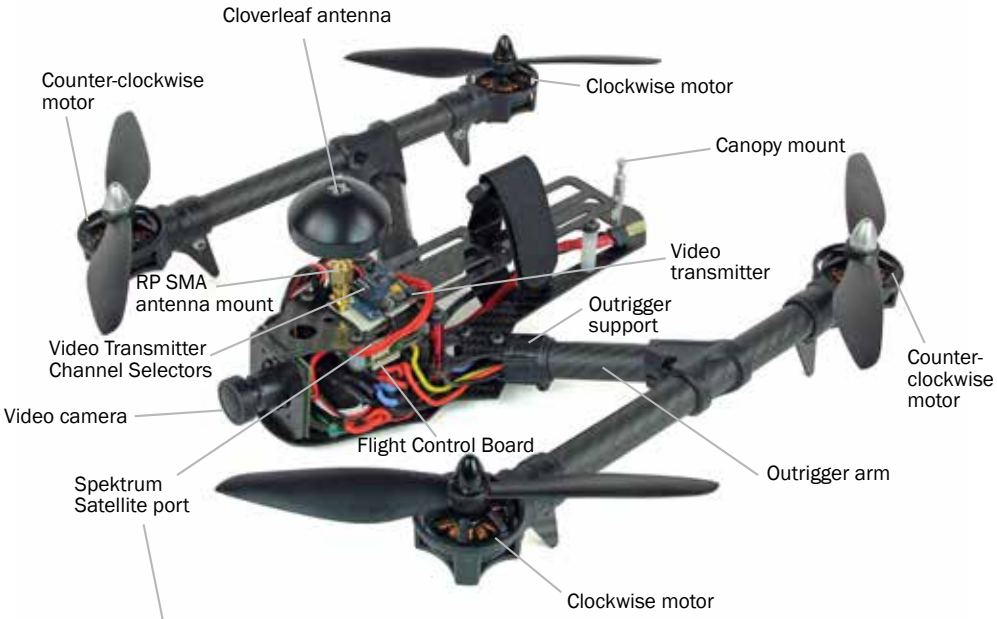
IMPORTANT NOTE: Lithium Polymer batteries are significantly more volatile than the alkaline, NiCd or NiMH batteries also used in RC applications. All instructions and warnings must be followed exactly to prevent property damage and / or personal injury as the mishandling of LiPo batteries can result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

- You MUST charge the LiPo battery in a safe area away from flammable materials.
- NEVER, at any time, leave the LiPo battery unattended when it's being charged.
- 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 LiPo battery you MUST use only the included charger in the transmitter. 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 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.

For best results, store the battery at room temperature – approximately 68 – 77° Fahrenheit (F) – and in a dry area.

Identification of Parts



Set-Up & Programming

1. **Remove the canopy.** Withdraw the rear body clip and gently ease the canopy from the airframe by gently unclipping the fairings from the outrigger supports and sliding the canopy forward, over the camera.

2. **Canopy protection.** For transport the canopy is protected by a thin shrink wrap film covering. Remove this to appreciate the full color luster of your Crossfire's paintwork.

3. **Transmitter programming/preparation.** Pair your chosen transmitter and receiver by following the pairing/binding procedure noted in your transmitter's instruction manual. Having done this, ensure that:

- The model memory you've chosen for your Crossfire is set to ACRO mode.
- The wing type is set to single servo aileron control.
- All trims are centered.
- End Point Adjustment (ATV) is set to 100% on all channels.
- All sub trims are centered.

4. **Wiring identification.** Locate the receiver wiring loom on the left-hand side of the electronics board and note the location ID for each wire using the guide below:

Hitec/Futaba

- Red/Black/White – Aileron CH1
- Red – Elevator/CH2
- White – Throttle/CH3
- Green – Rudder/CH4
- Blue – Auxiliary 1/CH5 (normal gyro/self level gyro)
- Yellow – Auxiliary 2/CH6 (lost model beeper)

Spektrum/JR

- Red/Black/White – Throttle/CH1
- Red – Aileron/CH2
- White – Elevator/CH3
- Green – Rudder/CH4
- Blue – Auxiliary 1/CH5 (normal gyro/self level gyro)
- Yellow – Auxiliary 2/CH6 (lost model beeper)

5. **Reciever Connection.** Plug the wires into the respective sockets on your receiver noting that the single-pin connectors should be attached to the 'signal' pin, usually reserved for the yellow, orange or white wire.

6. **Receiver installation.** Secure your receiver to the upper frame using hook and loop tape and secure the antenna wire(s). Note that only low-profile end pin receivers are suitable for the Crossfire due to the close proximity of the fuselage shell when fitted.

7. **Antenna installation.** Install the cloverleaf downlink antenna using the 8mm wrench. **WARNING!** The Crossfire should **NEVER** be powered ON without the antenna connected as this can damage the video transmitter circuitry.

8. **Download the Cleanflight Configurator software.** Before flying your Crossfire you'll need to configure and tune the Flight Control Board using Cleanflight open-source software. This software can be sourced via Google Chrome using the following method:
   a. Open Google Chrome.
   b. Enter 'Apps' by clicking the Apps icon in top left corner of your menu bar.
   c. Click on the 'Web Store' icon.
   d. Enter 'Cleanflight' into the search box (top left corner).
   e. Click the + TO CHROME icon to download the 'Cleanflight Configurator' software.
   f. When the software has been successfully downloaded the green CF icon will appear in the Apps menu.

Important note: Due to the nature of open-source software the Cleanflight Configurator interface is susceptible to regular updates and may not mirror the screen images provided in the step-by-step set-up stages detailed below.

9. **Open the Cleanflight Configurator software.** Click the CF icon to access the Cleanflight Configurator 'Welcome' page.

10. **Connect your Crossfire**. Ensure all propellers are removed, switch your transmitter on, then connect the small end of the supplied USB cable to the micro USB socket the Crossfire's Flight Control Board and the large end to a spare USB socket on your computer. When the cable is connected the Cleanflight 'Setup' window will automatically be displayed.

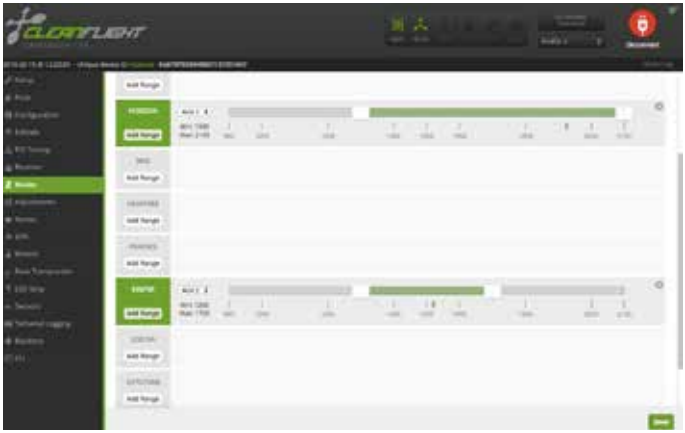
Note: Apple Mac OS X users may experience problems which require that a specific driver be installed to operate the Cleanflight software. If you are experiencing problems you can download the required driver from http://www.silabs.com/products/mcu/pages/usbtouartbridgevcpdrivers.aspx

11. **Cancel the beeper.** When you first connect the Flight Control Board, a beeper will be heard. This is a warning alarm that indicates the following:

- Slow beep – Loss of signal from your transmitter.
- Fast beep – Incorrect throttle position.

Alarms can also be configured to highlight a number of alternative user-defined issues from locating a lost model to indicating a battery low voltage warning. During the set-up process we suggest you switch this off. Here's how:

- Select 'Modes' from the menu bar on the left-hand side of the Cleanflight interface.
- Scroll through the list of options (ARM, ANGLE, HORIZON, MAG etc.) until you reach BEEPER which will be highlighted in green.
- Switch the beeper OFF by selecting the X in the top right-hand corner of the panel and clicking SAVE. The beeper will now cancel.
- Return to the Setup menu.



12. **Calibrate the accelerometers.** Place your Crossfire on a level surface and select the 'Calibrate Accelerometer' option. The Flight Control Board will beep in confirmation and calibrate the accelerometers accordingly.

- Use the live graphic to ensure that the accelerometers are working as they should, i.e. by tilting the quad to the left and checking that the quadcopter graphic tilts left is unison.
- Check the roll, pitch and yaw functions in the same way.

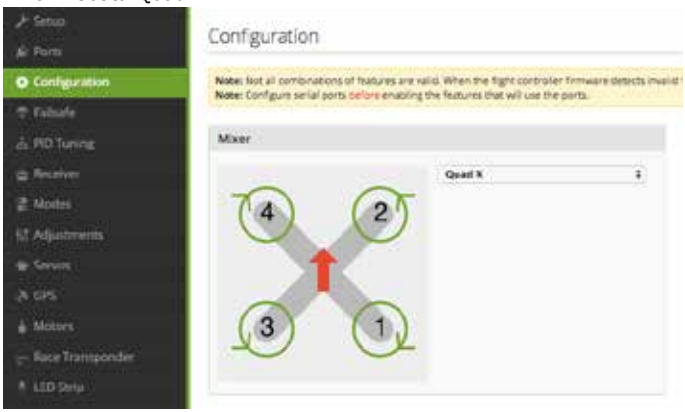
13. **Port configuration.** Select 'Ports' from the menu bar on the left-hand side of the Cleanflight interface.

- Check that Identifier UART1 is switched ON under the Data setting.
- Click 'Save and Reboot'.
- The Flight Control Board will beep in confirmation.

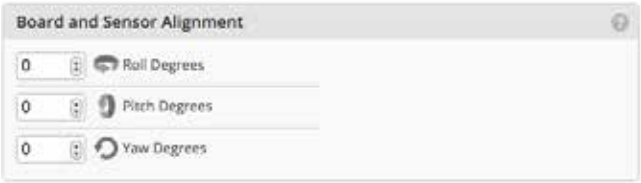
Note: If using a Spektrum/JR satellite receiver, connected via the Spektrum Satellite port, you will need to ensure that UART2 Serial Rx is switched ON under the RX setting.

14. **Basic set-up.** Select 'Configuration' from the menu bar on the left-hand side of the Cleanflight interface and check/adjust the following.

- Mixer – Set to 'Quad X'



- Board and Sensor Alignment – No adjustment required.

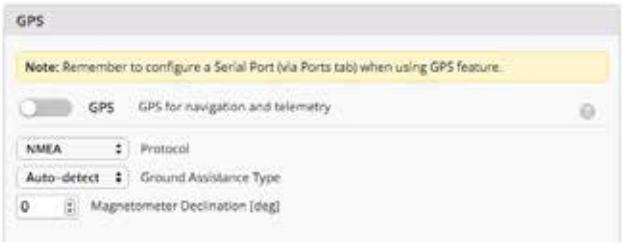


- Receiver Mode – Select the receiver you're using.
  - For Hitec, Futaba, Spektrum & JR receivers, set to RX PARALLEL_PWM
  - For a stand-alone Spektrum satellite, set to RX_SERIAL

- Serial Receiver Provider – Select the option that suits the receiver you're using, i.e. for Hitec, Futaba and Spektrum receivers with 1024 resolution, select SPEKTRUM1024

- RSSI – Leave switched OFF

- GPS – Leave switched OFF



- ESC/Motor Features – Configure as noted below.
  - MOTOR_STOP - Leave switched OFF
  - ONESHOT125 - Switch ON
  - Disarm motors - Select ON
  - Set throttle parameters to:
    1000 – Minimum Throttle
    1500 – Middle Throttle
    1850 – Maximum Throttle
    1000 – Minimum Command

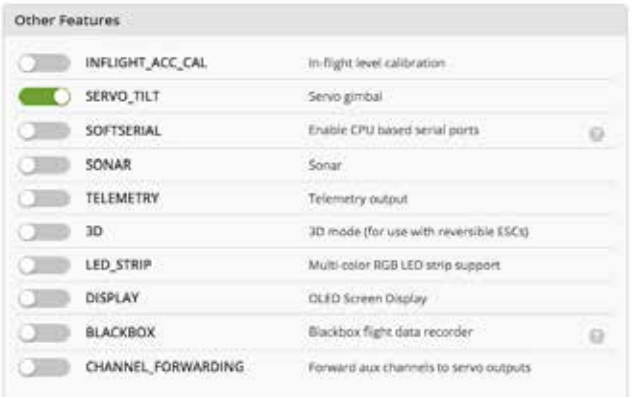
- Accelerometer Trim – Leave both Accelerometer Roll Trim and Accelerometer Pitch Trim set to zero.

- Battery Voltage – Set VBAT (Battery voltage monitoring) to ON and adjust the Cell Voltages to:
  - 3.3 – Minimum Cell Voltage
  - 4.3 – Maximum Cell Voltage
  - 3.5 – Warning Cell Voltage
  - 110 – Voltage Scale

- Current Sensor – No adjustment required.

- System configuration – Set as noted below:
  - 3500 – Flight Controller Loop Time
  - 286 – Cycles/Sec (Hz)

- Other Features – For US versions of the Crossfire that feature 6 motor output connectors on the right-hand side of the Flight Control Board, set SERVO_TILT to ON. For Flight Control Boards with 7 motor output connectors on the right-hand side of the Flight Control Board, set SERVO_TILT to OFF.



- Save and Reboot – At the end of this section click the ‘Save and Reboot’ icon in the bottom right-hand corner of the screen.

15. **Initiate failsafe.** Select 'Failsafe' from the menu bar on the left-hand side of the Cleanflight interface and switch ON. Set Failsafe Throttle to 1000. Click 'Save and Reboot'.

16. **PID Tuning**. Select 'PID Tuning' from the menu bar on the left-hand side of the Cleanflight interface and ensure that the PID Controller is set to MultiWii (2.3 – latest). Leave all other values as displayed. Click 'Save'.

17. **Adjust the channel center points.** Select 'Receiver' from the menu bar on the left-hand side of the Cleanflight interface and select your chosen receiver type under the 'Channel Map' heading.

    Use the bar graph to check the direction of the roll, pitch, yaw and throttle controls, using your transmitter's servo reverse function to make necessary corrections (see below).

- Roll (aileron): Left stick should move the bar graph slider to the left.
- Pitch (elevator): Pulling the stick back should move the bar graph slider to the left.
- Yaw (rudder): Left stick should move the bar graph slider to the left.
- Throttle: Pulling the stick back should move the the bar graph slider to the left.

Allow the roll, pitch and yaw sticks on your transmitter to 'centre', then manually and precisely centre the throttle stick. Precisely centre the roll, pitch and yaw trims, then reduce the throttle trim to its lowest position. Now use the bar graph to check that roll, pitch, yaw and throttle are set to 1500, i.e. their centre points. If any of the values are higher or lower than 1500, use your transmitter's sub-trim function to adjust.

18. **Establish a switched mode function for gyro stabilized flight.** Select 'Modes' from the menu bar on the left-hand side of the Cleanflight interface and check / adjust the following:
    - Under the heading 'HORIZON' select the AUX 1 channel from the drop down menu.
    - In step 4 or 5 you will already have connected the AUX 1 wire to the Channel 5 socket on your receiver. So, in the programming section of your transmitter, assign Channel 5 to a two-position switch of your choice.
    - The programming can be verified as correct when the HORIZON icon turns green with the Channel 5 switch in the ON position. This, then, is your gyro stabilised flight condition.
    - Set the range to: Min: 1400; Max: 2100.
    - Click 'Save'.

19. **Configure adjustment switches.** No changes need to be made under the 'Adjustments' heading in the menu bar on the left-hand side of the Cleanflight interface.
20. **Configure servos.** No changes need to be made under the 'Servos' heading in the menu bar on the left-hand side of the Cleanflight interface.
21. **Configure GPS.** No changes need to be made under the 'GPS' heading in the menu bar on the left-hand side of the Cleanflight interface.

22. **ESC calibration**. Select 'Motors' from the menu bar on the left-hand side of the Cleanflight interface and check / adjust the following:
    - If you've already attached the propellers to your Crossfire, REMOVE THEM NOW.
    - Read the 'Motor Test Mode Notice' and confirm that you've removed the propellers by pressing the disclaimer button to enable motor control.
    - Drag the 'Master' slider control to the top of its travel.
    - Ensure your transmitter is powered ON and pull the throttle stick back to close the throttle.
    - Install the charged 3S 2200mAh LiPo battery into your Crossfire and plug it in (see Step 30). On connecting the LiPo the Flight Control Board will emit a series of beeps.
    - Drag the 'Master' slider control back to zero. A series of short beeps will confirm that ESC calibration is now complete.
    - Disconnect the LiPo battery.
    - Disconnect the mini USB from the Flight Control Board.
    - Repower the board by re-connecting the mini USB.

23. **Motor testing.** Select 'Motors' from the menu bar on the left-hand side of the Cleanflight interface and check them using the following method:
    - Install the charged 3S 2200mAh LiPo battery into your Crossfire and plug it in once more.
    - Confirm that the propellers are still removed by pressing the disclaimer button to enable motor control.
    - Use the motor sliders (1 to 4) to individually check the rotation direction of the four motors in accordance with the graphic in the top left corner of the screen.
    - Disconnect the LiPo battery.

24. **LED effects.** No changes need to be made under the ‘LED Strip’ heading in the menu bar on the left-hand side of the Cleanflight interface.

25. **Gyros and accelerometers.** Select ‘Sensors’ from the menu bar on the left-hand side of the Cleanflight interface and ensure the Gyroscope and Accelerometer boxes are checked/ticked.

26. **Tethered Logging.** No changes need to be made under the ‘Tethered Logging’ heading in the menu bar on the left-hand side of the Cleanflight interface.

27. **Blackbox.** No changes need to be made under the ‘Blackbox’ heading in the menu bar on the left-hand side of the Cleanflight interface.

28. **Disable gyro compensation at zero throttle.** The Crossfire’s flight control board is pre-programmed with gyro compensation at zero throttle. This must be programmed out. To do this select ‘CLI’ from the menu bar on the left-hand side of the Cleanflight interface and enter the programming text (given below) into the box at the bottom of the screen. The text MUST be written exactly (case sensitive) as noted here:

    - set pid_at_min_throttle = 0 (press the ‘Return’ key to enter)
    - SAVE
    - Having typed SAVE, press the ‘Return’ key to enter and save the instruction. You can now disconnect the mini USB cable from the Flight Control Board.

Flight Preparation

29. **Re-fit the canopy.** Disconnect the cloverleaf antenna using the 8mm wrench, refit the fuselage molding using the rear body clip, then re-connect the antenna.

30. **Battery installation.** Insert the fully charged 3s 2200mAh Li-Po and secure it with the hook and loop strap. As the LiPo is installed from under the Crossfire, the fuselage molding does not need to be removed.

31. **Arming the motors.** WITH THE PROPELLERS STILL REMOVED, switch your transmitter ON and connect the Crossfire's battery. A series of beeps will be heard confirming that the quad is ready to arm. Place the Crossfire on a level surface and arm the motors by moving the throttle stick to the bottom right corner of the gimbal (the default position for Mode 2 transmitters) and holding until a series of beeps (one full and one half beep) is heard.

32. **Re-check the motor operation.** Check the rotation direction of the motors by gently increasing the throttle and viewing from above.

33. **Check gyro compensation at zero throttle.** With the throttle stick at its lowest position, tilt the Crossfire from side to side and check that the motors remain inactive. If the motors rotate when the quad is tilted, this is clear evidence that gyro compensation at zero throttle is still active and that Step 28 will need to be repeated.

34. **Disarming the motors.** To disarm / disable the motor operation, move the throttle stick to the bottom left-hand corner of the gimbal (the default position for Mode 2 transmitters) and hold until two short beeps are heard.

35. **Propeller identification.** Having confirmed that all works as it should and that the motors rotate correctly, disconnect the battery and switch OFF your transmitter. Identify the propellers noting that two of the four have a right-hand rotation (denoted by the letter R alongside the dimension embossed on the root section of the blade). R designated propellers should be installed on motors A and C and fitted with a black (left-hand thread) prop nut. The remaining left-hand rotation propellers should be secured to motors B and D.

36. Propeller installation. Install the propellers using a 1.5mm L-shape hex drive. Apply adequate, but not excessive, force to securely tighten the nuts. Note that the black nuts have a left-hand thread and tighten counter-clockwise. Your Crossfire is now ready to fly.

VTX Channel Selection

The video transmitter's 40 channels are made available via the push-button on the top of the unit. Select the channel you require using the table below in conjunction with the LED lights on the VTX. The row of eight LEDs indicates the channel selection (CH1 to CH8) whilst the row of five LEDs indicates the frequency selection.

- A single push of the button will change between CH1 and CH8.
- Push and hold for three seconds to change frequency (FR).

CH / FR	CH							
	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
FR1/Band F	5740	5760	5780	5800	5820	5840	5860	5880
FR2/Band E	5705	5685	5665	5645	5885	5905	5925	5945
FR3/Band A	5865	5845	5825	5805	5785	5765	5745	5725
FR4/Band R	5658	5695	5732	5769	5806	5843	5880	5917
FR5/Band B	5733	5752	5771	5790	5809	5828	5847	5866

Adjusting the Camera Angle

The video camera can be adjusted to your preferred flight angle using the following procedure:

- Clip the cable tie immediately behind and to the right of the camera.
- Gently prise apart the top and bottom frames to release the camera mount from its locating slots.
- Reposition the camera mount in alternative slots to achieve the desired angle of tilt.
- Refit a new cable tie to secure the camera.

Recommended Accessories

To make the most of the FPV possibilities offered by your Crossfire we recommend a selection of the following accessories from the Ares Z-Line range:

AZSZ1020.....7” Standard Definition Monitor

AZSZ1021.....7” High Definition Monitor

AZSZ1022.....9” High Definition Monitor

AZSZ1030.....Cloverleaf Antenna Set

AZSZ1031.....Patch Antenna

AZSZ1036.....Monitor charger

Lawful Operation

Please note that specific guidelines exist regarding the lawful flying of 'Small Unmanned Aircraft' and 'Small Unmanned Surveillance Aircraft' such as the camera-equipped Crossfire. To stay within the law visit the website of your country's aviation regulating authority and read the operating guidelines within which you must operate.

USA: The Federal Aviation Administration – https://www.faa.gov

UK: The Civil Aviation Authority – https://www.caa.co.uk

Australia: The Civil Aviation Safety Authority – https://www.casa.gov.au

Replacement Parts

AZSZ2805.....3S 2200mAh 25C LiPo with T-style connector

AZSZ2805S .....Battery strap

AZSZ2806.....Flight controller (Flip 32 v2.6)

AZSZ2807 .....Power distribution board

AZSZ2809.....Landing skids (4)

AZSZ2810 .....ESC 15A (BLHeli)

AZSZ2813.....Motor, BL CW 2300kV 2204

AZSZ2814 .....Motor, BL CCW 2300kV 2204

AZSZ2818.....Propellers CW (2)

AZSZ2818R .....Propellers CCW (2)

AZSZ2820B .....Frame bottom plate

AZSZ2820T.....Frame top plate

AZSZ2821B .....Canopy (blue)

AZSZ2821G .....Canopy (green)

AZSZ2821OR.....Canopy (orange)

AZSZ2821R .....Canopy (red)

AZSZ2822.....LED cover (2)

AZSZ2824.....Motor mounts (2)

AZSZ2825.....Screw set

AZSZ2828.....Stand-offs

AZSZ2829.....Spacers

AZSZ2830.....Outer arm tube mount

AZSZ2831.....Inner arm tube mount

AZSZ2832.....Outer carbon tubes (2)

AZSZ2833.....Inner carbon tubes (2)

AZSZ2836.....Canopy standoff

AZSZ2838.....FPV camera plate

AZSZ2839.....Battery tray

AZSZ2841.....200mW FPV system (camera & VTX)

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

by emailing customerservice@firelandsgroup.com

or by calling 800-205-6773

www. Ares-RC.com

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