ZT MODEL

Global Hawk EP Airplane

FEATURES/SPECIFICATIONS:

Powerful 2830-1300kv motor with 30A ESC

All servos and linkages preinstalled

Easy to Assemble!

Durable EPP foam construction.

Wingspan: 1220mm, Length: 915mm, Flying weight: 1000g

Flight Battery: 11.1V 3S 1800~2200mAh 25C Lithium Polymer Battery (T-style plug)

3S LiPo Battery Charger

Required:

(4) 1.5V AA size batteries for the transmitter.

IMPORTANT! Read the ENTIRE instruction guide to become familiar with the model before operating. This guide contains instructions for safety, operation, and maintenance. It is essential to read and follow all the instructions and warnings, prior to assembly, setup, or use, in order to operate correctly and avoid damage or injury.

NOTICE: All instructions, warranties and other collateral documents are subject to change at the sole discretion of ZT Model.

LITHIUM BATTERY/CHARGER CAUTIONS:

This model airplane uses a lithium polymer (LiPo) battery. Improper handling may result in damage or injury. You are responsible for following all safety precautions as outlined below:

- Very important! **Never** leave the charger and LiPo battery unattended while charging!
- Do not charge a LiPo battery on a flammable surface or near combustible materials.
- Never charge inside a vehicle or at a location that could be damaged in the event of a LiPo fire.
- Keep out of reach of children!
- Do not charge or use a battery that is deformed, bent, crushed, or has any type of visible damage.
- Disconnect the battery and unplug the charger if the charge time exceeds 3 hours.
- Disconnect the battery and unplug the charger after the charge is complete.
- Keep LiPo batteries out of reach of animals. A punctured battery may cause a harm.
- Never disassemble or modify a battery, its wiring, or puncture cells, as this may result in fire.
- Do not allow the battery to short circuit by touching exposed wires together.
- LiPo batteries must always be recycled or disposed of properly.

WARRANTY

Do not return your model to the Store. ZT Model will repair or replace factory defects for 90 days from the date of purchase. This warranty specifically does not cover crash damage, misuse, or abuse. To make a warranty claim, please contact our product support team. This warranty applies only if the product is operated in compliance with the instructions and warnings provided.

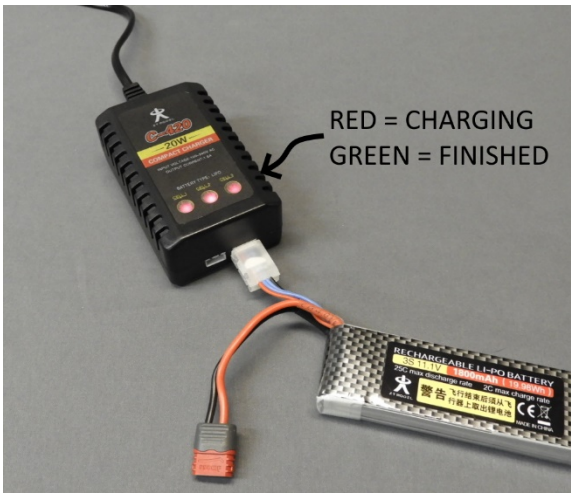
ZT Model assumes no liability except for the exclusive remedy or repair of parts as specified above. ZT Model shall not be liable for consequential, crash, or incidental damages.

SAFETY PRECAUTIONS

- Warning: Do not modify or alter this model.
- This model is suitable for ages 14 and above.
- You must always disconnect and remove the battery from the airplane when not in use.
- Do not operate near people or animals.
- Always remove the propellers when working on the airplane.
- **Important!** Always unplug the battery from the charger after charging is complete.
- Before each flight, examine all parts for damage. If any is found, do not operate until the damage has been repaired.
- Keep the airplane and battery away from direct sunlight and/or heat sources.
- Always unplug and remove the battery after each flight.

CHARGING THE BATTERY:

Charge the Lithium polymer (Lipo) Battery. Review the warnings in the front of this manual and most importantly, **NEVER** leave a charger unattended.



1. Plug the C-420 charger into an outlet. The three LED's will indicate green.

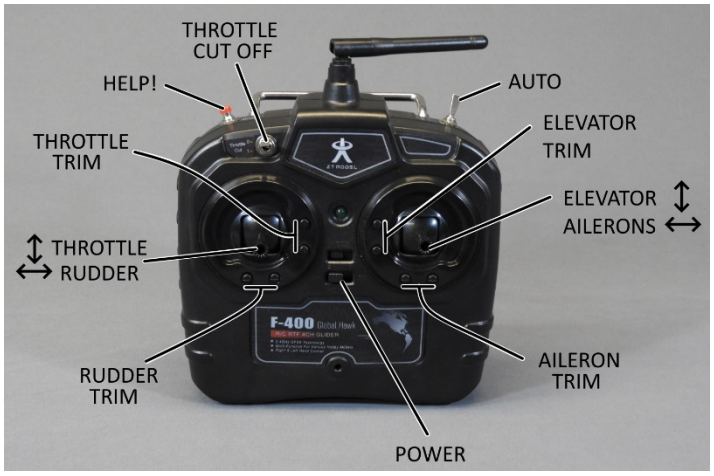
2. Plug the battery into the 4-wire port on the end of the charger. Do not force! The plug will only go in one way.

3. The LED's will turn red indicating that the battery is charging. Note: This charger is capable of charging 2S or 3S batteries. The number of lit LED's will correspond to the number of cells being charged.

4. Once all three LED's turn green, the battery is finished charging. Note: It is normal for the charger to be warm while charging.

5. Unplug the battery from the charger and the charger from the wall as soon as it is finished.

TRANSMITTER SETUP:



1. Install (4) 1.5v AA batteries into the back of the transmitter. Make sure the polarity matches the (+/-) indicators.

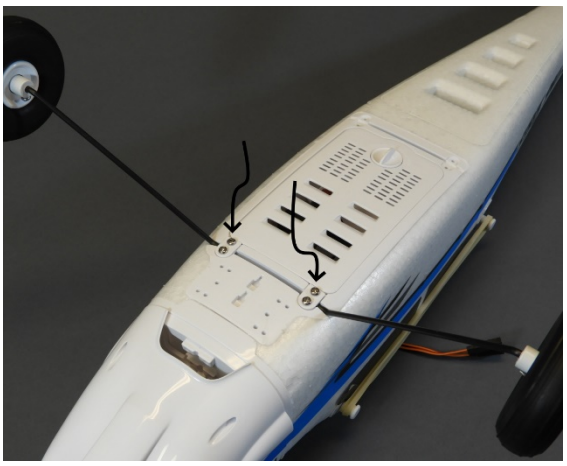
2. Familiarize yourself with the transmitter controls.

   Throttle Cut: locks the motor from accidentally turning on.

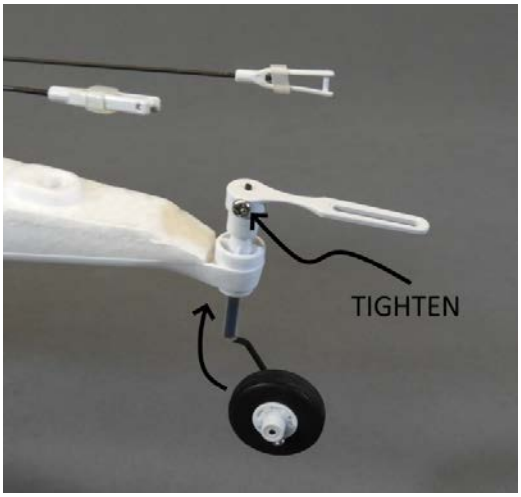
   Auto: Toggle between three flight modes:
   - 0-Manual mode. Minimal stabilization. Use for aerobatics.
   - 1-Semi stabilization for faster performance with mild stability control.
   - 2-Full stabilization for smoothest flight. Perfect for learning to fly.

   HELP! Use when you get disoriented and need the airplane to roll to upright and level flight.

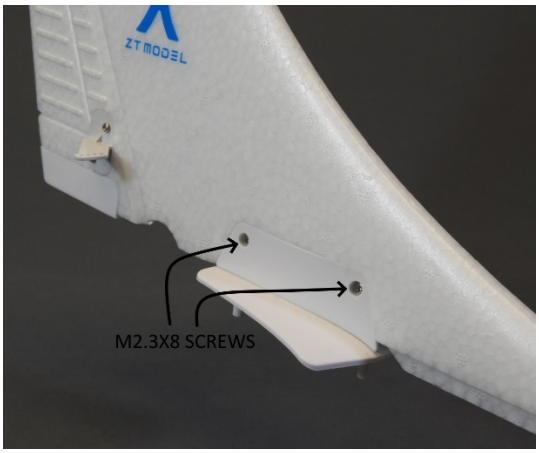
ASSEMBLY:



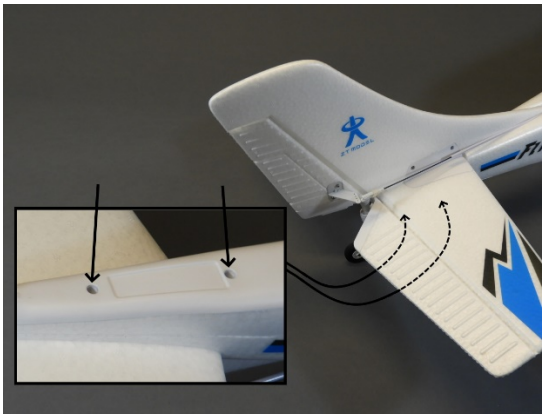
1. Line up and install the main gear into the slot on the bottom of the fuselage. Make sure the landing gear angle forward. Secure using two flat straps and (4)M3x8 screws.



2. Insert the tail wheel into the tail bracket. Attach the steering arm to the top and secure with (1)M3x6 screw. Make sure the tail gear pivots freely or you risk binding the servo. If needed, use a drill to clean out the hole for free movement.

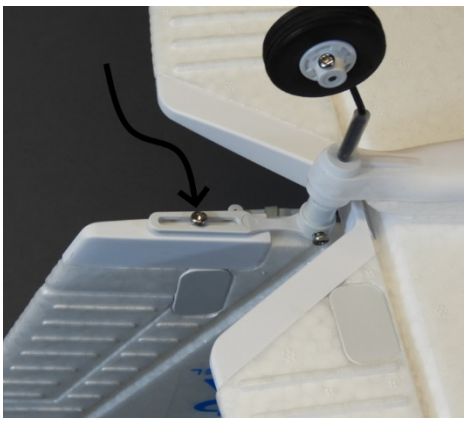


3. Attach the base parts to the fin. Secure with (2)M2.8x8 screws. Do not overtighten.

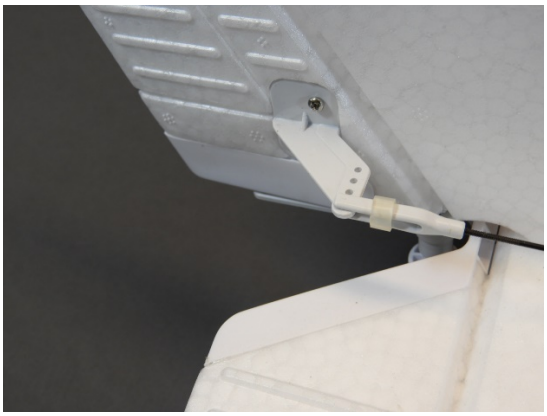


4. Place the stabilizer in position on the fuselage.

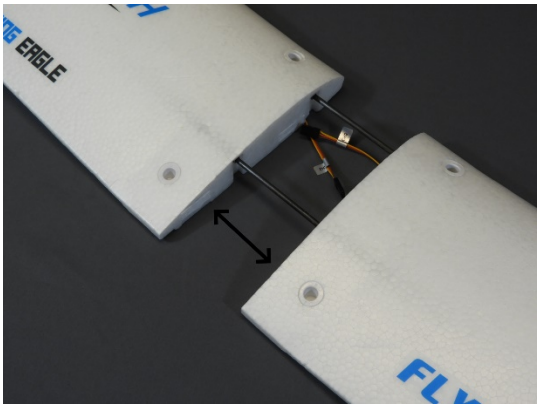
5. Attach the fin assembly to the fuselage. Fasten in place using (2)M2.6x16 screws.



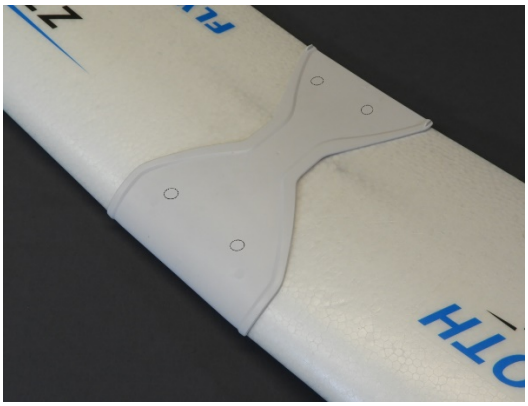
6. Attach the steering arm to the rudder with (1)M3x6 screw. DO NOT fully tighten, the arm needs to float on the screw.



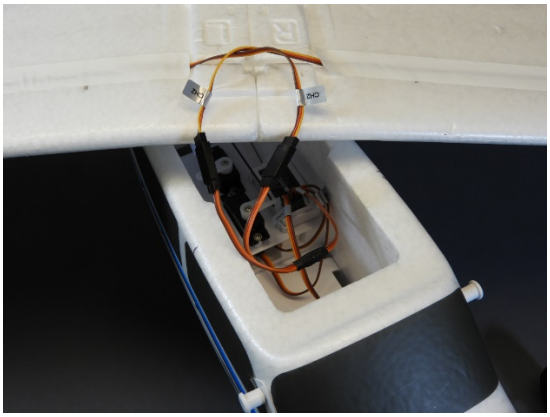
7. Attach the clevis to the rudder and elevator control surfaces. Use the outer holes of the arms. Slide the clevis retainers up to secure the clevis.



8. Insert the two carbon wing joiners into the wing and slide the two wing halves together.



9. Install the wing center cover by lining up the posts on the bottom of the cover with the holes in the wing.



10. Connect the aileron servos to the Y-harness coming from the receiver.

11. Place the wing in place making sure you are not pinching the servo wires.

12. Secure the wing in place using the 4 rubber bands. Install them in a X pattern.

    a. If flying in high winds or want to fly aerobatics, we recommend using 6 rubber bands to secure the wing.

CONTROLS SETUP:

Caution! When working on your aircraft with the battery installed, **ALWAYS** remove the propeller in order to avoid the chance of injury if the motors accidentally turn on.

1. Turn on the transmitter, move the throttle to high and then back to low.
    a. Remove the bottom hatch and plug in a charged battery. You will hear a series of beeps coming from the motor.
2. Check the control direction and reverse the servos from your transmitter if needed.
    a. Move the rudder stick left. The rudder should deflect left.
    b. Pull the elevator stick down towards you. The elevator surface should deflect upwards
    c. Move the aileron right. The left aileron should deflect downwards, and the right aileron should deflect upwards.
3. Check the centering of the control surfaces. Adjust the clevises in or out to level all the surfaces.

4. Once you are satisfied with the setup, unplug the battery.

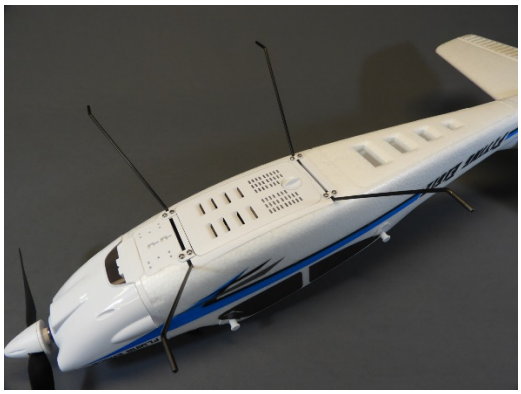
PROPELLER INSTALLATION:

1. Assemble the prop collet, thrust washer, spinner backplate, propeller and nut (keep loose).

2. Push the propeller assembly onto the motor shaft. Leave a 0.5mm gap between the motor and the collet. Tighten prop nut using a 10mm wrench.

3. Attach the spinner cone with (1)M2x6 screw.

FLOAT CONVERSION:

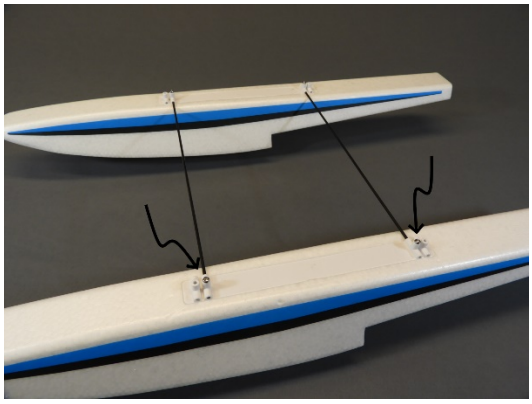


1. Remove the wing from the fuselage.

2. Remove the wheels from the main landing gear.

3. Remove the tail wheel and tail wheel wire from the fuselage.

4. Attach the rear main gear onto the bottom of the airplane using two flat straps and (4)M3x8 screws. Make sure the wire angles to the back.



5. Insert the two float spreader bars into the inside holes of the float and secure with (4)M3x8 screws.

6. Attach the floats to the main gear.

7. Make sure the floats are lined up straight with the fuselage. When satisfied, secure the main gear to the floats using (4)M3x8 screws.

8. Attach the water rudder to the rudder. Tighten the (1)M3x6 screw to secure it in place.

CENTER OF GRAVITY (CG):

IMPORTANT! DO NOT SKIP THIS STEP. Having a properly balanced aircraft is critical for proper flight. Too nose heavy and the plane will want to dive and be hard to take off and land. Too tail heavy and the plane will feel unstable and out of control. Both conditions can cause the aircraft to crash.

1. With the aircraft upright, use your fingertips and lift the plane up at the stickers located under the wing next to the fuselage.
    a. If the nose drops, move the battery backwards.
    b. If the tail drops, move the battery forward.
    c. If needed, add additional weight to the nose or tail (as far out as you can) to achieve balance. Stick on weights work great for this.

GET READY TO FLY:

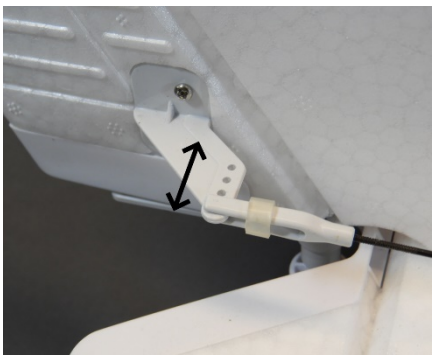
1. Turn on the transmitter and move the throttle stick full up and then full down. The LED will be flashing at first and then glow steady. You will also hear a beep. The transmitter is now armed and ready for flight.
    a. **IMPORTANT!** You must move the throttle up and down before plugging in the airplane, otherwise the airplane will not respond.

2. Next, plug in the battery on the aircraft and set it down on a level surface.

3. During flight, use the trim buttons to adjust to fine tune the airplane so it flies straight and level.

4. Use the throttle cut as a safety to lock the motor from turning.

5. The control throws are set from the factory. If you find that you need more, adjust the clevis location on the control surface or on the servo arm.
    a. For more throw, move the clevis inward on the control surface, for less, move it outward.
    b. On the servo arm, you do the opposite. Move it out for more throw and in for less.



FLYING:

Caution: As a rule of thumb "always" assume the propeller could spin at any time. Whenever a battery is installed, stay clear of the propeller!

- Choose a wide-open area away from people, buildings, and power lines.

- You can take off and fly in any of the three flight modes.

- Flight modes.
  - **Manual mode:** This mode gives you the most control of the plane and allows you to perform aerobatics like loops and rolls. The gyros are still active however to assist you in strong winds.
  - **Semi Stability mode:** This setting gives you moderate control authority and great for when you want to fly around a little more aggressively than full stability mode, but still want the airplane to self-recover.
  - **Stability mode:** Best for when learning how to control the airplane and when you want the maximum amount of stability. In this mode, the aircraft will always want to return to level whenever you let go of the sticks. This is a great mode for when you want to fly around gently.
  - If you get into trouble, use the **HELP!** Button on the transmitter. This function will quickly roll the plane upright and level allowing you to regain orientation.

- Taking off from a runway.
  - Place the aircraft on a smooth surface facing the wind. Gently advance the throttle and the airplane will slowly take off.
  - Control altitude using the throttle and gentle elevator.

- Taking off from water.
  - Gently place the aircraft in the water and give it a gentle push get away from shore.
  - Taxi to a point where you will be pointing into the wind and have plenty of room to clear the shoreline once you take off.
  - Gently advance the throttle and the airplane will slowly accelerate and get on step. The airplane should fly off the water, but it may require a small blip of up elevator to help break it free.
  - Control altitude using the throttle and gentle elevator.

- Flying tips:
  - Control turning by moving the aileron stick left or right and then add in a little elevator to help maintain altitude and to pull it around.
  - For quicker turns, coordinate in a small amount of rudder along with the ailerons.
  - Keep in mind, the plane flies itself. Your job is to control it. When it is pointing where you want it to go. Let go of the sticks and let it fly.
  - A common mistake is to over control the airplane. Gentle movements are best.
  - When learning, make small inputs and then let the stick go back to center.

- When ready to land, point the plane into the wind and keep the wings as level as possible. Lower the throttle so the plane will descend. When the plane is ready to touch down, reduce the throttle to zero and add in a little elevator to flare the nose right before touching down.
- After landing on water, slowly taxi back to the shore.
- Stop the motor before retrieving the aircraft from the water.

- When you notice the power starting to drop, land immediately.

- **IMPORTANT!** Always remove and unplug the battery after every flight. If not, the battery may slowly discharge and be permanently damaged.

- Let the battery cool before recharging.

ESC OPERATION NOTES:

1. The ESC has a low voltage cutoff which lowers the power to the motor once the battery voltage gets low. When this happens, you should land immediately, and recharge the battery.

2. If the signal is lost to the aircraft, the throttle will automatically shut down and the motor will make a beeping sound. If this happens check the batteries in the transmitter and that it is turned on and working. If the LED turns on and you still don't have control, you may need to relink the transmitter to the aircraft.

3. The ESC features a overheat protection circuit which will lower the power until the temperature comes down. This is usually caused by damaged prop, motor or blocked cooling holes.

4. ESC LED indicator:
   - The red light is always on, and the blue light is flashing fast. The transmitter is not connected. Check the transmitter batteries or relink.
   - The red light is always on, the blue light is flashing slowly, the signal between the transmitter and aircraft is interrupted.
   - Blue light steady on, red light steady on indicates full stability mode.
   - Blue light steady on, red light flashing indications semi-stability mode.
   - The blue light is always on and the red light is off indicating manual mode.

LINKING THE TRANSMITTER:

1. In the rare instance the airplane does not respond to the transmitter, you may need to relink.

   a. With the prop removed, plug a charged battery into the airplane.
   b. With the transmitter off, lower the throttle stick.

c. Push and hold any one of the trim buttons on the transmitter while simultaneously turning on the power. Hold until the transmitter beeps.
d. Move the throttle from low to high and back to low. The flashing will stop, and you will now be linked
e. The transmitter will remember this link for future operation.

CARE AND MAINTENANCE:

Caution! When working on your plane with the battery installed, always remove the propeller to avoid the chance of injury if the motors accidentally turn on.

- Parts damaged beyond repair can be purchased separately. Often though, parts can be repaired easily, and you can get your airplane back into the air with a little glue and ingenuity.
- This airplane is made from durable foam which can be glued with just about anything. Most people use regular CA or epoxy. Use tape if needed to hold the parts together until the glue dries.
- After every flight, check the plane over to make sure nothing has come loose. Check all the adjustable links to make sure they are secure.
- Periodically, check all the electrical connectors to be sure they are secure.
- Always remove the batteries from the transmitter for long term storage.

REPLACEMENT PARTS:

Parts:

TA088-01	Foam parts set
TA088-02	Propeller
TA088-03	Float wire set
TA088-04	Motor mount
TA088-05	9g Servo
TA088-06	17g Servo
TA088-07	2830-1300kv Motor
TA088-08	30A ESC
TA088-09	Landing gear with wheels
TA088-10	Spinner set
TA088-11	11.1V 3S 1800mAh 25C Lithium Polymer Battery (T-style plug)
TA088-12	Receiver
TA088-13	Motor Heat Sink
TA088-14	Wing cover/Cowling
TA088-15	C-420 charger
TA088-16	Hardware set

SERVICE AND SUPPORT:

PlaySteam USA

301 E. Mercury Dr.

Champaign, IL. 61822

Telephone: (217)402-2040

Email: USA@PlaySTEAM.com

FCC Warning Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

--Reorient or relocate the receiving antenna.
--Increase the separation between the device and receiver.
--Connect the device into an outlet on a circuit different from that to which the receiver is connected.
--Consult the dealer or an experienced radio/TV technician for help

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

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