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FEATURES
• Built in 6 axis gyroscopic chip keeps the Proton Z™ extremely stable in all conditions.
• 4 channel flight controls allow for incredible manoeuvrability including 360° aerial stunts!
• LED directional lights make the Proton Z™ easy to follow.
• Patented Switch-Blade™ technology allows you to operate in 3ch or 4ch modes for beginner to advanced pilots
• Snap on wheel cage protects your Proton Z™ and adds an element of fun!

REMOTE CONTROL BATTERY INSTALLATION
1. Pull out the battery cover from the controller.
2. Install 2 “AAA” alkaline batteries into the controller as shown in the diagram.
3. Replace the battery cover and secure it.

CHARGING THE HELICOPTER
1. Make sure the helicopter’s power switch is in the “OFF” position and plug the USB charging cord into the charging socket of the helicopter (see diagram A).
   Caution: The USB plug fits the charging socket only in one way. Do not force it.
2. Connect the helicopter charging cord to your computer’s USB port (see diagram B).
   Note: You may also purchase a Propel USB wall charger from our online store at www.propelrc.com.
3. The red LED on the USB plug lights OFF when charging is complete (See diagram C).
4. The charging time will vary depending on the percentage of battery already charged. The average charging time is approximately 10-20 minutes.

Charging socket is located on the underside of the helicopter next to the power switch.

IMPORTANT: ALWAYS DISCONNECT CHARGER CORD AFTER CHARGING. NEVER LEAVE CHARGER CONNECTED TO HELICOPTER OVERNIGHT OR FOR EXTENDED PERIODS OF TIME.

Thank you for purchasing the Proton Z™ 2.4Ghz Indoor/Outdoor Quad Rotor Helicopter. Please read this instruction booklet as it contains valuable information on how to properly fly and care for your Proton Z™.
**WARNING**

DO NOT FLY YOUR PROTON Z™ IN FOUL WEATHER!

**PREPARING FOR FLIGHT**
- Verify that there are 2 "AAA" batteries inside the remote control unit and the Proton Z has been fully charged.
- Make sure your Proton Z™ and controller are turned on.
- Make sure to be in a large space with an open radius of at least 50 feet.
- Make sure the empty space has no obstacles and river. Set your Proton Z™ on a clean flat surface before take-off.

**SYNCING YOUR PROTON Z™**

Important! When syncing your Proton Z™ copter with the controller always make sure that the copter is on a flat level surface and that your digital trim settings are in the center position. This insures that the 6 Axis gyro is properly programmed to mimic your trim settings. Your Proton Z™ utilizes an automatic 2.4G channel selection system that allows up to 8 people to fly side by side in the same wireless range.

**For One Person Play:**
1. Before starting, make sure that the power on both your remote control and Proton Z™ are in the OFF position. Make sure that there are no other 2.4G devices in the area as well.
2. Turn ON the Proton Z™ and set it down on a flat surface. The red LED indicators at the bottom of the Proton Z™ will begin to slowly flash.
3. Next turn ON the remote, the power indicator light in the center of the remote controller will flash accompanied with a rapid beeping sound this means that the controller is trying to pair with the Proton Z.
4. The Red LED should now be rapidly flashing and then come to stop accompanied with a final higher pitched "beep" from your controller. This means you have successfully synced the Proton Z to the controller and are ready to fly.

**IMPORTANT:** if the RED LED lights on the bottom of the Proton Z are still blinking this means you did not successfully pair your controller to the Proton Z. You will need to turn off both and start over again. Remember to ALWAYS TURN ON THE PROTON Z™ FIRST and then controller. Try not to leave more then 5 seconds between the time you turn on the Proton Z and the Controller.

5. Once synced you must move the Left throttle stick up and then down to the bottom, this should cause a LED light on the controller to turn green. Green means go! Now you are ready to fly!!

**For Multi Person Play:**
6. Before starting, make sure that the ON/OFF switch on the bottom of all Quadcopters and remotes are in the "OFF" position. Make sure that there are no other 2.4G devices in the area as well.
7. Each person will have to sync their Proton Z™ individually, one at a time, to avoid interference. Follow steps 1 to 3 above making sure to keep away from other people while also making sure that no one else is syncing at the same time.
8. After a Proton Z™ is successfully synced it should be left ON next to the matching controller until all other players have synced their Proton Z Quadcopters.
9. Should there be any mistakes or interference, all players must turn off their controllers and Proton Z™ quadcopters and start the process all over again.
FLYING TIPS
- It is recommended that you operate the Proton Z™ in a wide space. The ideal space should have a 200 foot radius.
- Parental guidance or adult supervision is suggested at all times.
- If you are flying the Proton Z™ with others, make sure all spectators are behind you.
- For best performance, it is recommended that you operate the Proton Z™ in zero or low wind conditions. Wind can greatly affect the performance of the Proton Z™.

RECOGNIZING THE FRONT AND BACK OF THE COPTER
Even though the Proton Z™ has four rotors there is still a front or “forward” facing direction and “back” or backwards facing direction. The forward frontal and forward facing direction of the Proton Z™ is the side with two white blades (see diagram E on page 10). The rear and back of the Proton Z™ is where the charging socket and the two black propellers (see diagram E on page 10).
NOTE: The front of the copter displays WHITE LED lights and the back of the copter displays RED LED lights.

UNDERSTANDING TRIM ADJUSTMENTS
Forward/Backward Trim
- If your Proton Z™ is moving forwards or backwards automatically, you may need to adjust the FORWARD/BACKWARD TRIM buttons.
- If your Proton Z™ flies forward, click the FORWARD/BACKWARD TRIM button back/down repeatedly until the moving stops and proper flight is maintained.
- If your Proton Z™ flies backwards, click the FORWARD/BACKWARD TRIM button forward/up in the same manner until the problem is resolved.
- From time to time you may have to adjust the FORWARD/BACKWARD TRIM to ensure the Proton Z™ will hover in mid-air and respond accurately to your commands.

Banking Left/Right Trim
- If your Proton Z™ is not steadily hovering and is banking to the left or right automatically, you may need to adjust the BANKING TRIM buttons.
- If your Proton Z™ banks to the left, click the BANKING TRIM button repeatedly to the right until the banking stops and proper flight is maintained.
- If your Proton Z™ banks to the right, click the BANKING TRIM button to the left in the same manner until the problem is resolved.
- From time to time you may have to adjust the BANKING TRIM to left/right to ensure the Proton Z™ will steadily hover in mid-air and respond accurately to your commands.

NOTE: The use of the Trim buttons are accompanied with a Beep tone. A single long Beep indicates the product is center trimmed. Continuous long Beeps indicate the Proton Z™ is trimmed to the maximum on a particular side.

SPEED SELECT BUTTON
The Proton Z™ has 2 speed settings, the initial setting is Slow speed mode, the power indicator on remote controller become still red, click the SPEED button and your Proton Z™ will change to high speed mode, the power indicator on remote controller become flashing in green.

LIGHT BUTTON
The Proton Z™ allows you turn on or off remotely, simply click the Light button to switch On or Off the lights on Proton Z™.

3/4 CHANNEL SELECT
Proton Z™ allows you to fly in 3 channel mode or 4 channel mode.
1. The default setting is 4 channel mode. You can also tell that you are in 4 channel mode because the power indicator light on the controller will be solid. (please review the flight control diagram for 4ch mode flying).
2. To Switch to 3 Channel move the left control stick to its center most position and push directly down on the stick. You will here a clicking sound and the indicator light on the controller will slowly flash. The slowly flashing indicator light is how you know that you are playing in 3 channel mode. (please review the flight control diagram for 3ch mode flying).
IMPORTANT: Remember that the indicator light tells you what flying mode your in. If its flashing you are in 3Ch mode. If it is solid or still you are in 4Ch mode.
4 CHANNEL FLIGHT CONTROL
Below is a list of basic flight functions for your remote control Proton Z™. While learning to fly your Proton Z™ it is best to start with a large space until you get used to the basic controls. As you master flying your Proton Z™ you can move to more advanced maneuvering techniques. Practice makes perfect! When you have these basic steps down you can move to the next level.

- Move the Throttle up to increase the speed and the Proton Z™ will ascend.
- Move the Throttle down to decrease the speed and the Proton Z™ will descend.
- Move the Throttle left and the Proton Z™ will turn left.
- Move the Throttle right and the Proton Z™ will turn right.
- Move the Direction Control up and the Proton Z™ will move forward.
- Move the Direction Control down and the Proton Z™ will move backward.
- Move the Direction Control left and the Proton Z™ will bank to the left.
- Move the Direction Control right and the Proton Z™ will bank to the right.

3 CHANNEL FLIGHT CONTROL
Below is a list of basic flight functions for your long-range remote control Proton Z. While learning to fly your Proton Z™ it is best to start with a large space until you get used to the basic controls. As you master flying your Proton Z you can move to more advanced maneuvering techniques. Practice makes perfect! When you have these basic steps down you can move to the next level.

- Move the Throttle up to increase the speed and the Proton Z™ will ascend.
- Move the Throttle down to decrease the speed and the Proton Z™ will descend.
- Move the Direction Control left and the Proton Z™ will turn left.
- Move the Direction Control right and the Proton Z™ will turn right.
- Move the Direction Control up and the Proton Z™ will move forward.
- Move the Direction Control down and the Proton Z™ will move backward.

Remark: the Throttle left and right will disable in 3 channel flight control mode.
HOW TO DO 360° STUNT ROLLS
Doing 360° stunt rolls with the Proton Z™ Quadrocopter is as easy as 1-2-3:
1. Hover the quadrocopter in still position making sure that you have at least 3 feet of clearance above and below quadrocopter.
2. Move the right control stick to the center position and push down directly on the control stick to enter 360 stunt mode (See Diagram D).
3. Decide which direction you want to flip and quickly push the right control stick in the direction you want to flip your Quadrocopter (See Diagram F). You have 4 choices a) Forward Roll, b) Backwards roll, c) right side roll, d) left side roll.

REPLACING THE PROPELLER BLADE
Your Proton Z™ propeller system is a precision instrument that may need repair or replacement from time to time for optimal flight function. Crash landing from high-speed aerial flights may cause damage to your Proton Z™ propellers.
1. The Proton Z™ have four blades, two gray colors on front, and two black colors on back (see diagram F).
2. When replacing the propeller blades, make sure to match both the color of the blade and the identification letter on the blade.
3. Replacing the correct blade to the damaged blade.

White Blade Front Left = A
White Blade Front Right = B
Black Blade Back Left = B
Black Blade Back Right = A

REPLACING THE INTERCHANGEABLE SHELL
Your Proton Z™ comes with additional interchangeable bodies you can choose the color you like and change it.
1. Turn off your Proton Z™. Carefully snap off the body shell from the rear side of the Proton Z™ (see diagram G) and reverse the steps to replace it.
*IMPORTANT: Be patient and never force anything. Use slow consistent pressure.
ATTACHING THE WHEEL CAGE:
Your Proton Z™ comes with a protection cage wheel system. This special wheel type cage can protect your proton Z™ from body and blade damage and doubles the fun by driving around the ground, up walls and on ceilings.

1. First snap the cross bar for the wheel assembly into the top 2 square holes on the Proton Z shell (see diagram H). The fit is tight so you will need to use some pressure but do not use excessive force as you may damage the body/shell. Start by enter one edge and then roll forward to get the front edges in the holes. If the fit is too tight you may pinch together the locking mechanism on the bottom of the bar with your thumb and forefinger to tighten the space and make for an easier fit into the frame (see diagram I).

2. Next place the shell back on the body of the Proton Z™ (see diagram J).

3. Now put the wheels on each side. Make sure to press each wheel on firmly so they do not fall off in flight. Now your are ready to play.

IMPORTANT TIP: It is suggested to attach the cross-bar from the wheel assembly to the shell when the shell is NOT ON THE BODY of the Proton Z Quadrocopter.

PROTON Z™ WARNING:
The Proton Z™ is designed for INDOOR or OUTDOOR. The Proton Z™ blades revolve at high speeds and can cause damage to the user, spectators and animals. Stand away from the Proton Z™ to reduce the risk of getting into the flight path. Warn spectators that you will be flying your Proton Z™ so that they are aware of its position. Before flight, inspect the rotor blades to make certain that the blades are securely fastened to the Proton Z™.

WARNING!
- Keep hands, hair and loose clothing away from the propeller when the power switch is turned to the ON position.
- Turn off the transmitter and Proton Z power switches when not in use.
- The included charger is built specifically for the Proton Z Li-Poly battery. Do not use it to charge any other battery.
- New alkaline batteries are recommended for maximum performance.
- Parental supervision recommended when flying Proton Z.

BATTERY WARNINGS
RECHARGEABLE BATTERY:
This Proton Z uses a Li-Po rechargeable battery. If battery no longer stays charged, dispose of battery properly according to local disposal requirements.

CONTROLLER BATTERIES:
Remote control requires 2"AAA" batteries (not included). Please read the important battery safety warning below.
- Do not mix alkaline, standard (carbon-zinc) and rechargeable batteries (Nickel Metal Hydride).
- Do not mix old and new batteries.
- Non-rechargeable batteries are not to be recharged.
- Rechargeable batteries are to be removed from the item before being charged (if removable).
- Rechargeable batteries are only to be charged under adult supervision.
- Exhausted batteries should be removed immediately and must be recycled or disposed of properly according to state or local government ordinances and regulations.
- The supply terminals are not to be short-circuited.
- Only batteries of the same or equivalent type as recommended are to be used.
- Batteries are to be inserted with the correct polarity (see inside booklet for diagram).
- Do not dispose batteries in a fire - batteries may leak or explode.

CARE AND MAINTENANCE
- Always remove the batteries from the wireless infrared remote control when it is not being used for an extended period of time.
- To clean, gently wipe the remote control and Proton Z with a clean damp cloth.
- Keep the toy away from direct heat or sunlight.
- Do not submerge the toy into water. This can damage the unit beyond repair.
- Parental guidance recommended when installing or replacing the batteries.
CC Part 15 B Notice

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

NOTE: This equipment 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 equipment 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 equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct interference by one or more of the following measures:

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

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.

PROTON-Z™ MICRO DRONE
2.4Ghz Indoor/Outdoor Quad Rotor Helicopter

INSTRUCTION BOOKLET

WARNING: Never leave product charging unattended for extended periods of time. Always disconnect Proton Z™ from charger immediately after the Proton Z™ is fully charged. Please refer to enclosed safety instructions.

PACKAGE CONTAINS:

- Proton Z™
- 2.4G Wireless Controller
- Spare Parts
- Instruction Booklet

Colors and styles may slightly vary.

Propeller: Made in China

Carefully read the requirements of ASTM, CPSCA and FCC.