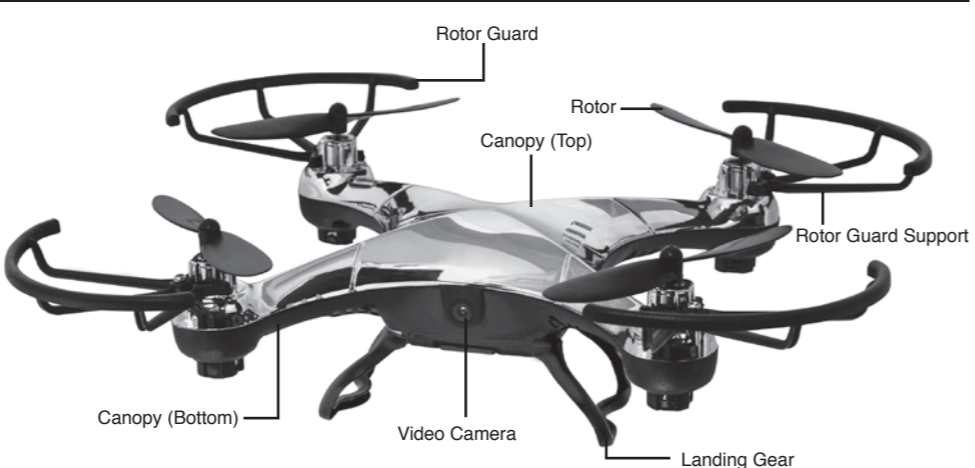# VIDEODRONE ORO™

Thank you for your purchase of Protocol's **VideoDrone ORO 4 Channel RC Video Quad-Copter.** You are about to experience the best of what remote control flight has to offer. We strongly recommend that you take the time to read this manual thoroughly. It contains many tips and instructions on how to get the most of this aircraft and maintain it for long life.

As with any aircraft, this is a precision flying machine. Treat it well and enjoy all the fun it has to offer, flight after flight.

4-CHANNEL RADIO CONTROLLED
VIDEO QUAD-COPTER

FEATURING:
1. Four-Rotor design allows great speed and maneuverability for both Indoor and Outdoor use.
2. Built-in 6-axis Gyro ensures excellent stability.
3. Modular design for increased ease of maintenance.
4. 360-degree 3-dimensional stunt and tumbling function

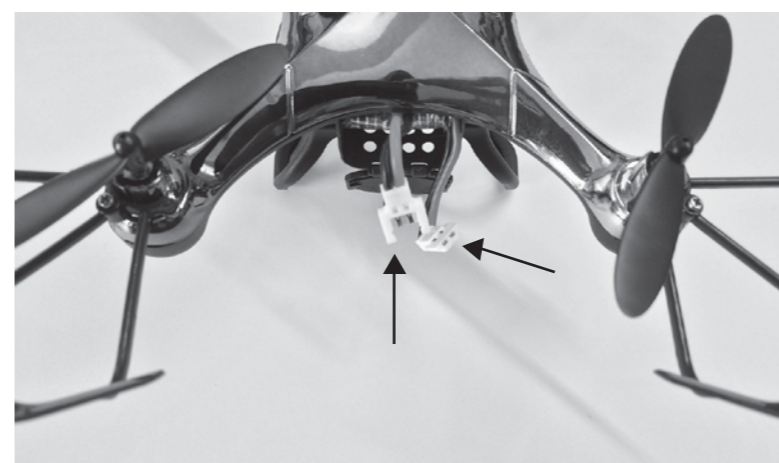The materials and specifications stated in this instruction manual are for reference only.

SCHEMATIC

Rotor Guard
Rotor
Canopy (Top)
Rotor Guard Support
Canopy (Bottom)
Video Camera
Landing Gear

SAFETY AND PRECAUTIONS

1. Keep small parts out of reach of children to avoid accidents.
2. The quad-copter is powerful and fast; accelerate gently to avoid damage and accidents.
3. After flying, disconnect the battery.
4. Keep the battery away from heat sources and / or fire.
5. Keep the quad-copter at a distance of at least 2 meters from yourself, others, and obstacles to prevent damage.
6. Children should operate the quad-copter only under adult supervision.
7. The remote controller batteries can not be recharged. Do not mix new batteries with old batteries or mix batteries of different types.
8. Always turn off both the transmitter and quad-copter when not in use.
9. Never attempt to short-circuit the battery terminals or the quad-copter.

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MAINTENANCE

1. Clean the quad-copter with a clean, soft cloth.
2. Do not leave the quad-copter in the sun or a bright light.
3. Do not expose quad-copter or its electronic parts to moisture or water.
4. Regularly check connections and other parts.
5. If you find any defective part, stop flying until the repair.

READ FIRST BEFORE YOU FLY

1. Open battery cover (shown below)
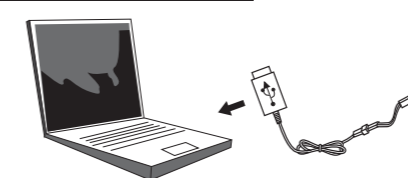2. Remove the battery from the quad-copter.

Charging the Quad-Copter's On-Board Battery
Connect the battery to the supplied USB charging cable. Insert the USB end of the charging cable into the USB port of any computer (or a USB port power adapter) to begin charging aircraft. The red LED indicator will turn off during charging and will go on when the charging cycle has completed.

60 minutes of charging yields 7 minutes of flight.

1. When using a computer USB port as power source, remember to unplug the USB cable prior to shutting down computer.
2. Take care to insert charging cable in correct orientation as reversing the polarity may lead to malfunction.

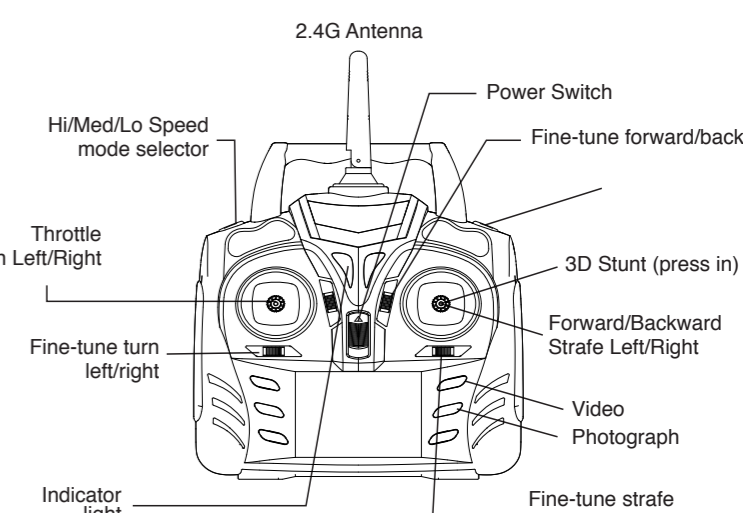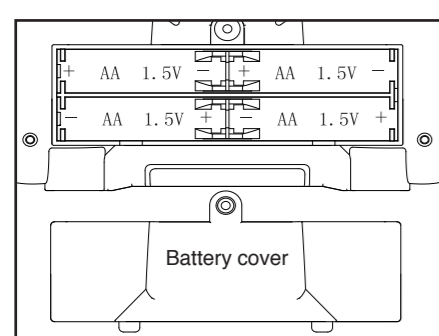*VideoDrone ORO uses a 3.7V 350MA Li Po Battery

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CAUTION WHEN CHARGING

1. When charging, place product on a dry, well-ventilated surface and keep away from heat sources.
2. Always use adult supervision while charging.
3. As battery temperature is high immediately after flight, charge after cooling down for higher efficiency.
4. Do not strike or subject battery to hard impacts or sharp surfaces.
5. Do not use any other charger than that which is supplied with this item.
6. Do not use or leave battery near a heat source such as a fire or space heater; exposure to heat may result in reduced performance or in some cases dangerous conditions.
7. If battery is left in charging state for an extended period of time after being fully charged, the battery may automatically discharge.
8. Never leave the battery unattended during charging.

BATTERY REPAIR & MAINTENANCE

1. Do not immerse or submerge battery in water; store in a cool, dry location.
2. In order to increase battery longevity, avoid repeat charging and excessive discharging.
3. Charging battery approximately 55% capacity prior to long-term storage.
4. Do not disassemble battery.

ILLUSTRATION ON QUAD-COPTER CONTROLLER

2.4G Antenna
Power Switch
Hi/Med/Lo Speed mode selector
Fine-tune forward/back
Throttle Turn Left/Right
3D Stunt (press in)
Fine-tune turn left/right
Forward/Backward Strafe Left/Right
Video
Photograph
Indicator light
Fine-tune strafe right/left

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BATTERY INSTALLATION

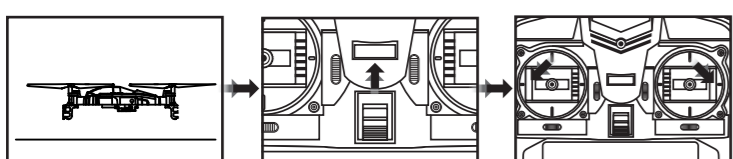**Remote Control**

AA 1.5V   AA 1.5V
AA 1.5V   AA 1.5V

Battery cover

Remove battery cover from controller, insert 4 'AA' batteries, noting polarity indicators. Replace battery cover.

⚠ 1. Install batteries carefully.
2. Do not mix old and new batteries.
3. Do not mix different types of batteries.

FLYING THE QUAD-COPTER

Step 1: Connect the battery to the drone to turn the VideoDrone ORO on and place it on a flat surface to allow calibration.

Step 2: Slide power switch to 'ON'. The remote will beep twice.

Step 3: Move the throttle up and then down. The remote will beep twice and the LED lights will stop blinking. The quad-copter and the remote are now synced.

NOTE

1. If the VideoDrone ORO and the remote do not sync after following the checklist, reverse the first two steps of the process. Turn both the VideoDrone ORO and remote off. Then, turn on the remote first and then turn on the VideoDrone ORO. Follow with Step 3.
2. Turn on the controller; if, after 30 seconds, it has not recognized the quad-copter, turn off the controller to retry synchronization.
3. If quad-copter's LED blinks slowly, it means that it has not recognized the controller; please restart pre-flight procedure.
4. If the VideoDrone ORO is unsteady in flight, it may not have been able to calibrate horizontally. Power down both vehicle and remote and restart pre-flight procedure.

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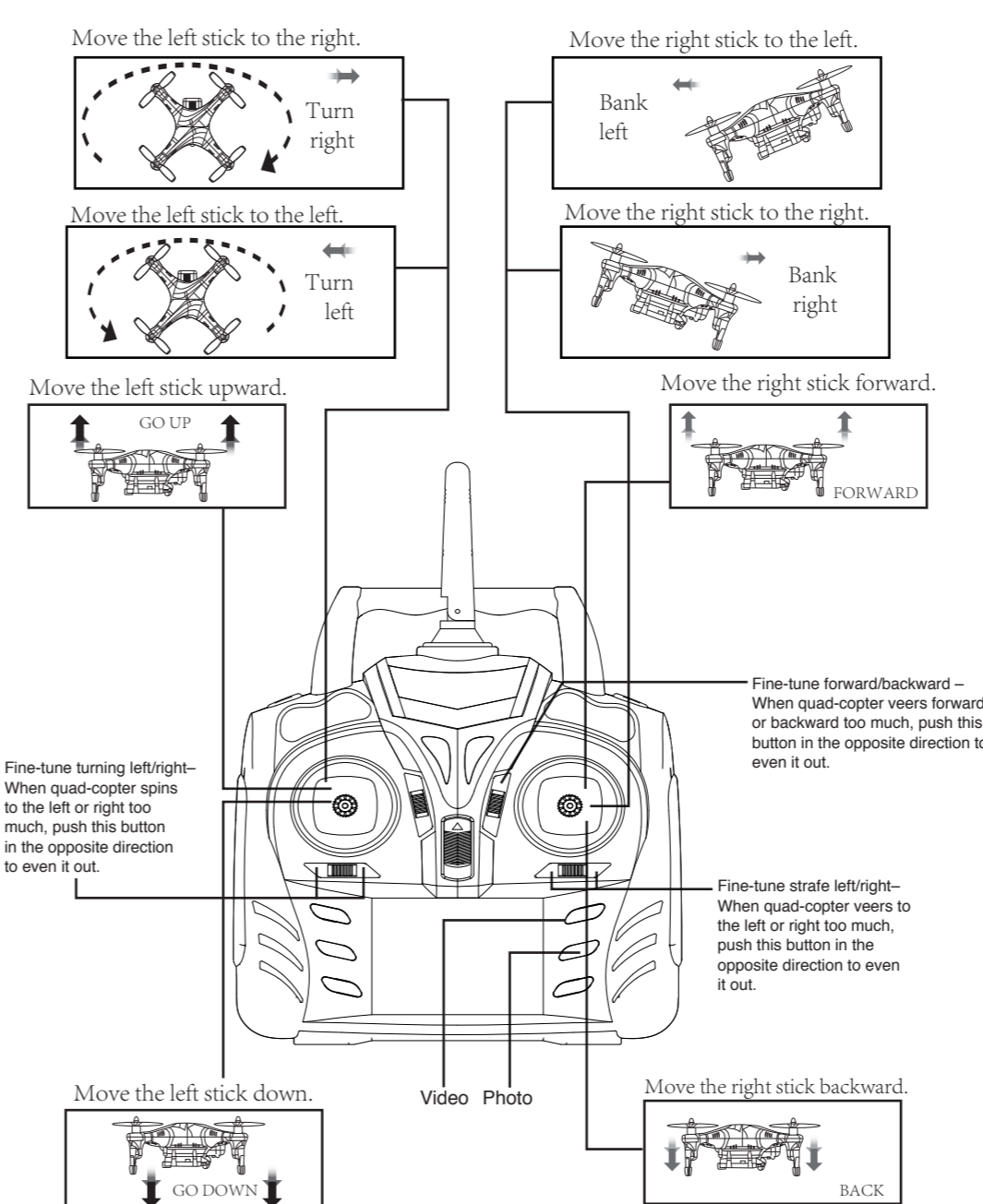### INSTALL BLADE PROTECTION FRAME

FIG. 1

Install the blade protection frame to every corner and tighten the screws (Figure 1).

NOTE: If the quad-copter crashes, double check to make sure the blade protection frame is not loose. If it is, re-tighten before flying.

HIGH, MEDIUM, & LOW SPEED MODES

The VideoDrone ORO features 3 speed modes. Low speed is at 40%, Medium is at 70%, and High is at 100%. Choose the speed based on flight experience and level of comfort.

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VIDEODRONE ORO CONTROL

Move the left stick to the right.
Turn right

Move the right stick to the left.
Bank left

Move the left stick to the left.
Turn left

Move the right stick to the right.
Bank right

Move the left stick upward.
GO UP

Move the right stick forward.
FORWARD

Fine-tune turning left/right– When quad-copter spins to the left or right too much, push this button in the opposite direction to even it out.

Fine-tune forward/backward – When quad-copter veers forward or backward too much, push this button in the opposite direction to even it out.

Fine-tune strafe left/right– When quad-copter veers to the left or right too much, push this button in the opposite direction to even it out.

Move the left stick down.
GO DOWN

Video Photo

Move the right stick backward.
BACK

Note: While fine-tuning flight characteristics, maintain constant position and altitude.

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TIPS ON 3D STUNT & TUMBLING OPERATION

Once you are familiar with the basics of quad-copter flight, you can try some advanced maneuvers! Slowly raise the throttle. Press the direction control stick in. The remote will beep continuously and the drone is ready to flip. Once you have completed a flip, the drone will automatically go back to normal mode.

MODE	ILLUSTRATION	MODE	ILLUSTRATION
Right Flip	360° flip	Left Flip	360° flip
Front Flip	360° flip	Rear Flip	360° flip

TOSS N' LAUNCH

Thanks to the 6-axis gyro, you can toss the quad-copter and push the throttle up. It will automatically level out and hover smoothly in the sky.

PHOTOGRAPHY/VIDEO INSTRUCTIONS

1. The memory card comes pre-inserted into the camera.
2. Turn the quad-copter on. The blue light of the camera will flash and then become steady. If the red indicator on the camera is continuously flashing, it means the memory card is not in the camera. Please insert the memory card and the red indicator will turn off.

Shooting Photos and Video:
1. Turn on the transmitter and pull the throttle up and down to connect the quad-copter and transmitter.
2. Photo: Push the Photo button and the camera will take a photo. The red indicator will flash once as it's taking the picture.
3. Video: Push the Video and the camera will begin to record. The red indicator will stay on while recording video. Push the Video button again and the camera will stop recording.
4. Plug the data transfer cable into the jack on the camera.
5. Place the USB end of the cable into the USB port of your computer. If you are using Windows, the USB will come up on the removable drive. If you are using OS, then the USB will come up as "Untitled".
6. Open the drive and then open the Video or Photo folders to access the .AVI or JPEG files.
7. .AVI movies can be played in several different formats including Quicktime, Windows Media Player, and RealPlayer.

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WARNING: Never remove the card from the video camera while the helicopter is turned on.
NOTES:
- All files on the card can be removed or erased without compromising the video camera.

TROUBLESHOOTING

Symptom	Possible Cause	Potential Solution
VideoDrone ORO does not respond	1. Communication between controller and aircraft was not synchronized during synchronization effort. 2. Battery power depleted on either aircraft, controller, or both.	1. To synchronize, turn on controller, then turn on aircraft and place it on level ground. Move throttle stick all the way forward, then all the way back. 2. Charge aircraft and/or replace batteries in controller.
Response to control inputs intermittent or erratic	1. Controller battery power nearly depleted. 2. Aircraft antenna is damaged.	1. Replace batteries in controller. 2. Repair antenna.
VideoDrone ORO will not hover or strafe correctly	1. The aircraft was not on level ground during synchronization. 2. Trim settings are incorrect.	1. Re-synchronize aircraft and controller. 2. Reset the trim buttons on the controller and re-trim flight controls.

Replacement Parts:

Thank you for your purchase of Protocol's **VideoDrone ORO 4-Channel RC Video Quad-Copter!**

We know that accidents can sometimes happen and that is why we offer spare parts kits on our website: **ProtocolNY.com.**

Limited Warranty:

PROTOCOL