QUANTUM™ HD+ WiFi
2.4GHz HD Quadrocopter with Live Video Streaming and Altitude Stabilization Technology

INDUSTRY CANADA NOTICE: CANADA ONLY.
This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation.

CAN ICES-3 (B)/NMB-3(B)
This product meets the applicable Innovation, Science and Economic Development Canada technical specifications.

IMPORTANT! REGISTER YOUR DRONE
The U.S. Department of Transportation’s Federal Aviation Administration (FAA) announced a streamlined and user-friendly web-based aircraft registration process for owners of small unmanned aircraft (UAS) weighing more than 0.55 pounds (250 grams) and less than 55 pounds (approx. 25 kilograms), including payloads such as on-board cameras.

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

PACKAGE CONTENTS:
- QUANTUM™ HD
- 2.4GHz Wireless Controller
- Spare Parts
- USB Charger & Li-Poly Rechargeable Battery
- USB Card Reader
- Instruction Manual

Colors and styles may vary slightly.

PROPEL
Thank you for purchasing the QUANTUM™ HD+WiFi 2.4 Ghz Quadrocopter. Please read this instruction booklet as it contains valuable information on how to properly fly and care for your QUANTUM™ HD+WiFi.
**WARNING**

DO NOT FLY YOUR QUANTUM HD+WiFi IN FOUL WEATHER!

- **FLIGHT PREPARATION**
  - Verify that there are 6 "AA" batteries inside the remote control unit and the QUANTUM HD+WiFi has been fully charged.
  - Make sure to be in a large open space preferably a field or a park with an open radius of at least 200 feet.
  - Make sure to start your drone on a clean flat level surface before take-off.
  - **IMPORTANT!** Until you have experience in flying your QUANTUM HD+WiFi, it is not advised to use in any rate of wind. Wait until a zero wind day or extremely light wind when learning how to fly.

- **SYNCING YOUR QUANTUM™ HD+WiFi**
  Important! When syncing your QUANTUM™ HD+WiFi with the controller always make sure that the drone 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 respond to your trim settings.

  Your QUANTUM™ HD+WiFi utilizes an automatic 2.4G channel selection system that allows up to 8 people to fly side by side in the same wireless range with no interference.

1. Before starting, make sure that the power switch on your controller is off and the battery is removed from the QUANTUM™ HD+WiFi. Make sure that there are no other 2.4G devices in the area.
2. Insert the battery into the QUANTUM™ HD+WiFi and set it down on a clean flat level surface. The red and white LED lights on top of the drone should begin to flick rapidly for a few seconds then slower.
3. Quickly turn ON the remote and you will hear 2 beeping sound and also notice that the top red LED light on the face of the controller should also be flashing.
4. Push the left control stick all the way up until it stops and then pull it back all the way down to the bottom (see illustration below). When pulling the stick down to the bottom you should hear a high-pitched beep and the lights on both the drone and the controller should stop flashing and become solid. If the lights have both the drone and the controller have stopped flashing and become solid you have successfully synced your QUANTUM™ HD+WiFi and are ready to fly. If the lights on the controller or the drone are still flashing repeat steps 1-4 again.

- **TIP 1:** Try not to leave too much time between putting your battery into the drone and turning on the controller or your syncing window will time-out.
- **TIP 2:** Syncing your drone indoors or in the shade will make it easier to see the LED light indicators on both the controller and the drone.
NOW YOU ARE READY TO FLY!

If you have successfully synced your QUANTUM™ HD+WiFi to your controller as explained on page 4 you are now ready to fly. Before beginning to fly your drone you should familiarize yourself with how to start and stop the rotors, how to use your auto land feature and how the controls work so please carefully read and familiarize yourself with various control features explain in the next two pages. Once again as a beginner pilot you should learn how to control your drone in a large open field or park on a day with zero or very light wind. Do not try to fly your QUANTUM™ HD+WiFi too high until you become a more experienced pilot.

RECOGNIZING THE FRONT & REAR OF THE QUANTUM™ HD+ WiFi

Even though the QUANTUM™ HD+WiFi has four rotors there is still a front or “forward” facing direction and “rear” or backwards facing direction. The front and forward facing direction of the QUANTUM™ HD+WiFi is the side with two gray blades (see diagram F). The rear or “backward” facing direction of the Quadrocopter is the side with two black propellers (see diagram F).

NOTE: The front of the Quadrocopter also displays WHITE LED light and the back of the Quadrocopter displays RED LED lights.

HOW TO START/STOP ROTORS

Make sure you have properly synced the QUANTUM™ HD+WiFiAnd the power is on.

• To start and stop the rotors simply move the two control sticks either simultaneously down and to the inside or down and to the outside corners and hold for one second (see illustration below).

Note: Either position will both start and stop the rotors so use the position you are most comfortable with.

• Once the rotors begin to spin release the control sticks and they will return to the center position. Now you are ready for take-off.

SPEED SELECT BUTTON

The QUANTUM™ HD+WiFi has 3 speed settings; SLOW (40%), MEDIUM (70%) and HIGH (100%). The default setting when you first turn on your QUANTUM™ HD+WiFi is the SLOW (40%) speed mode. To increase the speed simply trigger the speed setting button (see remote diagram on pg 3) you will hear a beep and the speed setting indicator on screen will show you what speed setting you are on. Speed settings can be set before flight or during the flight.

AUTO START/LAND BUTTON

The QUANTUM™ HD+WiFi has an auto start/land feature which allows you to start/land automatically. Simply press the AUTO START/LAND button on the top right of the controller and your QUANTUM™ HD+WiFi will begin taking off/landing.

NOTE: You can still control the direction while auto starting/landing to avoid obstacles.

3 CHANNEL VS 4 CHANNEL FLYING

Propels unique “switch-blade” technology allows you to choose between 3ch or 4ch flight control modes. Most people with no experience in flying multi copters may find 3ch easier to learn at first as controls are set up to simply move forward, back, turn left and turn right. 4ch channel flying gives the operator ultimate control by adding two more dimensions of flight banking left and banking right.

• NOTE: The QUANTUM™ HD+WiFi’s default setting is 4 Channel mode.

To change to 3 Channel mode:

PRESS and hold the 3/4 CH button (see remote diagram on pg 3), you will hear a beep sound and the screen showing MODE 2 indicating the QUANTUM™ HD+WiFi is now set to 3 CH mode.

To change back to 4 Channel mode:

PRESS and hold the 3/4 CH button (see remote diagram on pg 3), you will hear a beep sound and the screen showing MODE 1 indicating the QUANTUM™ HD+WiFi is now set to 4 CH mode.

3 CHANNEL FLIGHT CONTROL

Below is a list of basic flight functions for your long-range remote to control the QUANTUM HD+WiFi. While learning to fly your QUANTUM HD+WiFi it is best to start in a large space until you get used to the basic controls. As you master flying your QUANTUM HD+WiFi 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 stick up to increase the propeller speed and the QUANTUM™ HD+WiFi will accelerate and ascend.

Move the Throttle stick down to decrease the propeller speed and the QUANTUM™ HD+WiFi will decelerate and descend (see diagram L).

While in the air, move the Direction Stick up and the QUANTUM™ HD+WiFi will move forward.

Move the Direction Control down and the QUANTUM™ HD+WiFi will move backward (see diagram M).

While in the air, move the Direction Control left and the QUANTUM™ HD+WiFi will spin to the left.

Move the Direction Control right and the QUANTUM™ HD+WiFi will spin to the right (see diagram N).
4 CHANNEL FLIGHT CONTROL
Below is a list of basic flight functions for your long-range remote to control the QUANTUM™ HD+WiFi. While learning to fly your QUANTUM™ HD+WiFi it is best to start in a large space until you get used to the basic controls. As you master flying your QUANTUM™ HD+WiFi you can move to more advanced maneuvering techniques. Practice makes perfect!

Move the left Throttle stick up to increase the propellers speed and the QUANTUM™ HD+WiFi will accelerate and ascend.
Move the left Throttle stick down to decrease the propeller speed and the QUANTUM™ HD+WiFi will decelerate and descend (see diagram Q).

While in the air, move the left Throttle stick left and the QUANTUM™ HD+WiFi will rotate left.
Move the left Throttle stick right and the QUANTUM™ HD+WiFi will rotate right (see diagram P).

While in the air, move the right Direction Stick up and the QUANTUM™ HD+WiFi will move forward.
Move the right Direction Control down and the QUANTUM™ HD+WiFi will move backward (see diagram Q).

While in the air, move the right Direction Control left and the QUANTUM™ HD+WiFi will bank to the left.
Move the right Direction Control right and the QUANTUM™ HD+WiFi will bank to the right (see diagram R).

FLIGHT PRACTICE
To master flying your aircraft try practicing the exercises shown below. Start with simple vertical take offs, landings, and left/right turning and rotating. Once these are mastered move on to square and cross maneuvers. Good luck and have fun!

Fixed-point Landing  Square Pattern Maneuver  Cross Pattern Maneuver

ADJUSTING THE TRIM
NOTE: The QUANTUM™ HD+WiFi is already properly trimmed and calibrated right out of the box and should not require any trim adjustments before flying. Some more experienced pilots may want to adjust trim settings for their style of flying. After several crashes you may need to adjust trim settings for the QUANTUM™ HD+WiFi to be more balanced.

Forward/Backward Trim
- If your QUANTUM™ HD+WiFi drifts forward, push and release the TRIM button backward repeatedly until the motion stops and proper flight is maintained (see diagram G).
- If your QUANTUM™ HD+WiFi drifts backwards, push and release the TRIM button forward repeatedly until the problem is resolved.

Right/Left Trim
- If your QUANTUM™ HD+WiFi drifts left, push and release the RIGHT TRIM button rightward repeatedly until the motion stops and proper flight is maintained (see diagram H).
- If your QUANTUM™ HD+WiFi drifts right, push and release the TRIM button repeatedly until the problem is resolved.

Right/Left Spin Trim
- If your QUANTUM™ HD+WiFi spins counter clockwise, push and release the TRIM button leftward repeatedly until the motion stops and proper flight is maintained (see diagram I).
- If your QUANTUM™ HD+WiFi spins clockwise, push and release the SPIN TRIM button rightward repeatedly until the problem is resolved (see diagram J).

Throttle Speed Trim
If you find the throttle is too sensitive when you fly the QUANTUM™ HD+WiFi, you may need to utilize the Throttle speed trim.

- Push and release the Throttle speed trim button back to lower the sensitivity of the throttle. Push and release the Throttle speed trim button forward to increase the sensitivity of the throttle (see diagram K).
  The middle position is recommended.

NOTE: The use of the Trim buttons utilizes sounds. A single long Beep indicates the product is center trimmed. Press with no Beeps indicate the product is trimmed to the maximum on a particular side.
CALIBRATING THE QUANTUM™ HD+WIFI

NOTE: Your QUANTUM™ HD+WIFI comes pre-calibrated out of the box so you are ready to fly. After several crashes and shock to your gyro sensors, you may notice that your drone is drifting and not holding its center position as well as it used to. This most likely means that you need to recalibrate the 6 axis gyro. Please follow the simple instructions below.

1. Gently set your QUANTUM™ HD+WIFI on a flat level surface.
2. Make sure the QUANTUM™ HD+WIFI is on and that the controller is synced (refer to syncing pg 4.). Do not start the blades. Instead move both the throttle and control stick down and to the left corner and hold them there for 5 seconds (see Diagram U). You will see the lights on the drone rapidly flash and stop. Once the lights stop flashing you have completed your calibration and are ready to fly!

TROUBLE SHOOTING: If you do not see the lights flash, turn off your controller take out the battery in the drone and Start again. Always make sure to put your battery in first, then turn on your controller. Push the left throttle stick up all the way and then pull back down again. When you hear the beep the QUANTUM™ HD+WIFI is synced to the controller and you are ready to calibrate.

HOW TO PERFORM 360° STUNT ROLLS

Performing 360° stunt rolls with the QUANTUM™ HD+WIFI is as easy as 1-2-3:
1. Set the speed settings to 70% or 100%. Hover the QUANTUM™ HD+WIFI in still position making sure that you have at least 5 feet of clearance above and below the quadcopter.
2. Short Press down the stunt button and you will enter the stunt roll mode which is indicated by a rapid beeping (see diagram V1).
3. Determine which direction you want it to flip and quickly push the right control stick in the direction you want to flip your QUANTUM™ HD+WIFI (see diagram V2). You have 4 choices: a) Forward Roll, b) Backwards Roll, c) Right side roll, d) Left side roll.
4. To exit the Stunt Roll mode, simply press the stunt button again.

IMPORTANT NOTE: YOU MUST DEPRESS HOLD DOWN THE STUNT BUTTON UNTIL YOU BEGIN TO FLIP.
USING YOUR ON-BOARD CAMERA
Your QUANTUM™ HD+WiFi comes equipped with an onboard digital camera that takes still pictures and records video. To enable these features, download the free APP on your compatible mobile device. This will also allow you to shoot, record and stream by the on-board camera. For more details refer to included LIVE VIDEO STREAMING SETUP GUIDE. Now you can have hours of fun creating aerial photography and videos for family and friends.

GETTING STARTED
The camera enables recording directly to your mobile device (standard definition) and onto a microSDHC card (High Definition).
Note: You can directly download the high definition videos from the microSDHC card to your compatible mobile device.

RECORDING TO microSDHC CARD
To use with a microSDHC card you will need:
1. One microSDHC card (not included)
2. One microSDHC card reader (included)
3. A Computer with a USB port and Windows Media Player or other Media player that can play AVI files (not included).

FORMATTING YOUR microSDHC CARD
Before you can begin to take videos or digital photographs you must first format your microSDHC card. To format your card simply place it into the included USB card reader and plug it into your computer's USB port (see diagram W1 and W2 below). After a few moments an icon will appear on your Desktop. Right click on the icon and follow instructions to format your microSDHC card.

INSTALLING THE microSDHC CARD IN YOUR QUANTUM™ HD+WiFi
• Place the formatted microSDHC card into the back of the QUANTUM™ HD+WiFi's digital camera port (see diagram W3 below). Push gently until you hear and feel the microSDHC card “click” into the digital camera slot.
• Turn the QUANTUM™ HD+WiFi on and make sure that it is both fully charged and properly synced to the controller (see HOW TO SYNC YOUR QUADCOPTER on page 4).

REMOVING your microSDHC CARD
To remove your microSDHC card push in gently on the back of the card with your thumb or forefinger until you hear and feel a “clicking sound.” The card will “pop-out” slightly and is ready for removal. Simply grab and pull it gently away from the QUANTUM™ HD+WiFi's camera port to remove the card. Always store your microSDHC card in a clean, safe and cool environment.

DOWNLOADING AND CLEARING SPACE ON YOUR microSDHC CARD
Plug your microSDHC card into the card reader and connect to your computer. It is best to always download all your videos and pictures on to your computer and not store this data on your microSDHC card. After downloading your photos and videos, follow your computer's instructions to “delete” files on your microSDHC card.

Note: The QUANTUM™ HD+WiFi can record video files up to 2 minutes of length. When attempting to record longer videos, it will automatically split the video into multiple files, each approximately 2 minutes in length. Still photos and videos are recorded simultaneously on device and microSDHC card.

FCC RF exposure statements
This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body or nearby persons.

IC Radiation Exposure Statement:
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Déclaration d’exposition aux radiations:
Cet équipement est conforme aux limites d’exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.
PROPEL QUANTUM™ HD+WIFI APP INSTALLATION

1. Make sure you are using a compatible Android™ or Apple® iOS device.
2. Make sure your device has access to the Internet.
3. For Apple® iOS devices, within the App Store, search and select “Propel Quantum HD”. Hit the install button and the “Propel Quantum HD” App should download and install automatically.
4. For Android™ devices, visit the Google Play store and search for “Propel Quantum HD”. Selecting the “Propel Quantum HD” App will download the App and automatically install it on your device.
5. After the “Propel Quantum HD” App is installed, it should create an icon on your screen. Click the “Propel Quantum HD” icon to run the App to make sure that it has installed correctly on your device. If not, please delete and repeat the process again.

QUICK START

1. After you install the App correctly and have paired to the drone successfully, you can open the “Propel Quantum HD” streaming App icon. Tap “START” on the bottom right hand side of the screen. You should see the real-time video from your QUANTUM™ HD+WIFI camera.
2. This App also allows you to control your QUANTUM™ HD+WIFI via your mobile device. To activate the control sticks, tap the “ON” button at the top right hand side of the screen. This will switch the control from your traditional controller to your compatible device. Now click “1” to start the motors. The control sticks will show up in the screen for your fly control and you can now use your device as a traditional controller. Or you can click “2” to auto launch your QUANTUM™ HD+WIFI in the air and then use your device as a traditional controller. Click this button again, your QUANTUM™ HD+WIFI will automatically land on the floor.

PAIRING QUANTUM™ HD+WIFI TO YOUR COMPATIBLE DEVICE

1. After completely charging your QUANTUM™ HD+WIFI battery, install the battery to your QUANTUM™ HD+WIFI. (Refer to the user manual).
2. In the Settings menu of your device, locate the Wi-Fi option.
3. Turn ON the Wi-Fi option.
4. Select “Propel HD Video/Drone” from the Wi-Fi list. Wait for your QUANTUM™ HD+WIFI to be connected. Return to the Main Menu.

DETAILED APP OVERVIEW

3. Please see images below for a detailed App overview. This overview is also available under the “HELP” icon in the home screen of the App.

Note: Apple® devices require the use of iOS 7.0 or higher. ANDROID™ devices require the use of OS 4.2.2 or higher.
TROUBLESHOOTING YOUR QUANTUM™ HD+WIFI

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>POSSIBLE SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Power</td>
<td>1. Power switched off</td>
<td>1. Switch the ON/OFF switch to ON</td>
</tr>
<tr>
<td></td>
<td>2. Polarity is reversed</td>
<td>2. Make sure all batteries are installed correctly</td>
</tr>
<tr>
<td></td>
<td>3. Batteries may be low or in need of charging</td>
<td>3. Replace batteries</td>
</tr>
<tr>
<td>Aircraft Not Responding</td>
<td>1. Remote is switched off</td>
<td>1. Switch the ON/OFF switch to ON</td>
</tr>
<tr>
<td></td>
<td>2. Battery power in remote is too weak</td>
<td>2. Charge batteries in remote</td>
</tr>
<tr>
<td></td>
<td>3. The remote is not properly synced</td>
<td>3. Re-sync the remote</td>
</tr>
<tr>
<td></td>
<td>4. Out of control range</td>
<td>4. Do not fly beyond 400 feet</td>
</tr>
<tr>
<td>Aircraft Won’t lift off</td>
<td>1. Rotor speed too slow</td>
<td>1. Push throttle lever forward</td>
</tr>
<tr>
<td></td>
<td>2. Aircraft not fully charged</td>
<td>2. Recharge your QUANTUM™ HD+WIFI</td>
</tr>
<tr>
<td></td>
<td>3. Obstruction of rotors</td>
<td>3. Check rotors for hair or other obstructions</td>
</tr>
<tr>
<td>Aircraft Descends Too Fast</td>
<td>Moving the throttle down too quickly</td>
<td>Control the throttle slower, use auto land feature, Do not fly in bad weather</td>
</tr>
</tbody>
</table>

If you continue to encounter problems please feel free to call our customers service line at (949) 566-9573 Ext 1 for assistance.

REPLACING THE PROPELLER BLADES
Your QUANTUM™ HD+WIFI’s propeller system is a precision instrument that may need repair or replacement from time to time for optimal flight function. Crash landing at high-speed may cause damage to your QUANTUM™ HD+WIFI’s propellers.
1. The QUANTUM™ HD+WIFI has four blades, two gray colors on front, and two black colors on back (see the diagram X).
2. When replacing the propeller blades, make sure to match both the color of the blade and the indication letter on the blade.
3. Replace the damaged blade with the correct blade.

ATTACHING THE BLADE GUARDS
Your QUANTUM™ HD+WIFI is equipped with 4 blade guards for beginner to fly. These can be easily removed and re-attached when needed. To attach the blade guard, align each guard with the slots on the body near the propeller as shown. Clip the two notches on the inner portion of the blade guards into place on the slots and adjust to ensure they have been locked in securely.

QUANTUM™ HD+WIFI WARNING:
The QUANTUM™ HD+WIFI is designed for OUTDOOR use. The QUANTUM™ HD+WIFI’s blades revolve at high speeds and can cause damage to the user, spectators and animals. Stand away from the QUANTUM™ HD+WIFI to reduce the risk of getting into the flight path. Wear spectators that you will be flying your QUANTUM™ HD+WIFI 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 QUANTUM™ HD+WIFI.

WARNING!
• Choking/Cutting Hazard. Small Parts/Sharp Rotor Blades.
• Keep hands, hair and loose clothing away from the propeller when the battery is plugged into the drone.
• Turn off the transmitter and QUANTUM™ HD+WIFI power switches when not in use.
• The included charger is built specifically for the QUANTUM™ HD+WIFI 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 QUANTUM™ HD+WIFI.

BATTERY WARNINGS
RECHARGEABLE BATTERY:
This QUANTUM™ HD+WIFI uses a Li-Poly rechargeable battery. If the battery can no longer be charged, dispose it properly according to local disposal requirements.

CONTROLLER BATTERIES:
Remote control requires 6 “AA” batteries (not included).
Please read the important battery safety warming 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 remote control when it is not being used for an extended period of time.
• To clean, gently wipe the remote control and QUANTUM™ HD+WIFI 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.