

OPERATING | MANUAL





Congratulations on purchasing your new GHOST Drone!

For customer service and support, please e-mail support@ehang.com.

Connect With Us Online:

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DISCLAIMER & WARNING

WARNING!

Before flying, please consult flight documentation from the International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) regarding unmanned aircraft operation. The user is responsible for his or her actions and any ensuing consequences. Users are hereby advised that they are liable for the use of the GHOST Drone and any and all liability is solely theirs. Please fly responsibly.

- The GHOST Drone is equipped with a "black box" that records flight data. (Please Note: This data is only accessible by the staff in our service department). If the user fails to land when the battery is depleted and causes damage to the GHOST Drone, the user is responsible for the cost of any repairs that might be necessary.
- Disassembling and/or modifying the GHOST Drone is prohibited. If the user requires custom modifications, please contact the GHOST team before attempting to modify the GHOST.
- When storing the GHOST Drone, remove the battery. Store all GHOST-related parts at room-temperature, out of direct sunlight, and away from magnetic interference and moisture. Pay special attention to the storage of the Lithium Polymer (LiPo) battery.
- The GHOST Drone may not fly normally near high-rise buildings due to GPS interference.Please fly in open spaces, away from densely populated urban areas, to minimize GPS interference and maintain safe flight.
- Do not fly near obstacles, people, crowds, power lines, trees, water, or anything else that may cause interference with your GHOST Drone.
- Do not fly in restricted air space.
- Do not fly in or around congested electromagnetic (EM) environments. The GHOST Drone must be kept at least 200m (656 ft.) away from strong EM sources to operate normally. EM interference can cause a loss of communication with the GHOST Drone and result in damage to the GHOST and/or objects and people in the flight environment.
- Do not operate in bad weather, including extremely high temperatures, heavy snow, high wind, or rain.
- Before unlocking your GHOST, stand at least 5m (16 ft.) away from the Drone and ensure that people or animals do not approach the GHOST.
- When flying, the user must retain line-of-sight with the GHOST Drone. Losing sight of the GHOST Drone can result in dangerous operating conditions.
- Do not touch spinning propellers as they may cause injury. To ensure the best flying experience, use only EHANG-supplied propellers.
- Do not operate the GHOST with the propeller guards and landing gear both installed. For users who purchased the GHOST Aerial or Aerial Plus, practice flying with the basic configuration before you fly with a camera attached.
- To ensure safe flying, calibrate the GHOST Drone's compass with the GHOST App before each flight.
- Adult supervision is required when the GHOST Drone is operated by a minor.

GHOST DIAGRAM



PRODUCT TYPE



SPECIFICATIONS

Diagonal Wheelbase	350mm
Aircraft Height	90mm
Aircraft Height with Landing Gear	200mm
Weight	780g
Propellers	8-Inch High-Efficiency 8045 Tri-Blade Propellers (CW and CCW)

ACCESSORIES AND ASSEMBLY

BATTERY

The capacity of the GHOST Lithium Polymer (LiPo) battery is 5400 mAh, rated at 11.1v. It uses an XT60 connector. The GHOST battery has a power management function built in, and it should only be charged using the included GHOST charger.(59.94Wh)

Please note that the battery voltage may rise post-flight. This is normal. Do not fly the GHOST if the battery shows less than a 30% charge.

CHARGING THE BATTERY



BATTERY INSTALLATION

Place the GHOST on a horizontal surface to connect the battery. Push the battery into the battery compartment (inward as shown in the diagram below). Close the compartment door, making sure that the battery is correctly seated inside the battery compartment. Do NOT 'force' the door closed as this could damage the wires or the GHOST Drone itself. If the door will not close easily, reposition the wires accordingly.

Before flight, ensure that the battery is correctly installed in the GHOST Drone. An incorrectly installed battery may cause safety issues when flying, and may cause incorrect voltage readings. An incorrectly installed battery may prevent take-off.





Ensure battery wire is correctly connected (Red to Red, Black to Black)

▲ BATTERY WARNINGS & TIPS

- Use only the included GHOST battery charger.
- Do not use the battery if the casing and included balancer is broken, deformed or inflated.
- · Always set the charge output volts to match battery volts.
- Never allow battery temperature to exceed 140°F (60 °C)
- · Recharge your battery post-flight only after it has returned to room temperature.
- Never leave a charging battery unattended, and do not place the battery or charger on anything flammable. Do not store or charge the battery in direct sunlight.
- Never disassemble the battery and do not modify the battery circuit. Never discharge below 3.2V per cell. Never puncture the battery assembly or individual cells.
- Store the battery between 11.4V and 11.6V (3.8V 3.85V per cell).
- Do not store the GHOST Drone with the battery connected. This will drain the battery and possibly damage it.
- Keep the battery away from children, animals, water, and fire.
- If your battery breaks or becomes unusable, it must be recycled by an authorized electronic waste facility. Batteries and other electronic waste must be disposed of in a strict manner. Consult your local waste disposal agency for guidelines on battery disposal.

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The G-BOX is a wireless interface unit designed specifically for controlling and interfacing with the GHOST Drone. Each GHOST Drone is paired with one G-BOX. The GHOST App cannot operate the Ghost without a G-BOX. Please store the G-BOX appropriately. Should your G-Box become damaged, it will be necessary to replace the G-Box unit.







G-BOX

USB Power Cable

USING THE G-BOX

Power On	Quickly press the power button once. Note: After the G-BOX turns on, the battery indicator, PWR and DATA indicators will turn on. After several seconds the battery indicator turns off to save battery.	ڻ ا
Power Off	Hold the power button until the PWR indicator turns off.	
While Charging	The four LEDs next to the power button flash in sequence.	ON/OFF
Fully Charged	The left side LED flashes while the three LEDs on the right are solid.	

IMPORTANT TIPS

Keep the G-BOX in your hand or in your pocket during fight. If the G-Box is not near you, you may lose connection with the GHOST Drone.









EHANG's Sports Camera can shoot up to 1080P HD.

CAMERA



SPECIFICATIONS

Lens	170-degree high resolution wide angle lens
Video Format	MOV
Video Compression Format	H.264
Photo Resolution	12M/8M/5M
Battery Capacity	900mAh
Power Consumption	400mA@4.2V
Second Beeps	5s/10s/20s

CAMERA OPERATION

Charging	Connect a USB cable to charge the camera. (When charging, do not use a charger that delivers more than 1000mA or the camera may be damaged.)
Power On/Off	Press the power button to turn on. To turn off, hold the power button until "GOODBYE" appears.
Micro SD Card	Supports exFAT 32k formatted cards.
Recording Time	70 minutes @ 1080P when fully charged.
Note:Quickly press the Conf	he power button to change modes. irm button to start and stop recording.

GIMBAL

The GHOST gimbal is made from lightweight aluminum alloy and is used to carry a camera.

SPECIFICATIONS

Weight	178g
Angle Resolution	±0.09°
Working Voltage	7V -17V
Balancing and Stabilization Angle	Roll Angle ±45° Pitch Angle: - 90° to + 30°
Supported Cameras	EHANG Sport Camera, GoPro3, GoPro3+ and GoPro4

Scan this QR code to watch the related tutorial:



INSTALLATION

Camera Assembly

Install the camera on the gimbal using the camera-mounting bracket. Remove the front bracket from the gimbal and fit it over the camera lens. Place the assembly on the gimbal and tighten the long screws to secure the camera in place.











Gimbal

Camera

Camera Guard Long Screws

Complete Assembly

2 Install Upper Gimbal Plate

Install the rubber vibration absorbers onto the gimbal's upper plate, then install the upper plate assembly onto the bottom of the GHOST Drone using Part #2 short screws.



Connect the Upper Gimbal Plate to the Lower Gimbal Plate Connect the upper plate and lower plate by pushing the rubber vibration absorbers through the holes on the bottom plate.

Suggestion: Loosely affix/attach zip ties between the upper/lower plate (through the absorbers) to prevent lost of camera/gimbal in crash.







Completed Assembly

Connect the Gimbal Wires to the Ghost Drone

Connect the gimbal wires to the GHOST Drone. The cables must be paired by color, otherwise the gimbal may be damaged and/or will not operate correctly. Open the front and back doors of the GHOST and locate the gimbal wires. Cut the zip tie holding the wires together and discard the zip tie. Be careful not to cut or damage the wires when removing the zip tie.



LANDING GEAR

The landing gear is made from a high-strength composite material. The landing gear is designed to support the weight of the Ghost Drone with gimbal and camera attached.

INSTALLATION

The landing gear must be installed on the GHOST Drone when the gimbal is attached. Please note the direction of the horizontal bars when assembling the landing gear. The proper assembly is shown in the diagram below.



PROPELLERS

The GHOST Drone uses eight-inch, tri-blade propellers configured for clockwise and counter-clockwise rotation. Propellers are marked "L" and "R" for easy differentiation. If you need to purchase additional propellers, please contact your local EHANG dealer or visit the EHANG website.



INSTALLATION

Prepare GHOST Parts



GHOST Drone



Right Propeller *2 Left Propeller*2



Right Nut *2 Left Nut*2

Identify the Right and Left of Propellers, Nuts and Motors



Assemble Propellers

1.Add the marked "L" Nut above the marked "L" Propeller, add the marked "R" Nut above the marked "R" Propeller and make sure to match perfectly.



2.Place the drone upside down. Attach an assembled nut and propeller to the top of each motor, and secure the assembled nut and propeller tightly on top. Make sure to match the marked "R" propellers with the correctly marked "R" motors and the marked "L" propellers with the correctly marked "L" motors.



3.Fix the motor with your left hand and fasten the propeller with your right hand tightly. Twist the marked "L" propellers clockwise and the marked "R" propellers counter-clockwise. (Note: please keep the propeller fix together.)



WARNING

Before each flight, check that all propellers and motors are installed correctly and firmly, and the propellers are in good condition. If you find any aging, chipped, or broken propellers, please replace them. To avoid injury, STAND CLEAR of and DO NOT touch the propellers or motors when they are spinning. ONLY use original GHOST propellers for a better and safer flight experience.

PROPELLER GUARDS

The GHOST Drone propeller guards are made from a high-strength composite material. They are effective in preventing damage to the propellers.

Propeller Guard Assembly and Removal

To install the propeller guards, place each guard over the GHOST motor area and align with the three, pre-drilled holes. Use three screws to secure each guard to the GHOST Drone body. To remove, unscrew the three holding screws and remove the guard.





Completed Assembly

LED LEGEND

 Be advised that the GHOST Drone does not have an on/off switch. To power on the GHOST Drone, connect the GHOST battery. After connecting the battery, LED lights will flash, two red and two blue. The red LEDs indicate the front of the GHOST Drone, the blue indicate the rear. If the LEDs flash rapidly during GPS flight, land the GHOST immediately.

LED legend

Blue Flashing	Searching for GPS satellites.	
Blue Solid	Found six or more satellites, can unlock and takeoff.	
Red Flashing	1.Before takeoff: Initializing 2.During flight: Low battery power	
Red Solid	1.The Ghost is unlocked 2.During flight	LED Indicators

Note: After the GHOST is powered on, the red LED light will flash rapidly. Place the GHOST on flat, even ground. After approximately five seconds, the GHOST can be unlocked and takeoff.

PRE-FLIGHT CHECKLIST

- G-BOX, aircraft battery level high.
- Check that propellers are installed correctly, secure, and damage-free.
- · Check that the motors turn the props freely and easily.

▲ REMINDER FOR IOS USERS

- Keep the G-BOX and mobile device together to ensure the connection does not drop while using the GHOST Drone.G
- Remember to enable the location function on your device, as the GHOST App can cache local maps to ehance your flying experience (requires network connectivity).
- Do not unlock and takeoff until the GPS has acquired at least six satellites.

FLIGHT INSTRUCTIONS



DOWNLOAD APP

Note: The GHOST App supports Android 3.0+ and iOS 7+ running on an iPhone 5 and above, and on an iPad 3 and above.

To Download the GHOST App, visit www.ehang.com.





BIND WITH DRONE

The GHOST App connects to the G-BOX through Bluetooth, the G-BOX connects to the GHOST Drone through a data transmission module.



App and G-BOX connection:

1.Connect to the G-Box by turning on the Bluetooth settings in your GHOST Drone compatible smartphone or tablet.

2.Turn on the G-Box as noted on Page 6 of this manual.

3.Turn on the GHOST Drone as noted on Page 5 of this manual.

COMPASS CALIBRATION

Note: Instructions in the GHOST App may be newer than this manual. The following is included solely as a reference, please operate according to instructions in the latest GHOST App.

Calibrate the compass using the GHOST App. The compass calibration will automatically begin after the Bluetooth has successfully paired. Ensure that the direction of the GHOST in the GHOST App aligns with the GHOST Drone. Rotate the GHOST until the text in the GHOST App turns green, then tap the "Yes" button. If it is not the same, click "Inconsistent" to enter compass calibration.



1 Mobile device compass calibration.



Rotate the GHOST Drone slowly and allow the App to fully determine the heading of the GHOST Drone before proceeding to the next heading direction. The text for a given heading will turn green, indicating that the direction has been determined accordingly.

• ALL lines of text must be green in order for the Yes button to be functional.



- If it is not the same, click "Inconsistent" to enter compass calibration.
- (1) In the "Not Same" page, the green dots show the drone orientation. Rotate the GHOST Drone slowly clockwise to populate the circle with green dots.

\bigcirc	Calibrating GHOST compass	
 ① 360°Rotate GH circle appears in ② GHOST head to GHOST clockwiss in the calibration Notice: slowly ro calibration can be 	IOST clockwise horizontally till a green the calibration interface. owards the ground 360°Rotate eventically till a redcircle appears interface. potate GHOST and the be completed faster.	•
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Notice: slowly ro calibration can t	otate GHOST and the be completed faster.	

(2) The red dots show the GHOST Drone trajectory. Tilt the nose down until the GHOST Drone is perpendicular to the ground, and then slowly rotate clockwise until the red dots fully populate the circle.



(3) Click "Confirm" to re-enter the previous interface. Then repeat step (2).

DRONE CONFIGURATION

 Make sure all App settings match that of your current GHOST Drone configuration. This is critical. Flying with incorrect flight settings may jeopardize your GHOST Drone. The different settings tell the GHOST which flight mode to use. Using an incorrect flight mode may result in damage to your GHOST Drone.



ACQUIRING GPS

The GHOST Drone can fly once at least six GPS satellites have been acquired. If the GHOST is having trouble acquiring satellites, try moving to a more open area.

Ξ MODE 🛛 🖁 🔀 🕅 🔁	DISTANCE		SPEED	TIME
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FIRST FLIGHT

▲ Do not operate the GHOST with the propeller guards and landing gear simultaneously installed. For users who purchased the GHOST Aerial or Aerial Plus, practice flying with the basic configuration before you fly with a camera attached.

▲ NOTES FOR FLIGHT ENVIRONMENT

- The GHOST Drone may not fly normally near high-rise buildings due to GPS interference. Please fly in open spaces, away from densely populated urban areas, to minimize GPS interference and maintain a safe flying environment.
- Do not fly near obstacles, people, crowds, power lines, trees, water, or anything else that may cause interference with your GHOST flights.
- Do not fly in restricted air space.
- Do not fly in or around congested electromagnetic (EM) environments. The GHOST Drone must be kept at least 200m (656 ft.) away from strong EM sources to operate normally. EM interference can cause loss of communication with the GHOST Drone and result in damage to the GHOST and your surroundings.
- Do not operate in bad weather, including extremely high or low temperatures, heavy snow, high wind, or rain.

INSTRUCTIONAL VIDEOS

For more in-depth information, watch tutorials on www.ehang.com, or scan the QR codes below.



GHOST YouTube Page



GHOST Aerial Installation Video



STATUS BAR

INCLE IN ISSTANCE HEIGHT SPEED TIME	∷ MODE	🕺 🐹 🛠 8 🗖	DISTANCE	HEIGHT	SPEED	TIME
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From left to right: Settings, Flight mode, Bluetooth, "Heartbeat", Number of Satellites, Battery Level, Flight Distance, Altitude, Speed, Flight Time.

- ℜ At least six satellites are required for GPS flight.
- 🕺 If the Bluetooth icon light is steady, the GHOST App and G-BOX have successfully connected.
- % If the Bluetooth icon turns to gray, the GHOST App and G-BOX are not connected.
- 🐹 Heartbeat icon flashing: The GHOST App and GHOST drone have successfully connected.
- 💥 Heartbeat icon does not flash: GHOST App and GHOST Drone are not connected.

UNLOCK AND LOCK

Click "Unlock" when the GHOST App and GHOST Drone have successfully connected to six or more GPS satellites and you are ready to takeoff.



- The GHOST Drone will emit a continuous tone if it does not receive any flight instructions for 3.5 minutes (210 seconds). This is normal. To stop the tone, click the "Unlock" icon and takeoff or, remove the GHOST battery.
- After unlocking, tap the "Takeoff" button. The Ghost will ascend 10m (33ft.) and hover.

After clicking "Unlock," the button will turn to a lock icon. If you click "Lock," a confirmation screen will appear to ensure that you do not accidentally stop your propellers. If you click "Lock" and then confirm while the GHOST Drone is in flight, the propeller will cease spinning immediately. Unless it is an emergency situation, do not do this, as it may result in damage to your GHOST.



Click the "Takeoff" button after "Unlock." After the takeoff countdown, the GHOST will rise and hover 10m (33 ft.) above the takeoff point.



Note:Once airborne, the GHOST Drone can receive point-to-point flight instructions. Waypoint flight requires the GHOST Drone to be 10m (33 ft.) or higher.

- If the mobile device has network access, a map of your current area will populate, overlaid with your position and the position of the GHOST Drone.
- A is drone position. Drone will go to the position B after setting waypoint. B. (A→C→B) The Ghost will go to D if you set a new destination D during transit to B. (A→C→D)

HOVER

You can tap the "Hover" button at any point during flight. If you do so, the GHOST Drone will begin hovering immediately at its current position.



FOLLOW-ME

The Follow-Me function is enabled when the GHOST is in hover mode.



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🛕 Note

- Only use Follow-Me in an open area, as the GHOST Drone does not currently have obstacle avoidance capabilities. If the user is changing elevation while travelling, the user must manually adjust the GHOST Drone elevation, as the GHOST cannot dynamically change elevation while in Follow-Me mode.
- To use Follow-Me, GPS on the mobile device running the GHOST App must be enabled. Only enable Follow-Me when the distance between the operator and the GHOST Drone is more than 3m (10 ft.). When the user is travelling, it is advised that the user not stop suddenly, as the GHOST Drone cannot come to a sudden stop. When coming to a stop, stop slowly. If the user clicks another button in the GHOST App while in Follow-Me mode, Follow-Me will disengage. Ehang recommends setting the Ghost Drone's height to be well above the user so as to avoid any collisions or possible damage while using Follow-Me.

MICRO-CONTROL

The "Micro-Control" function allows the GHOST Drone to be controlled at its current altitude. The GHOST Drone must be in Hover mode to access the "Micro-Control."



Micro-Control

Scan this QR code



Watch the "Micro-Control" tutorial

When using Micro-Control, the GHOST Drone's front is indicated by red LEDs, the rear by blue.The Micro-Control function can also be used to aid in fine-tuning the landing point of the GHOST Drone when in Landing mode.

YAW / ELEVATION

The "Elevation" slider controls the height of the GHOST Drone and the "Yaw" slider controls the direction the GHOST Drone is pointed. Both functions can only be used while in Hover mode.



Drone turns counter-clockwise when the button is dragged left.Drone turns clockwise when button is dragged to the right.

- Drone ascends when the button is dragged upwards.
- Drone descends when button is dragged down.

Elevation function can only be used while in Hover mode.

CONTROLLING THE GIMBAL

The GHOST App can control the roll and pitch of the gimbal while in flight. The GHOST App can be used to fine-tune the position of the attached camera.



Gimbal Pitch



- The gimbal rolls to the left, or counter-clockwise, when the slider is dragged to the left.
- The gimbal rolls to the right, or clockwise, when the slider is dragged to the right.
- The gimbal pitches up when the slider is dragged up.
 - The gimbal pitches down when the slider is dragged down.



When tapping "Return" in the GHOST App, the GHOST Drone will rise to 10m (33 ft.) and transit to its original takeoff point and hover in place.



- If the GHOST Drone is already above 15m (50 ft.), it will return directly to its original takeoff point, drop to 10m (33 ft.), and hover in place.
- If the Ghost Drone is below 15m (50 ft.), it will ascend to 15m (50 ft.) before descending to 10m (33 ft.) and hover in place.
- The indicated altitude uses the takeoff point as the baseline.

The return flight path is a straight line to the original take off point, make sure there are no obstructions between the departure point and the GHOST Drone.

LAND

When tapping "Land," the GHOST Drone will descend straight down and land. After five seconds on the ground, the propellers will lock.



Note: Unless you have adjusted and saved parameters in the Other button on the GHOST App, all heights and speeds are set by default.

FAQ

Can the GHOST Drone automatically avoid obstacles? No. The GHOST Drone does not contain obstacle-avoidance technology. Be aware of your surroundings and always fly safely.

• Will the GHOST Drone automatically return when the battery is low?

The GHOST App both speaks and displays the current battery level. When the GHOST Drone is critically low on battery, it will automatically land. In the event of a signal interruption, the GHOST will immediately land.

 What happens if the GHOST App mobile device turns off while in-flight? The GHOST Drone will automatically return if it does not receive a signal for five seconds.

• Why does the GHOST App say "unlock failed"?

Check to make sure that the GHOST Drone has sufficient battery, and that it has acquired at least six satellites. If all readings are nominal, please disconnect and re-connect the GHOST Drone battery. Attempt to unlock again. If you are still having problems, contact customer service.

• How far and how high can the GHOST Drone fly?

Under optimal conditions, the GHOST Drone can fly up to 1000m (3,280 ft.) away from the GHOST App and G-BOX. Remember to observe all local flight regulations and ordinances when operating your GHOST Drone.

• Does GPS or WiFi have to be on to show my location?

The GHOST Drone does not have a standalone GPS capability, the GHOST App shows your location as well that of the GHOST Drone. No map will be displayed if the GHOST App does not have network connectivity. GPS must be enabled on your mobile device to operate the GHOST Drone.

• What do I do in an emergency?

In the event of an emergency, immediately click "Hover." If "Hover" fails, ensure everyone's safety before attending to the Ghost Drone.

• What do I do when the GHOST App becomes non-responsive?

The GHOST Drone will automatically return if it does not receive a signal for five seconds. If the GHOST App becomes unresponsive, re-launch the GHOST App, or restart your mobile device.

• How do I update the GHOST App?

The GHOST App will prompt you to update when an update becomes available. You may also download the latest GHOST App from our website.

• Why am I having trouble binding?

If the GHOST Drone and GHOST App are not pairing, open the App and turn on the G-BOX. Click Settings—Other Settings—Bind. The binding process should complete in under two seconds. Try to bind again if binding does not succeed within five seconds.

SERVICE AND SUPPORT

SERVICE AND SUPPORT

The GHOST Drone comes with a one-year guarantee. If you encounter problems with your GHOST Drone, please contact support@ehang.com. Keep up-to-date by visiting us at www.ehang.com.

Thank you, and enjoy your GHOST Drone!



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