

ORBIT Pro | Air

User Manual



Introduction

Congratulations on your purchase of the HoverCam Orbit Pro (60GHz mmWave) or Orbit Air (5GHz). Orbit is a document camera that can wirelessly cast its image to a computer (USB UVC) or a HDMI display (HDMI) via it's included Receiver.

Unlike other solutions, Orbit is:

- **Plug-and-play:** No drivers, no passwords, no IT setup.
- **Secure:** Connections are isolated and do not connect through your school or office network.
- **Zero configuration:** Pre-paired from the factory, ready to use out of the box.

HoverCam Orbit Academy

No one likes reading manuals. You can find helpful **Training Videos**, software downloads, and more at the HoverCam Orbit Academy:

<https://www.hovercam.com/orbit-academy>

Orbit Pro vs. Orbit Air

Orbit Pro

- Uses 60GHz mmWave gigabit casting.
- Requires **line-of-sight** between transceivers and receiver.
- Absolutely no interference with your network.

Orbit Air

- Uses 5GHz wireless casting (a form of Wi-Fi, but not connected to your network).
- More forgiving about obstacles; doesn't require strict line-of-sight.
- Could theoretically overlap with other 5GHz networks, but still isolated and secure.

Antenna Design Differences:

- The Orbit Pro and Air use **different TX/RX antennas** designed for their respective frequency bands. Always mount RX as instructed in this manual.

Line of Sight Notice (Orbit Pro ONLY):

Unlike Wi-Fi, mmWave devices like the Orbit Pro require **clear line-of-sight** (reflected paths are acceptable) between Camera, Transceiver and Receiver, as it doesn't pass through objects. Proper installation is key to maintaining signal. Temporary signal loss may occur if obstructed, but reconnection can occur quickly once line-of-site is restored.

Read the full disclosure or visit: <https://www.hovercam.com/mmwave-disclosure>

What's in the Box

NOTE: Orbit Orbit PRO and AIR have different antennae and slightly different exterior appearance



Orbit Camera (TX)



Wireless Receiver
(RX)



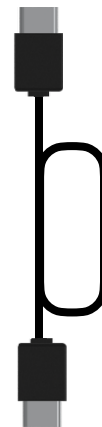
RX Display Mount
*Mounts RX to Top or Side
of Display Bezel*



USB-C to USB-C Cable
*Connects to Receiver to laptop, or
Receiver to display (power only)*



USB-A to USB-C Cable
*Connects to Receiver to laptop, or
Receiver to display (power only)*



HDMI Cable
Connects to Display



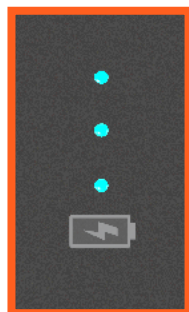
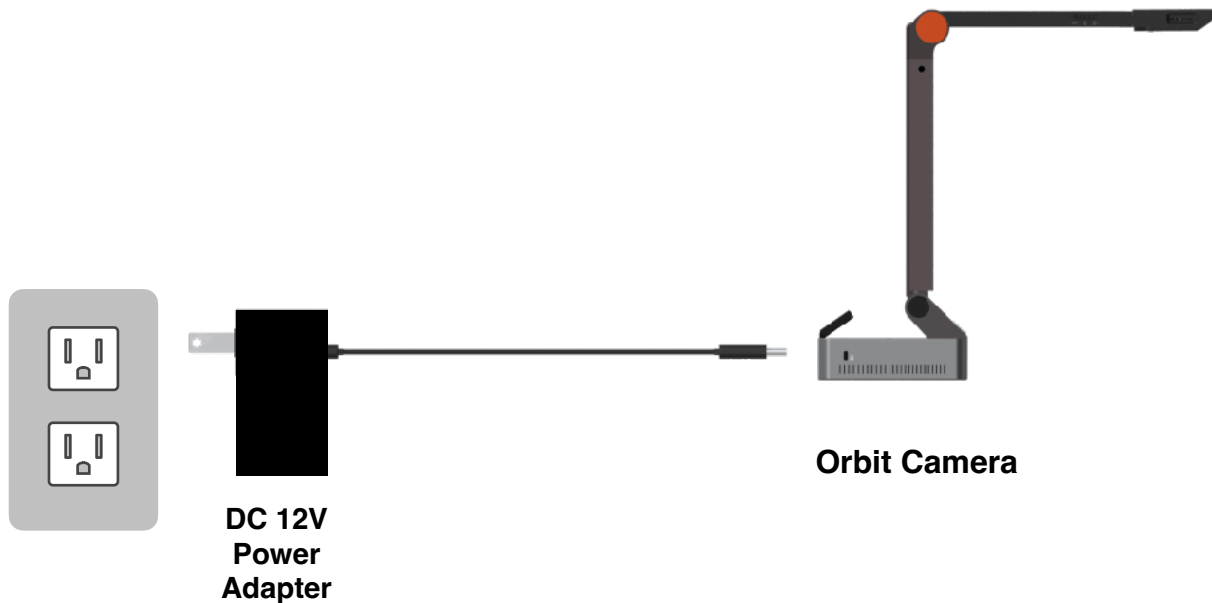
DC 12V Power Adapter
Charges Camera

Charging the Camera

Before setting up your Orbit Pro or Orbit Air, please charge the camera fully. To do so, use the included DC 12V Power Adapter to connect the camera to a wall outlet via the port on the back of the Camera. Do not attempt to charge the camera with a third-party power adapter.

Charging and battery status is indicated by the battery indicator.

Depending on usage, the Orbit Pro can last from 6-8 hours on a single charge and the Orbit Air can last 9-10 hours on a single charge. Charging takes approximately 3 hours. We recommend charging the camera overnight, and during the day while not in use.



Battery Indicator:

Lights Flashing 1, 2, 3: Charging

3 Lights: 75% - 100% Remaining

2 Lights: 50-75% Remaining

1 Light: 25-50% Remaining

1 Light (Flashing): Less than 25% Remaining

Battery Life: Orbit Pro: **6-8 Hours**
 Orbit Air: **8-10 Hours**
 Charging Time: **~ 3 hrs**

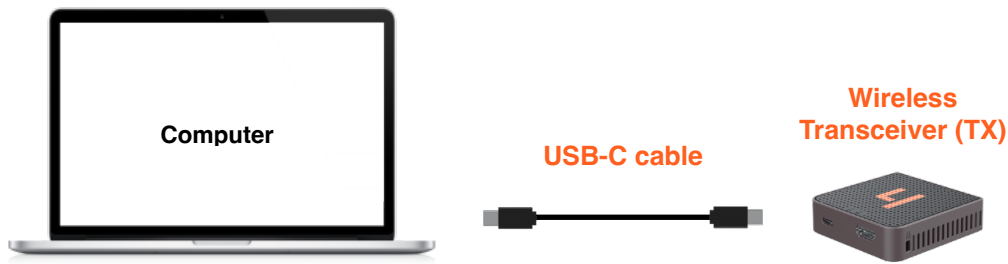
Connecting to a Computer via USB UVC

The Orbit can wirelessly connect to your computer as a USB UVC camera through the included Receiver.

Connect the Receiver to Computer

1. **Plug it in:** With the laptop on, use one of the included USB cables to plug the Receiver into a USB-C or USB-A port on your laptop
2. The Receiver will automatically power on and begin searching for the Orbit wireless document camera to establish a connection indicated by the flashing blue connection status light.
 - Flashing = searching for RX
 - Solid = connected
3. **Open up any USB camera software:** With the computer powered-on and Receiver connected, the laptop should detect a USB camera input (as if a USB webcam was connected). Open any camera software and look for “HoverCam Orbit” under the camera input list (like your computers default camera app, Zoom, Microsoft Teams, etc...). We recommend the free **HoverCam Flex** software (hovercam.com/software) for additional features (optional).

You may see a loading screen if the camera is not powered on and connected yet, as the receiver searches for the camera.

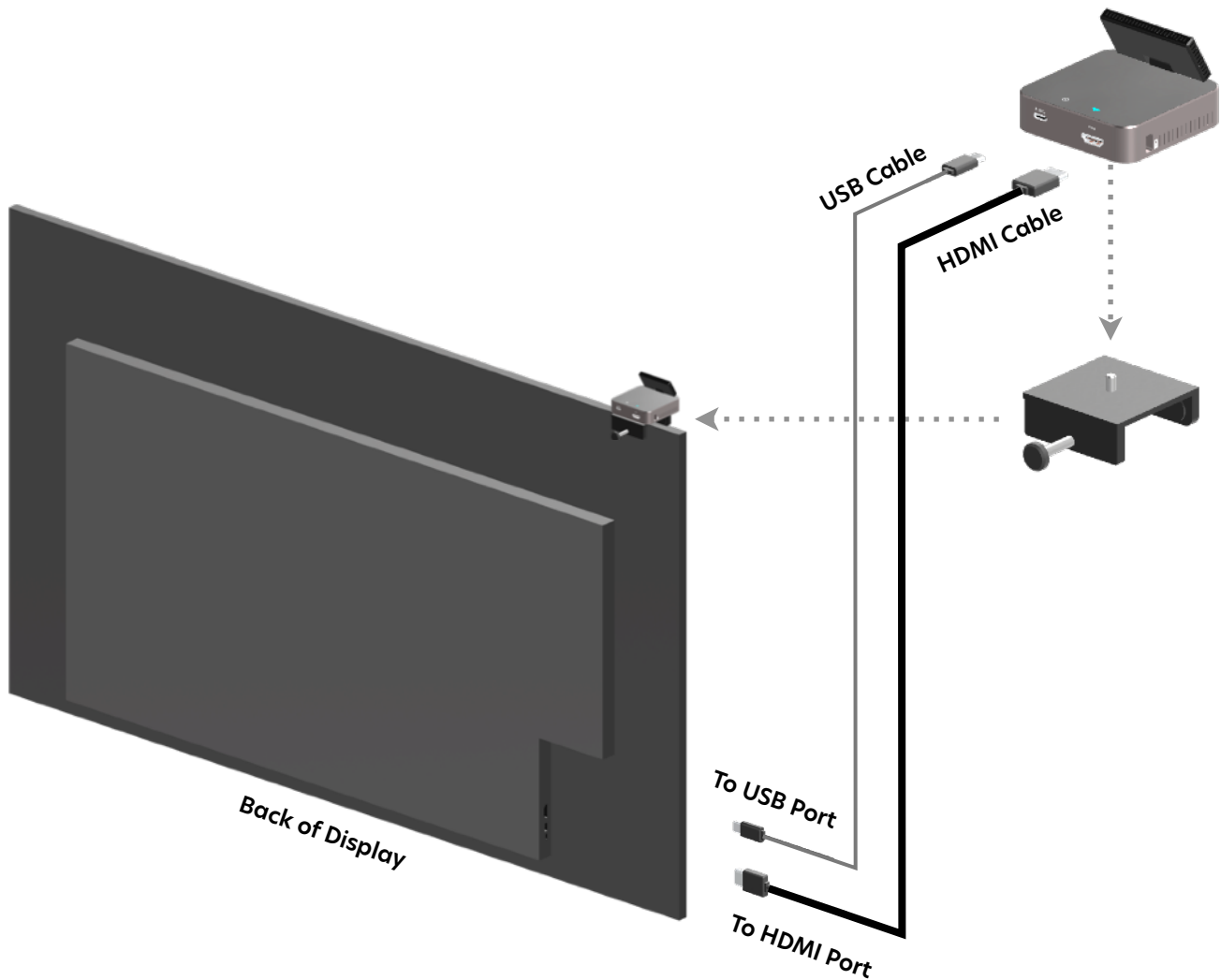


Note: Make sure the laptop/Receiver are within connection range of the Camera. Both Orbit Pro and Orbit Air have range limits, with the Orbit Pro requiring line-of-sight between Receiver and Camera. If you are using Orbit Pro, aim the Camera's antenna towards the Receiver for the strongest connection.

Connecting to an HDMI Display

You can also cast the document camera directly to an HDMI display by connecting the receiver to a power source, and then connecting the receiver to an available HDMI input on your display.

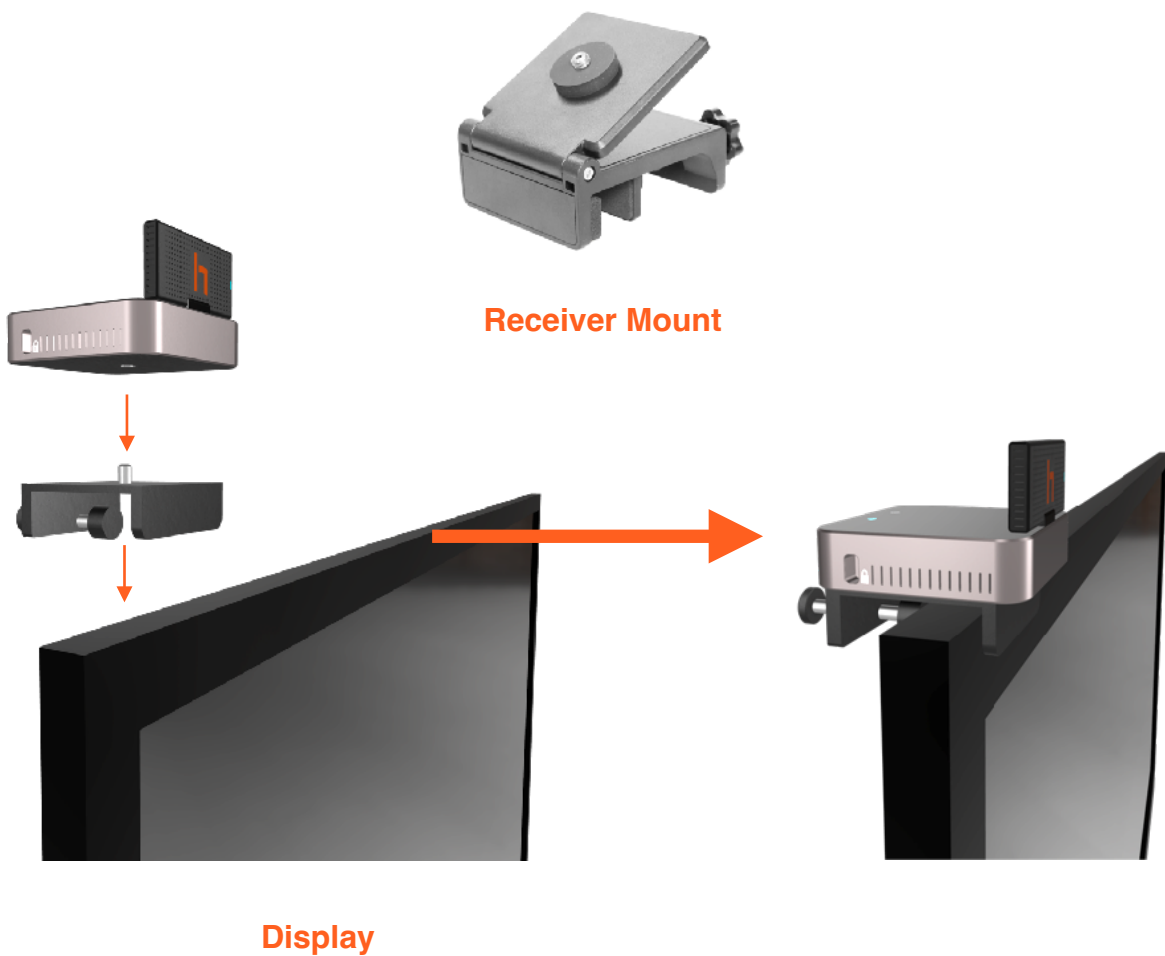
1. **Connect Power:** Provide power to Receiver via USB-C from the display's USB port or wall adapter (not included). Note: The Receiver's (Rx) **power requirement is 5 V, 2 A**. Not all USB ports provide this minimum power requirement. If using a USB port from your display to power the receiver, please ensure it meets this requirement.
2. **Connect HDMI:** Connect the Receiver to your display via the HDMI cable
3. **Power On your display:** With the display on, the receiver's indicator lights should illuminate signifying that power is connected.
4. **Select the HDMI Input** that your camera is connected to. You should see a loading screen until the camera connects.



Mounting the Receiver (If Using with HDMI Display)

Mounting the Receiver (RX) (If Using Interactive Panel or TV)

- Use the included mounting bracket to attach RX high on or near your display.
- For **Orbit Pro**: RX must be clearly visible and angled toward the camera. Rotate the RX antenna upward to face the camera's antenna.
- For **Orbit Air**: RX placement is more flexible, but higher mounting still improves reliability.
- For best possible connection, do not hide the receiver behind the panel.



Powering on the Document Camera (TX2)

1. Power on the camera by holding the side button (~3 sec). Make sure the camera is charged.
2. The camera should automatically start searching for the wireless Receiver (RX). Its wireless connection status is indicated by the blue status light:
 - Flashing = searching for RX
 - Solid = connected

Note: Make sure the camera is within connection range of the Receiver. Both Orbit Pro and Orbit Air systems have range limits, with the Orbit Pro requiring line-of-sight between TX, RX, and Camera. If you are using Orbit Pro, aim the camera's antenna towards the Receiver for the strongest connection.

Viewing the Camera image on the HDMI display: If the Receiver is properly connected, and the display is set the correct HDMI input, and both the camera and receiver have solid connection status lights indicating a successful connection, the camera image should automatically display on the screen.

Viewing the Camera image on the laptop through the Receiver: With the computer powered-on and Receiver connected, the laptop should detect a USB camera input (as if a USB webcam was connected). Open any camera software and look for "HoverCam Orbit" under the camera input list (like your computers default camera app, Zoom, Microsoft Teams, etc...). We recommend the free **HoverCam Flex** software (hovercam.com/software) for additional features (optional).

Press to Turn On
Press & Hold to Turn Off (5 sec)



**Connection
Indicator Light**

Flashing: Searching
Solid: Connected

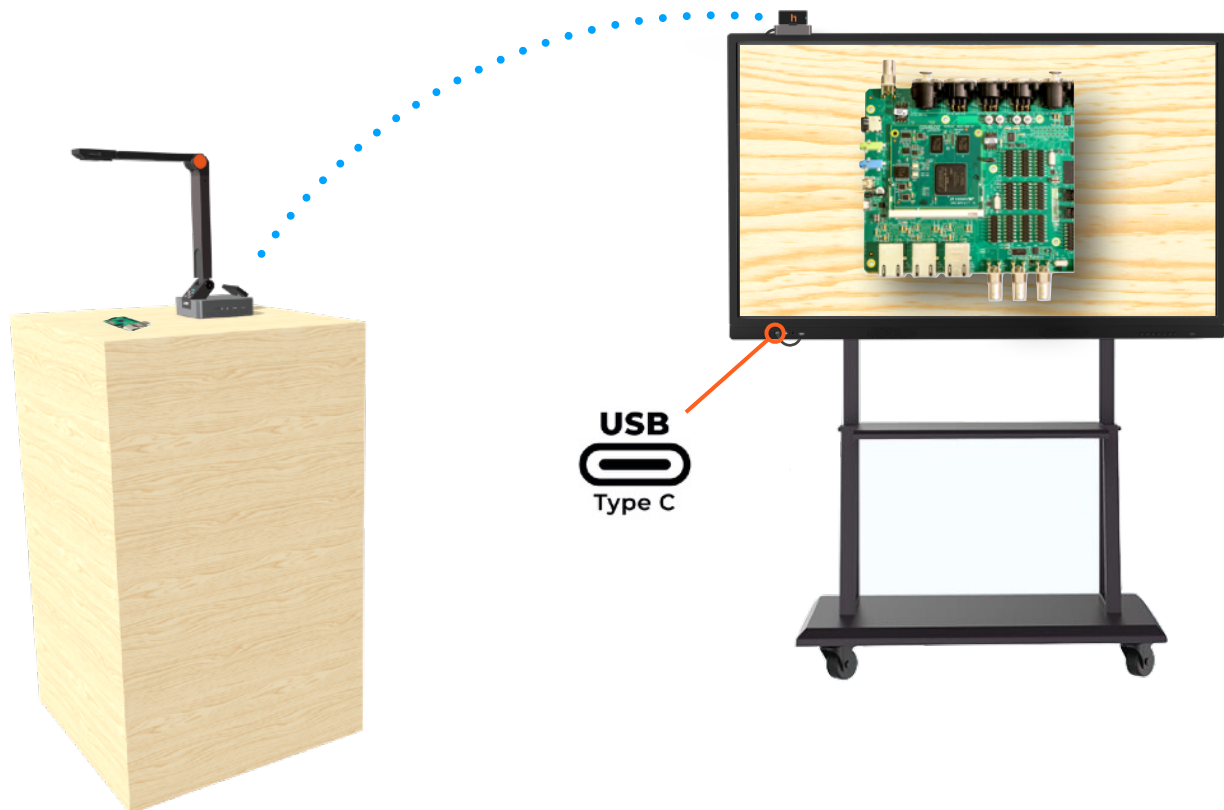
Connecting to USB-C Compatible Interactive Flat Panels

Much like a USB webcam, Orbit's wireless UVC image is compatible with newer interactive flat panels that support single USB-C cable functionality.

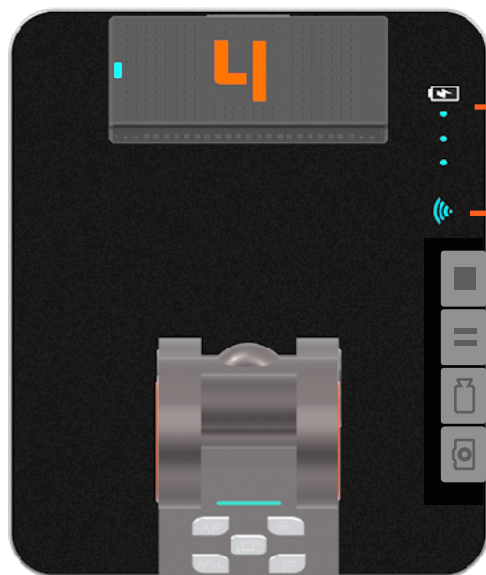
Connect the Receiver to the compatible USB-C port on the display and follow the prior connection steps. No power adapter is required. Then open up the interactive flat panels camera application, and select the HoverCam Orbit as the camera input.

You should be able to see and control the Orbit's camera image using the interactive flat panel's camera application.

Note: Not every USB-C port on every interactive flat panel supports this functionality. Double-check that your IFP supports this feature before attempting.



Camera Controls



Battery Status

Wireless Connection Status Indicator

Stop Recording

Freeze / Unfreeze Image

Record Video

Take Snapshot

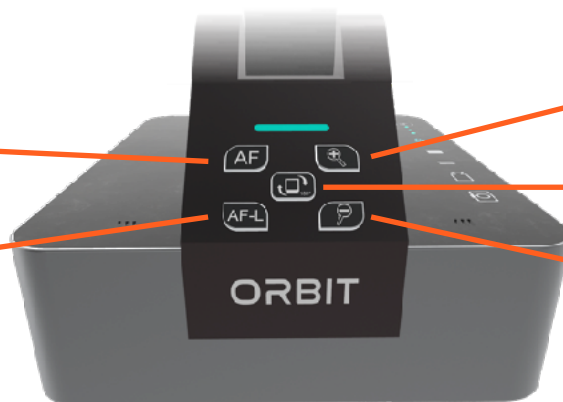
Note: These three buttons are for local recording, and are only active when a MicroSD card is inserted into the camera (not included). However, when connected to a computer, video recording and snapshot features are available through the HoverCam software.

Enable Autofocus

Camera will constantly adjust focus

Autofocus Lock

Focus will be locked until AF is pressed again.



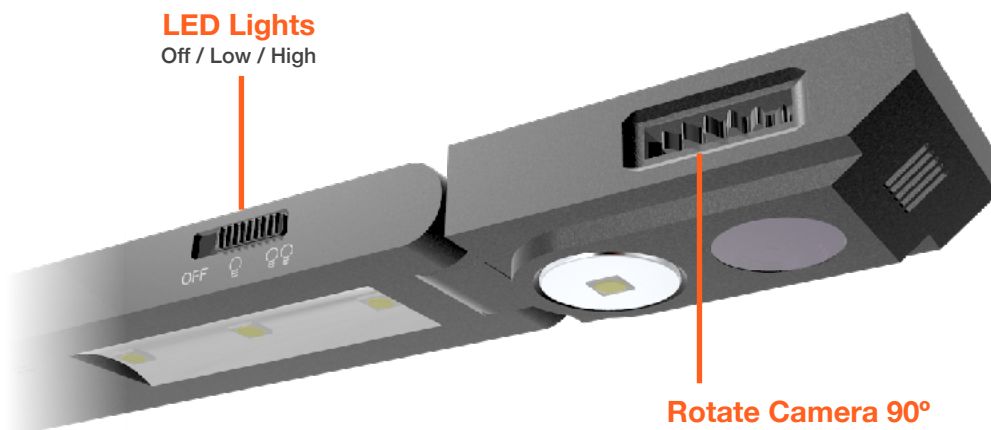
Zoom-In

Flip 180°

Zoom-Out

LED Lights

Off / Low / High



Rotate Camera 90°

Best Practices For Wireless Performance

Proper installation and usage practices are essential for achieving the best possible performance with your HoverCam Orbit. This section provides guidance for both models, with special emphasis on the **Orbit Pro**, which relies on **60GHz mmWave technology** that has a important line-of-sight requirement.

Orbit Air (5GHz)

The Orbit Air uses the 5 GHz band, the same frequency range used by Wi-Fi. However, unlike ordinary Wi-Fi connected devices, Orbit Air establishes a **dedicated, private link** between the transmitter and receiver. This means it does not connect through your network and requires **zero configuration**.

- **Line-of-sight is not strictly required.**
 - Signals at 5 GHz can penetrate some walls, ceilings, and furniture.
 - Performance may degrade as barriers increase, especially if multiple obstacles or long distances are involved.
 - **Longer range than mmWave.**
 - Orbit Air can cover larger classrooms or adjacent spaces where Orbit Pro might fail.
 - **Susceptible to interference.**
 - Because 5 GHz is also used by Wi-Fi, nearby access points or other wireless devices may compete for spectrum.
- For strongest performance, maintain line-of-sight between Camera and Receiver whenever possible.
 - If using with an HDMI display, always mount Receiver high up with the included mount.
 - Avoid placement directly behind metal objects or thick walls.
 - In crowded Wi-Fi environments, minimize other 5 GHz usage nearby if possible.

Orbit Pro (60GHz mmWave)

The Orbit Pro uses mmWave gigabit wireless transmission. Unlike Wi-Fi, mmWave signals **do not pass through objects**. Instead, they travel much like a laser beam:

- They can reflect off walls, ceilings, and other surfaces.
- But ultimately, they must “find their way” directly into the other antenna for a connection to be established and maintained.

Line-of-Sight Requirement

- The **Receiver (RX)** must have **clear line-of-sight** to the Camera.
- If using with a display, always use the included **mounting bracket** to position RX high on your display, with its antenna visible and unobstructed.
- Do not hide RX behind a flat panel, inside cabinetry, or behind large objects.

Antenna Orientation

- Rotate antennas 90° upward on both devices
- Do not leave antennas folded flat against the device body during operation — this reduces signal strength and may cause overheating.
- For strongest connection, point antennas directly toward one another.

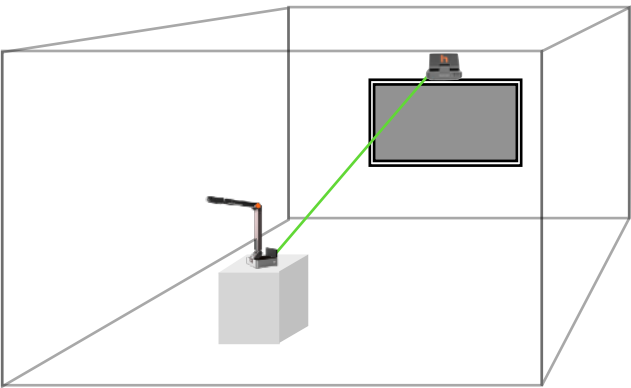
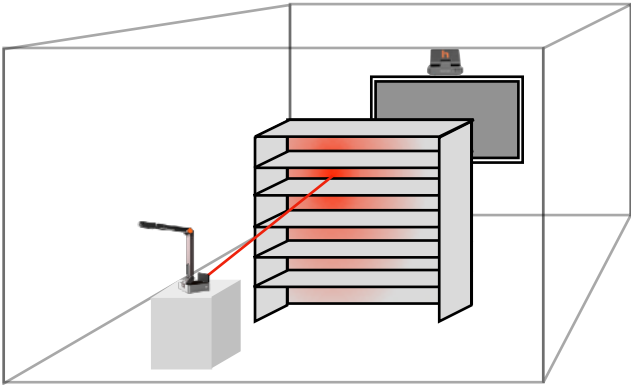
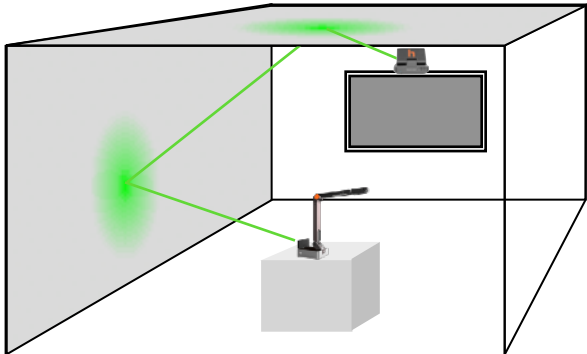
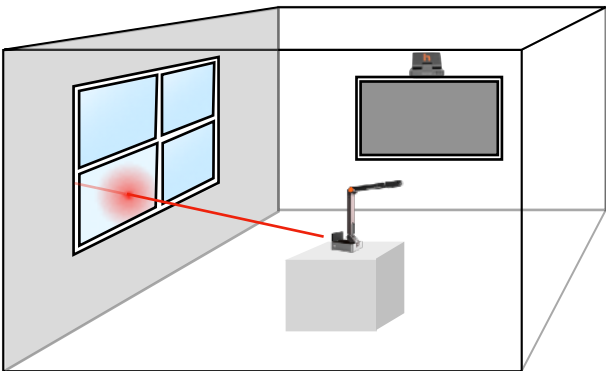
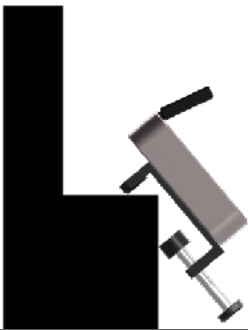
Obstruction Awareness

- Avoid leaning directly over the antennae on the Camera or Receiver while using, as your body can block the antenna.
- If someone passes between TX and RX, you may experience **temporary signal loss**. This is normal — reconnection usually occurs automatically within seconds once line-of-sight is restored.

By following these best practices, you ensure the Orbit Pro maintains a strong, uninterrupted mmWave connection, while Orbit Air delivers optimal 5GHz wireless performance.

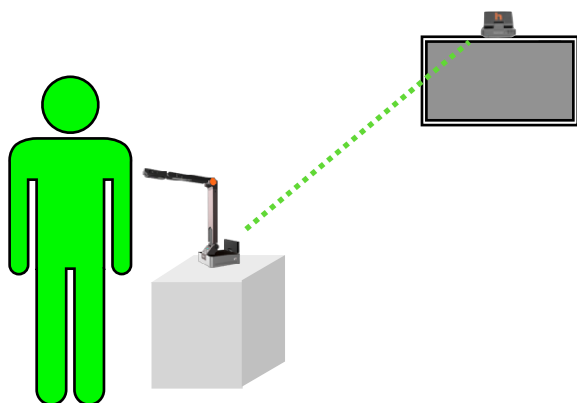
Do's and Don't for Orbit Pro ONLY

The following diagrams depict some common do's and don't for the Orbit PRO model - which has a line-of-sight requirement to maintain it's wireless signal.

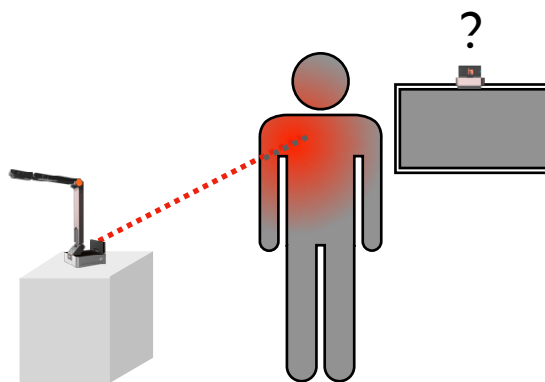
 Camera and Receiver must be in the same room, within line-of-sight of each other.	 Signal can be blocked by large objects. Ensure Receiver and Camera have clear line-of-sight.
	
 In enclosed rooms, signal can bounce off walls, so the Camera's antenna doesn't always have to directly face Receiver.	 The signal can pass through windows. Avoid facing camera towards windows, and opt for line of sight positioning.
	
 Mount Wireless Receiver high-up on display for best signal reception.	 DO NOT hide Receiver behind display. Reciever must have open line of sight with Camera and Transceiver.
	



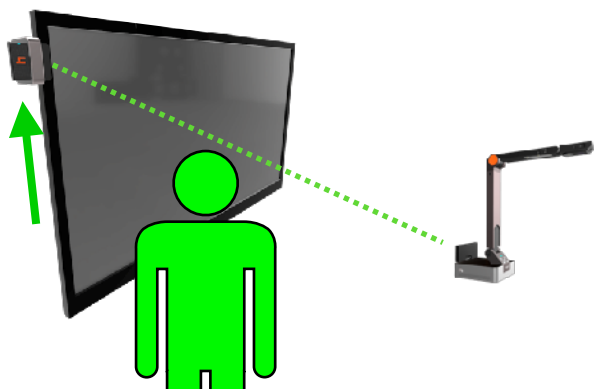
Keeping the Camera antenna unobstructed and facing Receiver provides the strongest signal.



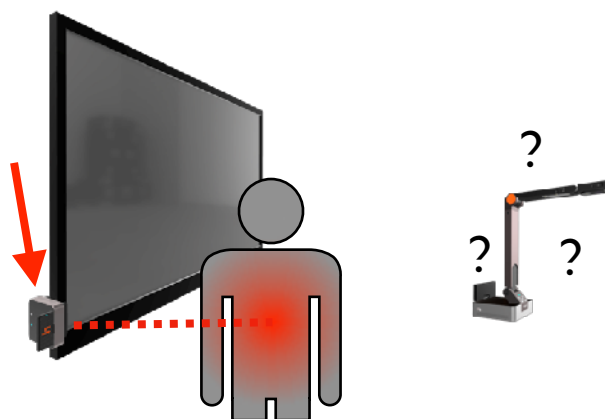
Sitting or standing in front of Camera/Receiver's antennae can cause signal drop.



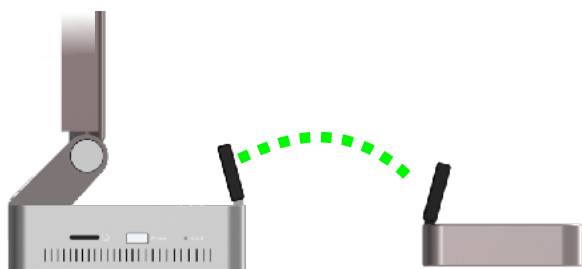
Position Receiver as high as possible to maximize line-of-sight and minimize chances of signal interruption.



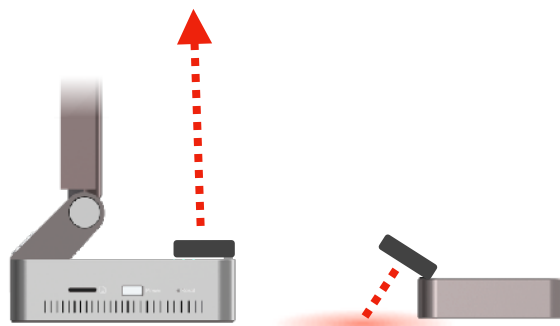
Do not position Receiver in places where chances of signal interruption are greater.



Rotate antennas 90° upwards for strongest connection and heat management.



DO NOT operate while antennas are folded down flush to the body. DO NOT point antennas directly into solid surfaces.



Need More Help?

Visit the HoverCam Orbit Academy for helpful training videos, software downloads, and more:

<https://www.hovercam.com/orbit-academy>

Contact Support

If you need more help, please contact our **Support Team**: <https://www.hovercam.com/support>