



COUNTCAM2

Video Recording System

Product Manual

Version 4.1 - August 2021

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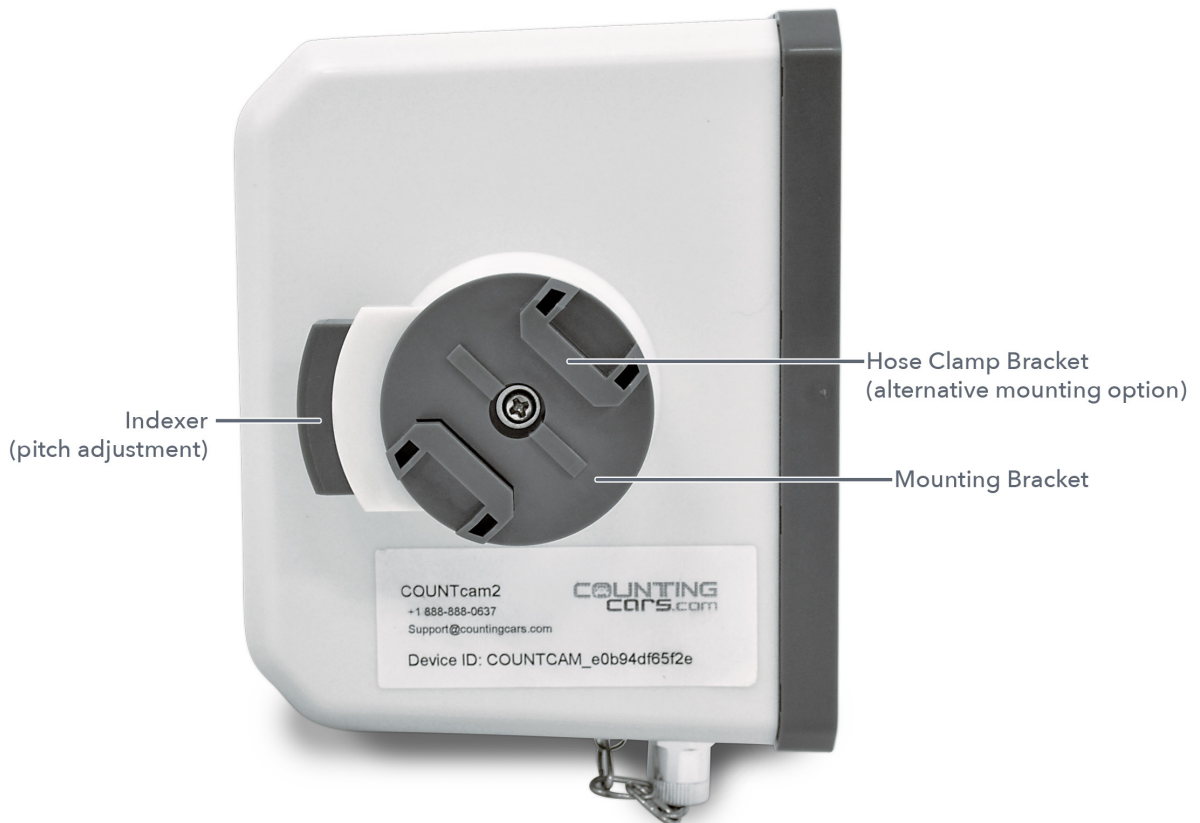
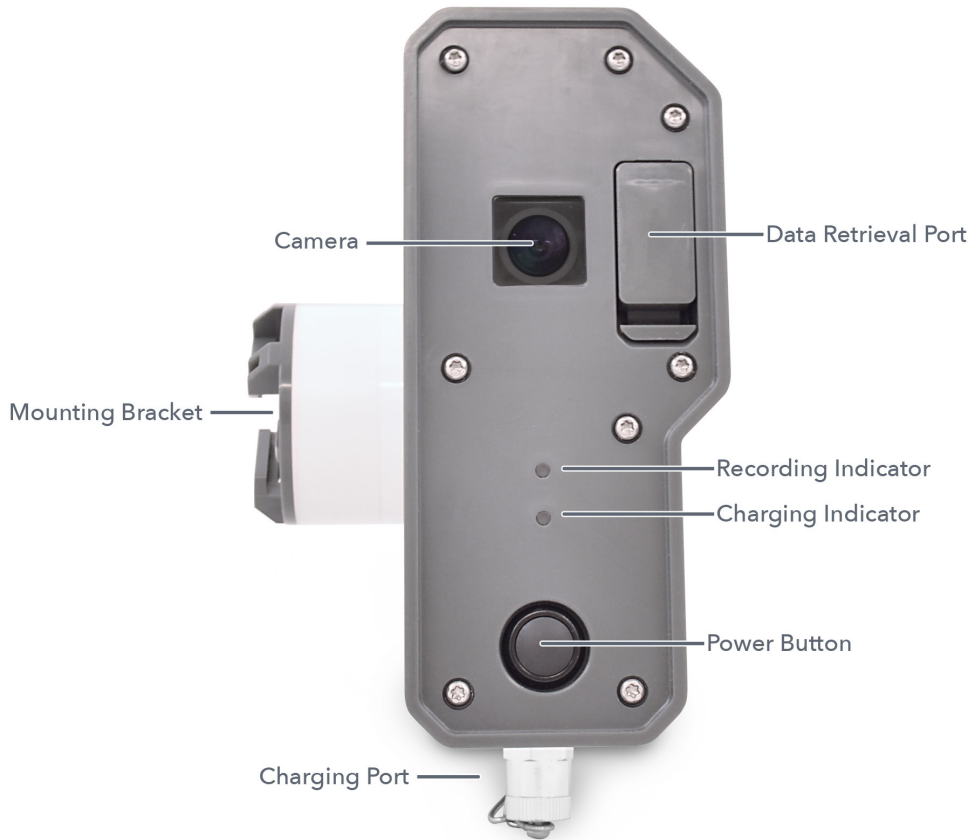
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Congratulations on the purchase of countCAM2, the traffic counting industry's trusted video recording system. The countCAM2 Video Recording System allows you to easily collect video data to conduct traffic analysis such as turning movement counts.

countCAM2 uses state of the art technology to allow you to wirelessly set up your recording. Information on how start using the countCAM2, proper equipment installation, data retrieval, and using the booster pack for extended studies is covered in this manual.

1. Getting Started

Charging the countCAM2



The countCAM2 will need to be charged before use. The charging port of the countCAM2 is located on the bottom of the device. To plug in the charger, align the three pin connector of the charger with the alignment nub of the charging port and gently insert the charger connector. After alignment, use the locking screw to secure the connection. The green charging indicator on the countCAM2 will be illuminated when countCAM2 is charging. The charging indicator will turn off when charging is complete. It takes approximately 15 hours to completely charge the countCAM2.



Tip: Make sure to charge your countCAM after every use. If the countCAM is not being used frequently, a charge at least every 4 to 6 months is recommended.

Download the App

Download the countCAM App from the Google Play Store or from the Apple App Store to a mobile device (i.e. phone or tablet). This is a proprietary app designed to control the countCAM2. You will need the countCAM app to initiate recording on the countCAM2. Once the app is installed, you will not need access to the Internet to use the countCAM2.



Connecting to the countCAM2

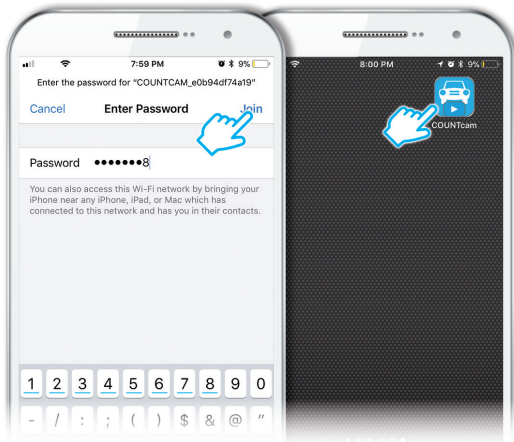
The COUNTcam2 uses a local wireless network (Wi-Fi) to communicate with your mobile device.

- Press the power button on the front of the countCAM2 for 1 second. The countCAM2 will broadcast its wireless network within 10 seconds of powering up.
- Go to your mobile device's Wi-Fi settings and connect to the countCAM network. The network name prefix is COUNTCAM followed by the device's ID. The default password is "12345678" which can be changed later.

Note: You must be in range (up to 20 feet) of the countCAM2 Wi-Fi network to ensure connection.

2. Controlling the countCAM2

Using the countCAM App



Once you have the countCAM app installed, connect to the countCAM2 wireless network through your mobile device. Next, open the countCAM app on the mobile device connected to the COUNT-CAM wireless network and wait up to 20 seconds for the live stream to appear. The countCAM app may have some minor differences between the iOS and Android platform, however this section covers both Android and iOS app functionality

Using the countCAM app, you are able to do the following:

- See the live view of the camera for positioning to ensure you are recording the desired recording area.
- Start or stop the countCAM2 video recording.
- Check the battery level of the countCAM.
- Review recorded video stored on the countCAM.
- Format the internal storage on the countCAM.

Tip: The countCAM2 wireless network will appear as 'COUNTCAM_XXXXXXXXXXXX'. This is the Device ID of your countCAM2 and is located on the label under the mounting bracket.



Figure 1

Recording Video

Once you are connected to countCAM2 through the countCAM app, you will be able to start recording video. To initiate recording, tap the orange circular recording button in the center-bottom of the app (in portrait mode) or the center-right of the app (figure 1, 3). You will know the countCAM2 is recording when the red recording indicator starts blinking in the app (figure 1,1) and the blue LED on the front of countCAM2 is also blinking. If the blue light is not blinking the camera is not recording.

App Functionality

The countCAM app has several icons on the sides of the screen that serve different functions. This section will explain those icons in more detail.

- 1. Recording Indicator.** When the red icon is blinking, that means the countCAM2 is recording video. The blue LED on the front of the countCAM2 should also be blinking to indicate the camera is recording.
- 2. Battery Meter.** This icon displays the current charge level of the countCAM2's internal battery. If you are using a booster pack, this indicator *does not* represent the booster pack's state of charge, it is for the camera only. **Note:** the battery meter in the countCAM app is displayed very close to the battery meter of the mobile device running the app. When checking the battery level of your countCAM, make sure you are looking at the countCAM battery meter and not the mobile device's battery meter.

3. **Video Record.** When this icon is tapped, the countCAM will start or stop recording video.
4. **Video Review.** When this icon is tapped, you will be able to see all the recorded video stored on the countCAM2 internal storage. Here you will be able to playback the recorded video files and delete any unwanted video files. Clicking this icon will stop any active recording.
5. **Time Stamp.** The time stamp is automatically set based on the time the mobile device's time setting and will be displayed on all video files recorded. **Note: if the time stamp is not accurate, restart the app so it can correctly pull the time and date from your mobile device.**

Formatting the Internal Storage

If you are out in the field and want to ensure there are no video files left on the countCAM from a previous recording session you are able to clear the internal storage of the countCAM2 by formatting the disk.



Figure 2

To format tap the 'settings' icon in the top right corner of the app (figure 2, 1) Note: the settings icon will only be visible when the app is in portrait mode (figure 2)

Note: When the mobile device is in portrait mode, the battery indicator of the countCAM2 is much easier to distinguish and can be seen in Figure 2, 2.

Once in the settings menu, you will see the option to format. Tap the format bar and you will be asked if you want to format the internal storage, tapping 'sure' will clear the memory of the countCAM2 and the card capacity will be displayed on the format bar. **Note: formatting the internal storage will permanently delete all video files stored on the internal storage.**

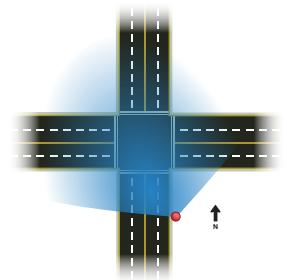
3. Installation

Proper countCAM installation in the field is crucial to capturing usable video data. This section reviews the best practices for installing your countCAM2 in the field.

Always use caution and best judgment when working in the field. Equipping your vehicle with warning lights and/or a roof beacon is recommended for your protection. Additionally, wearing reflective clothing or a safety vest is recommended to increase your visibility to drivers.

Selecting a Location

At the desired recording site, find a tree, utility pole, or street sign that allows for a clear view of the area to be recorded. The camera should be 50-100 ft (15-30m) from the center of the intersection.

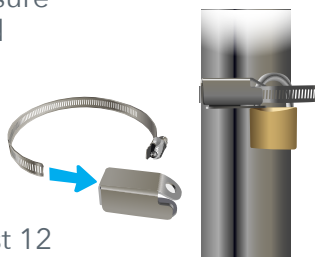


- Avoid setup locations where objects may obstruct views, such as bus stops and truck loading zones.
- Try to position the camera facing North or South to avoid sun glare during sunrise or sunset which could obstruct the video footage.
- A birds-eye view will make the video easier to count, try to install the camera high up and pointed down.
- Wear reflective vests / clothing when working in and around traffic to increase visibility to motorists. It is also recommended to engage the hazard lights and install a light beacon on your vehicle if it will obstruct traffic.
- Unless given special permission, installation of equipment on private property is not recommended.
- Avoid interaction with wildlife at installation site by all means necessary.



Installing the Camera on a Street Sign Using the Adjustable Pole (preferred method)

1. Secure the countCAM to the adjustable pole. The countCAM easily snaps into the mount secured to the top of the pole. Alternatively, a small hose clamp can also be used with the countCAM mounting bracket to secure the countCAM2 to the pole.
2. Connect to the COUNTCAM wireless network on a mobile device with the countCAM app installed.
3. Open the countCAM app and allow up to 20 seconds for the live stream to appear. Once viewing the live stream, tap the record icon to initiate recording. The blue recording indicator will begin to blink on the countCAM2.
4. Extend the aluminum pole to the desired height. Make sure the countCAM2 is pointed in the proper direction by using the live stream on the countCAM app and adjust as needed. For best results, the camera should be elevated at least 12 feet (3.66 meters) off the ground. Be mindful of overhead power lines when raising the pole.



Note: if windy conditions or bad weather is expected, extending the pole over 15 feet (4.5m) is not recommended.

5. Use two hose clamps to attach the adjustable pole onto the sign; tighten both hose clamps and lock the adjustable pole to the sign with the hose clamp lock and padlock.



Installing countCAM2 on a Large Post Using Hose Clamps



1. Insert a large hose through the hose clamp bracket on the countCAM, then, insert the end of the hose clamp through the lock bracket.
2. Connect to the COUNTCAM wireless network on a mobile device with the countCAM app installed.
3. Open the countCAM app and allow up to 20 seconds for the live stream to appear. Once viewing the live stream, tap the record icon to initiate recording. The blue recording indicator will begin to blink on the countCAM2.
4. Using a ladder (not provided; use at your own risk), secure the large hose clamp to the post or tree. Make sure the countCAM2 is pointed in the proper direction by using the live stream on the countCAM app and adjust as needed. For best results, the camera should be elevated at least 12 feet (3.66 meters) off the ground.

Tip: Avoid installing countCAMs near bus stops. Buses and other large vehicles stopping frequently might obstruct the camera.

Adjusting the Pitch using the Indexer

After attaching the countCAM2, the pitch can be adjusted to ensure the desired recording area is in the viewable area of the camera.

Press the indexer in on the mounting bracket of the camera.

When depressed, the indexer will disengage and allow you to adjust the pitch of the countCAM

When the countCAM is at the desired angle, release the indexer to lock the countCAM in that position.



Using the Hose Clamp Lock Bracket

- Before installing the hose clamp, thread the hose clamp through the back of the lock bracket. (See Fig. A)

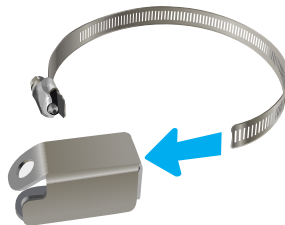


Fig. A

- Make sure the drive of the hose clamp is fully covered by the lock bracket and tighten the hose clamp. Hose clamps should not be over-tightened, this may cause the clamp to break. After tightening the hose clamp, insert the padlock through the holes of the lock bracket.

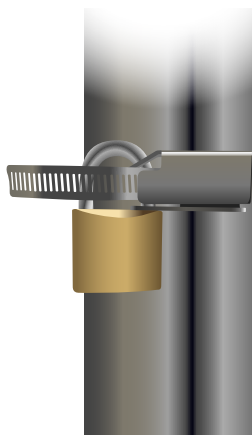


Fig. B

4. Retrieval

Picking-up the countCAM2

After the recording period has ended, carefully take down the countCAM2 from the large post or by lowering the extension pole.

- Be mindful of overhead power lines when using a ladder or when lowering the extension pole.
- Lower the extension pole slowly to avoid dropping or damaging the countCAM2
- Consider placing the countCAM2 in a backpack or other container when removing from a large post to avoid the chance of accidental damage caused by dropping the countCAM2.

If the countCAM is still recording, simply hold the power button down for three seconds to stop the recording and turn off the camera. There is no need to re-connect to the countCAM through the app to stop recording.

Downloading Video Files

Using a laptop or desktop computer, download the video files from the countCAM by following these steps:

1. Access the data retrieval port by removing the port cover on the countCAM2. Press up on the tab on the bottom of the cover to remove it. In order to keep the data port weather proof, the cover may be difficult to remove. Use a coin or small object to apply pressure to the tab.
2. The countCAM2's data port is the lower mini USB port. The upper port is a mini HDMI connection and is **not** used for the countCAM2. Using the countCAM2 Video Download Cable, connect the countCAM2 to your computer.
3. The countCAM2 internal storage will appear in your desktop or drive list as "Untitled". The name of the drive can be changed. To access the recorded video files, Open **Untitled > DV > Movie**.
4. The countCAM2 creates video in 30 minute segments. Drag the desired video files to the o

folder of your choice on your computer, or use the countCAM2 Toolbox, to begin the video retrieval process.

Using the countCAM2 Toolbox

The countCAM2 Toolbox is a free, easy-to-use video joining and compressing tool. The software allows you to merge multiple video files together and compresses the output file. This not only helps save space on your computer, but speeds up the upload/download process of videos utilizing our countCLOUD Video Processing service.

The countCAM2 Toolbox, and instructions and videos showing how to download, install, and use the tool can be found in the Spack Solutions Help Center.

5. Using the Booster Pack

The countCAM2 Booster Pack allows you to extend the recording run time of your countCAM2. The Booster Pack will add 50 hours of runtime to your countCAM2 to allow the countCAM2 to record up to 100 hours of video footage on a single charge.

Charging the Booster Pack

The Booster Pack will need to be charged before use. The charging port of the Booster Pack is located on the top of the device. The Charging Port on the Booster Pack is a 3-pin female connector labeled "INPUT". To plug in the charger, align the three pin connector of the charger with the alignment nub of the charging port and gently insert the charger connector. After alignment, use the locking screw to secure the connection. The green charging indicator next to the INPUT connection will be illuminated when the Booster Pack is charging. The charging indicator will turn off when charging is complete. It takes

approximately 15 hours to completely charge the countCAM2 Booster Pack.

Connecting the Booster Pack

Using the Booster Pack Cable, connect the male end of the cable to the OUTPUT port of the booster pack. Then, connect the female end of the cable to the charging port of the countCAM2.

The green charging indicator will be illuminated on the countCAM2 to indicate Booster Pack is sending charge to the countCAM2 .

Installing the Booster Pack on an Adjustable Pole

1. The Booster Pack has a hose clamp mounting bracket on the back of the housing. Thread a small hose clamp through the mounting bracket of the Booster Pack. *Due to the acute angle of the mounting bracket, bending the edge of the hose clamp may be necessary to get the hose clamp through the bracket.*
2. Once the hose clamp is inserted, you can attach the Booster Pack to the adjustable pole. Attach the Booster Pack on the adjustable pole so that when secured to a street sign, the Booster Pack is 8 - 10 feet (2.5 - 3 Meters) off the ground. The booster pack should be as close to the ground as possible, but high enough to avoid tampering or vandalism.



Note: Do not install the Booster Pack at the top of the Adjustable Pole near the camera. The weight of the Booster Pack + countCAM2 can create a pendulum effect in windy conditions. Video being recorded may not be usable.

3. After attaching the Booster Pack at an ideal spot on the adjustable pole, connect to the countCAM2 using the booster pack cable. Once connected, wrap excess cable around the housing of the Booster Pack.
4. Carefully raise the adjustable pole and secure it to the street sign using medium hose clamps and secure it with the hose clamp lock bracket. (See section 3 for more detail on installation)

Installing the Booster Pack on a Large Post

1. The Booster Pack has a hose clamp mounting bracket on the back of the housing. Insert a large hose through the hose clamp bracket on the Booster Pack, then, insert the end of the hose clamp through the lock bracket. Due to the acute angle of the mounting bracket, bending the edge of the hose clamp may be necessary to get the hose clamp through the bracket.
2. Using a ladder (not provided; use at your own risk), secure the large hose clamp to the post. The Booster Pack should be installed at least 10 - 15 feet (3 - 4.5 Meters) off the ground to avoid vandalism or tampering.
3. Make sure the drive of the hose clamp is fully covered by the lock bracket and tighten the hose clamp. Hose clamps should not be over-tightened, this may cause the clamp to break. After tightening the hose clamp, insert the padlock through the holes of the lock bracket.
4. After attaching the Booster Pack at an ideal spot on the post, install and connect to the countCAM2 using the booster pack cable. (See section 3 for more detail on installation)



Once connected, wrap excess cable around the housing of the Booster Pack.

6. Troubleshooting

Sometimes things don't work as they should. This section will review some common errors and how to resolve them.

Unable to Connect to the COUNTCAM Wi-Fi Network

If you are experiencing connectivity issues with your countCAM2, here are some suggestions to help remedy the connectivity issues.

Make sure Wi-Fi is enabled. If you are unable to see the COUNTCAM wireless network, make sure you have Wi-Fi enabled on your mobile device.

Refresh the network list. If the COUNTCAM wireless network does not appear in the list of wireless networks in range, try refreshing the network list on your mobile device. You can refresh the network list on most devices by dragging your finger down the screen and releasing, or exiting the re-entering the Wi-Fi tab.

Restart the countCAM2. If the COUNTCAM wireless network does not appear, try restarting the countCAM2 by holding the power button for 3 seconds. After that, wait 10-15 seconds for the countCAM to fully power down. Then, push the power button on the countCAM2 and allow 10 seconds for the countCAM to start broadcasting its wireless network.

Restart the mobile device. If the above methods do not resolve the connectivity issues, try restarting your mobile device and attempt to connect to COUNTCAM wireless network again.

If the Wi-Fi Network Name is Missing or Incorrect.

If the countCAM wireless network is missing or

appears as a series of question marks or carrots, the firmware is corrupted and will need to be reinstalled. Documents on how to re-install the camera firmware can be found in the Help Center.

Unable to Connect to the countCAM2 through the App

If you are able to connect to the COUNTCAM Wi-Fi network but are having connectivity through the countCAM app, here are some suggestions to help remedy the connectivity issues.

Restart the countCAM app. If you are unable to connect to the countCAM2 through the countCAM, try restarting the app and opening it again. If the camera still will not connect, it is recommended to try this 2-3 times until the camera connects.

Restart the countCAM2. If you are unable to connect to the countCAM2 through the countCAM app, try restarting the countCAM2 by holding the power button for 3 seconds. After that, wait 10-15 seconds for the countCAM to fully power down. Then, push the power button on the countCAM2 and allow 10 seconds for the countCAM to start broadcasting its wireless network and attempt to connect again.

Restart the mobile device. If the above methods do not resolve the connectivity issues, try restarting your mobile device, re-connect to the COUNTCAM wireless network, and attempt to connect to the countCAM2 through countCAM again.

Re-install the firmware. If none of the above methods do not resolve the connectivity issues, the firmware may be corrupted and will need to be reinstalled. Documents on how to re-install the camera firmware can be found in the Help Center.

countCAM2 stops recording prematurely

If your countCAM2 is not recording video properly, this next section has some suggestions to help remedy the performance issues.

Check the internal memory. Connect the countCAM2 to your computer and check the internal storage capacity. When there are no files, the internal storage should have 60-64GB of available storage. If there is less than 60 GB of storage available, and no video files are on the disk, formatting the card may be necessary.

Format the internal storage. You can format the internal storage by connecting to the countCAM through countCAM app and tapping the Camera Settings icon. You will then see the option to format. Note: Formatting the storage will erase all contents of the internal storage. Note: be sure to download any needed video files on the countCAM2 prior to formatting the disk. *Format the internal storage through the app only, do not format the internal storage using your computer.* Doing so will change the file format of the storage the camera can not read.

Fully charge the COUNTcam 2. If your countCAM2 stops recording prematurely, make sure the countCAM2 (or Booster Pack when applicable) is fully charged before next deployment. Plug the countCAM2 charger into the charging port on the bottom of the device and wait until the green charging indicator turns off before unplugging the charger.

Unable to Connect the countCAM to a computer

If you are experiencing connectivity issues between your countCAM2 and your computer, here are some suggestions to help remedy the connectivity issues.

Try another USB port. The USB port on your computer may be bad or does not support the read/write speeds required. Try a different USB port on your computer to see if the countCAM appears on your desktop.

Try another download cable. The download cable you are using may have worn out or is faulty. If possible, try connecting the countCAM2 to your computer using a different download cable.

Make sure the camera is powered off. The camera may not connect to the computer if it is powered on. To power down the countCAM2, disconnect it from your computer, then, hold the power button down for three seconds. **Note: if the blue light on the front of the countCAM2 illuminates when you press the power button that means the countCAM2 is powering on. If this happens, release the power button, then press it again for three seconds.**

Make sure the blue LED illuminates. When the countCAM2 is connected to a computer, the blue LED on the front of the countCAM will illuminate for 1-3 seconds. If the blue LED does not illuminate when you plug the countCAM2 into a computer, that means the countCAM2 is powered up or it is not making a connection with the computer.

Additional Support

If this section has not resolved the issue you are experiencing, contact Spack Solutions Tech Support for further assistance. Spack Solutions Tech Support can be reached by emailing: help@spacksolutions.com or +1 888-859-9425. Please allow 24 hours for a Spack Solutions Tech Support associate to respond to your request.

7. Frequently Asked Questions

How long does it take to charge the battery?

It takes approximately 15 hours to fully recharge the countCAM2 and Booster Pack.

Is the countCAM2 'Weather-Proof'?

The countCAM2 is designed to operate in most climates and weather conditions. Do not use the countCAM2 Video Recording System in extreme temperatures outside of the operating range or in extreme severe weather to avoid serious damage to your equipment.

Can I replace the battery?

No, the countCAM has a built-in customized lithium battery.

How do I know if my equipment is charged?

The countCAM2 and Booster Pack have a green charging indicator that illuminates when charging, and will turn off when the batteries are fully charged.

How long does the countCAM2 record?

The countCAM2 internal battery will allow you to record for 50 continuous hours when fully charged. With the Booster Pack, an additional 50 hours of record time is added. The countCAM2 + Booster Pack can record for 100 continuous hours when fully charged.

Can I connect to the countCAM from the office?

No, the countCAM2 produces a local Wi-Fi network in order to connect to nearby mobile devices. The COUNTCAM wireless network is not connected to the Internet. You must be in range of the COUNTCAM wireless network in order to view camera feed and initiate recording. Remote camera viewing or control is not possible at this time.

Can I use three Booster Packs to record over 150 hours?

No, because of the video quality settings, the countCAM2's internal storage will hold up to 150 hours of video. If you have a special project that requires more than 150 hours of video to be recorded at a single time, please contact spacksolutions.com support for further assistance.

The live view is choppy or inconsistent, will my videos look this way too?

No, the live view is only for positioning the camera. Because the live view is transmitted through a low power WiFi network, there will be a slight time delay on the view and sometimes the view can be intermittent. The recorded video footage comes directly from the camera and will not have any lag or inconsistency.

Notes:

If you have any questions not covered in this manual, or need additional support, contact Spack Solutions Tech Support by emailing help@spacksolutions.com.