countCAM4 User Guide

Congratulations on the purchase of your countCAM4! The countCAM4 provides flexibility in your data collection abilities by allowing you to collect both traffic video (Camera Mode) OR directional traffic volumes (Counter Mode) from a single device.

Chapter 1: Getting Started

Fully Charge the countCAM4

Before use, fully charge your device to ensure proper functionality.

- Ensure the device is turned off by checking that the power button is in the off position. The device is off when the button is not depressed and sits flush with the button housing.
- Plug the provided 3-pin charging cable into the charging port at the bottom of the countCAM4 (See Figure 1.1) and the Type-A electrical plug into an outlet or power strip.
- The countCAM4 fully charges from empty within 12-15 hours resulting in a minimum of:
    - 100-hrs of runtime in Camera Mode
    - 70-hrs of runtime in Counter Mode.

Figure 1.1 – Charging Port

A red LED illuminates within the 3x LED array while charging (circled in orange in Figure 1.2). This LED turns off when fully charged.

Button Functionality

The countCAM4 uses a software button (circled in green in Figure 1.2) with three functions:

- Click and release the power button on the front of the device to see the current battery level. The 5x LED array (circled in red in Figure 1.2) illuminates while depressed showing the existing charge.
- Click and hold the power button for one second to turn on the device.
- Click and hold the power button for three seconds to turn off the device.

Figure 1.2 – Front Panel Indicators

Update The Device's Date and Time

The countCAM4 uses GPS to set the date and time of the device. This means an initial GPS lock is needed to ensure the device correctly sets the date/time to your time zone. This process is only needed the first time a device is used or if the device is being used in a new time zone. To achieve this lock:

- Once the device is fully charged turn on the unit by holding the power button, on the front of the device, for one second.
- Place the unit in a location with a full view of the sky for 15 to 30 minutes.
- Connect to the countCAM4, using the process described in, "Chapter 2, Using the countCAM4 Dashboard", to view the camera's date and time.
- Once the updated date/time is confirmed your device is ready for use.

If the unit's clock does not update within 1-hour, please contact support at help@streetlogic.pro for further assistance.

Connecting to the countCAM4 WIFI Network

The countCAM4 uses a local wireless network to communicate with WIFI-enabled devices. Complete the following steps to connect to the countCAM4 WIFI network:

- Turn on the countCAM4 by holding the power button down for one second.
- After roughly 30 seconds, a blue or green LED will illuminate, indicating the countCAM4 has completed the boot-up process.
    - The color of the LED is determined by the mode the countCAM4 is currently in.
- Navigate to the WIFI settings of your laptop, cellphone, or tablet and connect to the countCAM4's wireless network. The network name is '*<deviceid>*', (see Figure 1.3 for an example).
    - The password is **12345678**
    - You may receive a warning that no internet is detected on the device, which is expected. The device is functioning normally.
- We recommend turning off the "Auto Connect" option, as this can cause connectivity issues when multiple devices are within WIFI range.
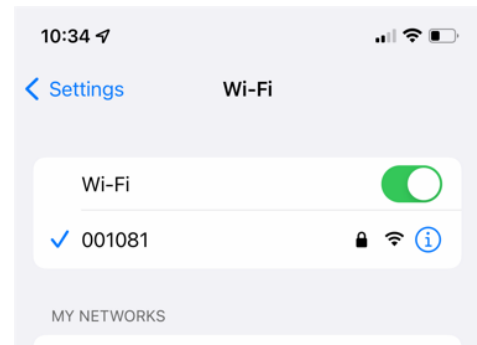
Figure 1.3 – countCAM4 WIFI

Checking Device Firmware

To ensure a smooth and efficient data collection process, you will need to be sure you are running the latest countCAM4 firmware. To check your firmware version:

- Open the countCAM4 Dashboard using the process stated in Chapter 2.
- On the top left corner of the Dashboard main page a version number is shown. Make sure this firmware matches that available in the countCAM4 Help Center.

Calibrating Device Compass

If your countCAM4 Device ID is higher than 400010, and operating on firmware CC4020824 or higher, the device will have the compass functionality operational. All cameras purchased with

CC4020824 pre-installed will already have had their compasses calibrated. However, cameras updated by the user will require calibration to occur.

To calibrate the camera
- Open the countCAM4 Dashboard using the process stated in Chapter 2, below.
- Scroll down below the video quality selector and tap the grey CALIBRATE COMPASS button (See Figure 1.4).
  - If on an **Android based device** wait for the page to switch to what is shown in Figure 1.5. Then, slowly but steadily move the countCAM4 in a figure eight pattern while spinning in a circle to ensure all sides of the device have faced the sky. After roughly 15 seconds the page will change (See Figure 1.6) noting calibration is successful.
  - If on an **Apple based device** immediately start rotating the countCAM4 in a figure eight pattern while walking in a circle. The dashboard page will skip directly to the completed calibration page (See Figure 1.6) once complete.
- Tap RETURN to re-access the dashboard.
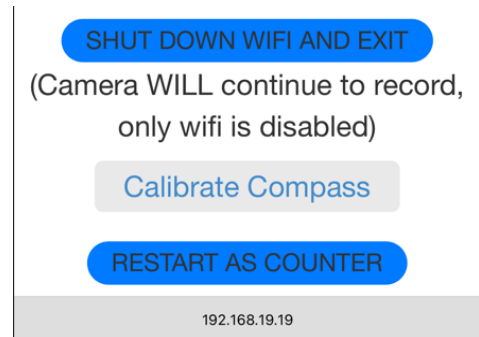- Your camera's compass is now calibrated.
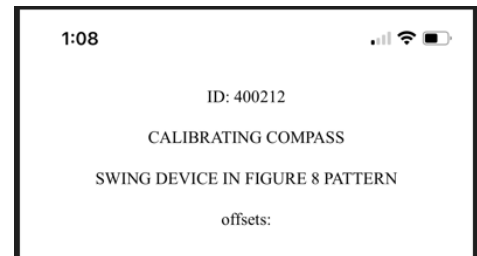

Figure 1.4 – Calibrate Compass Button

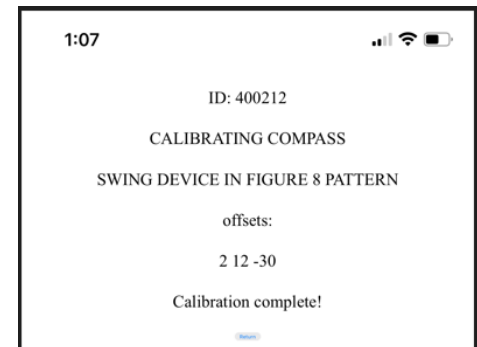**Figure 1.5 – Calibrate Compass Page pre calibration**

Figure 1.6 – Calibration complete page

Chapter 2: Camera Mode – Controlling the countCAM4

Using the Camera Mode Dashboard

When in Camera Mode, the countCAM4 will show a blue LED during the bootup and recording process.

Using a phone, tablet, or computer, access the Camera Mode Dashboard by:
- Connecting to your device's WIFI network as described earlier.
- Open a web browser
- Type the Device ID followed by *".local/"* (i.e. *001081.local/*).
- Press the Enter Key or GO button.

Figure 2.1 – countCAM Dashboard

The Camera Mode Dashboard (Figure 2.1) should open. If using a phone/tablet you can scan the QR code on the front of the unit to access the device dashboard. This will allow you to access the dashboard with a click of a button, saving time while in the field.

If this is your first time connecting to the unit, or if the unit was last in Camera Mode, you will see the Camera Mode Dashboard main page (Figure 2.1). Here you can:
- See a live view of the camera for positioning your recording (A in Figure 2.1).
- Start or stop the countCAM4 video recording (B in Figure 2.1).
- Set recording schedules if only peak hour, 13-hour, or specialized recording times are desired (C in Figure 2.1).
- Review and download recorded video stored on the countCAM4 (D in Figure 2.1).
- Select a recording resolution (E in Figure 2.1).
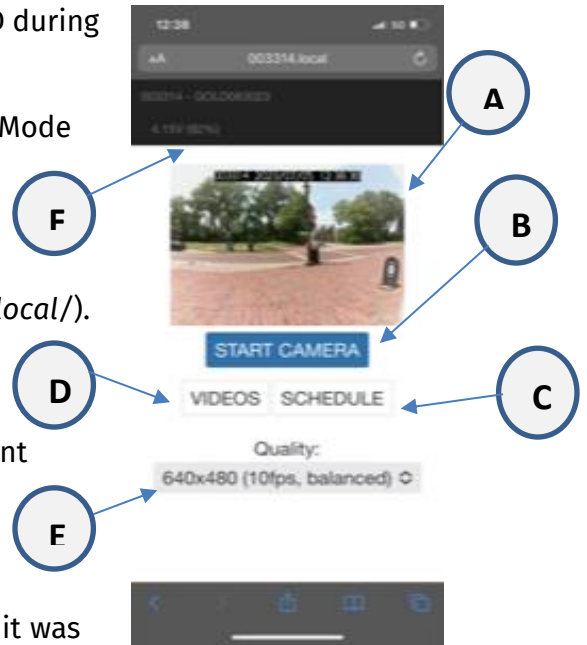- See the battery percentage (F in Figure 2.1)

Manual Recording Video

To initiate a manual recording, tap the **START CAMERA** button under the live view in the Camera Mode Dashboard. This button should change to **STOP CAMERA**, and the left most LED on 3x LED array will begin to blink, indicating recording is in progress. To stop the recording, press **STOP CAMERA**.

Setting a Recording Schedule

The countCAM4 allows users to select what hours of the day to record. To access the scheduler, tap **SCHEDULE**.

The scheduler allows users to select recording hours, however, it <u>DOES NOT</u> allow selection of recording days. To set a schedule:

- Click the red **START SCHEDULER** button if it shows on the top of the page. If the **STOP SCHEDULER** and **SAVE SETTINGS** buttons are showing, skip this step.
- Toggle the **CAMERA ON?** checkboxes to select the hours you would like to record. When a checkbox is selected, the camera will start recording at the start of that hour. If the checkbox is deselected, the camera will turn off and will not record until the next checked hour.

Save the selected schedule by pressing **SAVE SETTINGS** at the top of the scheduler page. When a recording schedule is active, a warning shows on the main dashboard page.

Please note that there is a slight delay of up to three seconds in initiating a recording schedule. If this is a concern, you may want to consider collecting an extra hour before your desired recording schedule.

After selecting a schedule, it can be turned on and off by pressing the red **START SCHEDULER/STOP SCHEDULER** button on the top of the page. The schedule is off when the **START SCHEDULER** button is visible and no schedule is shown (Figure 2.3). The scheduler is on when the **STOP SCHEDULER** and **SAVE SETTINGS** buttons are at the top of the screen (Figure 2.2).

Figure 2.2 shows an example of an active schedule that starts recording at 06:00 a.m. (06:00) and stops recording at 07:00 p.m. (19:00), for a total of 13 hours. Figure 2.3 shows what the Scheduler will look like if no schedule is active.

We recommend checking the scheduler before starting a recording to ensure the appropriate times are selected. There is no way to recover hours that were not recorded.

Selecting the Recording Quality

The countCAM4 provides five recording quality selections that can be selected in the dropdown menu on the main countCAM4 Dashboard page. These include:

- 10fps, Low Quality – 480x360 at 10 frames per second
- 10fps, Balanced – 640x480 at 10 frames per second
- 25fps, Balanced – 640x480 at 25 frames per second
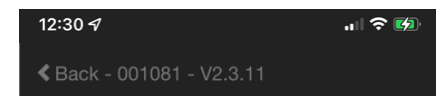

Figure 2.2 – Recording Schedule ON

Figure 2.3 – Recording Schedule OFF

We recommend defaulting to the 10fps, Balanced quality, as this provides video qualities similar to the countCAM2 with small file sizes. The 25fps, Balanced quality options generate roughly 2.5 times larger files than the 10fps option without noticeable improvement in video quality.

Reviewing Videos

Press the **VIDEOS** button to view or download the recorded videos in the Video Dashboard. We recommend downloading videos using the USB cable over the WIFI connection, when possible, as this will provide the fastest download speeds. A full description and instructions for navigating the Video Dashboard are in "Chapter 4: Retrieval", later in this manual.

Chapter 3: Camera Mode - Installation

Location Selection

When in Camera Mode, install the countCAM4 on a signpost or utility pole using the adjustable extension pole. When possible:

- The camera should be 50-150 feet away from the center of the intersection, and all movements should be visible within the camera view.
- Avoid locations where objects may obstruct views.
- Face the camera north or south to avoid sun glare during sunrise or sunset.
  - If a north/south facing setup is not possible, tilt the camera downward to reduce the skyline in the view.
- Keep the bottom of the extension pole elevated off the ground.

Figure 3.1 – CC3+ Mounting Bracket Angle

Installing the countCAM4 in Camera Mode

- Turn on the unit, connect to the device's WIFI, and navigate to the Camera Mode Dashboard.
- Attach the countCAM4 to the adjustable pole using the mounting bracket. Use the thumb screws on the mounting bracket to tighten the tilting mechanism to the appropriate angle (Figure 3.1).
- Extend the aluminum pole and position it on the signpost or utility pole. Make sure the countCAM4 is pointed in the proper direction using the live view from the Dashboard. If needed, lower the extension pole, and adjust the camera's tilt using the mounting bracket before repositioning the extension pole and camera.
- Use one hose clamp to fasten and hold the adjustable pole to the mounting location. Once fastened, install a second hose clamp, paired with the lock bracket and padlock to avoid theft. Always use at least two hose clamps when setting up the countCAM4 device and extension pole.

Verification and Starting a Recording

Before you leave the data collection site, verify:

- All desired movements and approaches are within the live view of the camera.
- The recording schedule is either turned off or set to the desired times.
- Review the **VIDEOS** page to ensure sufficient storage is available for your videos.

If recording manually, tap **START CAMERA** and ensure the camera LED changes from solid blue to blinking before leaving the intersection. If using the scheduler, ensure the schedule is active by checking for the schedule warning on the main page and the schedule is correctly set.

Chapter 4: Camera Mode – Retrieval and Download

Picking-up the countCAM4

After the recording has ended, carefully take down the countCAM4.

- If the countCAM4 is still recording, depress and hold the power button for three seconds to turn off the device, or connect to the countCAM4 and press **STOP CAMERA**.
- Place the countCAM4 in a storage bin or container to avoid damaging the device.

Downloading Video Files

Retrieve the collected video from the countCAM4 by connecting the device to a computer with the following steps:

- Connect the countCAM4 to your computer using the provided USB cable. **The USB connection will download videos faster than the WIFI connection.**
- Once the LED illuminates blue, open a web browser and navigate to the countCAM4 Dashboard:
  - Type the "http://<deviceid>.local/" (i.e: http://001081.local/") into the web browser and hit the Enter Key.

If you cannot access this page using the steps above, download the RNDIS driver available HERE in the countCAM4 section of the Help Center. This driver is needed to use the USB connection. Email help@streetlogic.pro if you're still having issues after installing the RNDIS driver and restarting your device.

Once in the countCAM4 Dashboard, click **VIDEOS** to access your stored videos. All recordings on the device are shown on this page (Figure 4.1) with their start date and time, recording duration, and a screenshot displayed. The direction the camera was facing, along with a link to a Google Maps page showing the setup location is also provided for each video, pending a full GPS lock was achieved. The direction of the camera will be shown via the short form direction notation (N, S, E, W, NE, SE, NW, SW) while the location information can be accessed by clicking on the location pin shown above the screenshot (Figure 4.2).

Figure 4.1 – Video Dashboard

If a video is actively recording, "Video in Progress" is visible on the specific video when viewing in the video Dashboard (Figure 4.3). Additionally, a video may show "Processing Video, ##% done" (Figure 4.4). This message means the video is still being prepared for download. If a study shows this wait ten minutes and click the refresh button. In the rare instance you get
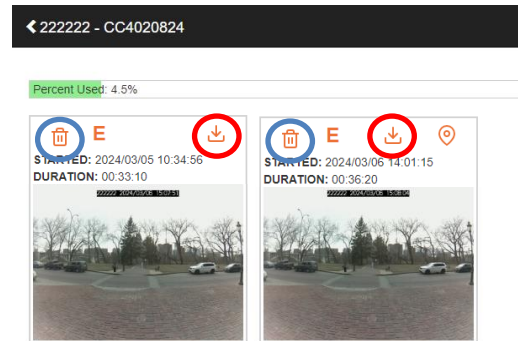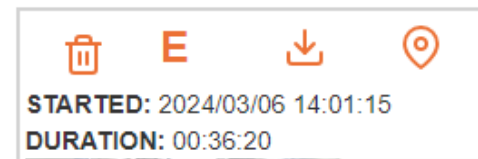

Figure 4.2 – Video in Progress Message

this message, you can unplug the countCAM4, power it on, and download videos from a different device while this countCAM4 finishes its video processing step.

Figure 4.3 – Video in Progress Message

To download your video, click the orange download icon (down arrow) located above the screenshot (circled in red in Figure 4.1). You can also view the video within the Video Dashboard by clicking on the video screenshot.

The countCAM4 automatically stops and starts a new video at midnight, which means the maximum video length from the countCAM4 is 24 hours. Any recording that spans multiple days will have at least two video files to download.

Figure 4.4 – Video Boxing Message

Clearing the Device

We recommend clearing the videos from the countCAM4 after a successful download is confirmed and you have the videos saved to your hard drive or a flash drive. Delete videos by clicking the orange trash can icon on the top left of the video (circled in blue in Figure 4.1). The available storage on the device is shown at the top of the **VIDEOS** page. Once deleted, videos cannot be recovered, so please ensure your videos have been downloaded first!
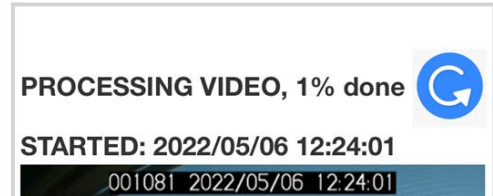
Chapter 5: Counter Mode - Device Installation

Installing the countCAM4 in Counter Mode

When in Counter Mode, install the countCAM4 on a signpost or utility pole next to a two-lane roadway where data is to be collected (Figure 5.1).

Figure 5.1 – Installation Example

- Use a zip tie or hose clamp to fasten the countCAM4 to the pole/post.
- Mount the countCAM4 camera lens three to five feet above the roadway surface.
- Rotate the camera perpendicular to the roadway.
- Avoid pointing the countCAM4 at locations where busy sidewalks, driveways, other roads, etc., are visible in the background of the camera view. The device is detecting all objects in its field of view and can overcount in these situations.
- **To achieve accurate volume counts, ensure the countCAM4 is at least six (6) feet away from the closest vehicle.**
- **To collect accurate speed data the distance must be increased to:**
    - **35 MPH or less: ~15-feet from the close lane traffic.**
    - **40 MPH or greater: ~20-feet from the close lane traffic.**

Turn on the countCAM4

click and hold the power button on the bottom of the countCAM4 for one second to power on the device.

The countCAM4 will begin its boot up and calibration process which may take up to two minutes to complete. Once the boot up process is complete a green LED on the 3x LED array (Figure 5.2) will flash every time a vehicle is detected and written to the log. This means your device is collecting vehicle data. Use this indication to verify your device is correctly counting vehicle traffic.

Figure 5.2 – Vehicle Indication

Chapter 6: Counter Mode – Retrieval and Download

Pick-up the countCAM4

Once the study period has elapsed, retrieve the countCAM4 from the field.
- Turn off the device by depressing and holding the power button for three seconds.
- Remove the countCAM4 from the pole/post.

Connect the USB cable to the countCAM4

Vehicle data can be retrieved from the countCAM4 by connecting the device to a computer using the following steps:
- Connect the countCAM4 to your computer using the provided USB cable (Figure 6.1) or via the unit's WIFI as discussed in chapter 1.
    - If connected via WIFI the device will start a new study and the LED will blink with movement.
    - If connected with USB the LED will remain solid and no new study will be started.
- If using the USB cable, once the vehicle detection LED illuminates, open a web browser and navigate to the countCAM4 dashboard:
    - Type the countCAM4 Device ID followed by "*.local/*" (i.e: *001019.local/*) into the web browser and hit the Enter Key.
- If using WIFI, navigate to the Counter Mode Dashboard once the successful WIFI connection has been achieved.

Figure 6.1 – Dashboard Connection

Download the Study Data

The Counter Mode dashboard presents all of your completed studies for download.
- Studies will be listed with the newest study on top.
- Summary information for each study is provided in the report listing. This includes:
    - A screenshot of the detection location
    - The start date and time
    - The end date and time
    - The study Duration
    - A GPS Link
        - If a GPS link was not achieved during the study times will default to UTC and a warning message will be provided

To generate a volume only report:
- Enter your Leftbound and Rightbound direction information using the provided dropdown lists in the dashboard.
- Select your desired bin size, using the dropdown menu.

- o 15-minute, 60-minute, and per vehicle options available.
- Select your report type.
  - o Both .CSV and .MS2 file types are provided.
- Click **DOWNLOAD REPORT**.

To generate a volume and speed report enter the distance, measured to the nearest foot, from the countCAM4 to the centerline.

Reports can be removed from the countCAM4 dashboard by clicking **MOVE TO ARCHIVE**. This will remove the study from the summary list and the data will no longer be available for on-demand download.

Chapter 7: Switching countCAM4 Modes

The countCAM4 allows users to collect video when set up in Camera Mode or directional volume data when in Counter Mode. To change the device mode:

- Turn on the countCAM4 by depressing the power button on the bottom of the unit for one second.
- A light will illuminate on the device after 30 seconds.
  - If the light is GREEN, the unit is in Counter Mode.
  - If the light is BLUE, the unit is in Camera Mode.
- Connect to the unit's WIFI as discussed in "Chapter 1: Connecting to the countCAM4 WIFI Network".
- Navigate to the device's Dashboard using a web browser.
- Scroll to the bottom of the Dashboard page to access the Mode Switch Button.
  - Tap **RESTART AS COUNTER** when in Camera Mode
  - Tap **RESTART AS CAMERA** when in Counter Mode
- The device will turn off and reboot in the selected mode. You will know the switch was successful when the LED illuminates in the new color.

Figure 7.1 – Mode Change Button

Please Note: You will have to reconnect to the device's WIFI network after changing Modes.

Chapter 8: Using a Booster Pack, powerBANK, or powerBANK2

The Booster Pack, powerBANK, or powerBANK2 External Battery Pack allows you to extend the recording time of your countCAM4 by up to 80 hours. These devices will be referenced as "battery pack" in the following section.

Charging the Battery Pack

- Plug the 3-pin charging cable into the charging port located on the bottom of the battery pack and the Type-A electrical plug into an outlet.
- The battery packs fully charges from empty within 15 hours.
- A red LED illuminates while charging. Once fully charged, this LED turns off.
- Push the charge indication button on the front of the powerBANK or powerBANK2 to see the current battery level, the same as with the countCAM4. This feature is not present on the Booster Pack.

Installing the Battery Pack

- Connect the provided powerBANK/Booster Pack cable to the countCAM4 and then to the battery pack, to ensure the correct port is used.
- Set up the countCAM4 as discussed in Chapter 3 or Chapter 5.
- Use an additional hose clamp and locking bracket system, or zip-tie, to fasten the battery pack to the signpost or utility pole (Figure 8.1).
- Gently coil any excess cable around the device.

The battery packs can be mounted towards the top of the extension pole, using a hose clamp, to minimize tampering or vandalism. If using this technique, we recommend mounting the battery pack mid-pole, high enough to be out of reach, but low enough to reduce wind load.

Figure 8.1 – Battery Pack Mounting

IMPORTANT NOTE: Booster Packs and powerBANKs must be installed on a fully charged to mostly charged countCAM4. Only the powerBANK2 can charge a device from dead. This means if more than 50 hours of additional runtime is needed two powerBANKs/Booster Packs should be installed at the start of the recording. It is possible to swap out boosters during a recording, but this should occur early in the recording process so that the countCAM is still fully to mostly charged. If a powerBANK/Booster Pack is installed on a countCAM that is not sufficiently charged the booster will be unable to extend runtimes.

Chapter 9: Additional Information and Support

Additional Support

Visit our help center at (https://www.streetlogic.pro/pages/countcam4-help) for documentation and setup videos. If you need additional help, click the *'Open a Ticket'* button at the top of www.StreetLogic.pro.