

# camect

## Introduction

This guide assumes that you have your Camect Home recorder activated and have looked around a bit in the web interface and/or app. If you haven't done that yet, please visit the [Camect Quick Start Guide](#).

In the following pages we cover features you may want to know about in more detail to get the most from Camect. **This is an evolving document** -- check back for updates, and, if it seems inaccurate, please ask about it on the [forum](#).

## Useful Resources

- [Camera compatibility FAQ](#)
- [Camera troubleshooting FAQ](#) (This also covers how to add a camera manually.)
- [User forum](#) - Ask questions and stay informed about new features.

## Things to Be Aware Of

- Subscriptions are not being enforced yet. They'll be enforced starting in late 2020. An announcement will be made before they're turned on.
- Getting too many alerts? Go straight to the appropriate section [here](#).

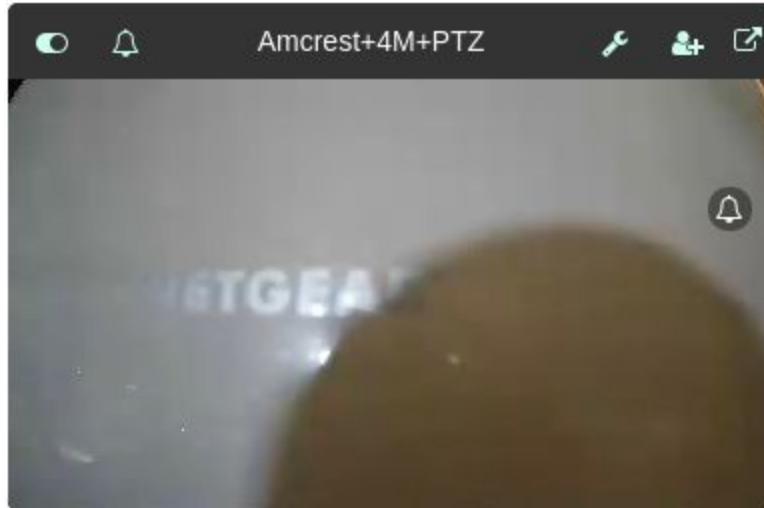
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# A Tour of the Video Player<sup>1</sup>

## Live Viewing

A typical camera displaying video looks like this:



There are a number of controls in the title bar.

On a desktop, mousing over the controls will allow you to see what they do. This can also be done (painfully) on a phone, by clicking the “i” button floating near the bottom left, and then clicking the control you want to know about.

## Camera Title Bar Controls

From left to right:

- **A slider that allows you to disable the camera.** Disabling a camera stops video recording, and hides the camera from your view. You can click the “show XX disabled cameras” link at the bottom of the page if you need to see the disabled camera again.

Disabling a device is also the right way to tell Camect not to try to interact with it. Disable any devices that Camect thinks may be cameras but which in fact are not.

- **An alert bell that appears if alerts have been detected.** The alert bell in the title and the one showing within the image have exactly the same function: Clicking either one will expose controls related to reviewing alerts. If you are viewing live video, clicking will also

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<sup>1</sup> This section is slightly out of date, pending an update. The alert bell in the camera title bar has now been removed, and the speed controls are organized slightly differently.

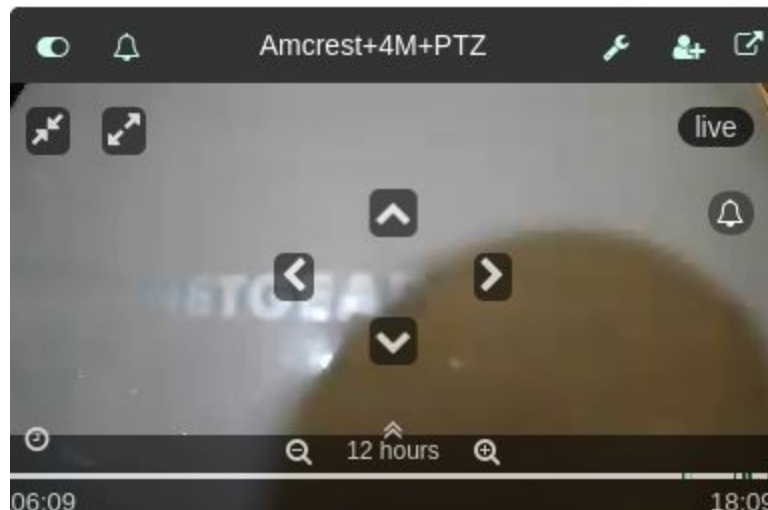
take you to the start of the recorded footage of the most recent alert detected on the camera. *The bell in the title bar likely to be removed soon.*

- The **camera name** which can be edited by visiting the camera settings dialog for the camera.
- A **wrench that opens the camera settings** for the camera.
- A **share button** for sharing a single camera with someone else.
- A “**popout**” button that will allow you to view just the one camera in a larger window at a higher resolution.

On android, or on a desktop running chrome, you can also double-click on the image to view the camera in full-screen mode at high resolution.

## Live View Overlay

Tapping the image, or moving the mouse over a desktop view, will expose the live view overlay:



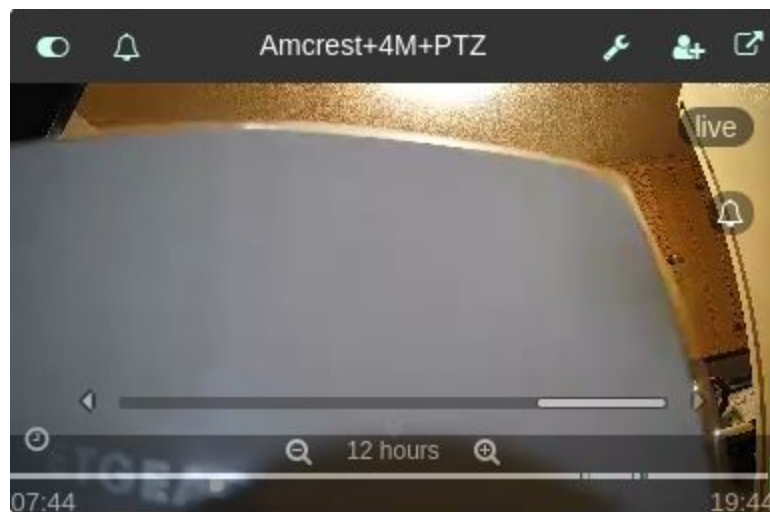
- **Pan/tilt/zoom controls** appear only if the camera has those capabilities. Pan and tilt are near the center, and zoom controls are at the top left.
- The **timestamp** at the top right shows “live” as long as fresh video is coming in from the camera. If the video is stale, it will show the actual time of the video.
- The bottom part of the overlay shows the **timeline**:

- The left and right ends of the timeline show the extent of the period covered. By default the timeline is set to show the last 12 hours.
- Change the timeline duration by using the “zoom out” and “zoom in” controls at either side of the “12 hour” duration, or using a mouse wheel while pointing at the duration value.
- On a phone, you can drag your finger along the timeline, and a little window will pop up to show you the time under your finger. Pausing or releasing as you move will take you to playing the recorded footage for that time. On a desktop, mousing over the timeline will show you the timestamp, and you can click at the appropriate time.

*When you are viewing recorded footage, you’ll see the playback view overlay, described in the next section.*

- **Timeline colors:** In the default theme, dark green indicates motion. If it produces an interesting alert, that’s light green. Uninteresting motion, if you select it via the alert filter, shows as red. The presence of video is indicated by light grey, and black indicates the absence of video.
- If you want to get to a time that’s more than a day ago don’t zoom out and zoom back in. Instead, use the **second-level timeline** to position the main timeline within the context of all available history. Activate the second level timeline using the “double caret” seen above the duration of the timeline in the previous picture.

When the second-level timeline is active, you’ll see it above the main timeline, and some of the other controls are hidden:



The bar on the second-level timeline (which is *not* a slider) represents the main timeline. Click or tap to position the main timeline within the context of all history.

As with the main timeline, you can drag your finger along the second-level timeline (or mouse over it) to see the time to which you'll move the main timeline.

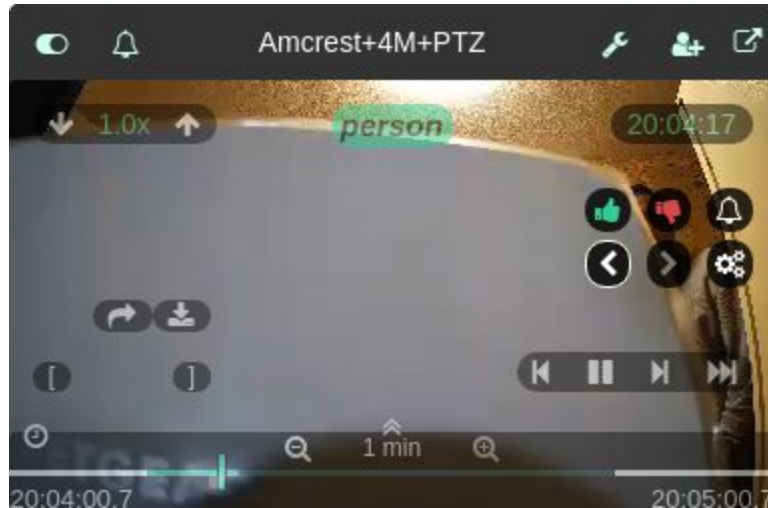
Deactivate the second-level timeline by tapping the double “inverse caret” which is flashing above the timeline duration.

- Found near the left end of the main timeline, the “clock” button will activate the “quick preview” of the entire period covered by the main timeline ... It will try to play through that period rapidly, showing you the entire period within a few minutes. It will also slow down for alerts occurring so that you can catch a glimpse of interesting things occurring while speeding through footage in which nothing was detected.
  - The specific alerts that cause a slowdown can be controlled using the *alert filter*, which is described in the next section. By default, the alert filter selects the same alerts that produce alert emails (i.e. the “interesting” ones).
  - In “quick preview” mode, the clock button flashes red. Deactivate quick preview by tapping the button again.
  - While in quick preview, you can still use the timeline, or previous/next alert controls (described later), to skip back and forth as the preview plays.

## Playback View Overlay

**TIP:** Exit playback to live view by clicking the button that looks a bit like a “fast-forward” sign: >>|

When playing back recorded footage, you may see several more controls in the overlay. The maximum possible number of controls occurs when you are viewing an alert with all of the alert controls exposed:

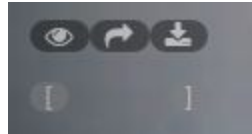


In the playback view, the controls are organized into 5 areas:

- **Speed controls (top left):** Change the playback speed up or down. There are two speeds for alert and non-alert video, indicated by the color of the control. (It's green when you're in an alert.) Which speed you are changing depends on whether or not you're in an alert.
  - By default, the player plays alert video at 1x, and non-alert video at 4x.
- **Timestamp (top right):** This should be self-explanatory. You can click on the timestamp to synchronize all other players to the same time. Because of the variable-speed playback, the time will not remain synchronized though, but this is handy when you need to see various angles of an even captured on multiple cameras.
- **Alert-related controls (below timestamp):** In the picture above, these show as darker than the other controls. They'll be covered in the next section. The entire set of alert-related controls can be hidden by swiping them away to the right. They'll come back whenever you interrupt playback by moving to another time on the timeline.
- **Playback controls (bottom right):** From left to right: Skip 5s backwards, pause, skip 5s forwards, and return to live view. When the the video is paused, the pause button changes to play, and the |< and >| let you move a frame at a time.

- **Clip-related controls (bottom left):** There are two rows of clip related controls. On the bottom row, [ and ] allow you to set the start or the end of the clip to the current timestamp.
  - While viewing an alert (as in the picture above) the clip start and end are preset to the beginning and end of the alert.

The upper row of clip controls appears once the start and end of a clip have been defined. If a clip is manually defined (rather than preset from an alert), the upper row will have 3 controls:



From left to right, these controls allow you to preview the clip selected, share the clip (e.g. via Google Drive or Dropbox), or download the selected clip.

When a clip is preselected during an alert, the preview button does not appear as you're already viewing the alert.



## Viewing Alerts

Alert viewing is controlled by 6 alert-related controls:



On the upper row, the thumbs up/down are used to rate alerts while viewing them. They'll show whenever an alert is playing even when the overlay is hidden. Rate alerts if you are trying to change which alerts are producing email for you. (Specific examples will be covered later.) If you are happy with the alerts you're getting, there's no need to rate them.

In the lower row, the < and > skip to the previous or next alert.

The set of cogwheels at the right opens the *alert filter* dialog. The alert filter controls which alerts are shown when you use previous/next alert, as well as which alerts cause a slowdown if you use the "quick overview" of the timeline.

- By default, alerts deemed "interesting" are selected. You can limit this to specific objects detected, or widen it to include "uninteresting" alerts containing specific objects, or even to uninteresting alerts containing pure motion (i.e. no objects at all).

**TIPS:** On a phone a few things can make alert viewing easier:

- While viewing footage with the overlay active, you can **swipe left or right** to get the next/previous alert (i.e. You don't need to expose the lower level of alert controls)
- **You don't need to have the entire overlay active to view alerts.** Enable alert viewing by clicking either alert bell, and only the alert-related controls and the timestamp will show.
  - To get back to live view, you'll need to expose the entire overlay and use >>| to get back.
- **If the alert controls are in your way, you can swipe them off to the right.** They'll come back when you move back to live view, or to another point on the timeline (e.g. to another alert).

## Configuring Settings

- Settings that apply to the entire home (or are a default for all cameras in the home) are configured via the *home settings* (cog wheel at the top right).
- Settings for individual cameras are accessed via the “wrench” icon in the title bar of the camera. Many camera settings require you to uncheck the “use home settings” so that the camera will not use defaults from the home settings.
- A few settings are per-user rather than per-device, such as settings that control which alert delivery mechanisms are used. In order to change these, the user to whom they apply should look in the “me” tab in the home settings and/or camera settings.
- **TIP:** If you like using telegram alerts better than email alerts but are getting both, use the “me” tab in either the home settings or the camera settings to stop getting email alerts.
- **An example: Configuring alert behavior**
  - The “alerts” tab under home settings controls defaults (such as whether alerts are detected at all) for all cameras. These settings affect all alerts on the Camect recorder.
  - The “me” tab under home settings sets the default alert delivery behavior for the user looking at the me tab.
  - The “alerts” tab in the settings of a specific camera controls alert detection on that camera. In order to change these settings, you’ll have to uncheck “use home settings” at the top of that tab. Anything changed here will apply to all users of the camera.
  - The “me” tab under the camera settings controls alert delivery behavior for only the user looking at the tab.

## Camect Alerts, and How to Control & Improve What You Get.

- **By default, only the owner of the device is signed up to receive email alerts.** Other users must explicitly turn on email alerts to get them.
- **Visit the “me” tab under home settings to control alert delivery to yourself.** If you add other users, ask them to do the same. In the “alerts” tab under home settings you can make changes that will apply to all users (e.g. stop all email)
- **If you are getting too many alerts, try rating a few** to suppress what you don’t want to see. This is easiest to do from email, but can also be done from the UI or Telegram.
  - *You are not supposed to need to rate large numbers of alerts to get the behavior you want. If you find yourself rating more than 5-6 for a single camera, read the rest of this section.*
- **You can turn off alerts for specific cameras.** If you do this, we recommend turning off the “send alerts” setting to disable sending, but leaving “detect alerts” on. This will allow you to quickly seek from alert to alert in the UI in the event that you need to review a long period of footage some day.
  - Leaving “send alerts” means that processing power will be devoted to detecting objects in your video streams. If you have a camera looking at a busy scene and you’re sure you don’t need this, uncheck “detect objects in alerts” to disable object detection or “detect alerts” to disable even basic motion detection.
- **If you are seeing incorrect object detections, consider sharing some examples to help train the AI.**
- From an alert **email**, you can do this by clicking the “please help Camect learn” link.
  - The first time you do this you’ll need to set up a sharing storage space on Google Drive in order to be able to share. After the first time it’s much less effort. When you set this up, you can pick an account other than your main google account for the Google Drive storage if you want.
  - After 2-3 rounds of sharing problematic detections and waiting for retraining, most people see noticeably better performance for their specific use cases. This may take 2-3 weeks until the model is updated.
  - To report incorrect object detections from telegram or the UI:
    - From **telegram** click “thumbs down” and then “please help Camect learn”.
    - From the **web UI or app**, click “thumbs down” and uncheck the box that says “the detected objects are correct”.
- **You can control the format of the alert email subject line** from the “alerts” tab under home settings. This is useful if you want alerts from different cameras to be different email threads.

- **Advanced: You can manually mask out an area, or express preferences for an area.**
- Whenever you rate an alert, an “alert rating” is created for the camera that produced the alert. You can see these ratings and adjust them from *camera settings (wrench icon) > alerts > manage ratings*.

You may want to adjust the ratings to mask out part of the image for the purposes of alert generation. One way to do this is to rate 4-5 unwanted alerts as thumbs-down due to the “area of the image” in which the activity occurred. If that doesn’t produce the desired result, or you don’t want to wait for 4-5 bad alerts, you can also correct a rating, or create a rating manually from scratch, to reflect what you want.

- If you have already rated some alerts as good or bad due to the “area of the image” involved in the alert, you can adjust the area in each rating by clicking on the word “area” in the corresponding rating.
- You can also use the “+” to manually create a new rating to enter rating information without first having to wait for a problematic alert.

To filter out an area with a new rating, use “+” to add the rating, then edit it (via the pencil icon that appears to the right of the new rating). Confirm that it’s a “thumbs-down” rating, choose the objects you don’t want to be notified about (or leave blank to filter all activity) and choose “the area of the image” as the reason for thumbs-down. When you’re done editing your rating, you’ll see that in the list of ratings, the word “area” is now a link. Click that link to draw out the area from which you wish to mark activity or objects as uninteresting.

To create or adjust areas: Click and drag to make a line. Click on the line and drag to add another point (e.g. making the line into a triangle). Click and drag a point to move it.

## A Detailed Example: Alert Zones

One of our Early Unit Testers contributed an excellent example of how he set up his alert zones to ensure that he gets alerts from cars in his driveway, but not from those on the street:

“For other users that are interested, my manually drawn alert zones are working best when I include overlapping boxes with opposing actions. To demonstrate, below I've included the zone that says I want to be notified of cars in this area. Notice how the zone goes right to the edge of the roadway and includes my driveway and yard, but also the public sidewalk and small parts of the neighbors yard. This ensures that the entire car is inside the zone and I get correctly alerted.



Now for the opposing action, this zone says I do not want to be notified of activity in this area. Notice how this second zone covers the public street, but also the sidewalk and the neighbors yard that was also in the previous positive alert zone. This ensures that I am not notified of pedestrians walking on the sidewalk, vehicles on the public street, or vehicles in neighbors driveways.



The key for me in understanding the behavior of Camect was to realize that I was originally drawing the zones when the footage had no car present, and therefore I just drew a box around my driveway (like I was painting lines on the floor) and said to Camect tell me about cars in this area. But in reality even though as humans we clearly understand if a car is on the driveway, Camect couldn't understand this scenario when parts of the car in the image were outside the box I drew. My advice to those wanting to draw manual alert zones, is to find a piece of footage with the event you want to be notified about in it, freeze the playback at that point, then go into settings and alerts and then ensure your drawn box entirely includes the object/event you want to be notified about. For feedback to the Camect team, I'd like the zone drawing box to be larger and higher resolution, as drawing accurately is sometimes difficult. Ideally, if it can be a resizable window that would be great. Don't get me wrong, the zone drawing is 100 times more intuitive than that in my Hikvision cameras, and I like the fact that I can edit a previously drawn box, which makes zone adjustment/tweaking very easy.

Lastly, the addition of the ability to wheel forward and backwards frames while paused is brilliant!!! It makes getting the right image in view before drawing your zones a breeze.”

## What To Do if an Alert is Not Sent At All

When activity on a camera fails to produce an alert, there are 4 possible reasons. You'll need to view the video of the event in the UI (web or app) in order to determine what happened, and how to react if you want to improve it.

- **The alert was detected, and deemed interesting, but auto-suppressed.** This occurs if the alert was deemed too similar to other alerts that had been occurring frequently before it. Similar alerts involve the same object types, and require that the objects involved have similar characteristics (e.g. similar position in the image, similar size, etc).

Auto-suppression is a temporary effect. Once an alert stops occurring frequently, Camect will once again start to deliver that type of alert.

Auto-suppressed alerts show as interesting (green) in the UI, and are marked with a slashed envelope, e.g.:



If you want to disable auto-suppression, rate the auto-suppressed alert as interesting. When you rate an alert as interesting, you'll get *all* similar alerts. Be sure this is really what you want, as you may get a lot of alerts as a result.

- **Activity continuously occurred after the previous alert,** and as a result the event was considered part of an alert that had already been sent.

After an alert occurs, Camect currently needs to see at least a tiny period in which no detected object is moving before being ready to send another alert notification. Thus if a car shows up and is continuously moving, a person stepping out of the car may not generate a separate "person" notification.

There is currently nothing you can do in this scenario, but we are planning to add an option to have Camect send a new notification whenever a new object type shows up during a period of continuous activity.

- **The alert was detected but deemed uninteresting.** Objects are continuously detected by Camect, but a detected alert may be deemed uninteresting by Camect if you have previously rated other similar alerts uninteresting by using "thumbs-down" and mentioning that you wanted to see fewer such alerts.

To confirm that an alert was deemed uninteresting, you'll need to adjust the alert filter to

include uninteresting alerts in the UI. (See the section on “Viewing alerts” for details.) Enable viewing of uninteresting alerts, and see if the event shows but is declared uninteresting. (In the default theme, uninteresting detected object(s) will be shown with a red background.)

If your alert was deemed uninteresting, you can rate the alert thumbs-up to counteract the effect of earlier ratings for the future, or better yet, examine the older ratings and delete any that no longer apply. Existing ratings can be seen via the camera settings > alerts tab > “manage ratings”.

- **Camect really failed to recognize the object.** Once you have eliminated the other possibilities, the only remaining one is that Camect really did not recognize the object you wanted to know about.

This sometimes occurs if your video stream does not maintain the minimum 5 frames-per-second required for good object detection. A common cause of low frame rate is a poor WiFi signal. A WiFi signal might be good most of the time, but occasionally poor, e.g. when someone turns on a nearby microwave.

If your video is not maintaining 5 fps, the objects in the video will appear to jump around, rather than move smoothly, when you view them. You may wish to export a clip of the video and view in a standalone viewer program to make absolutely sure the recorded video is jumpy, and is thus the reason for the failed detection.

If your video is smooth, share it with Camect (assuming you don't mind) to help improve the object detection. In order to do this, mark off the area of the alert on the timeline using [ and ], click the share icon, and check the “also share with Camect” checkbox. Include a short comment as to what went wrong. If you have not already set up Google Drive to aid in sharing, you'll have to do that the first time you want to share a video with Camect.



## “At Home” Mode: Turn off cameras automatically while you’re home

“At Home” mode is activated when your phone is detected on your home network.

- Configure this mode by going to “home settings” (cog wheel at top right) and clicking on the grey bar showing the name of the active mode. Expand the “At Home” section to configure it.
  - Select devices whose presence will trigger the mode
  - Select cameras that will stop detecting alerts when in At Home mode.
  - Select cameras that will turn off completely (no recording) in At Home mode.
- You can manually switch modes by clicking on the two mode icons below the display of cameras:



(The green “led” shows that “At Home” mode is active)

Double-clicking the “home” icon will also bring up the “At Home” mode configuration dialog.

- When all triggering phones have left your home network, the mode will switch back to “Normal Operation”.
  - Android phones are detected as gone after 5 minutes of absence.
  - iPhones are detected as gone after 20 minutes of absence. This is because some iPhones go to sleep for long periods of time while you’re at home, and a long delay is required to be sure they’re gone.

## Miscellaneous Features

- **Report a bug** by using the dropdown that appears if you click your profile picture at the top right. More issues diagnosis will require that you check one or both checkboxes to submit logs from your browser or your Camect device.
- **Power off** your Camect by tapping the power button and waiting up to 30 seconds for the blue LED to turn off. If that fails, press and hold the power button for 10 seconds, or just unplug the power cable. Camect will power on whenever power is applied to it.
- **You can use a NAS device as extra storage:**
  - Camect can store video to a NAS that supports NFS or CIFS
  - You can add NAS storage from the *home settings > disks* tab. Your NAS may be found automatically in the network scan, but if not, you can specify it manually.
- **Enable cloud backup of your settings** from the home settings main tab if you are comfortable with a copy of your settings being kept in the cloud. It will allow for easy recovery if your Camect ever fails. You can encrypt the settings for better privacy -- but don't forget the encryption password if you do this, or else your saved settings will be useless.
- **Google Drive** can be used from with a login other than your main one, if you don't want alert video going to the google drive associated with your account. Simply sign in with the alternative account when adding the drive.
- **Get information about a camera** by going to "camera settings", then clicking the "i" next to camera name, and using the popout icon next to the IP address of the camera. Similarly, you can get a bit of information about your Camect device by clicking the "i" next to "Home Name" in the home settings.
- **Camect has an experimental UI for integrations with home control systems.** It allows you to be notified of detections that are occurring, and to embed the camera display in another dashboard, and to change the home mode under external control. So far, it has been used to implement an experimental integration with Home Assistant. See

<https://github.com/camect/camect-py>

<https://github.com/camect/home-assistant-integration>

## How Your Video Stays Safely in Your Home

If video stays in your home, how is it “on the web” via `home.camect.com`?

- **home.camect.com works differently from many other web sites.**
  - Other sites usually serve you data that is stored in the cloud.
- When you visit `home.camect.com` you’re using the remote UI to connect to your home, but all communication - other than the initial connection to the UI - is local to your network.

The `home.camect.com` web site sends your browser a web app which runs in your browser and makes a webRTC connection *directly* to your Camect Home device, and all subsequent interaction with your server is via that webRTC connection.

- On rare occasions a direct connection is not possible, and you’ll see a “cloud” icon in the top left of the camera overlay when this happens. The icon means that encrypted data is being sent through a relay. The relay does not know the decryption key and cannot decrypt your data, but viewing performance may be reduced compared to what is available when a direct connection is possible.
- **You can also access your Camect Home completely independently of the external internet.**

Connect directly to port 443 on the ip of your Camect device, or, for convenience use `local.home.camect.com` which is a ddns-like service that should redirect you to the appropriate local ip.

- Local access requires a local account. An “admin” account has been created for you by default. The password is the userid part of the email address you used to activate the device ... e.g. if you activated with [foo@gmail.com](mailto:foo@gmail.com), the password for the local admin account is “foo”
- Local accounts can *only* be accessed via the local UI. You can create more local accounts via the “users” tab in the home settings. On that tab, you can also add other net accounts if you want to share access with other users, and change passwords for local accounts. If you set a password for a network account, this password is required *in addition* to signing in with the network provider.