



# Ocularis

## Mobile User Guide

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*Ocularis 5 Mobile 5.3*

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US patent # 8,390.684 B2 for Ocularis Client

Patents Applied For in the U.S. and Abroad

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## Introduction

*Ocularis Media Server* brings the experience of desktop video surveillance to browsers and mobile video clients. It can deliver video over limited bandwidth networks such as 3G, 4G and broadband.

Ocularis Media Server allows security personnel in the field to perform live monitoring and playback of megapixel cameras through a standard web browser or mobile device. Alerts can be configured for the operator to be notified when an incident occurs and the operator can handle the alert in the field, providing quicker response times when needed.

Ocularis 5 Mobile also allows field operators to stream video from their mobile device to Ocularis<sup>1</sup>. This allows others to view live and recorded video from personnel as it happens. Video is stored on the corresponding Ocularis Recorder.

## Specifications

### Ocularis 5 Mobile

*Ocularis 5 Mobile* client is currently available on the following devices:

- Apple® iPad® (iPad 2, iPad (3<sup>rd</sup> generation), iPad (4<sup>th</sup> generation), and iPad mini)
- Apple® iPhone®
- Android™ devices

For Apple devices, download the app from the App Store. Requires iOS 9 or later. For Android devices, download the app from the Google Play store. Requires Android 4.4 or later.

In the current version, the following compressions are supported with Ocularis 5 Mobile: MJPEG, MxPEG, MPEG4, H.264

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<sup>1</sup> This feature is currently only supported on the Android version of the mobile app.

## Getting Started

Download the Ocularis 5 Mobile app from either the Google Play Store on Android devices or from the App Store on Apple devices.

## Configuring Ocularis 5 Mobile

Use the following instructions to configure the Ocularis 5 Mobile app to work with Ocularis Media Server so that users can:

- View live and recorded video
- Receive alert notifications
- Acknowledge configured alerts
- Stream video from the device to Ocularis (Android only)

### For Android

1. From the Google Play Store, download the Ocularis 5 Mobile app.
2. For Android version 6 and later, you will need to manually give the app permissions to your device. Android version 4 will do this automatically.
  - a. Select Settings → Applications → Application manager → Ocularis 5 Mobile → Permissions
  - b. Enable: Camera, Location, Microphone, Phone and Storage

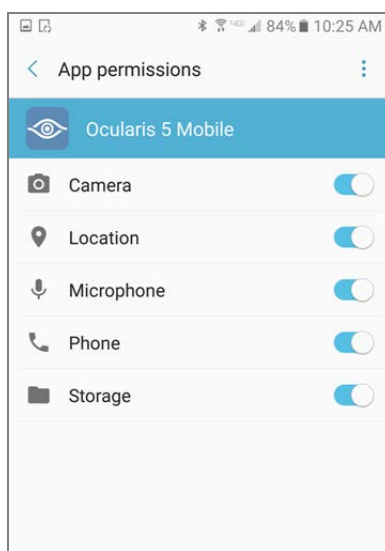


Figure 1 App Permissions (Android)

- c. You can also allow or deny alert notifications to this device.

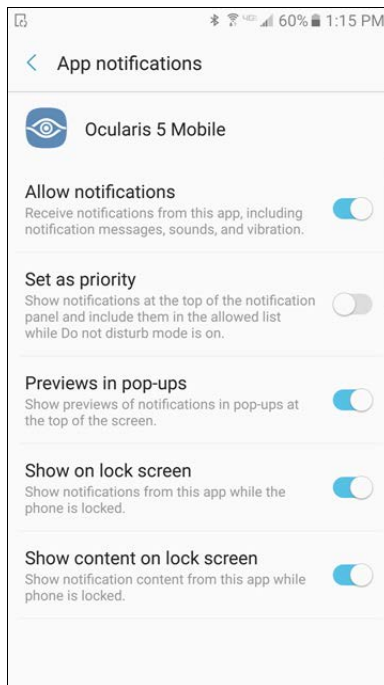


Figure 2 App notifications (Android)

3. Open the mobile app.



4. Tap the Settings icon.

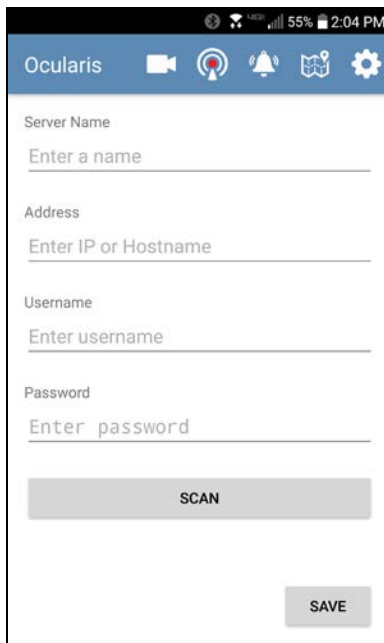


Figure 3 Add an Ocularis Media Server (Android)

5. Enter a name to identify the Ocularis Media Server you will connect to.

6. Enter the IP address of the Ocularis Media Server. In most cases, you will want to use the outside or external IP address. You can add multiple Ocularis Media Servers and therefore, can include one that is internal and one that is external.
7. Enter your Ocularis Base username and password. This is the same account you use with Ocularis Client
8. Tap **Save**.

Alternately, on Android devices, you can use the **scan** button to scan a QR code with the credentials. The format of the QR code string should be in the format:

[server\_name]/[IP]/[username]/[password]

For example:

Acme Server/195.168.11.166/jdoe/abcdef54321

## For Apple

1. From the Apple App Store, download the Ocularis 5 Mobile app.
2. During installation, you will be asked if you want to receive notifications from Ocularis 5 Mobile. Notifications can be changed in the Settings app.

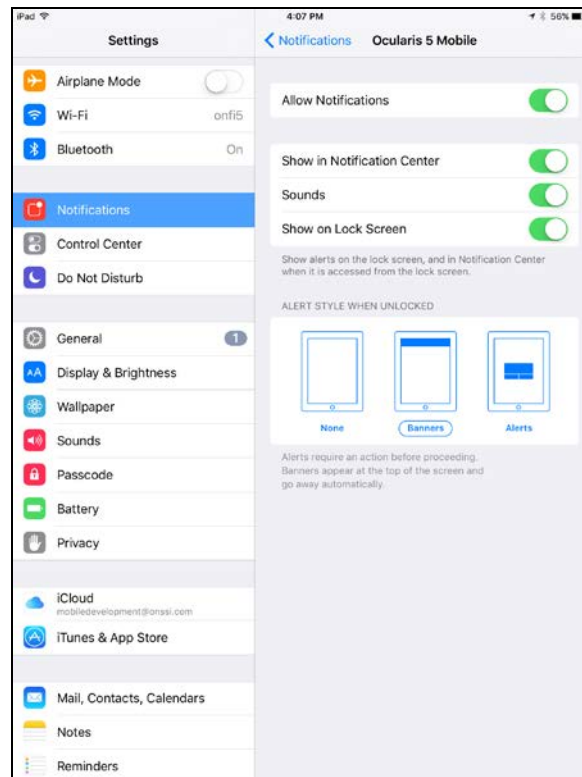


Figure 4 Notifications (iOS)

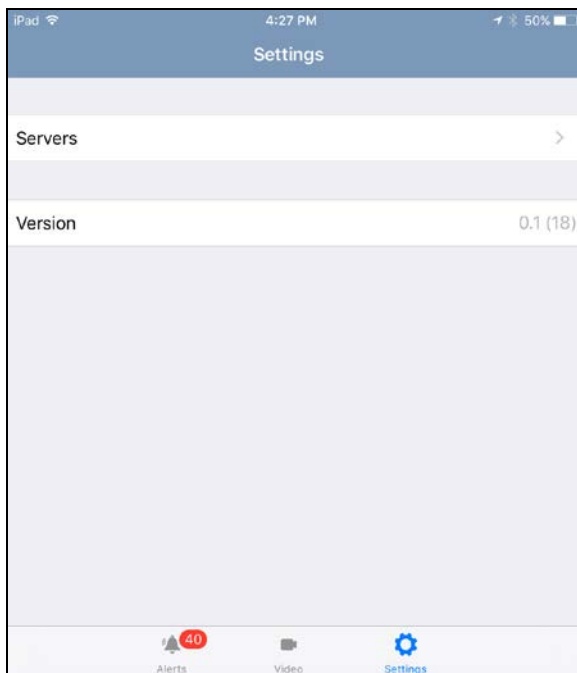
3. Open the mobile app.



4. Tap the Settings icon.



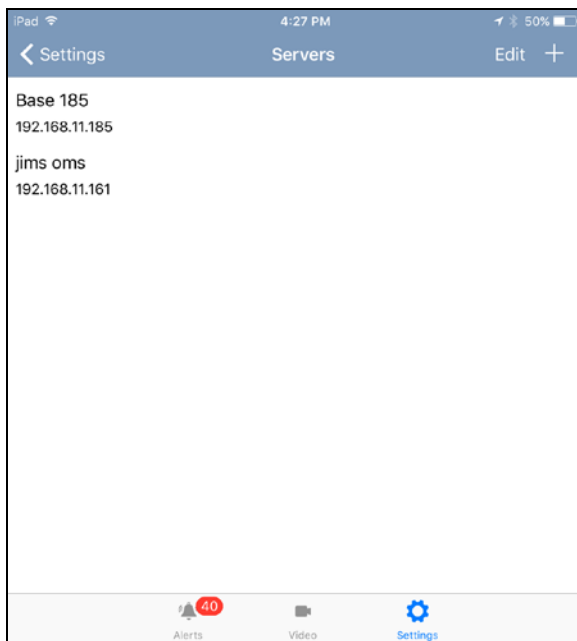
- 5. Tap the arrow to the right of 'Servers'.



*Tap to configure servers*

Figure 5 Settings Screen (iOS)

- 6. Tap the '+' to add a server.



*Tap to add a server*

Figure 6 Add a Server (iOS)

- 7. Enter a Server name to identify the Ocularis Media Server you will connect to.



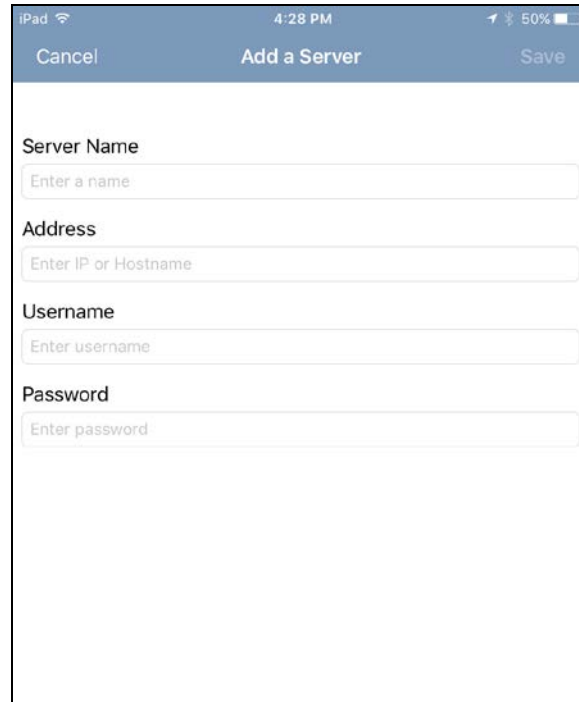



Figure 7 Enter Ocularis Media Server Credentials (iOS)

8. Enter the IP address or Hostname of the Ocularis Media Server. In most cases, you will want to use the outside or external IP address. You can add multiple Ocularis Media Servers and therefore, can include one that is internal and one that is external.
9. Enter your Ocularis Base username and password. This is the same account you use with Ocularis Client.
10. Tap **Save**.

# View Live Video with Ocularis 5 Mobile

1. Open the Ocularis 5 Mobile app.
2. Tap the camera icon. 
3. Tap the server you'd like to connect to.

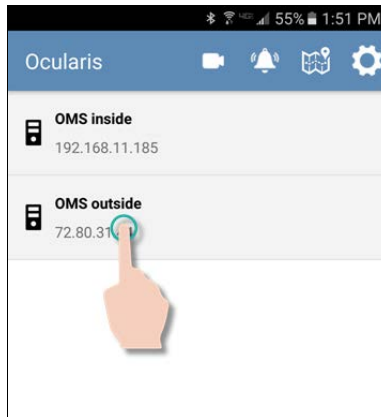
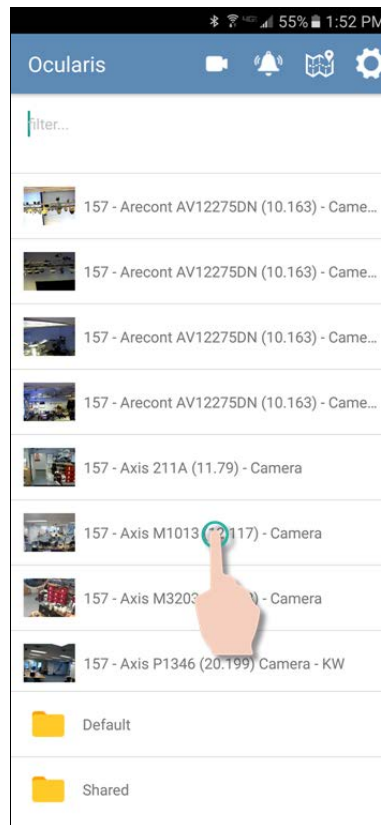


Figure 8 Select Server (Android shown)

4. Tap the camera from the camera list. You may narrow the list by entering a keyword in the 'filter' field (for Android) or 'Search' field (for iOS). At the bottom of the camera list are folders which represent Ocularis views. You can locate cameras by selecting it from the view folder as well.

*filter the list by entering a keyword*



*Select a view folder to see cameras within that view*

Figure 9 Select Camera (Android shown)

The live camera stream appears in portrait mode:

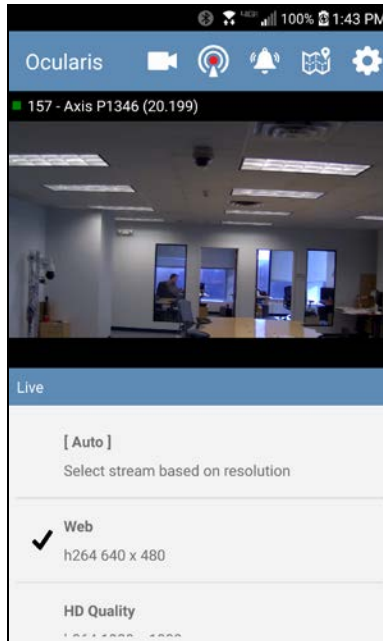


Figure 10 Live Mode - Portrait (shown on Android)

If the camera is configured with multiple streams, you'll see the streams listed. The stream's video classification, compression and resolution will be listed. The checkmark indicates which stream is being displayed. [Auto] will be the stream displayed by default. The [Auto] selection will display the first stream that is smaller than the window size. So, for example, you may see a different stream in portrait vs. landscape mode.

Note: all camera streams are displayed in Ocularis 5 Mobile, even if the user's ability to select a stream is set as 'Deny' in Ocularis Administrator.

Rotate the device to view the image in landscape mode:

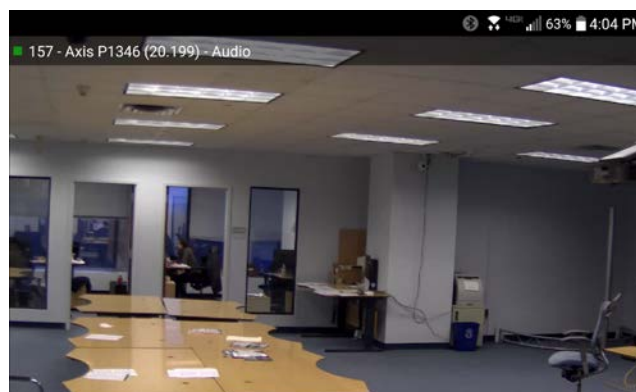


Figure 11 Live Mode - Landscape (shown on Android)

## To Digitally Zoom In or Out

For fixed cameras it is easy to zoom in or out while viewing a live or recorded camera stream.

### **Zoom In**

1. Directly on the image, use two fingers to pinch and spread out to zoom in on that area.

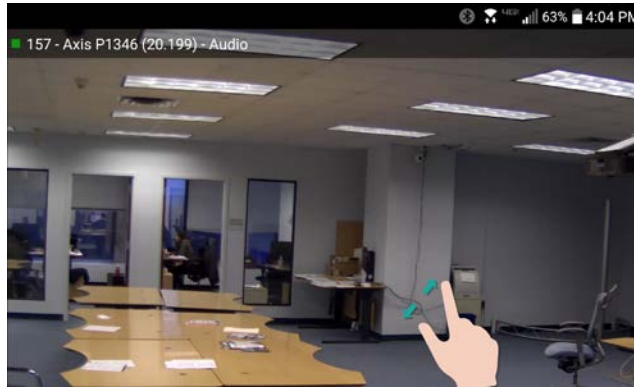


Figure 12 Pinch and spread to zoom out (shown on Android)

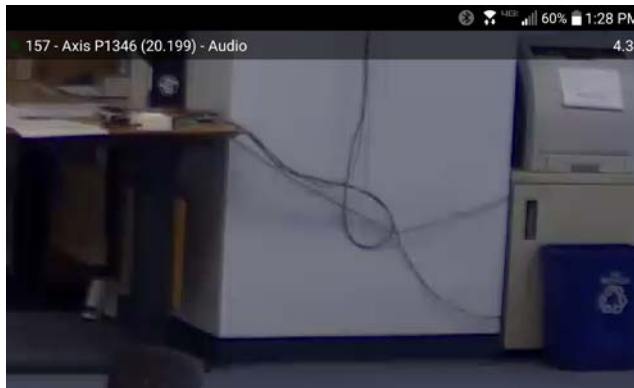


Figure 13 Zoomed In Area (shown on Android)

### **Zoom Out**

1. Directly on the image, use two fingers to pinch and spread in to zoom out on that area.

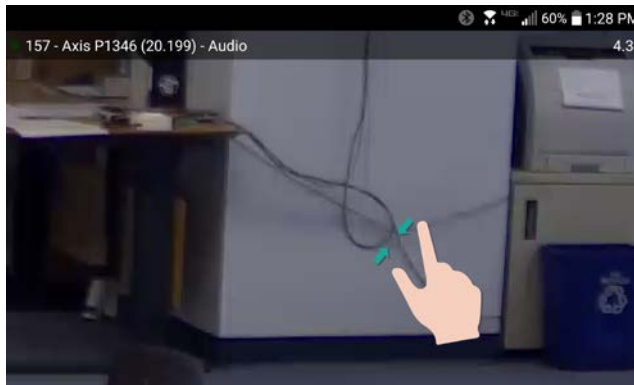


Figure 14 Pinch and spread in to zoom out (shown on Android)

# View Recorded Video with Ocularis 5 Mobile

1. From a live portrait view, swipe your finger to the left in the white area beneath the image.

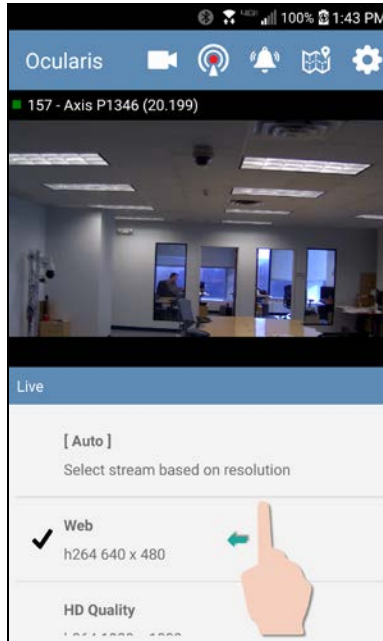
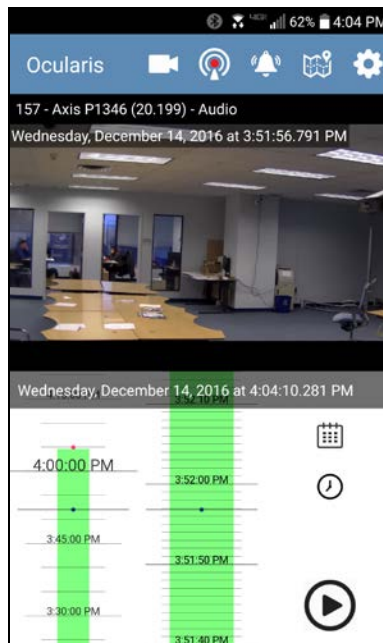


Figure 15 Swipe left to view recorded video (shown on Android)

*inner timeline provides more granularity*

*green color indicates standard recording*



*calendar*

*clock*

*play*

Figure 16 Browse Mode (shown on Android)

Video displayed is actually the stream that was recorded and transcoded to MJPEG. Recorded video will display in color coding similar to the Kinetic Timeline in Ocularis Client. Green indicates video recorded due to Standard

Recording and red indicates alarm recording. The timeline on the left is broad while the timeline in the middle is more granular. Use your finger to move the timeline up (reverse) and down (forward).

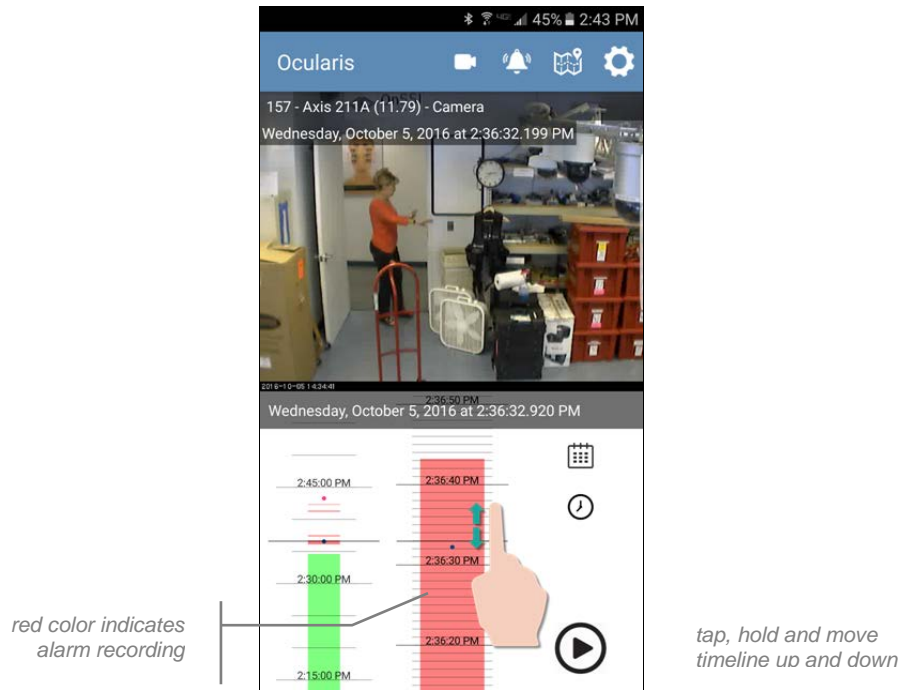




Figure 17 Color coded timeline (shown on Android)

Tap the Play button  to play video forward and the Pause button  to stop.

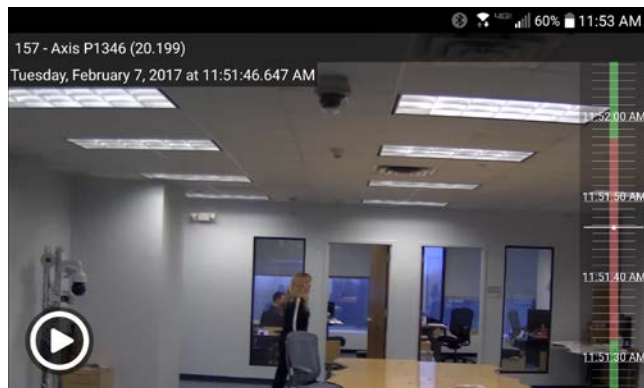


Figure 18 Landscape Browse (shown on Android)

In landscape mode, the timeline is superimposed over the video on the right.

Return to portrait mode and swipe right to return to Live video.

# View Alerts with Ocularis 5 Mobile

If alerts are configured on Ocularis Base and the user is included in the event distribution group, an alerts list will appear on the device. If notifications are allowed, the device will announce the arrival of an alert.

1. Tap the 'Alert' icon.

For Android:



For Apple:



Notice that with Apple, the icon will also indicate the number of unhandled alerts

2. Use your finger to move the alert list up or down.

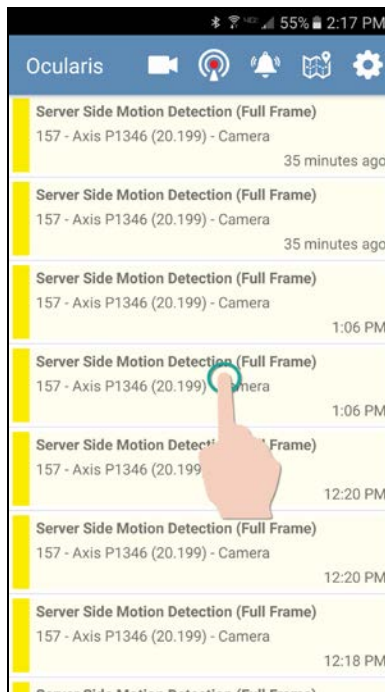


Figure 19 Alerts List (shown on Android)

3. Tap the alert you wish to view.  
Recorded video from the alert is displayed.

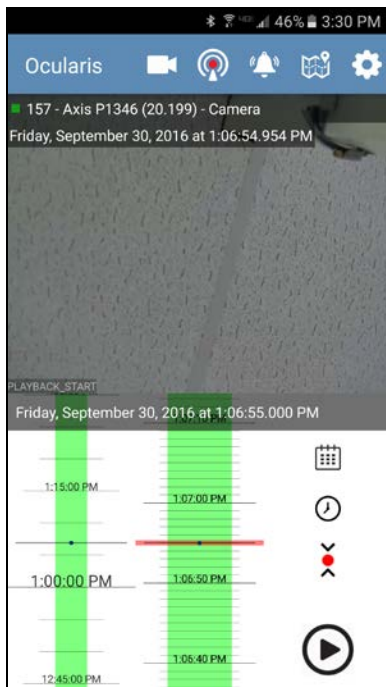




Figure 20 Recorded video from the triggered alert (shown on Android)

Tap the  icon to go to the start of alert video. Click Play  to play the video forward.

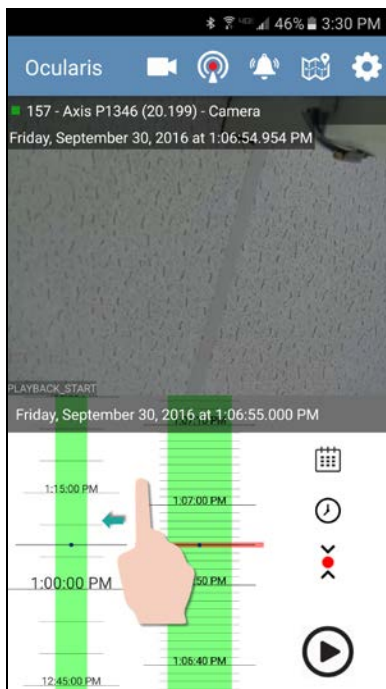


Figure 21 Swipe left to acknowledge the alert (shown on Android)

Swipe left to display the Handle Event screen.



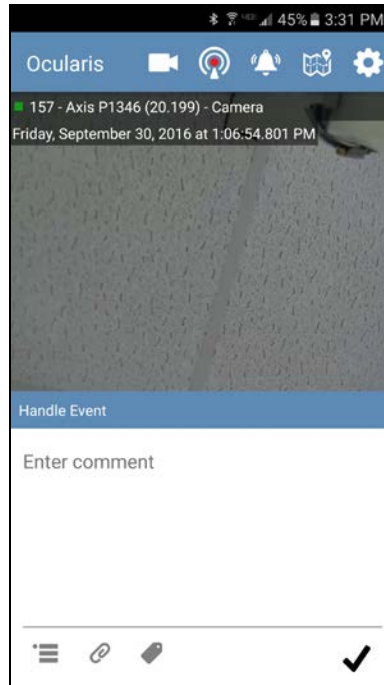






Figure 22 Handle Alerts Screen (shown on Android)

### To Acknowledge (Handle) an Alert

All items are optional.

1. Enter a comment regarding the event.
2. Tap the 'Category' icon to select a category for the event.  (for Apple devices, tap 'Done')
3. Tap the 'Case' icon to assign the alert to an incident case.  (for Apple devices, tap 'Done')
4. Tap the 'Tags' icon to enter associated tags.  (for Apple devices, tap 'Done')
5. When done, tap the checkmark. 

The alert should be cleared from the alert list and is now stored in the Handled Alerts database.

## Using PTZ with Ocularis 5 Mobile

Ocularis 5 Mobile supports PTZ (pan / tilt / zoom) with corresponding cameras.

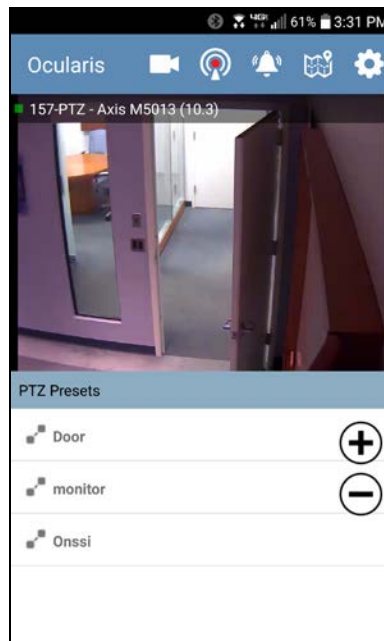
### To Use Pan or Tilt on a PTZ Camera:

1. Tap the image in the direction where you want the lens to move.  
The image moves in the indicated direction.
2. Repeat as needed.

### To Optically Zoom a PTZ Camera

1. Tap the plus or minus icons to zoom in or zoom out.

*Preset  
List*



*Zoom controls*

Figure 23 PTZ Camera (shown on Android)

### To Use PTZ Presets

PTZ presets are configured on the recorder component using *Ocularis Recorder Manager*. Configured presets appear below the Live image for a PTZ camera.

1. Tap the listed preset. The camera should move to that preset position.

## Notifications


If you have allowed the device to receive notifications (see *Configuring Ocularis 5 Mobile* on page 3), they will be presented on the device in accordance with other notifications based on the notification settings. When a configured Ocularis alert occurs that you are assigned privileges to receive, the device will announce (via sound or visual) the arrival of the alert. Notifications may also be listed on the devices lock screen.

## Stream Video from Ocularis 5 Mobile

Ocularis 5 Mobile supports streaming from a mobile device to Ocularis. The streaming video can be viewed live with Ocularis Client, Ocularis 5 Web or another Ocularis 5 Mobile device. Recordings from the device will be saved in Ocularis recorder. Operators can view the recorded video as well. This feature is currently only supported with Android devices<sup>2</sup>.

### Configuration for Streaming Video

Use the following to configure a device to be able to stream video.

1. On the Android device, start Ocularis 5 Mobile and access the server list by tapping the settings icon. 

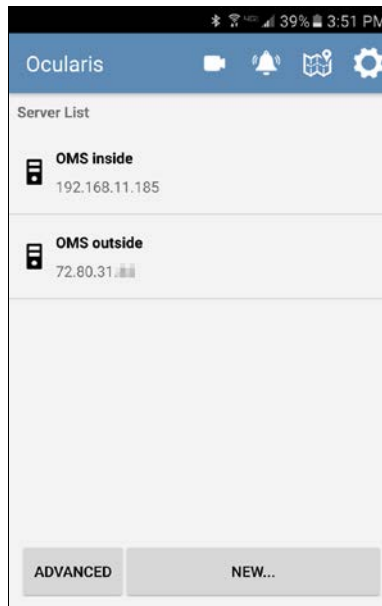


Figure 24 Configure Streaming

2. Tap the 'Advanced' button.

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<sup>2</sup> Only devices with an IMEI number may stream to Ocularis. Streaming may be done via cellular or wifi network. Some tablets are wifi only and do not have an IMEI number. These devices may view video but cannot stream video.

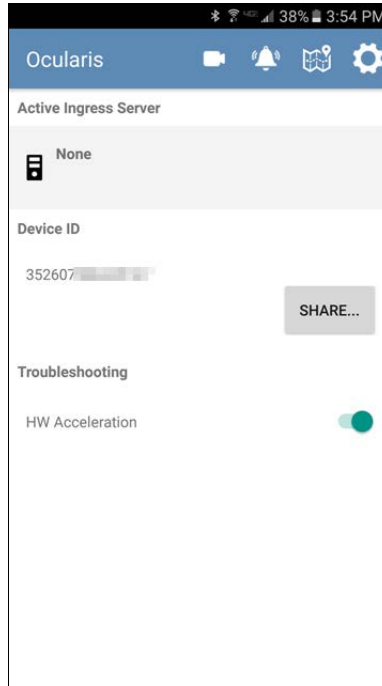


Figure 25 Additional Settings

- Under 'Active Ingress Server', it likely says 'None'. Tap 'None' to view the list of available Ocularis Media Servers. Tap the server you would like to stream to. Note that you most likely want to select the server with an external IP address for access outside of the office.

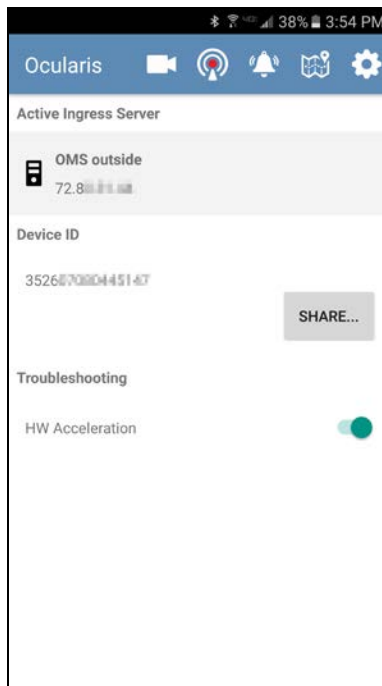



Figure 26 Select OMS Ingress Server

You'll notice a new icon at the top of the screen. This is the stream icon. 

4. The system administrator needs to set up this device on an Ocularis Recorder. To do this, he or she will need the device's ID (15 digit IMEI number). An easy way to provide it is to tap the 'Share...' button and use the devices on board tools (email, text, etc.) to send it to the Ocularis System Administrator.
5. The Ocularis System Administrator must now create a camera in a recorder (DM) to represent the Android device. This will consume one camera license on the recorder.
  - a. Create a new camera for the phone device
  - b. Provide a name for the device
  - c. Select 'Generic Video' driver
  - d. Uncheck 'Use authorization'
  - e. For Host (IP address or name) use the IP address of the Ocularis Media Server
  - f. Assign the device to a DM
  - g. Click OK

Figure 27 Create a Camera for the Mobile Device

6. Next, configure the device's stream 1.
  - a. Select the new device to open its 'Camera configuration' screen
  - b. Select 'Stream 1/4'
  - c. Set the 'Transmission mode' to 'RTP\_Over\_RSTP\_over\_TCP'
  - d. Set the URL to:
 

```
rtsp://{IP of OMS}:5544/{IMEI# of device}
```
  - e. You can also modify other configuration settings (such as Standard and Alarm recordings) at this time.
  - f. When done, click 'Save'

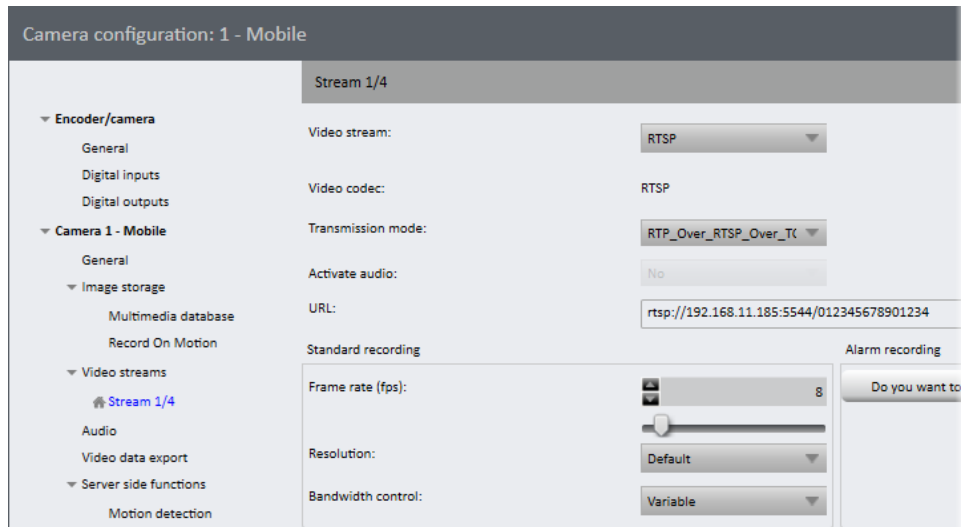


Figure 28 Configure Stream 1 for the Mobile Device

7. Next, refresh the recorder in Ocularis Base. This is done by an Ocularis System Administrator.
  - a. Open the *Ocularis Administrator* application
  - b. Refresh the recorder in **Servers / Events** tab by right-clicking on the recorder name and selecting 'Refresh server'
  - c. Assign privileges to new device in **Users / Privileges** tab
  - d. (Optional) add the new device to a view in **Views** tab

Reminder, this device will consume one camera license in Ocularis Base.

8. On the Ocularis Media Server, a settings.ini file identifies the Ingress Server. The file is located at:

**C:\Program Files\OnSSI\Ocularis Media Server\OcularisMediaServer**

The line: **IngressAddress=rtmp://{IP}/live** identifies the Ingress Server to Ocularis Media Server. Should you need to change the IP address be sure to save the file and restart the Ocularis Stream Server service located on the Ocularis Media Server.

The video quality is determined by the following values:

IngressResolution=640x480



IngressBitrate=500000

IngressFramerate=10

IngressKeyframeInterval=30

The IngressBitrate of 500000 is the maximum desired value. If the network cannot offer this bandwidth, the encoder will increase compression (i.e. lower the quality) to achieve the framerate.

## Stream Video with Ocularis 5 Mobile

1. Open the Ocularis 5 Mobile app.
2. Tap the stream icon. 
3. Tap the 'Stream' button. 
4. You may now capture local video through the device's camera.

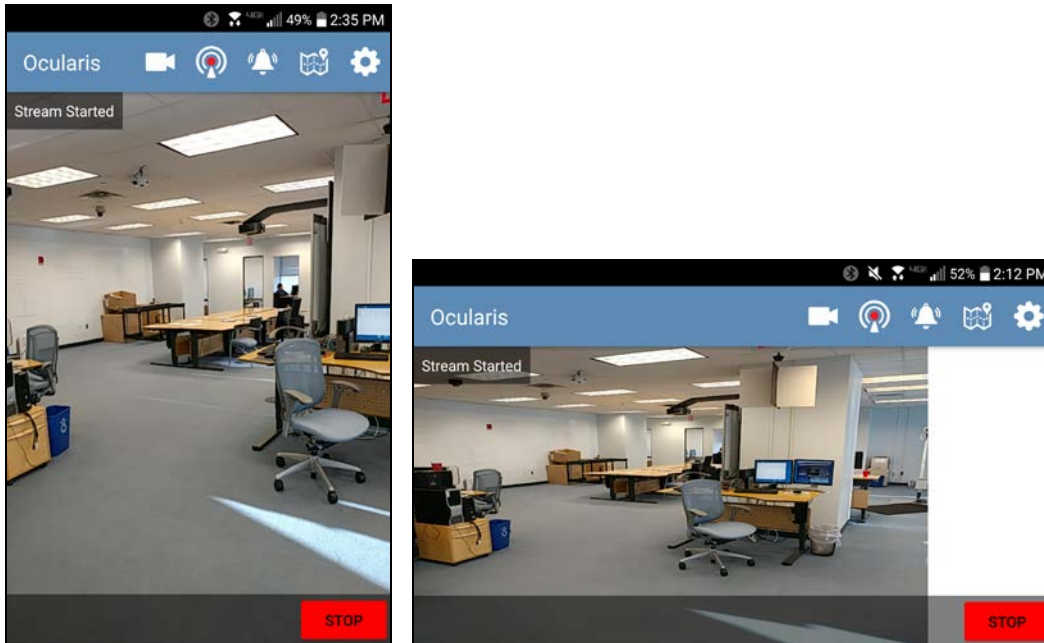


Figure 29 Stream video from device to Ocularis


5. When you want to stop streaming, tap the 'Stop' button. 

The video stream from the device will cease but recorded video will be saved and visible using Ocularis Client, Ocularis 5 Web or Ocularis 5 Mobile.

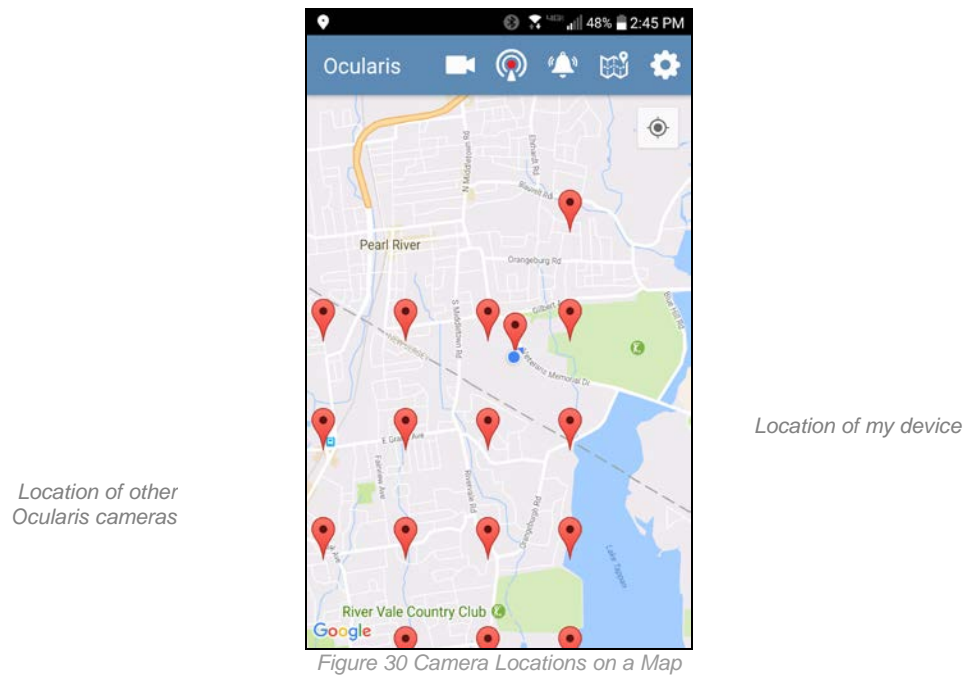
Note: Audio is not supported in this version when streaming video from a mobile device to Ocularis.



## Camera Location

Tap the map icon  to open Google maps. The location of the current position is displayed geographically with a blue pin. Note: this feature is supported with Android devices only.

Other cameras that have GPS coordinates assigned to them (in *Ocularis Administrator* Camera Properties) also appear geographically on the map with a red pin.



- Move the map by tap, hold and move.
- Zoom in by pinching and spreading two fingers on the map.
- Zoom out by pinching and closing two fingers on the map.

## To View a Camera From the Map

1. Tap on a camera's (red) pin. It's name appears.

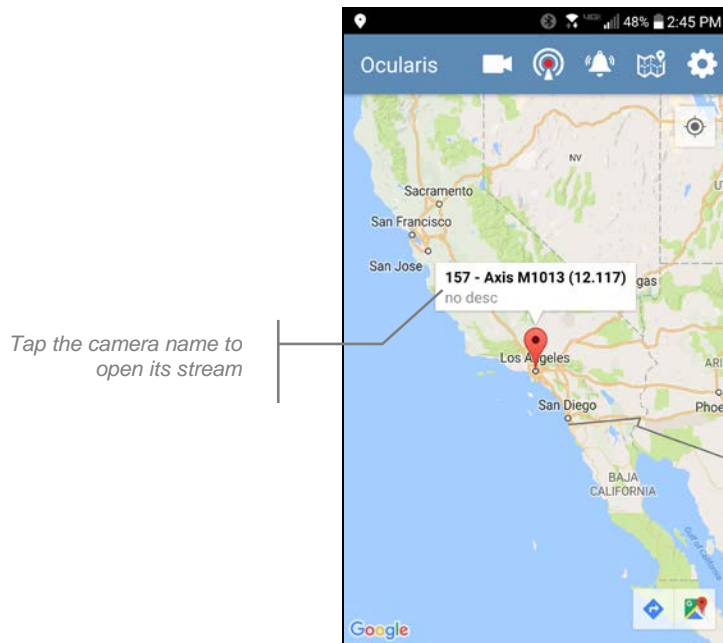


Figure 31 View a Camera from the map

2. Tap on a camera's (red) pin. It's name appears.
3. Tap on the name to open the stream for that camera.

## Idle Timeout

When using Ocularis 5 Mobile over a cellular network, standard data rates will apply when streaming. For the iOS version, if the device's screen is locked or the app is in the background, the app will act like it is not running and not use up cellular data. Only if the device is unlocked and the app is visible in the foreground will the data stream be used. This applies to Live video. For the Android version, data rates apply when viewing Live video or when streaming video. With this version, the default is no limit to the amount data streaming. You may, however, configure an idle timeout for Android devices to help manage the amount of cellular data used.

### To Configure the Android Idle Timeout

The system administrator needs to modify a configuration file on the Ocularis Media Server.

1. On the Ocularis Media Server, open the file **settings.ini** located at:  
`c:\Program Files\OnSSI\Ocularis Media Server\Ocularis Media Server`
2. Add the following line to the file:  
`mobile_idle_timeout=[seconds]`

The minimum number of seconds is 30 (even if set to less). The maximum number is  $2^{32}$ . We recommend a value between 30 and 3600 (one hour). For example:

`mobile_idle_timeout=600` ←for a ten minute timeout

3. Save the file.
4. Restart the following services on the Ocularis Media Server:  
`Ocularis Stream Server`  
`EvoStream Media Server`

When you are viewing Live video or streaming video using an Android device over cellular, you will see the following warning ten seconds prior to when the timeout period is approaching with no activity on the device:

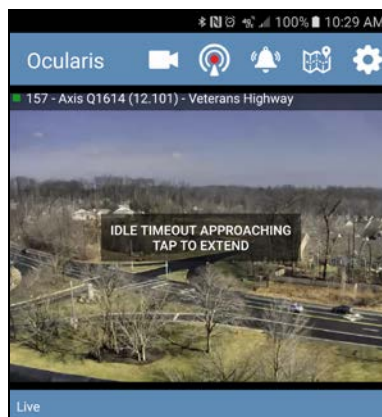


Figure 32 Idle Timeout Approaching

Tap anywhere on the screen to reset the timer.

Once the idle time is reached, the following message appears:

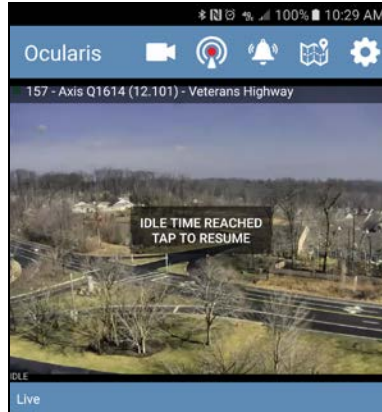


Figure 33 Idle Timeout Reached

Tap the screen to resume.