KEYWATCH Mobile for Android
Quick Start Guide

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Contents

Introduction

Congratulations on choosing the KEYWATCH Officer Safety system and its KEYWATCH for Android mobile application (app) software suite. This state-of-the-art officer-safety software for mobile devices takes advantage of the flexibility and power of today's smartphones and other mobile devices to provide audio, camera, tracking, and remote mobile device management capabilities to the law enforcement, public safety, security, and special military communities.

KEYWATCH Mobile Device Features

Covert Capability	The user's mobile device looks and operates as a standard, unmodified mobile device while running the KEYWATCH software hidden within a fake social media app, named 'Caw'.
hotMIC Audio App	Captures audio picked up by the KEYWATCH mobile device's microphone and records high-quality audio to the device's internal storage and/or streams the audio to the KEYWATCH Remote Operations Center (ROC) for remote, real-time monitoring and/or recording.
hotCAM Photo App	Takes photos using the front and/or rear-facing camera(s) at user-configurable intervals and resolutions. These time-lapse photos can be stored to the mobile device's internal storage and/or streamed to the ROC for remote, real-time monitoring and/or recording.
vidREC Video App	Records video using the front or rear-facing camera at user-configurable resolution. Video is stored to the mobile device's internal storage (but not streamed to the ROC). vidREC requires that the device be licensed for hotCAM. *Note: Only one camera at a time can be active in vidREC.*
geoTRACK Location App	Captures the mobile device's current GPS location at user-configurable time and/or distance intervals. The location can be stored on the mobile device and/or streamed to the ROC for remote, real-time monitoring using third party mapping and imagery and/or recording. Custom maps can be created using location data with third party mapping programs.
remoteTRIGGER App	Allows a ROC user to remotely activate or deactivate consensually armed hotMIC, hotCAM, vidREC, and/or geoTRACK apps. remoteTRIGGER may not be available in all countries. Please contact your dealer for up-to-date information regarding availability.

remoteSETTINGS App	Allows a ROC user to remotely manage the settings on consensually armed hotMIC, hotCAM, vidREC, and/or geoTRACK apps. remoteSETTINGS requires that the device be licensed for remoteTRIGGER, and, like remoteTRIGGER, may not be available in all countries. Please contact your dealer for up-to-date information regarding availability.
Distress and Reverse Distress Signals	Allows the KEYWATCH mobile device user to send a distress signal to the ROC, where it can be viewed by the monitoring team. Conversely, the Reverse Distress Signal allows the monitoring team to send a distress signal to the KEYWATCH mobile device user.
Key Fob Remote	Allows a KEYWATCH mobile device user to remotely activate or deactivate hotMIC and hotCAM, and send/receive distress signals to/from the ROC without directly accessing the mobile device. To learn more about the key fob and its operation, see Appendix A: Key Fob Operation.
Authentication	All recordings have digital signatures for evidentiary authentication. This includes all recorded hotMIC, hotCAM, vidREC, and geoTRACK data.

This Quick Start Guide assumes that the KEYWATCH Remote Operations Center (ROC) server has already been installed and configured, and KEYWATCH software has already been installed on your mobile device. This Quick Start Guide is organized into the following sections:

1. Setting Up an Account
2. Activating your KEYWATCH mobile device
3. Using KEYWATCH
4. Arming a KEYWATCH Application for remoteTRIGGER and remoteSETTINGS
5. Using remoteTRIGGER and remoteSETTINGS from the ROC
6. Sending/receiving a distress signal to/from the ROC
7. KEYWATCH App Details
8. Best practices when going on an operation

More in-depth information about using your KEYWATCH mobile device and the ROC can be found in the KEYWATCH for Android and KEYWATCH ROC Server User Manuals.

Step 1. Setting Up an Account

If KEYWATCH has already been installed and activated on your mobile device, and it has already been partnered with a ROC server and you have an account on that server, you may proceed to Step 3 Using KEYWATCH.

If your KEYWATCH mobile device is to be paired with our Demo Server, please send an email to support@keywaveproducts.com with the subject "Demo ROC Account Request" and include the following:

- Your name
- Valid email address to use as an account login
- The KEYWATCH mobile device's serial number (found at Settings > General > About)

Note: If your device is to be partnered with your own ROC server, please contact your ROC server Administrator with the same information to have them create an account. ROC Administrators can refer to the KEYWATCH ROC Server - User Manual Appendix A: Administrator Actions to add new users.

Once your account has been created, open a browser (we recommend Mozilla Firefox 60 and above, Google Chrome 67 and above, or Safari 11 and above), and navigate to your ROC website to log in. Once logged in, you might wish to change your password for increased security. You can do this via the drop-down menu in the top-right corner where you should select 'Account Settings'.

In addition to changing your password, you may also change your other account settings, including password and notifications, on this page.

Step 2. Installing and Activating KEYWATCH on your Mobile Device

If KEYWATCH has already been installed and activated on your mobile device, and it has already been partnered with the ROC, you may proceed to Step 3 Using KEYWATCH.

For security reasons, you must be sent a link to install the KEYWATCH app, and then a series of actions must happen in order for your KEYWATCH mobile device and ROC server to work together.

Installing the KEYWATCH App.

To install the KEYWATCH app, you will need to contact support@keywaveproducts.com with your gmail address. You will receive a link to download and install the app from the Google Playstore. The KEYWATCH app will automatically be added to your list of apps, but will be hidden within the Caw app, which is a fake social media app set up by KEYWAVE Products. Locate the 'Caw' icon within your apps and drag it to your **Home** screen in order to access it from there.

You may also need to install the KEYWATCH widgets on the **Home** screen. Press and hold on the **Home** screen, and tap 'Widgets'. Tap the 'Caw' icon, and press and drag the 'Voice' icon onto the **Home** screen. Repeat for the 'Camera' and 'Maps' icons.

Once the KEYWATCH app is installed, you must take care not to update the Android operating system software without first checking with KEYWAVE Products support. Some software updates do not provide a cancellation option. In this case, we recommend simply tapping the '◁' button to exit out of the notification.
Note: It is critical in particular that you do not update the Android Operating System to version 9.0 (Pie).

**Linking your KEYWATCH Mobile Device and the ROC Server**

In order to link your KEYWATCH mobile device and the ROC server, the following actions must happen:

1. TELLING the KEYWATCH mobile device which ROC server to contact,
2. The ROC Administrator VALIDATING the mobile device after it initiates contact, and providing its initial settings, and
3. The KEYWATCH mobile device user ACCEPTING those settings.

In order to tell the KEYWATCH mobile device which ROC server to contact, you will need to access KEYWATCH Settings (KW Settings). To do so, enter the Special Access Mode (SAM) code and tap the 'Caw' icon. The default SAM code is *Volume up, Volume up, Volume Down, Volume Down, Volume Down.* If you do do not enter the SAM code, you will see a log in screen as shown below, and you will will be unable to proceed to access the KEYWATCH app and/or KW Settings.

Navigate to KW Settings > General and enter in your Server URL at the top under 'Server Address' without the leading 'https://www' address details (e.g., demo users might enter 'demo.roclp.com').
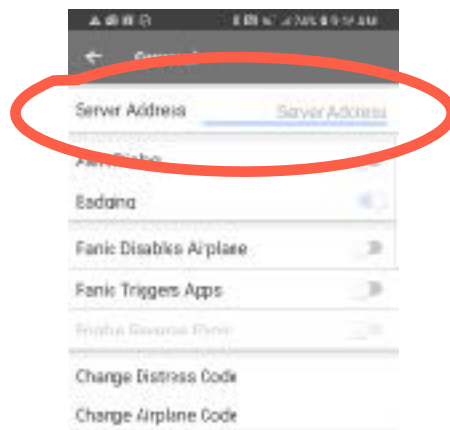
Then, press the 'back' button and navigate to KW Settings > Phone Management. Scroll down and tap 'Activate License' at the bottom of the screen. Assuming your device has connectivity to the Internet, this starts the process of enabling the mobile device and the ROC to communicate.

If you are using our Demo Server, please contact your dealer or send an email to support@keywaveproducts.com with the subject 'Demo ROC Device Activate' and include the following:

• Your name
• The email address you provided when requesting an account
• The KEYWATCH mobile device's serial number (found at Settings > General > About)
• Details that will help us corroborate that you are a legitimate KEYWATCH user

The second set of actions is performed by the ROC Administrator, who must authorize your KEYWATCH mobile device, assign the KEYWATCH app licenses, assign the mobile device to you and/or your group, and set the trigger number(s) if you are using remoteTRIGGER, remoteSETTINGS, and/or the key fob for remote access to your mobile device.

The third, and final action is for the KEYWATCH mobile device user to accept the new KEYWATCH settings. To do so, go to the KEYWATCH mobile device, go to KW Settings > Phone Management, and tap 'Activate License' to update your device.
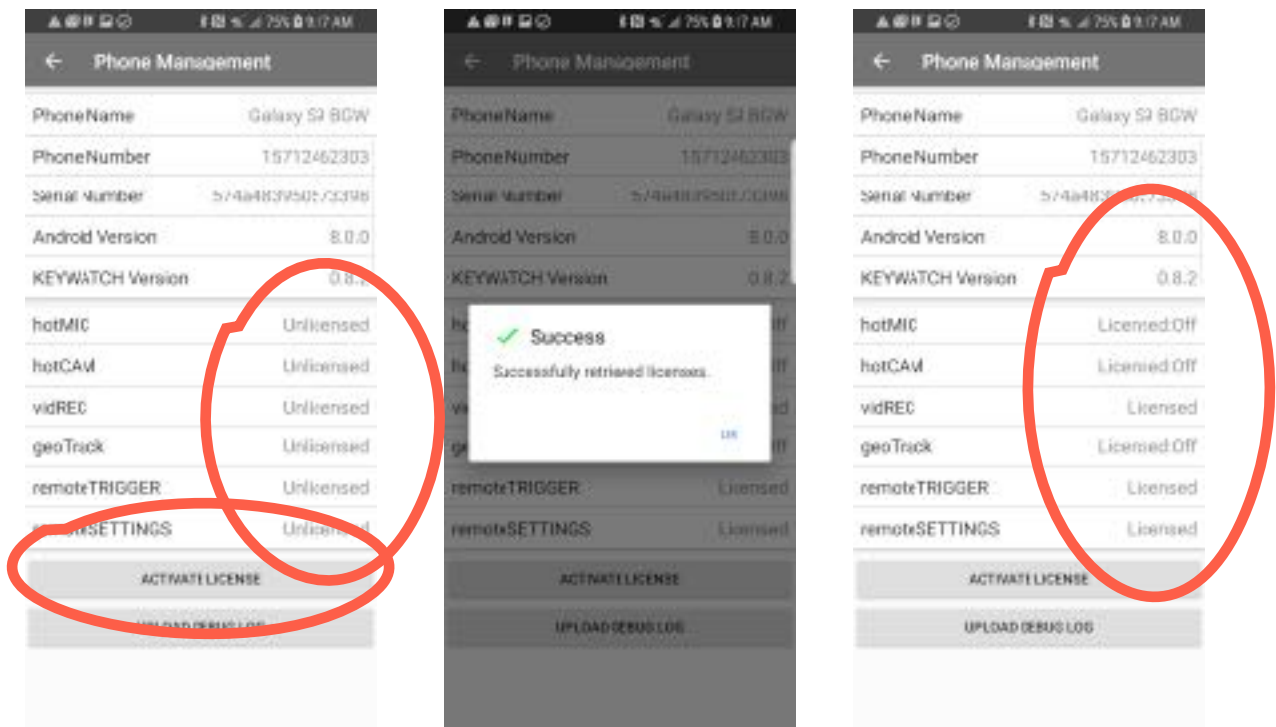
Note: Again, if your device is to be partnered with your own ROC Server, please contact your ROC Administrator to have them associate your device with a group and assign its licenses. ROC Administrators can refer to the KEYWATCH ROC Server - User Manual Appendix A: Administrator Actions for details on how to add new users.

Mobile Device Settings

You will next need to ensure that the mobile device's settings are correctly configured. To do this, go to:

1. Settings on your mobile device and then navigate to Location. Make sure the switch is toggled to 'ON' and that 'High Accuracy' is selected.

Note: Terminology and navigation may vary slightly between models, e.g.,

- **Samsung S8/S9**: Settings > Connections > Location > Locating Method > [High Accuracy/Battery Saving/Phone Only]
- **Motorola z**: Settings > Security & Location > Location > Mode > [High Accuracy/Battery Saving/Phone Only]

Also Note: Setting the location services to 'High Accuracy' will increase the demands on your mobile device's battery.

2. The green 'Phone' icon on your mobile device, select the drop down Menu (3 dots at top right of the mobile device), and navigate to Call Waiting. Make sure the switch is toggled to 'OFF'.

Note: Terminology and navigation may vary slightly between models, e.g.,

- **Samsung S8/S9** Phone > Menu > Settings > More Settings > Call Waiting and toggle the switch to 'OFF'
- **Motorola z**: Phone > Menu > Settings > Calling Accounts > [Select SIM] > Additional Settings > Call Waiting and ensure that the box is unchecked / the switch is toggled to 'OFF'

3. The 'Caw' app icon on your mobile device, ensure that 'App icon badges' and 'KEYWATCH Beacon' are enabled, and that 'Keywatch Applications' are disabled.

*Note: Terminology and navigation may vary slightly between models, e.g.,*

- **Samsung S8/S9** Phone > Settings > Notifications > Caw and toggle the switches to 'ON'
- **Motorola z**: Phone > Settings > Apps & notifications > App info > Caw > App notifications and toggle the switches to 'ON'

4. The Battery settings on your mobile device, and ensure that Battery saver is off, and/or that the Caw app is included in the list of unmonitored apps so that it can use as much power as it wants without the battery monitor intervening.

Note: Terminology and navigation may vary slightly between models, e.g.,

- **Samsung S8/S9** Phone > Settings > Device Maintenance > Battery > Unmonitored Apps > Add Apps and select 'Caw' to add to the list
- **Motorola z**: Phone > Settings > Battery > Battery Saver and toggle the switch to 'OFF'
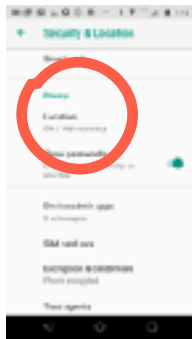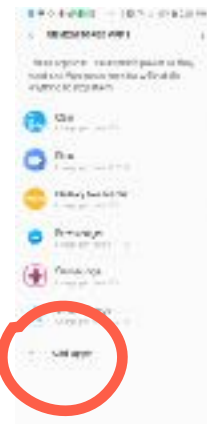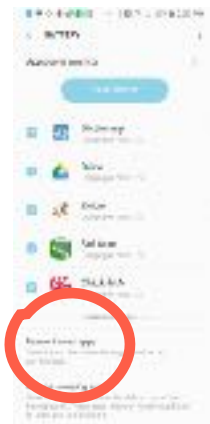
Location > ON   **Call Waiting > OFF**   **Notifications > ON**


Battery Saver > OFF

Your device should now be ready to use with the ROC server.

Step 3. Using KEYWATCH

As described above, enter KW Settings by entering the SAM code (default is *Volume up, Volume up, Volume Down, Volume Down, Volume* Down), and tapping the 'Caw' icon on your mobile device.

You may adjust settings for any KEYWATCH application here. Please refer to Step 6 KEYWATCH Application Details for details on each application.
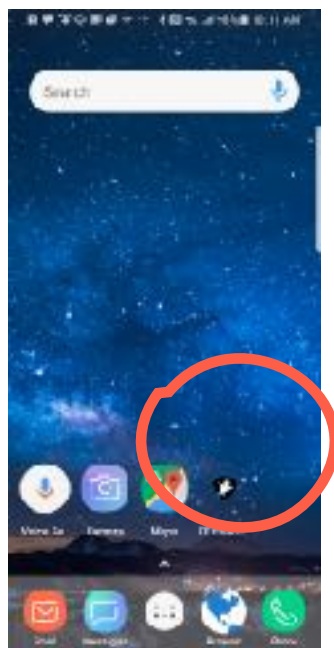

There are three ways to trigger a KEYWATCH application 'ON' or detrigger it 'OFF':

- On your KEYWATCH mobile device, enter the special access mode (SAM) code and tapping the relevant icon (Voice Memos for hotMIC, Camera for hotCAM, or Maps for geoTRACK). The default SAM code is *Volume up, Volume up, Volume Down, Volume Down, Volume Down. Note: the SAM must be entered each time you (de)trigger a KEYWATCH application.*
- On your KEYWATCH mobile device, navigate to KW Settings > [hotMIC/hotCAM/geoTRACK]. Toggle the 'Triggered' setting to the desired position. Press the 'Back' arrow at the top of the screen to save your changes.
- On your ROC website, use remoteTRIGGER if the device has already been consensually armed. Arming is accomplished on the KEYWATCH device through KW Settings (please see Steps 4 Arming a KEYWATCH Application for remoteTRIGGER and remoteSETTINGS and 5 Using remoteTRIGGER and remoteSETTINGS from the ROC).

To set a notification to notify you when a KEYWATCH app is (de)triggered, go to KW Settings > General > Alert Dialog and toggle the switch to 'ON'. You will also need to ensure that Notification are enabled in the KEYWATCH app. To do this, go to Settings > Apps > Caw and check that Notifications are set to 'Allowed'. When a KEYWATCH app is (de)triggered, either on the mobile device itself, or remotely by the ROC or key fob, a notification will appear informing you. The notification will automatically dismiss in 5 seconds.

To configure a KEYWATCH mobile device so that you can see at a glance whether an app is triggered, go to KW Settings > General >Badging and toggle the switch to 'ON'. When a KEYWATCH app is triggered and operating normally, a small circle badge with a number '1' will appear on the top-right corner of the icon associated with the KEYWATCH app (i.e., Voice for hotMIC, Camera for hotCAM, and Maps for geoTRACK).

To view and monitor the data being sent by the KEYWATCH device on the ROC website, log into your account on your ROC, and once logged in click your device name and then click on the 'hotMIC', 'hotCAM', or 'geoTRACK' icon in the navigation bar.
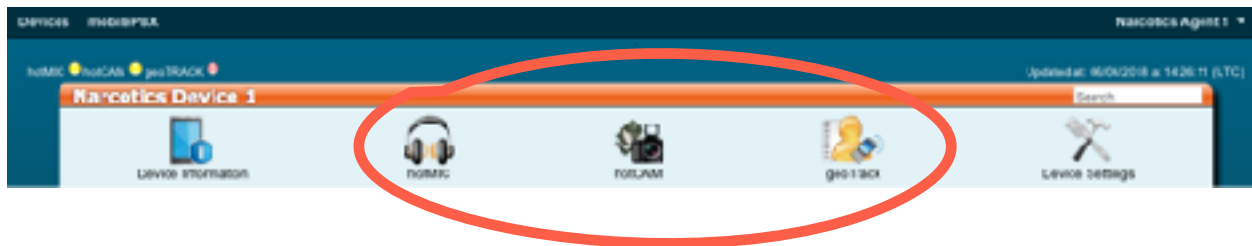

You can securely download the recorded evidence from the device using either a Windows or Apple Mac computer. First, ensure that all KEYWATCH apps are detriggered. Files cannot be transferred while data is still streaming to them.

1. To download using a Windows computer, simply attach the KEYWATCH Android mobile device to the computer using a USB cable, tap 'allow' on the device when it asks for permission to connect to the computer, and use Windows File Explorer on the computer to navigate the device's files and folders. Drag and drop the KEYWATCH files to a folder on the computer hard drive, and then delete the files from the KEYWATCH mobile device.
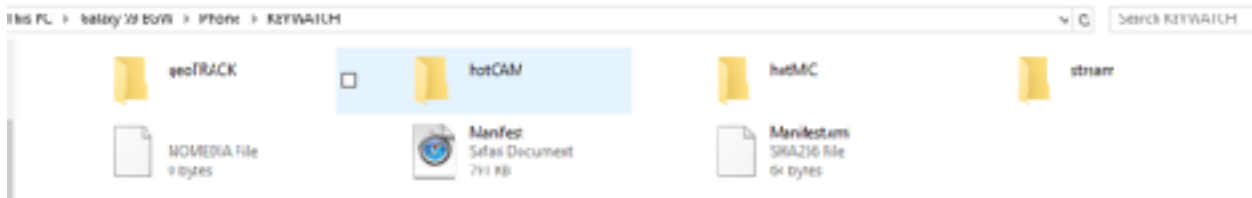
2. On an Apple Mac, you will first need to install an app to transfer the files, such as Android File Transfer. Attach the KEYWATCH Android mobile device to the computer using a USB cable, and double click on the app (e.g., on Android File Transfer). Tap 'allow' on the device and 'OK' on the pop up message on the computer. From there, you can use Finder to navigate the device's files and folders. Drag and drop the KEYWATCH files to a folder on the computer hard drive, and then delete the files from the KEYWATCH mobile device.
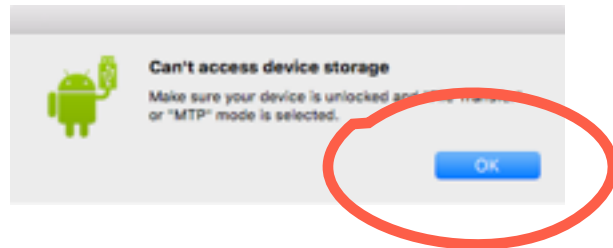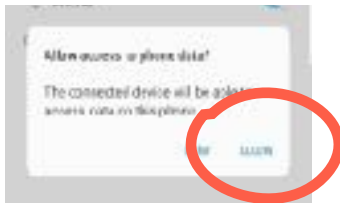

Regardless of whether you use a Windows or Apple Mac computer, in order to ensure that files can be quickly and easily transferred from your KEYWATCH mobile device to a computer it is vital that the data are downloaded on a daily basis. If too much data accumulates on the KEYWATCH mobile device, efficient transfer can be seriously impeded.

Step 4. Arming a KEYWATCH App for remoteTRIGGER and remoteSETTINGS

If you are not using the remoteTRIGGER and remoteSETTINGS capability, you may proceed to Step 6 KEYWATCH Application Details.

The monitoring team will be able to (de)trigger and/or adjust settings from the ROC for any KEYWATCH App that is consensually armed on the KEYWATCH mobile device, depending on whether remoteTRIGGER and remoteSETTINGS are licensed on the device. Please note that the remoteTRIGGER and remoteSETTINGS functionality may not be available in all countries due to national-level firewalls or technical issues with observing international telecommunications protocols, and in order to use remoteSETTINGS you must also have licensed remoteTRIGGER. Please contact your dealer for up-to-date information regarding availability in your area.

To give permission to ROC users to remotely (de)trigger or change other settings for a particular app on your device, you must enter KEYWATCH Settings (KW Settings) > [hotMIC/hotCAM/geoTRACK], and toggle Armed to 'ON'. Press the 'Back' arrow at the top of the screen to save your changes.
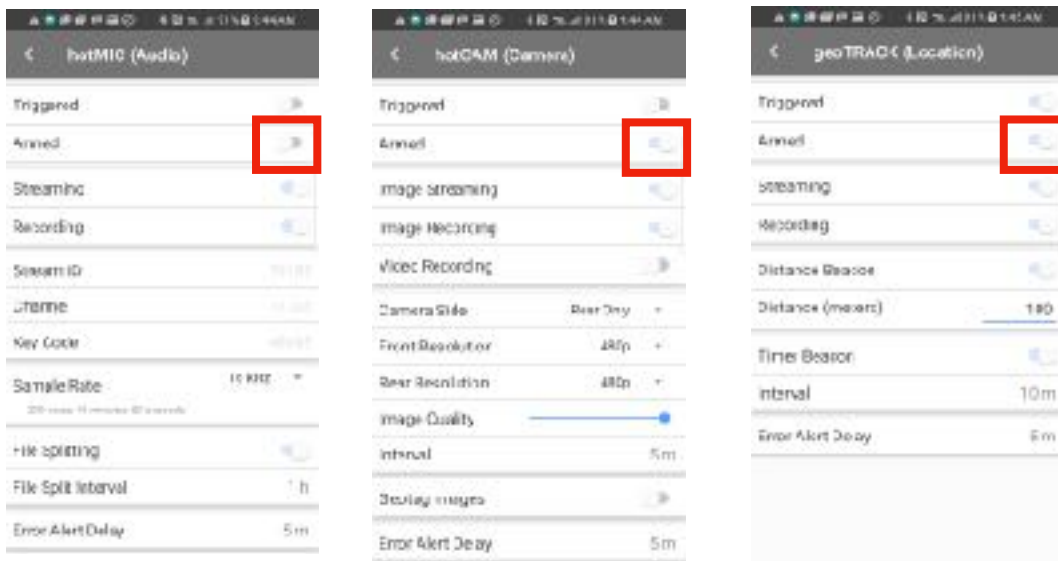

Note: The monitoring team will only be able to monitor the data streams from the KEYWATCH apps if Streaming is also configured on your device in KW Settings. Go to KW Settings > [hotMIC/hotCAM/geoTRACK] and make sure the Streaming toggle switch is set at 'ON' for any of the apps that you wish to stream data to the server and the monitoring team. Also note, vidREC cannot be streamed to the ROC, but is recorded to the KEYWATCH mobile device.

Step 5. Using remoteTRIGGER and remoteSETTINGS from the ROC

If you are not using the remoteTRIGGER and remoteSETTINGS capability, you may proceed to Step 6 KEYWATCH Application Details.

On the ROC website, click on your device name, and go to its **Device Settings** page.
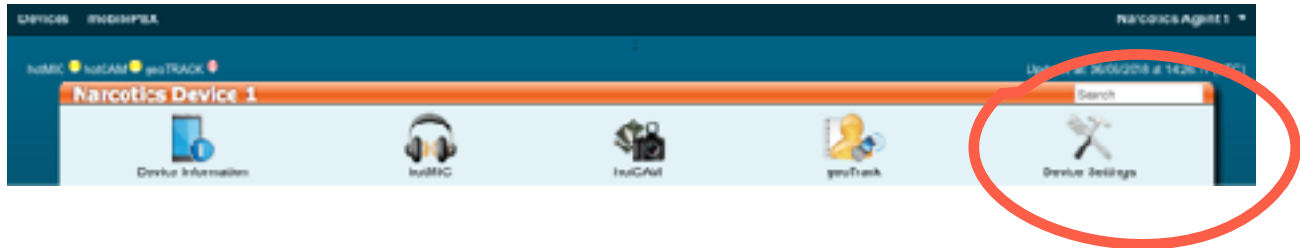
There is a slight difference between the layout of the ROC when connected to iOS vs Android mobile devices in terms of remoteTRIGGER. On a ROC connected to iOS mobile devices, the user must manually set the remoteTRIGGER number, whereas on a ROC connected to Android mobile devices this is not necessary. There is, however, no functional difference in operation of either remoteTRIGGER or remoteSETTINGS.

To correctly configured remoteTRIGGER (on a ROC connected to iOS mobile devices only):

- Choose the correct country code and verify/enter the phone number for your KEYWATCH mobile device.
- Choose the country code and enter a number for remoteTRIGGER.
- Click 'Update' and then confirm your changes.
- On the device, go to KW Settings > Phone Management and tap 'Activate License' to apply the changes.

Note: If you change a trigger number in the future, you must go back to KW Settings > Phone Management and tap 'Activate License' to apply the changes.

Using remoteTRIGGER

If an App is armed, the ROC **Device Settings** page will display a toggle switch to (de)trigger the App to 'ON' or 'OFF'. If it is not armed, the App will display '[Application] Not Armed' in its place and you will need to arm it directly from the device (see Step 4 Arming a KEYWATCH Application for remoteTRIGGER and remoteSETTINGS).

Toggle the button for each App to (de)trigger it, then click the green 'Send Settings to Device' button. The toggle buttons will be disabled while the settings are being sent. You will be updated on the device status in the text above the buttons.
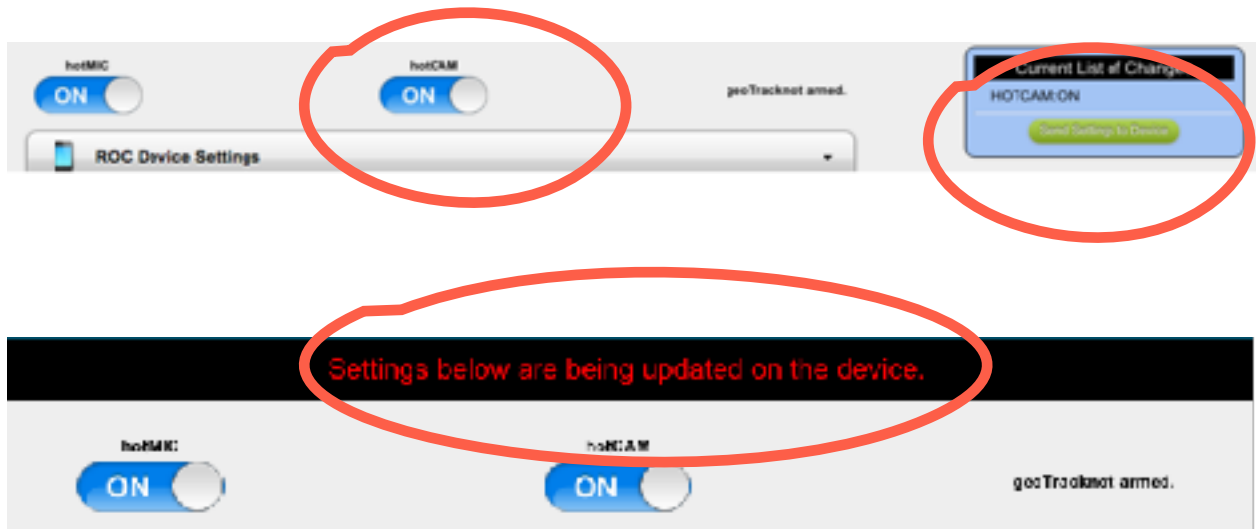
If for some reason the remoteTRIGGER command cannot trigger the App(s), the ROC website will display 'Unable to transmit settings to the device', as shown below. This can happen if the device encounters network connectivity issues. You will need to toggle the button(s) to the desired settings and resend the command(s).

Using remoteSETTINGS

If an App is armed, the ROC **Device Settings** page will display toggle switches and editable values to adjust the KEYWATCH App Settings, including to: (de)trigger streaming and local recording, or both; set details regarding the audio stream between the phone and the server (for hotMIC), image quality, capture interval, and geotagging availability (for hotCAM and vidREC), and distance and timer (i.e., time lapse) beacon intervals (for geoTRACK).

If the App is not armed, the Settings can still be viewed for trouble shooting purposes, but the ROC will not send any changes in the settings fields to the KEYWATCH mobile device, and you will need to arm the App directly from the device to adjust them from the ROC (see Step 4 Arming a KEYWATCH Application for remoteTRIGGER and remoteSETTINGS).

Step 6. Sending and Receiving a Distress Signal to/from the ROC

**Sending a Distress Signal from the KEYWATCH device to the ROC**

By entering the special distress sequence (default is *Volume Down, Volume Up, Volume Up, Volume Up, Volume Down*), a KEYWATCH mobile device user can cause an alert on the ROC. Users monitoring this device will receive an email, SMS message, or both, based on their notification preferences.

The ROC tab will display a flashing 'ALERT! ALERT! ALERT!' message to notify a ROC User that is currently active in another TAB of the web browser, the main **Devices** page will turn red to notify the ROC User of the alert, and all other pages related to the device will display an alert. The ROC User must click the link on the alert to dismiss it. Read-Only Users may not dismiss distress alerts.

Sending a Distress Signal from the ROC to the KEYWATCH device

If the KEYWATCH mobile device has the reverse distress feature enabled, the ROC operator can also send a distress signal to the KEYWATCH device. In order to send the signal, navigate to the **Device Settings** page and press the red 'Send Distress to Device' button on the right immediately below the Google Map. Then, confirm that you want to send the distress signal.
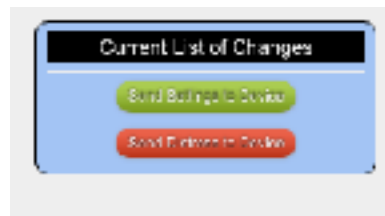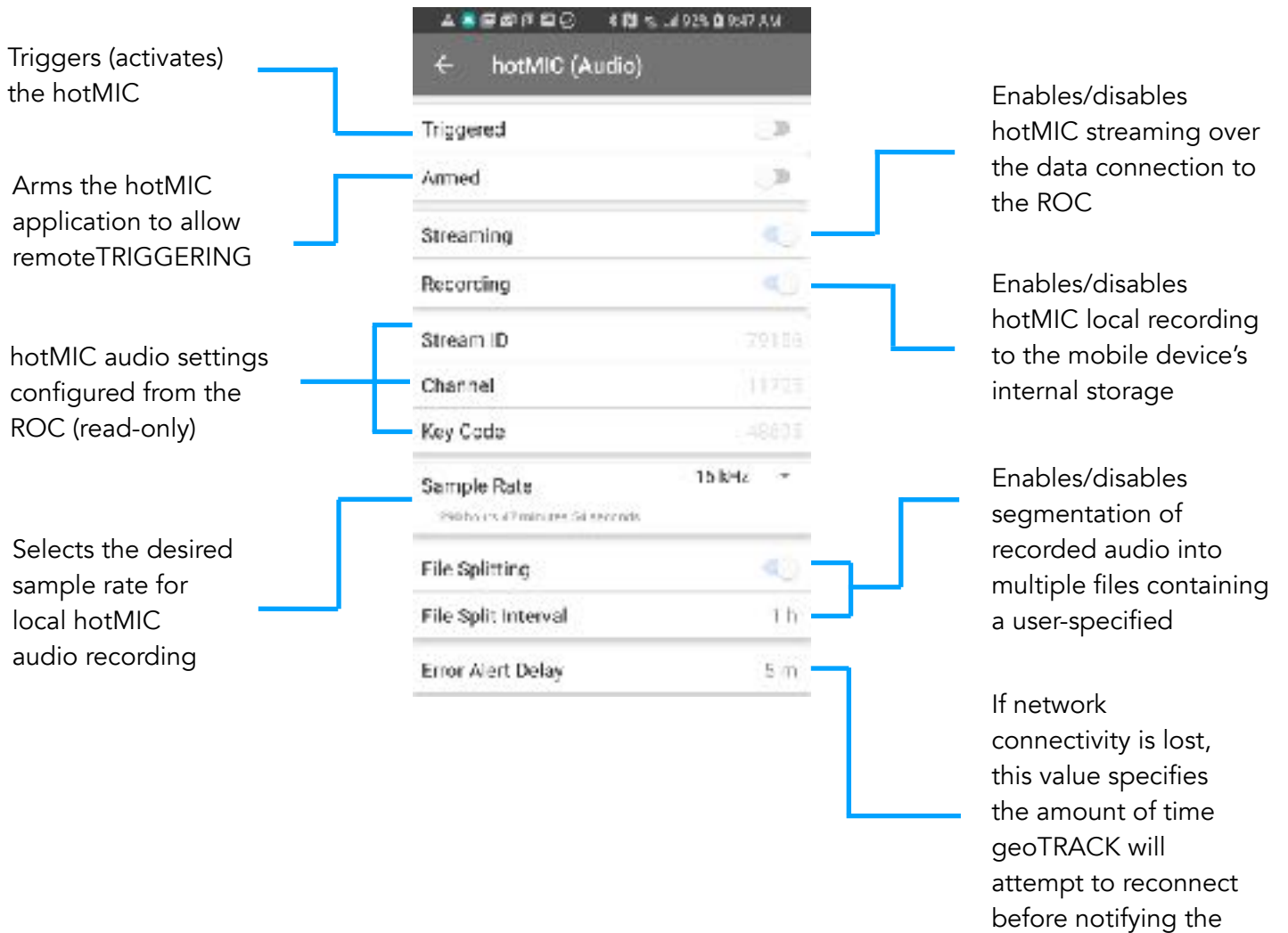

The KEYWATCH mobile device will vibrate subtly five times, or if the KEYWATCH device is connected via Bluetooth to a Key Fob, the Fob will vibrate five times.

KEYWATCH App Details

In the KEYWATCH Settings (KW Settings) on your KEYWATCH mobile device, you may configure the settings for each App and view detailed information about the KEYWATCH software and the device.

hotMIC Application

Triggers (activates) the hotMIC

Arms the hotMIC application to allow remoteTRIGGERING

hotMIC audio settings configured from the ROC (read-only)

Selects the desired sample rate for local hotMIC audio recording

Enables/disables hotMIC streaming over the data connection to the ROC

Enables/disables hotMIC local recording to the mobile device's internal storage

Enables/disables segmentation of recorded audio into multiple files containing a user-specified

If network connectivity is lost, this value specifies the amount of time geoTRACK will attempt to reconnect before notifying the

hotCAM Application

Triggers (activates) the hotCAM application

Arms the hotCAM application to allow remoteTRIGGERING

Sets camera to rear and/or front and configures camera settings

Controls photo quality (compression)

Enables/disables geotagging of photos taken by the

Enables/disables hotCAM streaming over the data connection to the ROC

Enables/disables hotCAM local recording to the mobile device's internal storage

Enables/disables local video recording. Video cannot be streamed to

Configures how often the hotCAM photo is taken

If network connectivity is lost, this value specifies the amount of time geoTRACK will

geoTRACK Application

Triggers (activates) the geoTRACK application

Arms the geoTRACK application to allow remoteTRIGGERING from the ROC

Enables/disables the Distance Beacon that generates a geoTRACK beacon when the device has moved more than the Distance Interval

If network connectivity is lost, this value specifies the amount of time geoTRACK will attempt to reconnect before notifying the user
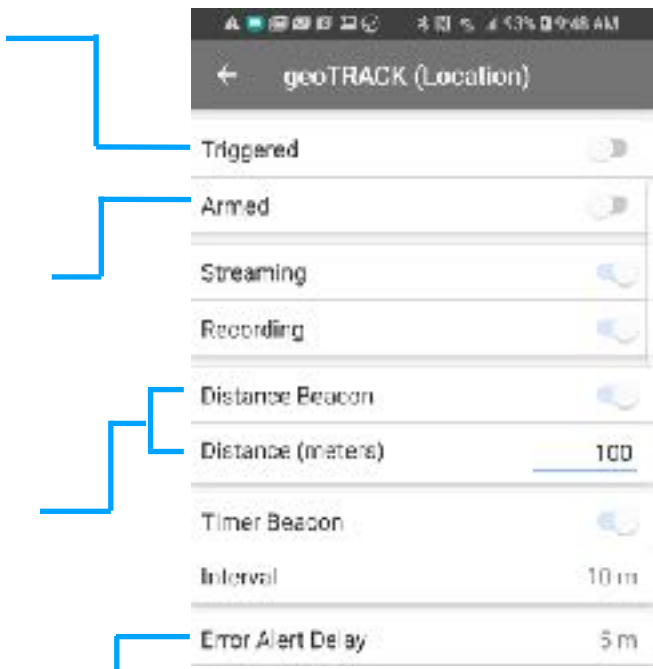
Enables/disables geoTRACK streaming over the data connection to the ROC

Enables/disables geoTRACK local recording to the mobile device's

Enables/disables the Timer Beacon that generates a geoTRACK beacon based on the Timer Interval

Best Practices

When going on an operation, there are certain best practice procedures that should be followed:

- Field test the device in a situation resembling the intended operational use in advance of deploying it to become comfortable and proficient with its use. In particular, we recommend that you field test each KEYWATCH app using various settings, e.g.,
    - Test hotMIC using 16 kHz, 24 kHz, 32 kHz, 40 kHz, and 44.1 kHz sampling rates and review the recordings to get a feel for the difference. You will likely find that 16 kHz captures enough speech, including when the talkers are not close to the device, to give good speech quality and minimum noise. You will also likely find that 44.1 kHz provides excellent audio but doesn't improve speech intelligibility enough to justify its storage and transmission demands.
    - Test geoTRACK and geoFENCE features in an area with poor coverage or carrier service and with beacons set to variable timing and distance triggers. For indoor use, we recommend that you set the distance to 100 meters because GPS accuracy indoors is only around that figure and setting it any lower results in sending unnecessary beacons and geoFENCE reports.
    - Test hotCAM at various time-lapse trigger rates of streaming images to the ROC (e.g., every 5 seconds versus every 1 minute) and at various qualities (i.e., compression rates). Find a balance between operational needs of photo frequency, storage demands, and communication bottlenecks out to any team members remotely monitoring the operation.
    - Members of the monitoring team should also practice using remoteTRIGGER and remoteSETTINGS from the ROC and be comfortable with handling delays and momentary loss of data connection to the KEYWATCH mobile device due to gaps in cellular coverage and handoffs between cellular towers.
- Consider whether the operation requires either monitoring or monitoring with recording to the ROC. Go to the **Device Settings** page, to the section 'Admin SIP Settings', and toggle the switch for 'ROC Server Recording' to the desired position.
- Before the operation, make sure that evidence files from previous operations have been downloaded in order to follow proper evidence handling procedures and maximize available recording space for your upcoming operation.
- After the operation (and on a daily basis, if the operation lasts multiple days), download the hotMIC, hotCAM, and geoTRACK evidence recordings from the mobile device (see Step 3: Using KEYWATCH), and from the ROC server using the download button(s). This will help control the space usage on the server as well as on the device itself, as well as help properly maintain the evidential chain of custody. Good operational security (OPSEC) requires evidence to be downloaded after each operation - doing so will ensure evidence is current and organized and the device and ROC are ready for the next operation.