CheckPoints™ Plugin for the Android Tactical Assault Kit (ATAK)

Quick Reference Guide

CheckPoints™ Overview

CheckPoints™ provides persistent video surveillance at the tactical edge. Networked to allow for local Wi-Fi connections or Wi-Fi disabled to provide video through a closed network or encrypted tactical radio connection.

CheckPoints™ will give users a “live” view of their position from a fixed location.

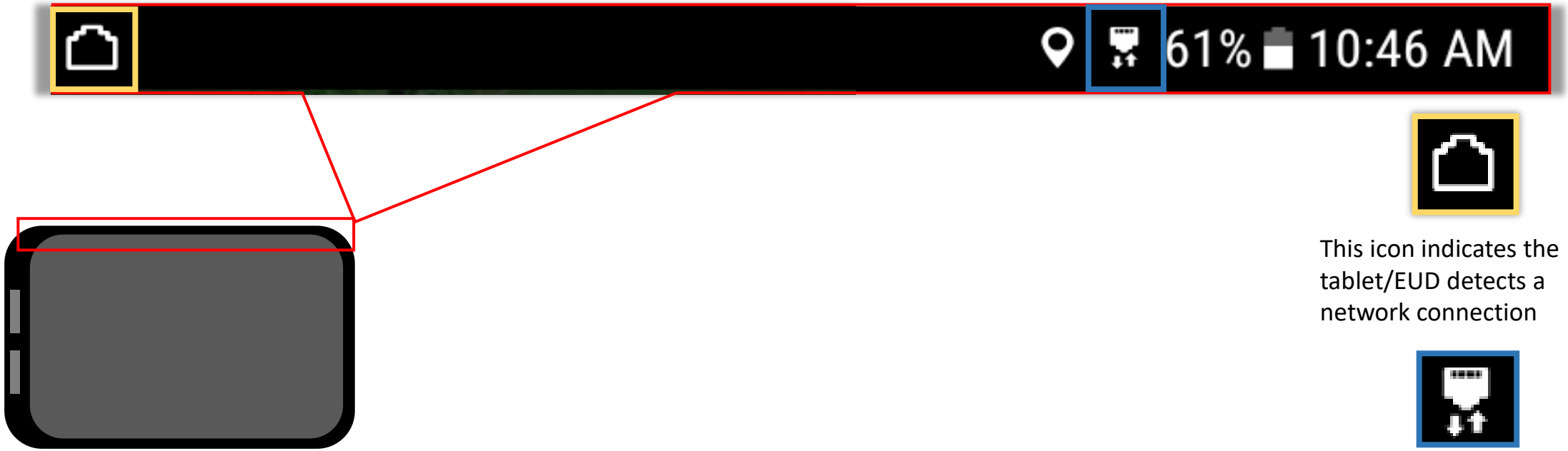
CheckPoints™ allows users to stream up to (2) video feeds through Mobile, Tactical & Command Post systems.

CheckPoints™ is a low-voltage capability designed for extended operations. The system provides automatic network routing for rapid deployment and ease of use. There is no configuration required and the tool has successfully integrated with APASS & KILSWITCH

Before We Begin…

This documents assumes the following:

1. ATAK Must be installed on the End User Device before installing the CheckPoints™ Plugin.
2. The Reader has followed the steps found in the CheckPoints™ Start Guide
3. The Reader has the system set up and the EUD is receiving an IP Address from the CheckPoints™ System.



This icon indicates the tablet/EUD detects a network connection

This icon indicates the tablet/EUD is receiving an IP address from the CheckPoints™ System

CheckPoints™ Plugin for ATAK Table of Contents

Install CheckPoints™ Plugin for ATAK 1

Load CheckPoints™ Plugin for ATAK 2

Launch CheckPoints™ Plugin 5

Initial Camera Setup 6

User Interface 7

Motion Detection 8

Camera Status Matrix 9

Files Overview 10

Files – Recordings 11

Files – Snapshots 13

Place Camera 15

Radial Menu 17

Dual Camera / FOV Example 18

Preferences Overview 19

Access Preferences 20

Stream Settings 21

CheckPoints™ Plugin for ATAK Table of Contents cont.

UDP Group and Port 22

Camera Motion Alert Settings 23

Audio Alert Sound File 24

Snap Shot File Type 25

JPG Compression 26

About CheckPoints™ 27

Board Configuration 28

Configuration Overview 29

Connect to Board 30

CheckPoints™ Configurations 31

Camera Configuration 32

Motion Alertt 33

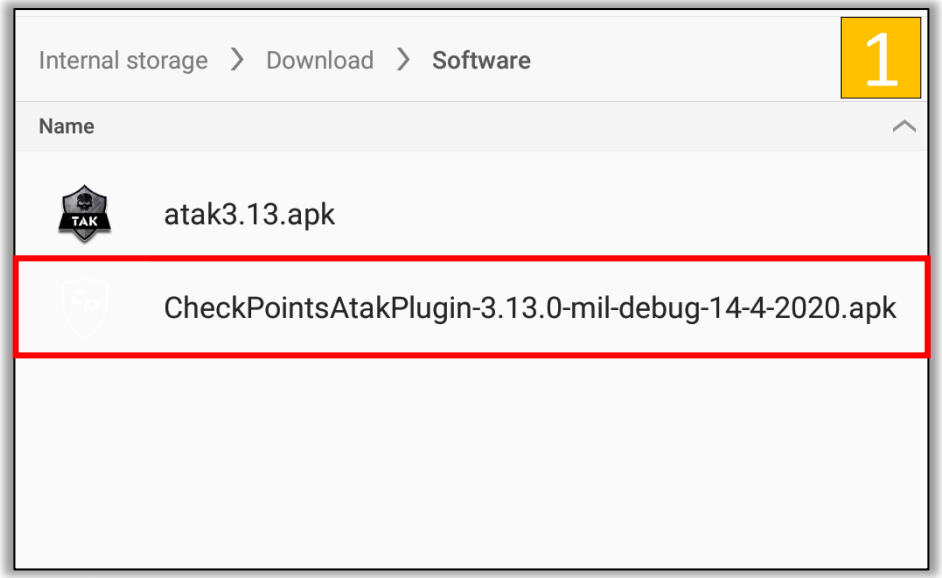
SA Network Settings 34

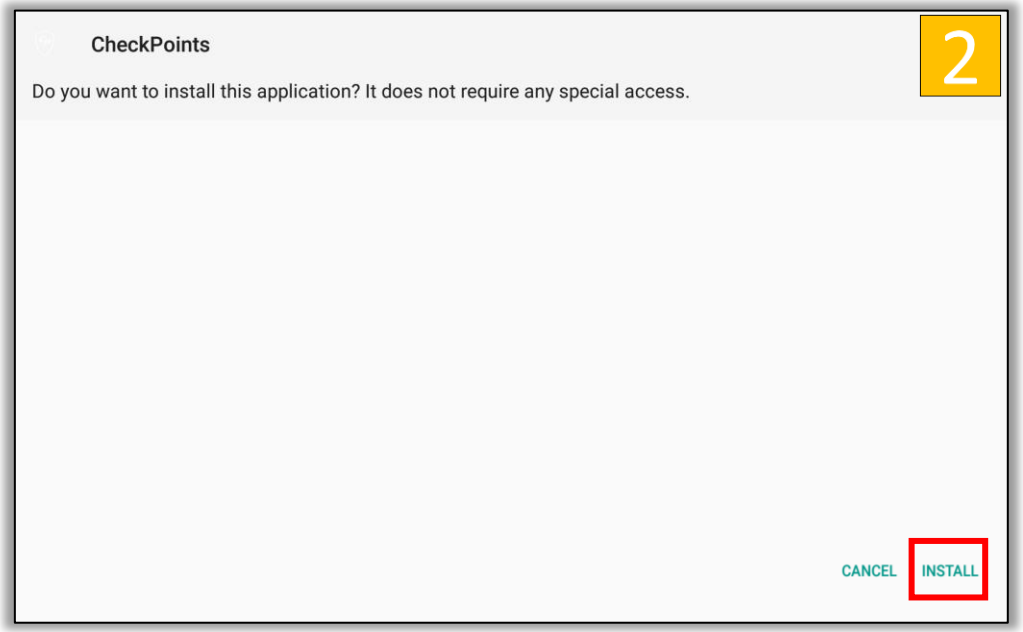
Network IP Address 35

TCP Addresses 36

Factory Defaults 38

Install CheckPoints™ Plugin for ATAK

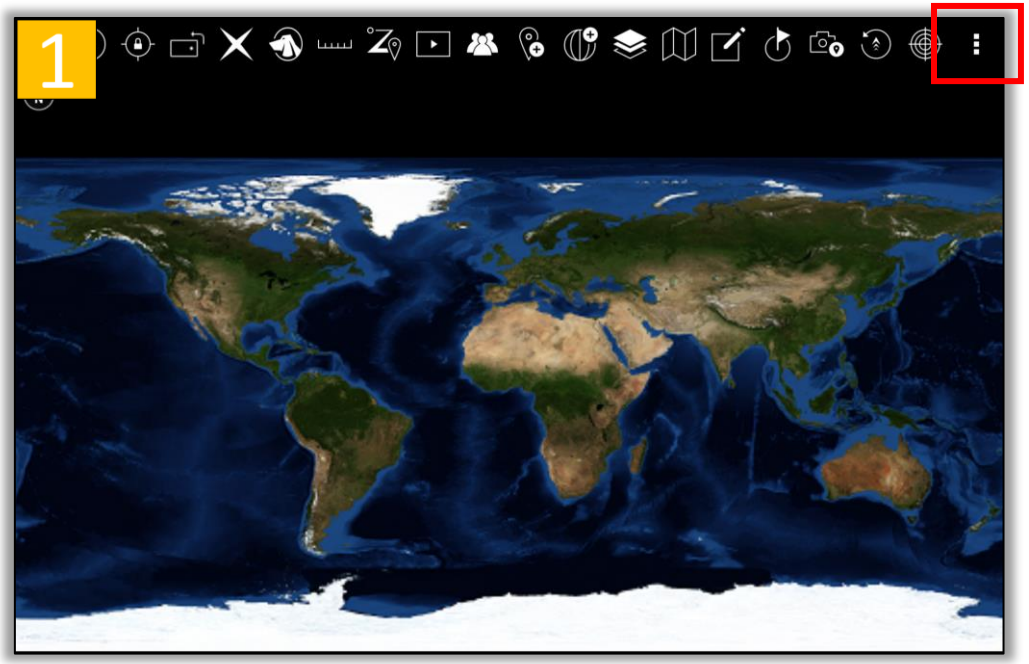


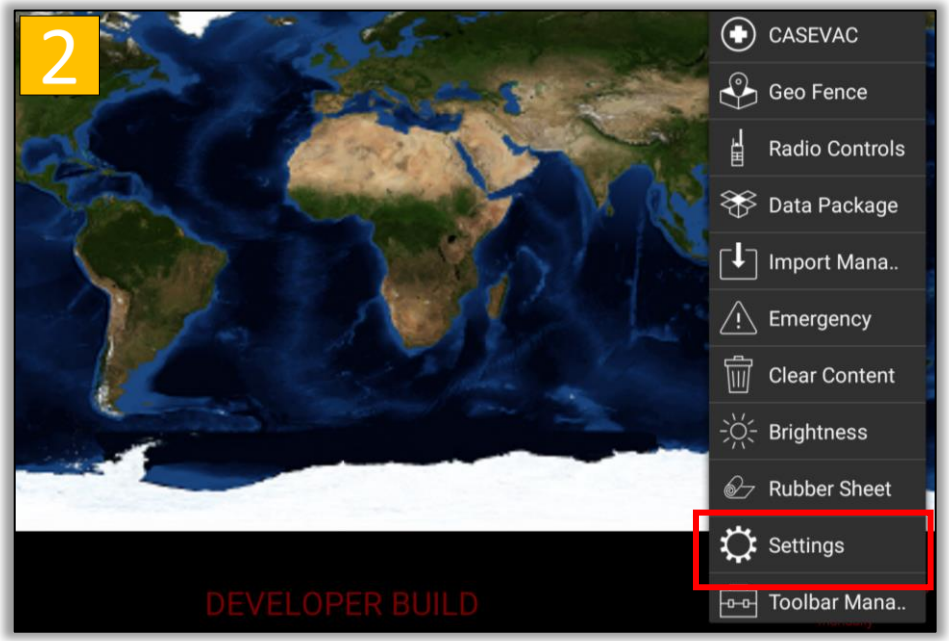


1. ***Tap*** the *CheckPoints™ Plugin APK* file to begin installation.
2. Review the Permissions Statement then ***tap*** *Install*.
3. ***Tap*** *DONE* once the installation is complete.

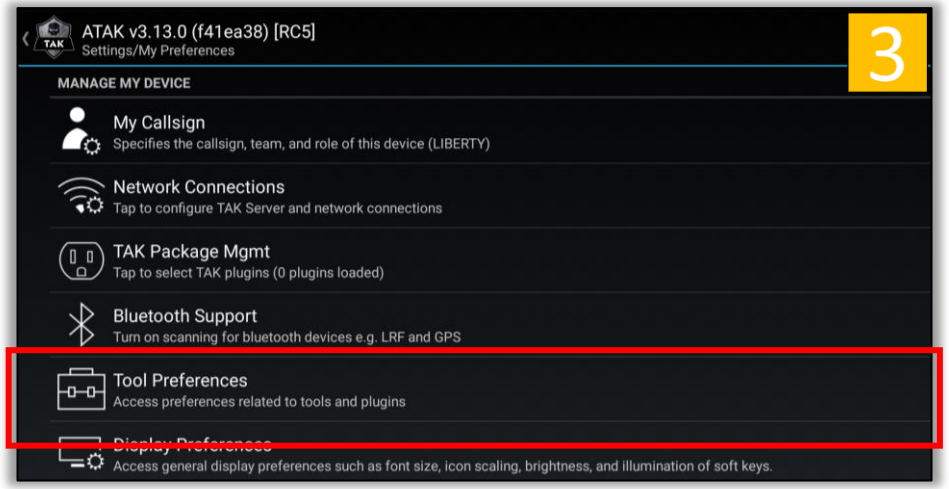
Note: You may have to adjust the security settings on your device to install this application.

Load CheckPoints™ Plugin for ATAK

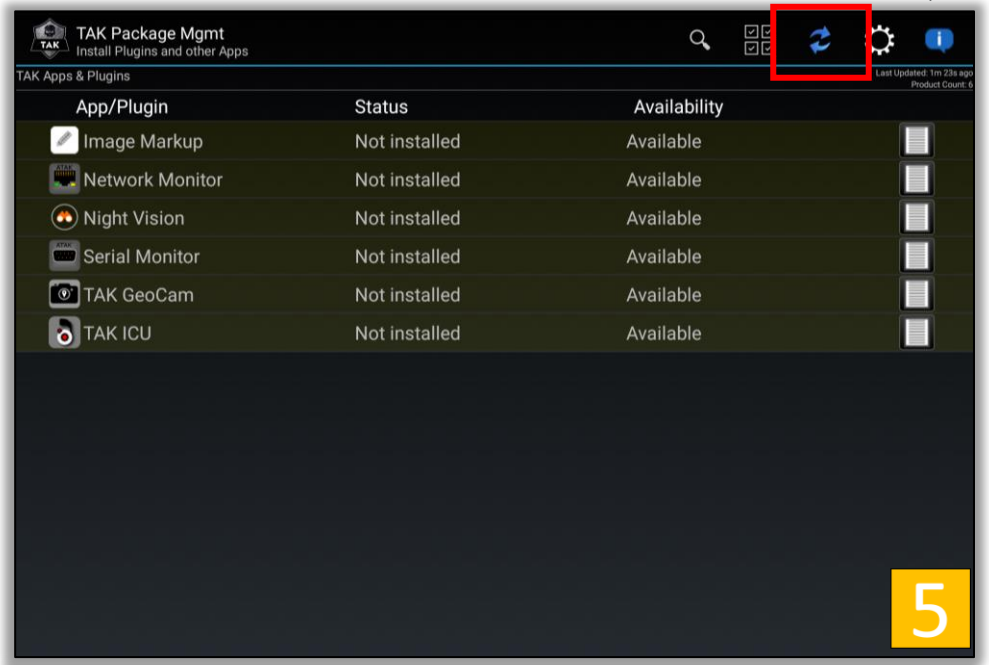




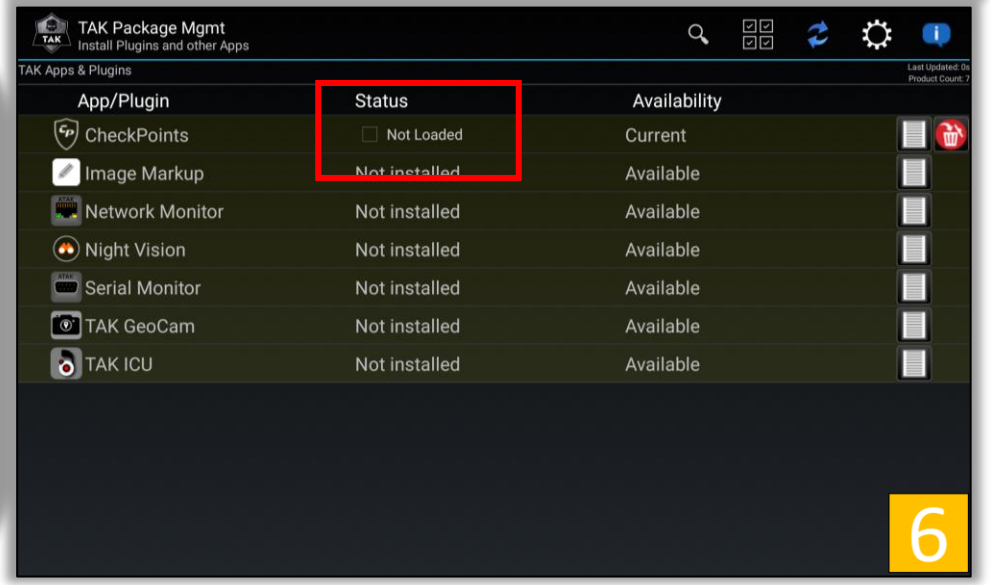
1. ***Launch*** *ATAK* then ***tap*** the *Triple Dots* button to open the overflow menu.
2. Scroll down to the bottom of the list then ***tap*** *Settings*.
3. ***Tap*** *Tool Preferences* under the “Manage My Device” section.



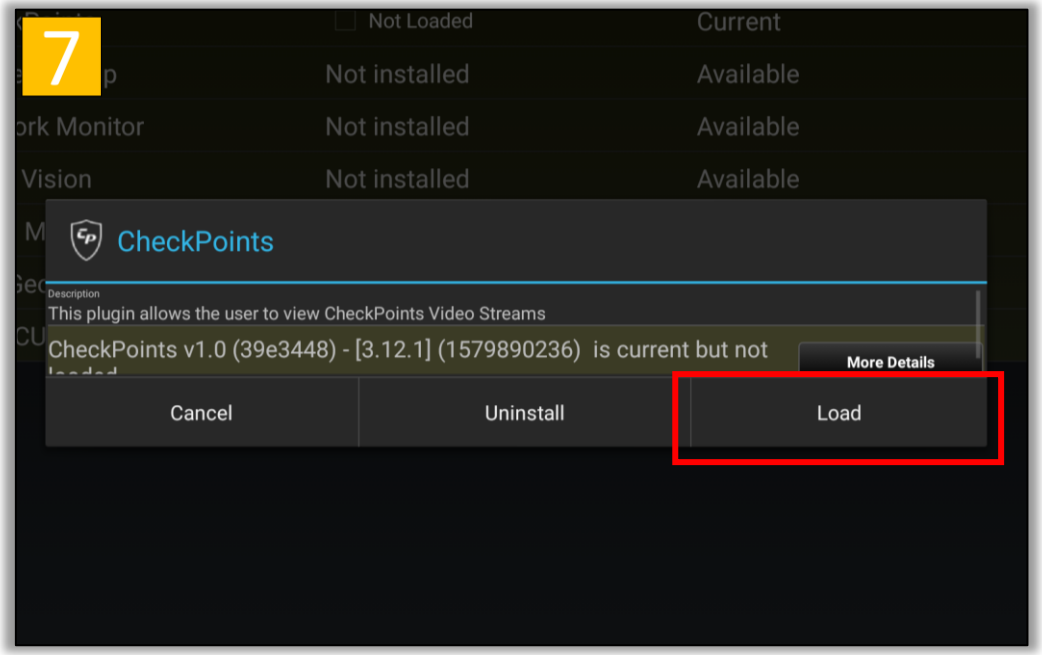
Load CheckPoints™ Plugin for ATAK (Cont…)

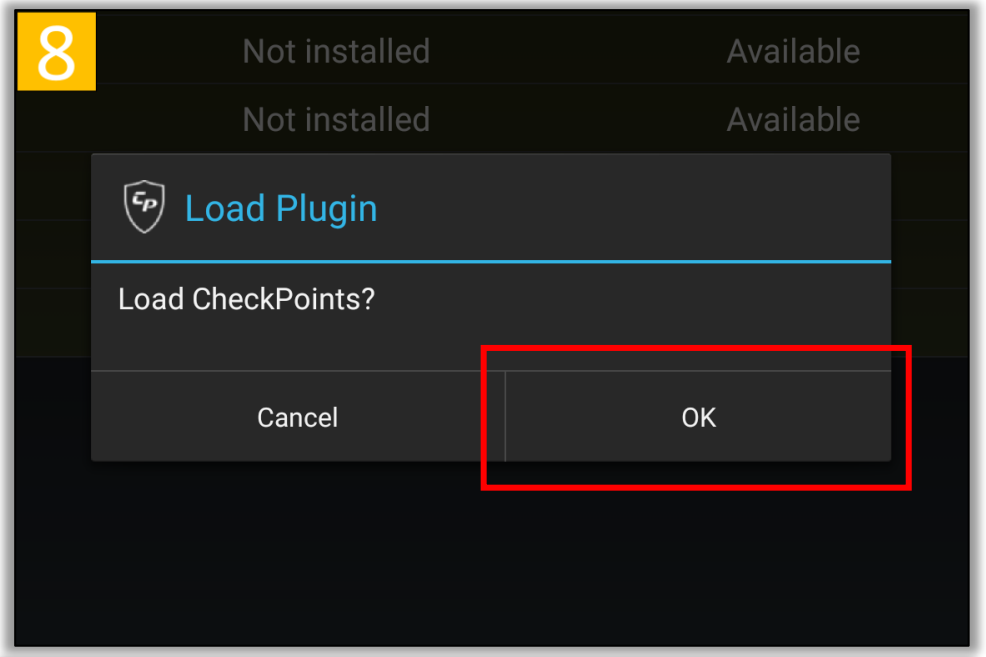


4. ***Tap*** *TAK Package Mgmt.*
5. If the CheckPoints™ Plugin is not in the App/Plugin list ***tap*** the *Refresh* button then **tap** *OK* to Sync Packages.
6. ***Tap*** the *Not Loaded checkbox*.

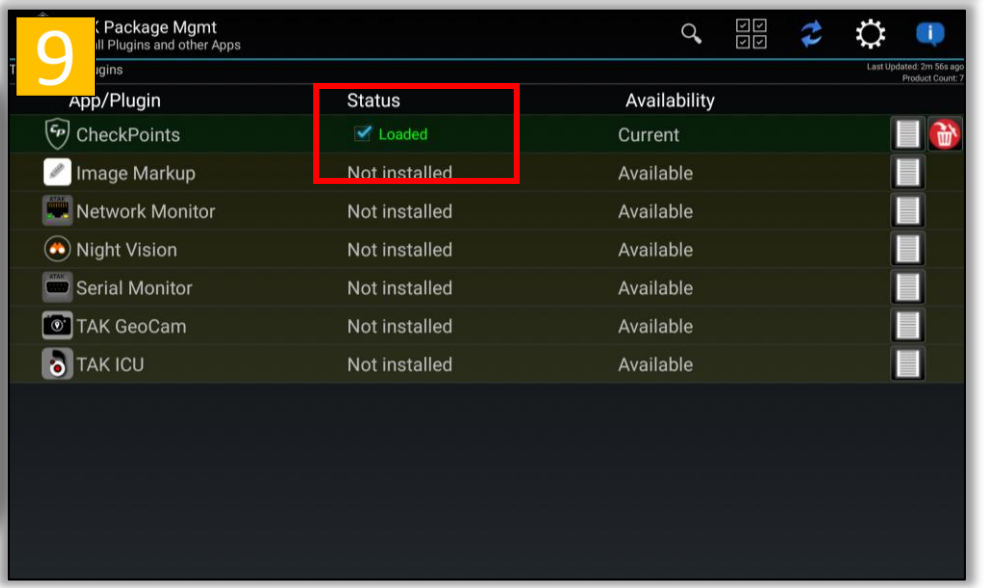


Load CheckPoints™ Plugin for ATAK (Cont…)

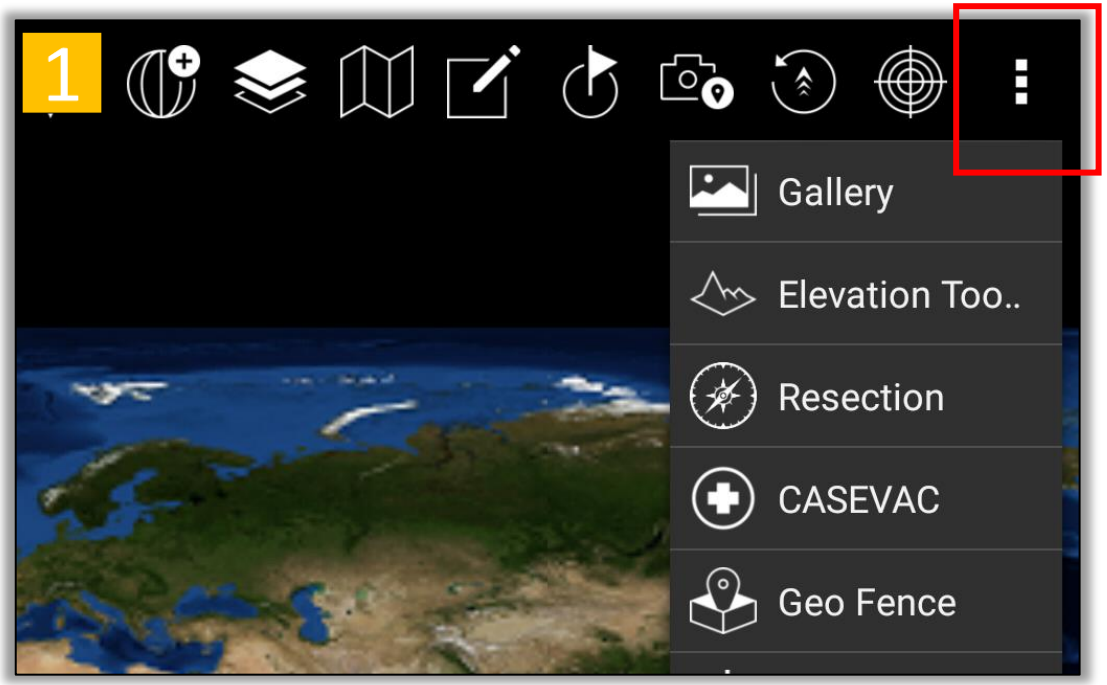


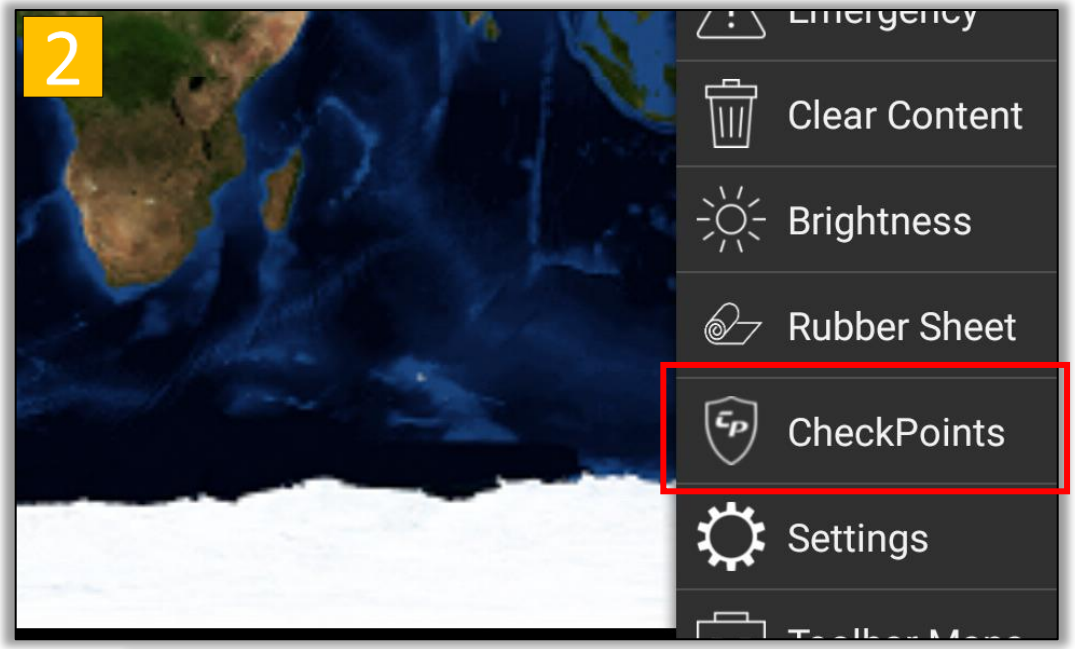


7. Review the CheckPoints™ Plugin details then ***tap*** *Load.*
8. ***Tap*** OK to load the plugin.
9. ***CheckPoints*** is now loaded. Tap the back button on the EUD to return to the main ATAK Interface.

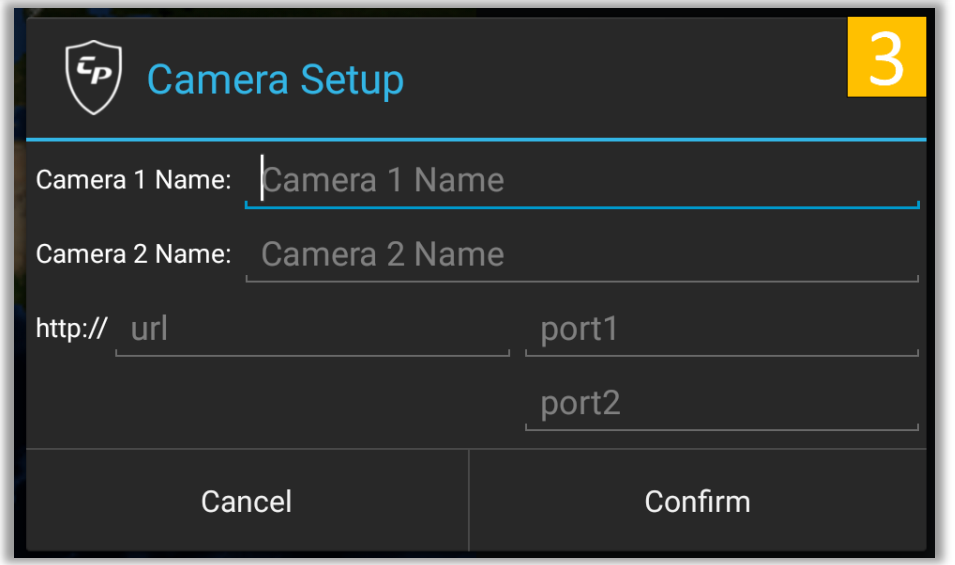


Launch CheckPoints™ Plugin

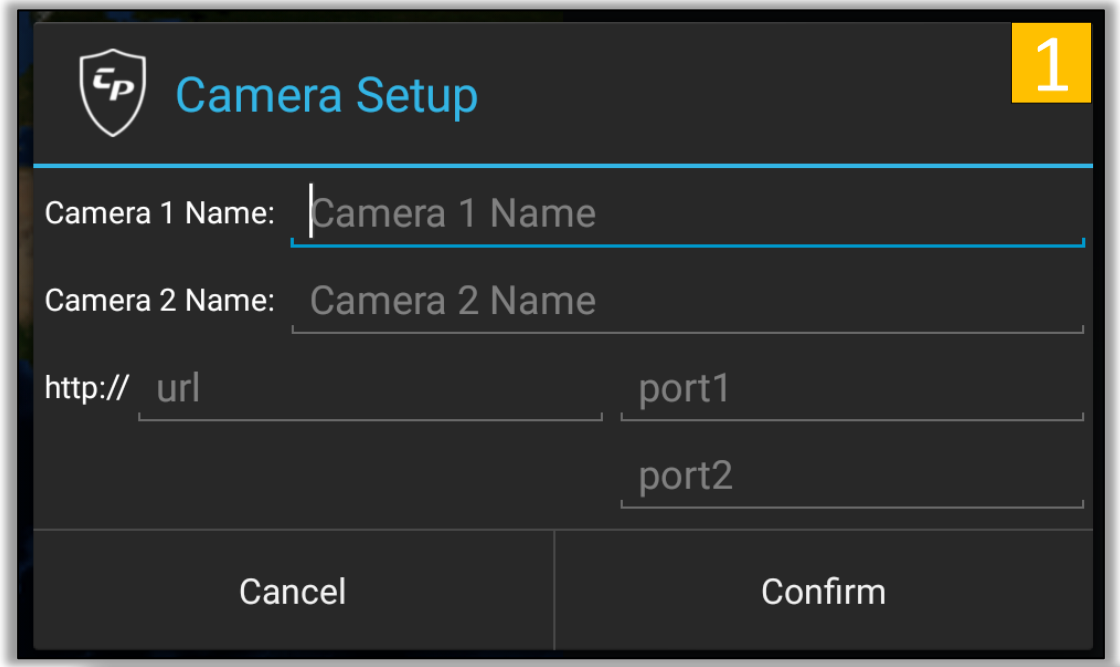


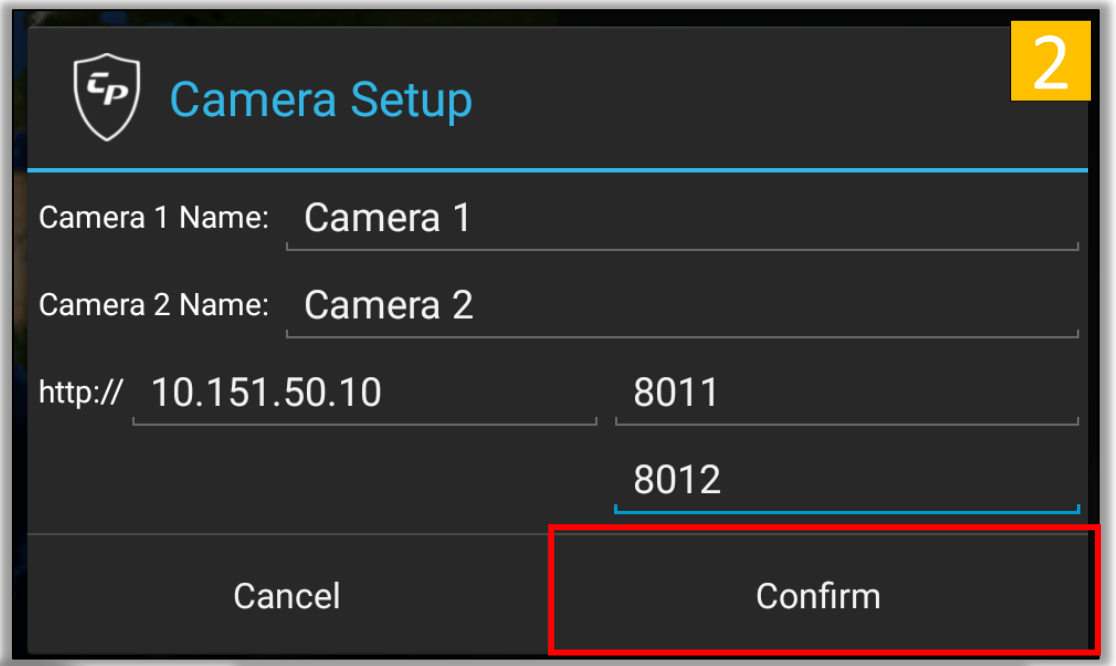


1. ***Tap*** the *Triple Dots* button.
2. Scroll down to the bottom of the list and ***tap*** *CheckPoints*.
3. The first time CheckPoints is launched you will be provided a Camera Setup window where the camera names, IP address, and ports need to be entered. See the "Initial Camera Setup" section on page 6.



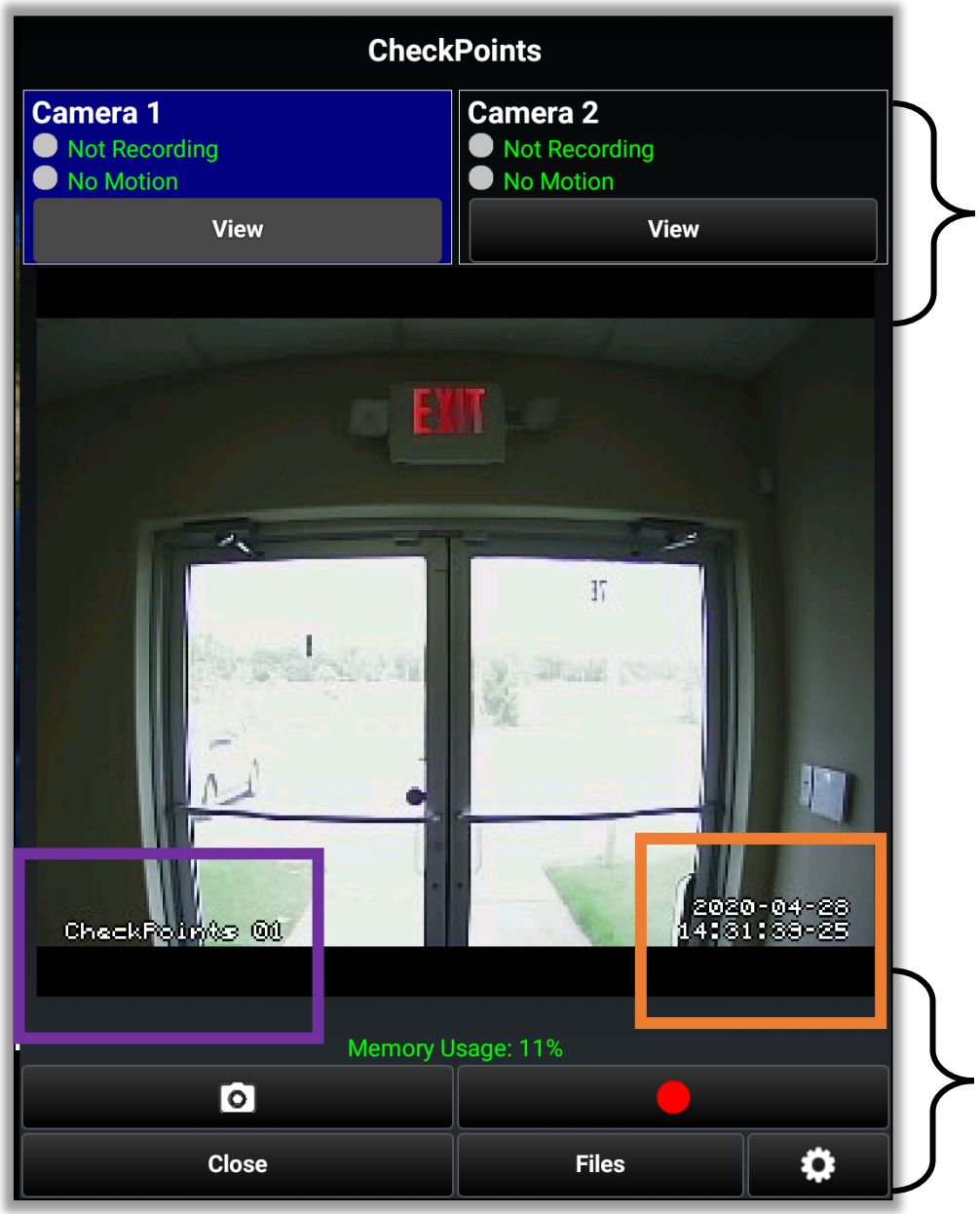
Initial Camera Setup

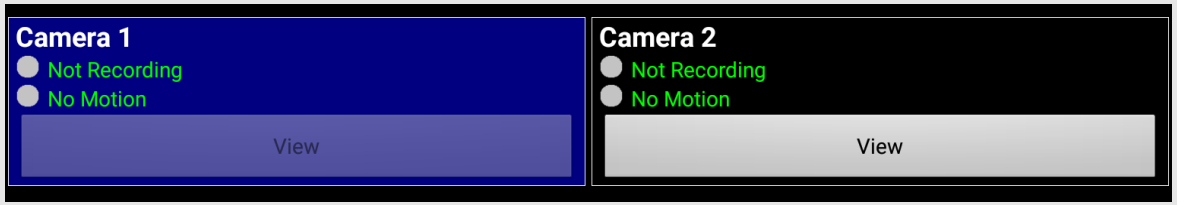




1. ***Enter*** the Camera Names, URL, and Camera Ports.
   The Default Camera URL is: 10.151.50.10
   and the default ports are 8011 and 8012.
2. ***Tap*** Confirm to continue.
3. If your settings are correct you will see the video feeds in ATAK.

CheckPoints™ Plugin for ATAK User Interface





View Camera 1
("Active" camera highlighted in blue)

View Camera 2

***Tap** <u>View</u>* under the camera name to change the active camera

Memory Usage: 11%

Current memory utilization on the end user device (EUD)

CheckPoints™ 01

Camera Label

Take a Snapshot of the Current Camera View

Record the Current Camera View

2020-04-28
14:31:39-06

Current Time Stamp

Close

Close the Plugin

Files

View the Snapshots and Recordings

Toggle the CheckPoints™ Camera/Field of View

CheckPoints™ Motion Detection

Camera 1 detects motion and begins to record if that feature has been turned on. Enabling this feature is discussed in the Preferences/Settings Section of the manual.

The CheckPoints™ System will draw a box around the area where motion is detected. The box will follow the "object" until it is out of view from the camera or until the system no longer detects motion.

CheckPoints™ Camera Status Matrix

	No Motion Detected	Motion Detected
Inactive Camera	Camera 1 Not Recording No Motion View	Camera 1 Recording Motion Detected View
Active Camera	Camera 1 Not Recording No Motion View	Camera 1 Recording Motion Detected View

Camera 1 Status Example

Inactive Camera – The camera not currently displaying its video stream

Active Camera – The camera (highlighted in blue) currently displaying its video stream

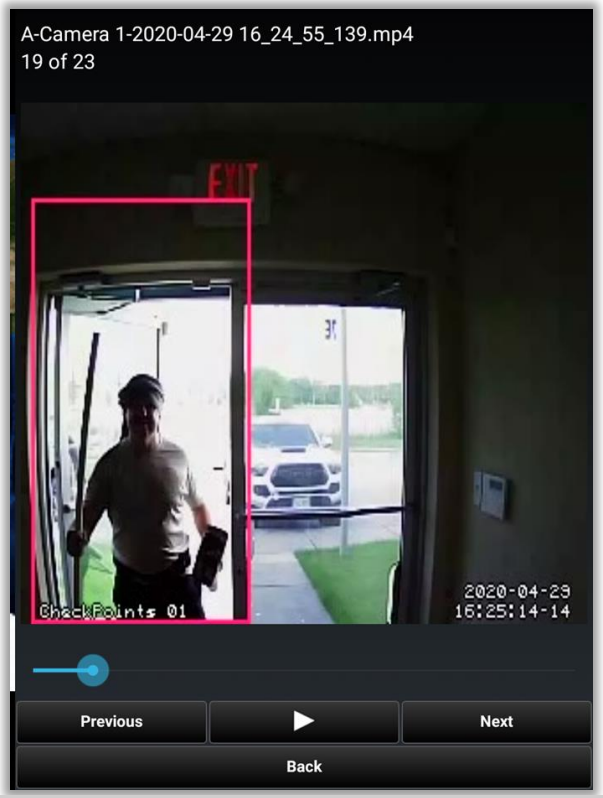
No Motion Detected – Motion has not been detected by the CheckPoints™ system

Motion Detected – Motion has been detected by the CheckPoints™ System

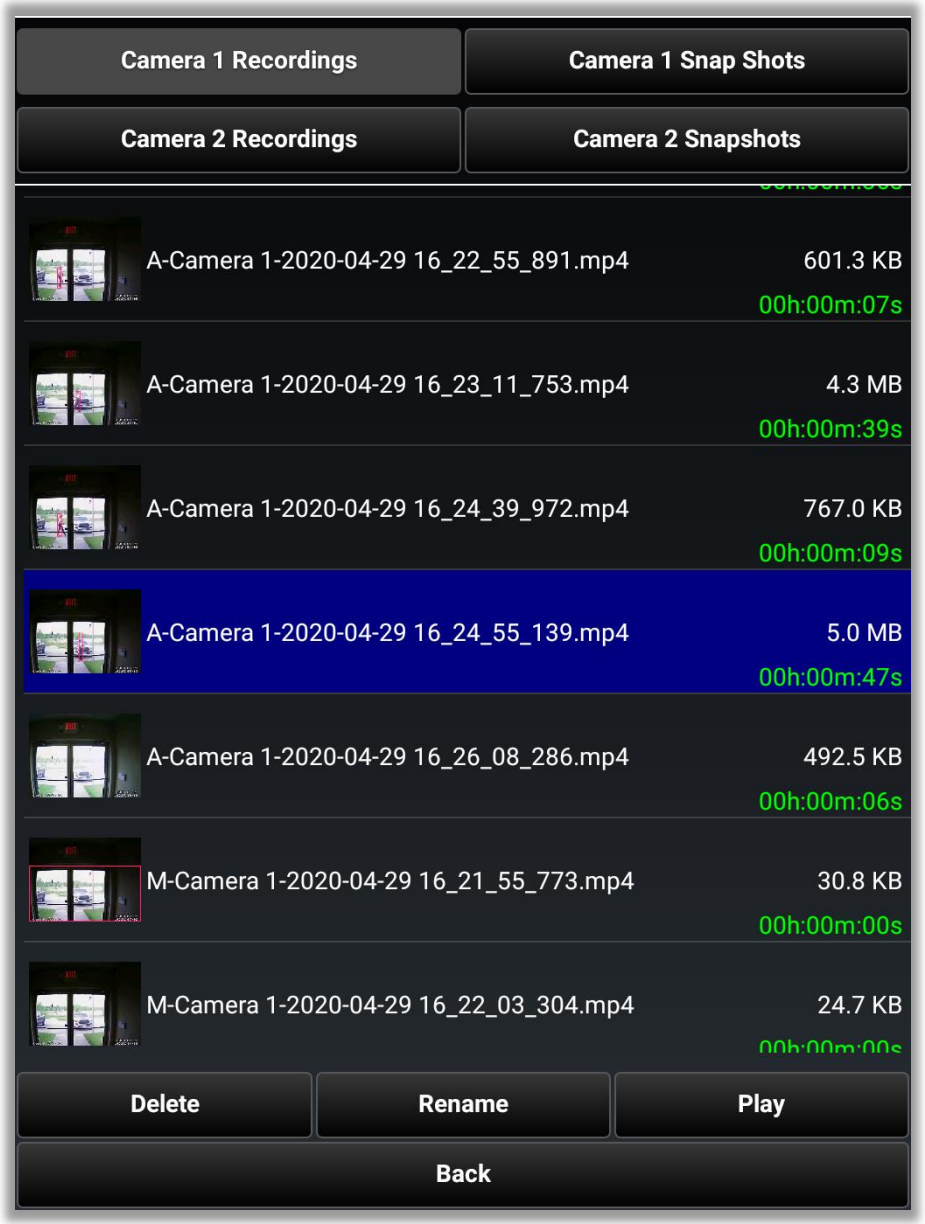
CheckPoints™ Plugin for ATAK: Files

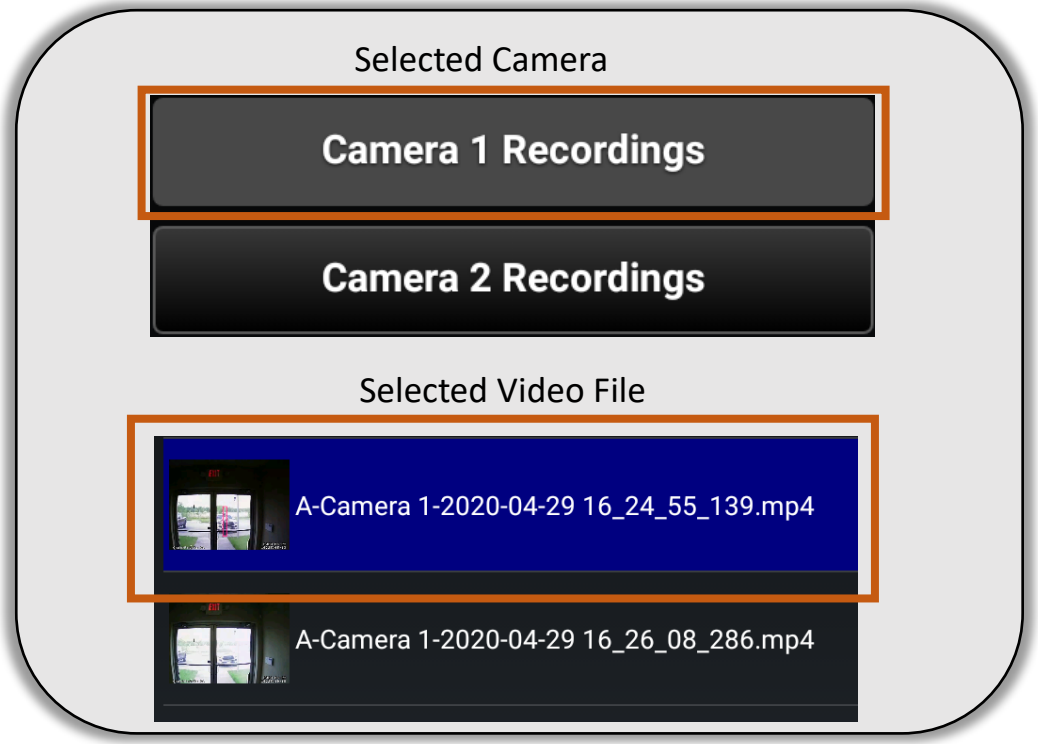
CheckPoints™ Plugin for ATAK: Files Overview

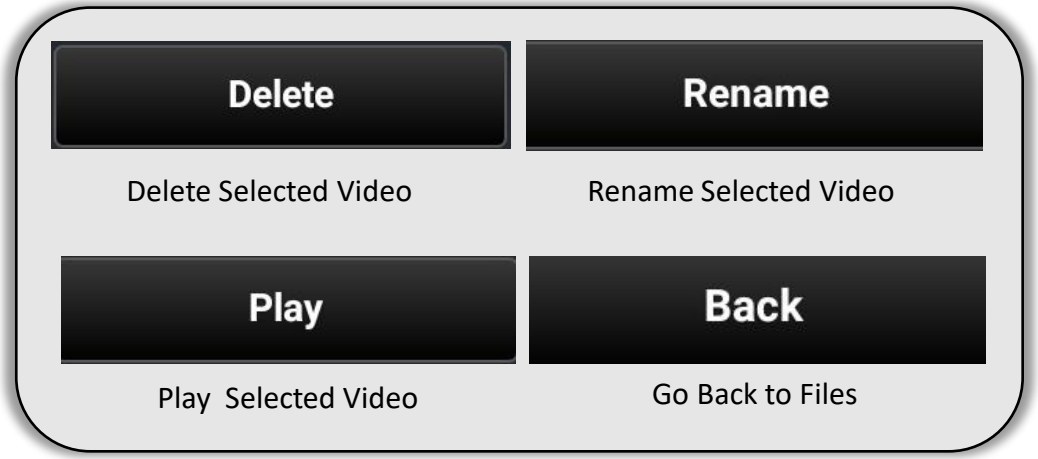
The CheckPoints Files allows users to view snapshots and recordings. These files are either manually created using the snapshot or record buttons from the main interface or by toggling the CheckPoints™ settings to automatically record when motion is detected. Files tagged with A_ were automatically captured and files with M_ were manually captured.



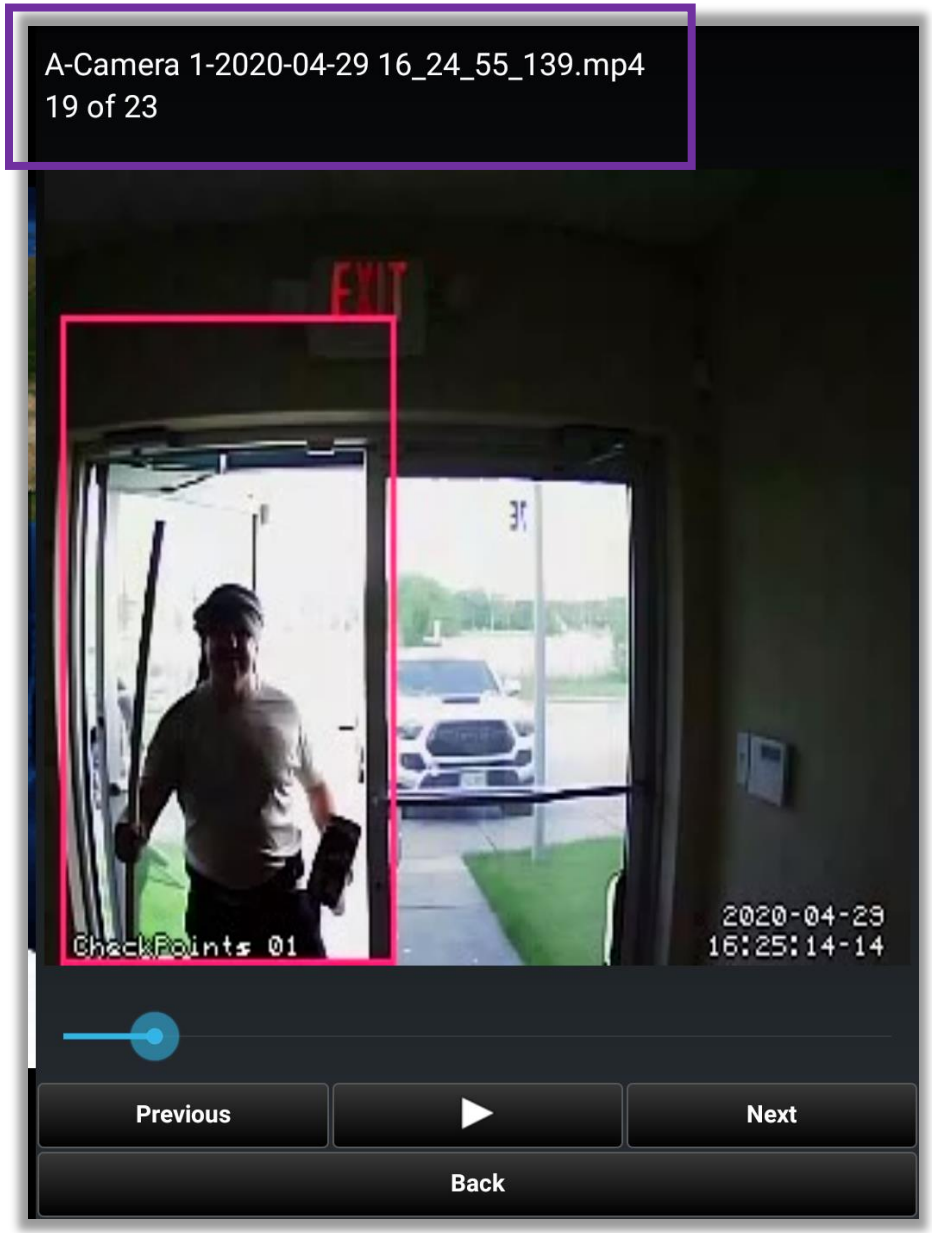
CheckPoints™ Plugin for ATAK: Files - Recordings







CheckPoints™ Plugin for ATAK: Files – Recordings (Cont…)



Video Recording File Syntax

A	Camera 2	2020-04-29-16_24_55_139	MP4
M	Camera 2	2020-04-29-11_53_11_526	MP4

1 2 3 4

1. A - Automatic Recording / M – Manual Recording
2. Camera Name
3. Date Time Stamp
4. File Extension

19 of 23

Current file of total files

Video Progress Bar

Previous

Go to Previous Video

Next

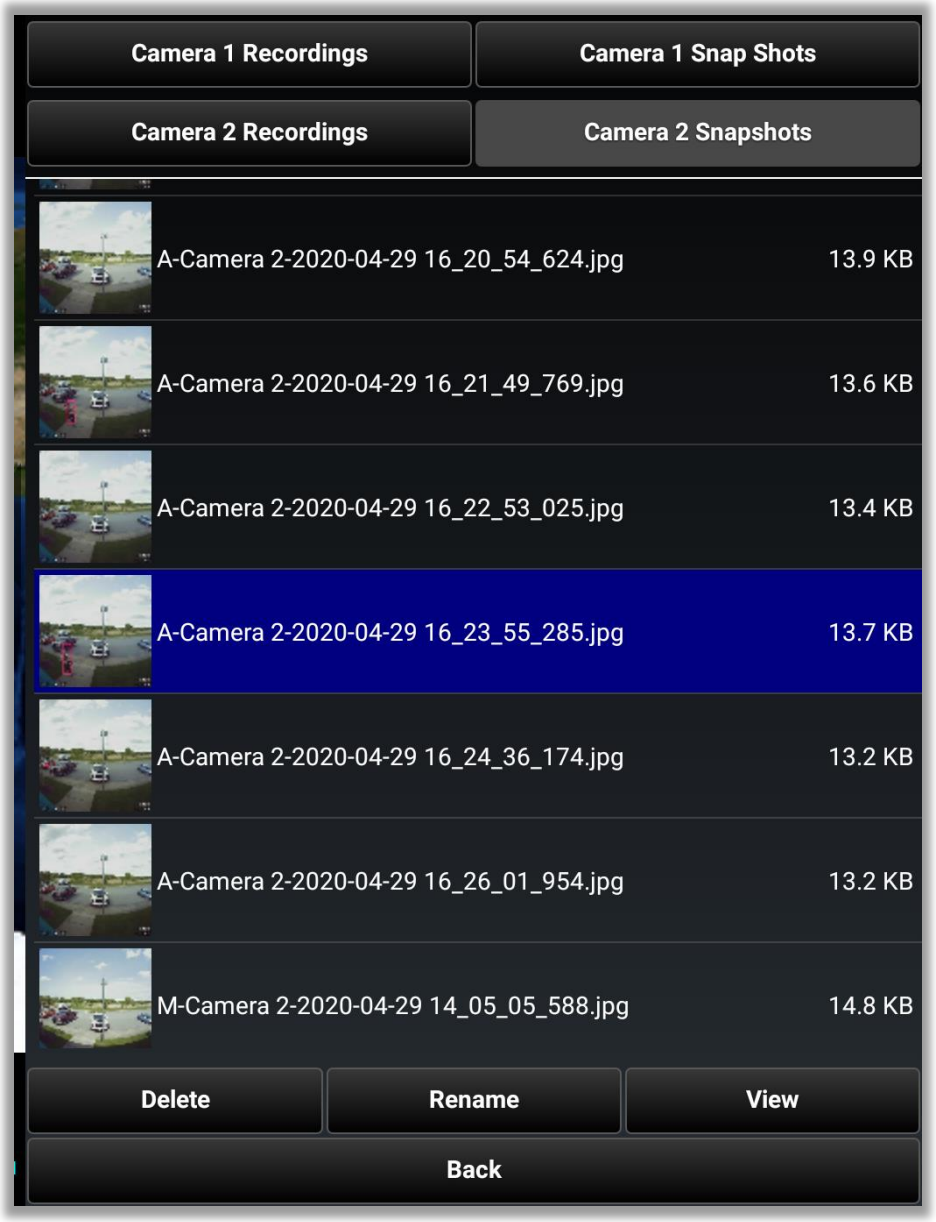
Go to Next Video

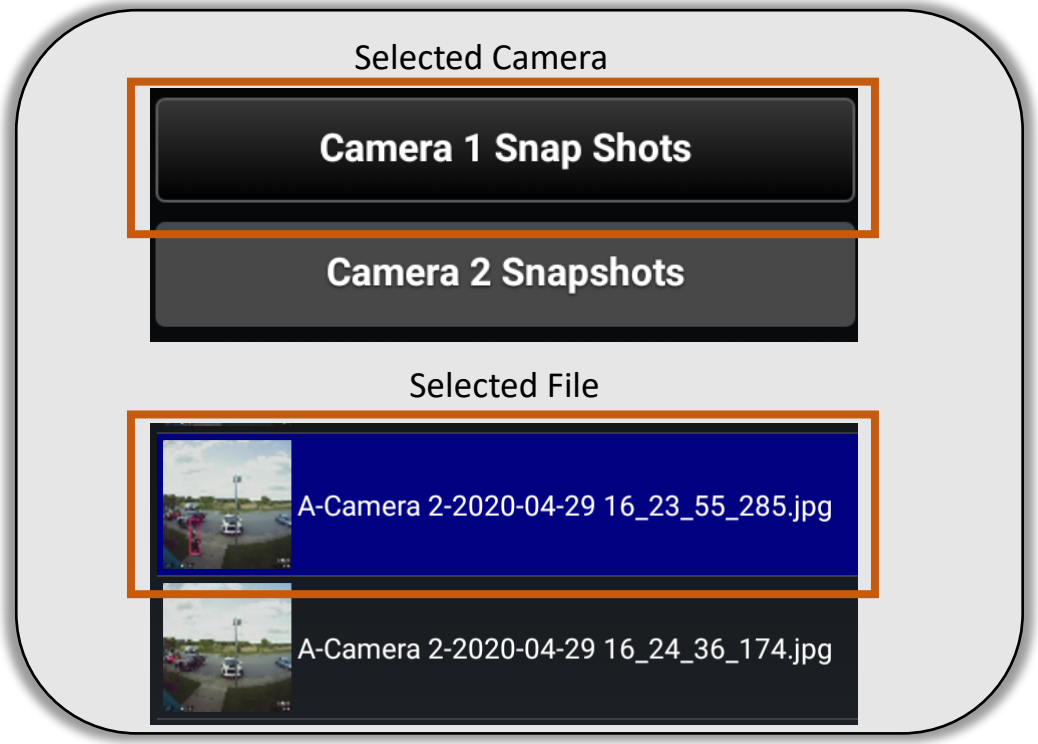
Play / Stop Video

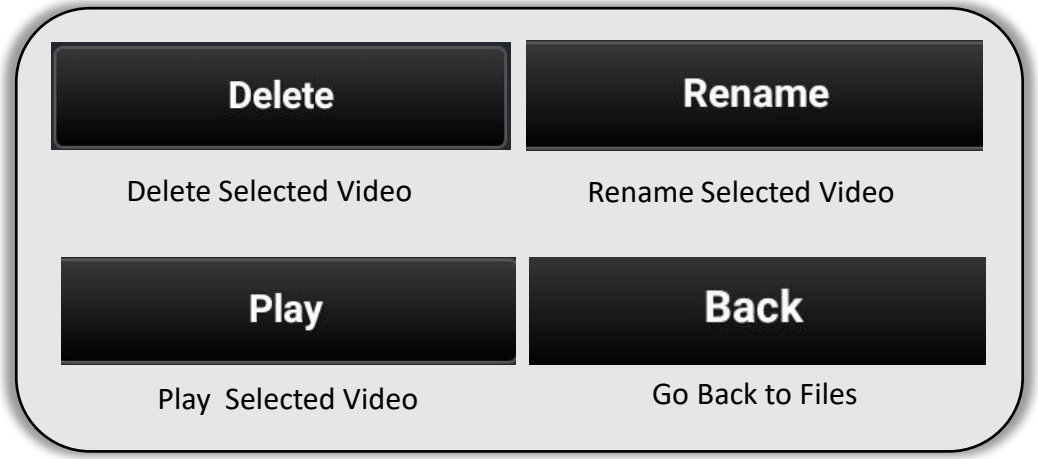
Back

Go Back to Files

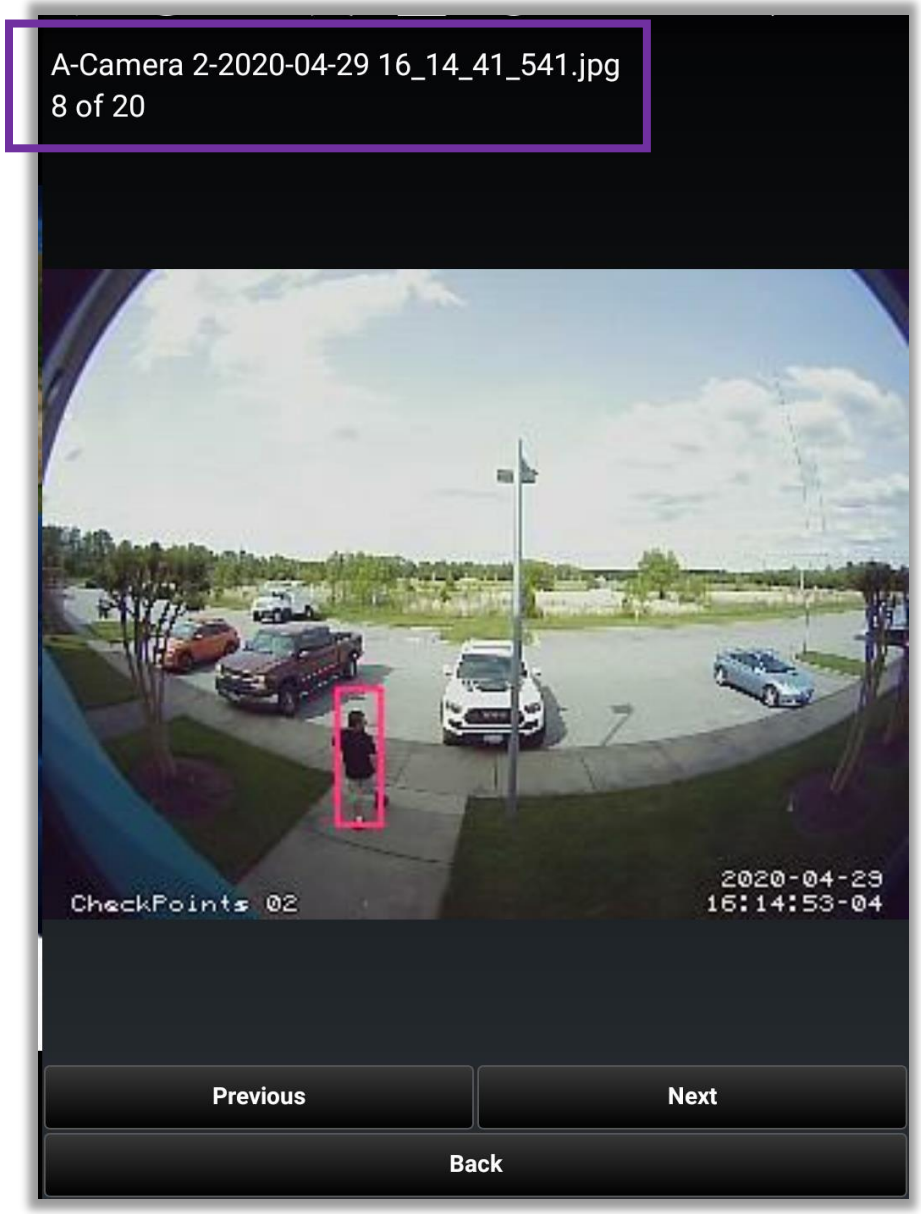
CheckPoints™ Plugin for ATAK: Files - Snapshots







CheckPoints™ Plugin for ATAK: Files – Snapshots (Cont...)



Video Recording File Syntax

A	Camera 1	2020-04-29-16_14_541	JPG
M	Camera 1	2020-04-37-11_56_234	JPG

1 2 3 4

1. A - Automatic Snapshot / M – Manual Snapshot
2. Camera Name
3. Date Time Stamp
4. File Extension

8 of 20

Current file of total files

Previous

Go to Previous Snapshot

Next

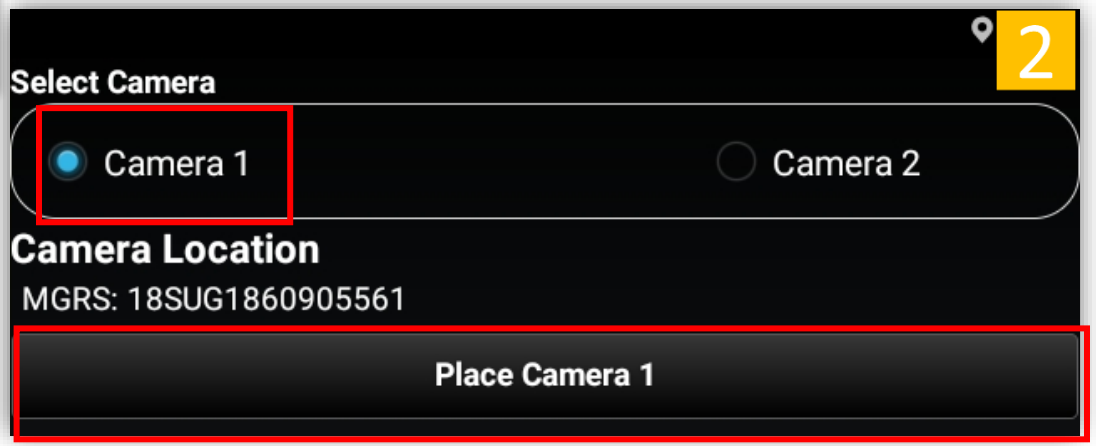
Go to Next Snapshot

Back

Go Back to Files

CheckPoints™ Plugin for ATAK: Place Camera

CheckPoints™ Plugin for ATAK: Place Camera



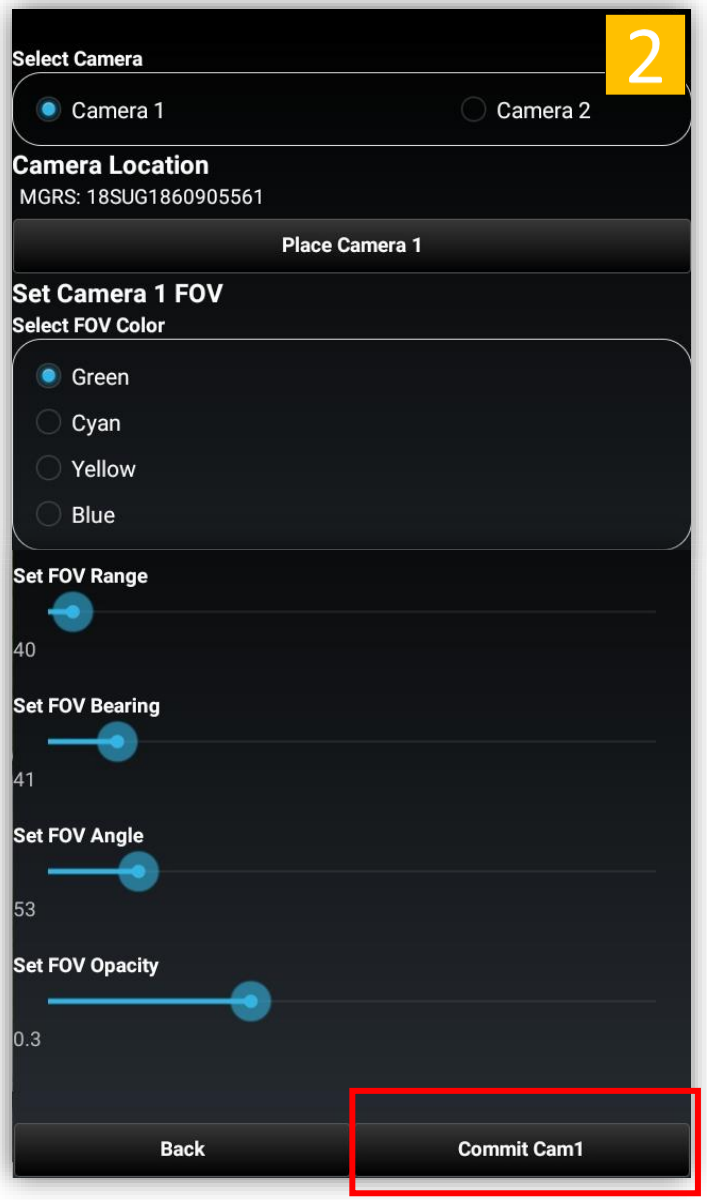
1. ***Tap*** the *Toggle Camera/FOV* Button. (Gear Icon)

2. Select Camera 1 or Camera 2. This example will demonstrate placing camera 1. ***Tap*** *Place Camera 1*.
3. ***Tap*** the *location of Camera 1 on the Map.*

A Field of View (FOV) cone will automatically be placed at the camera location. Instructions on how to modify The FOV cone can be found on page 16.

Repeat this process for Camera 2

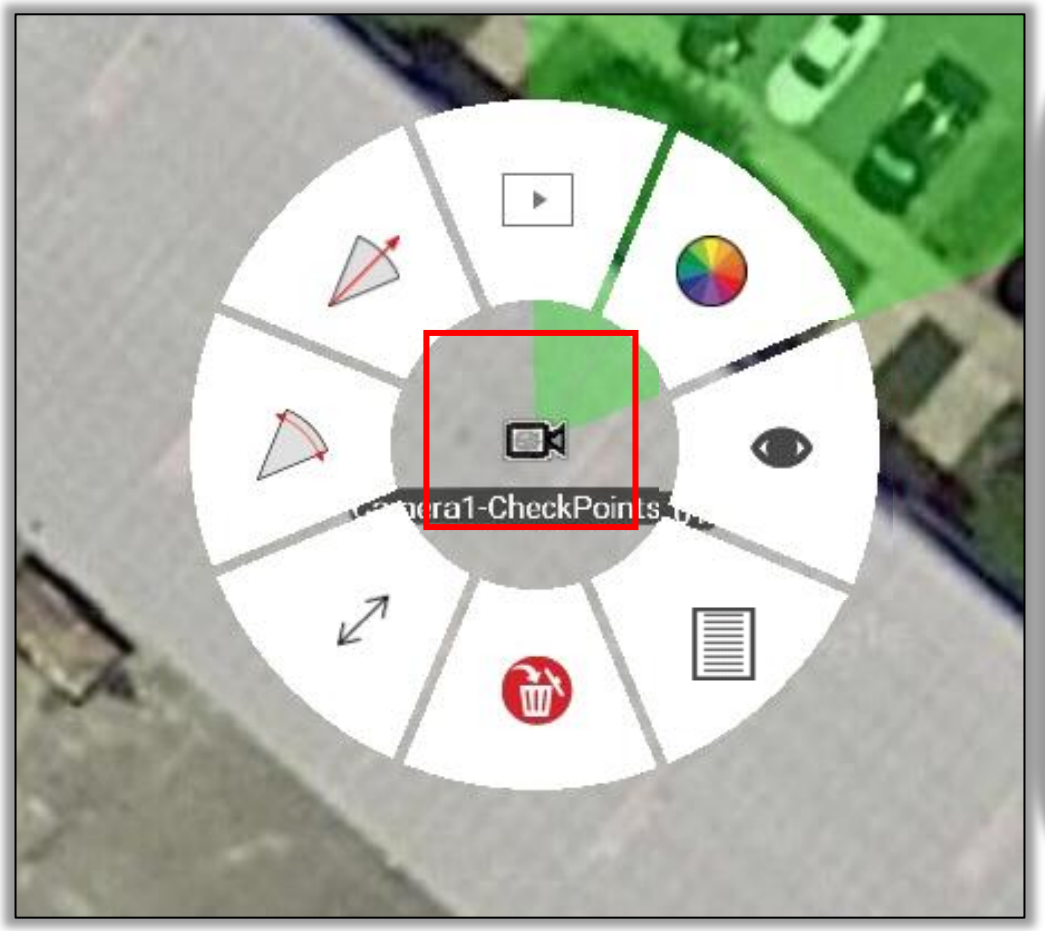
CheckPoints™ Plugin for ATAK: Place Camera cont.

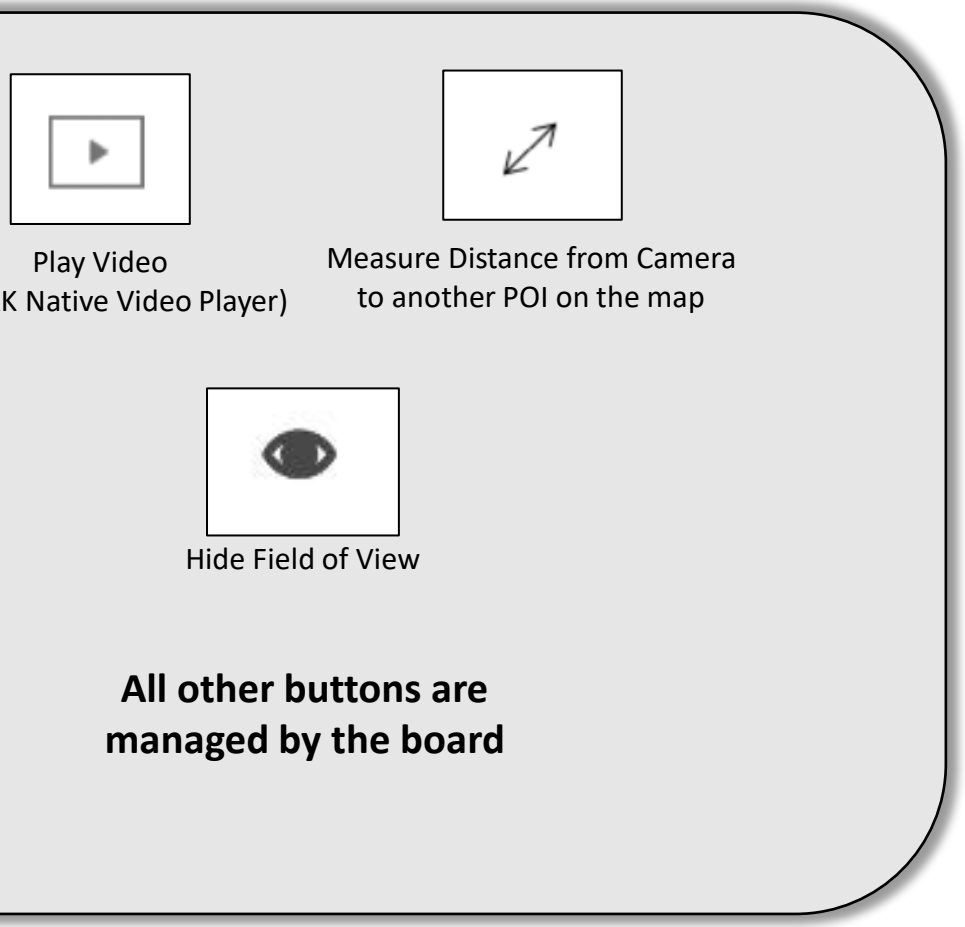


1. After placing your cameras location several settings will appear.
2. Adjust the Field of View parameters as needed.

- Sensor Range, Bearing, and Field of View Angle can be set manually or with the slider bar.
- The color of the Normal Status / No motion color can be changed as well as the FOV opacity.
- After you are satisfied with your placement/settings ***Tap*** the *Commit Cam 1,2* button.

CheckPoints™ Plugin for ATAK: Radial Menu





Tap the *Camera Icon* on the map to open the Camera Options Radial Menu

*Currently managed by the board and not the ATAK

Dual Camera and FOV Example

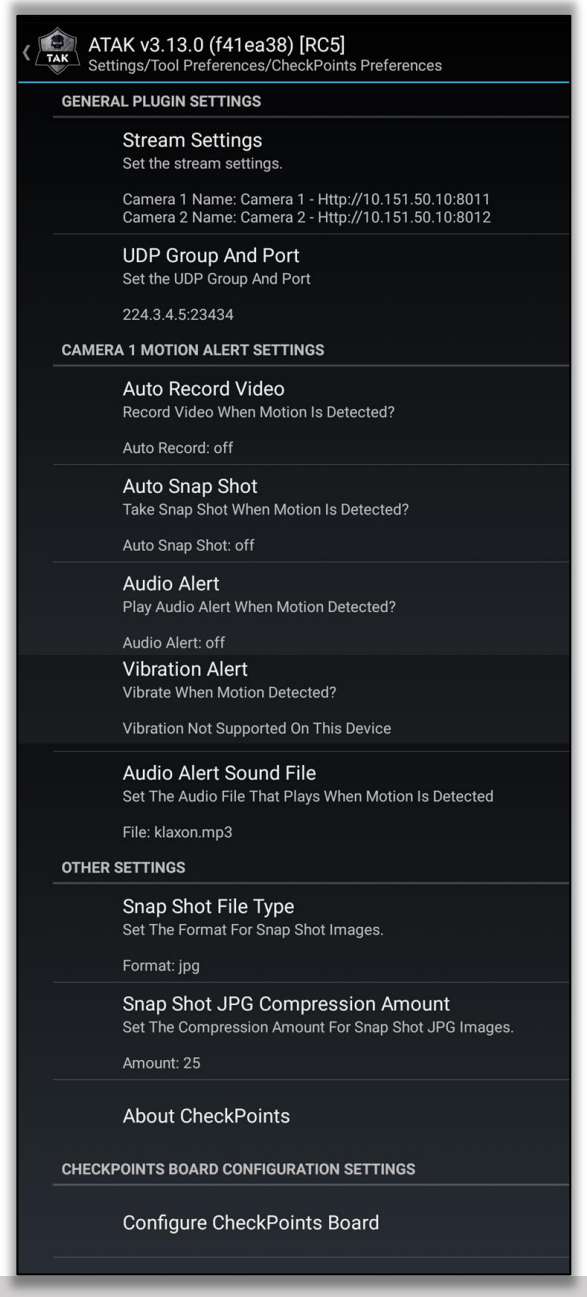
CheckPoints™ Plugin for ATAK: Dual Camera / FOV Example

In this example BOTH cameras are currently not detecting any motion and BOTH the FOVs are green

In this example only camera 2 is currently detecting motion and Camera 1 is not. Camera 2's FOV is red and Camera 1's is green.

CheckPoints™ Plugin for ATAK: Preferences

CheckPoints™ Plugin for ATAK: Preferences Overview

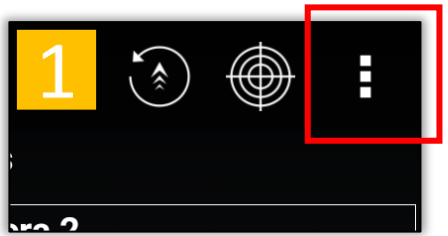


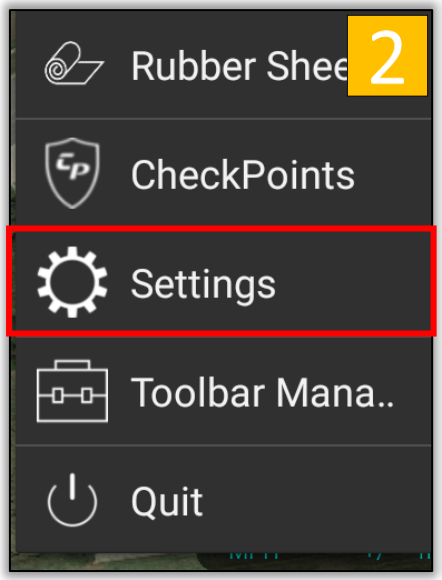
The CheckPoints™ Preferences allows the user to:

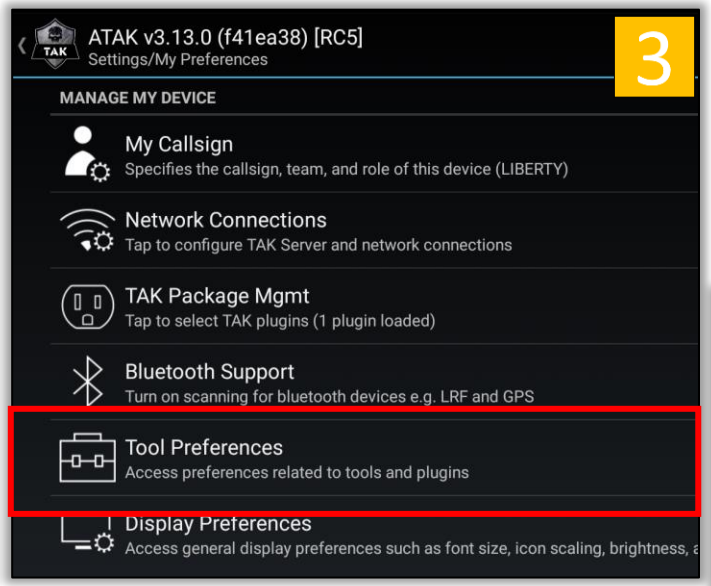
- Modify Camera Names
- Change IP Addresses and Ports
- Toggle Motion Alert Settings
- Modify Snapshot Settings
- Adjust the Orientation of the CheckPoints™ App
- Configure the Settings on the CheckPoints™ board (**ADVANCED**)*

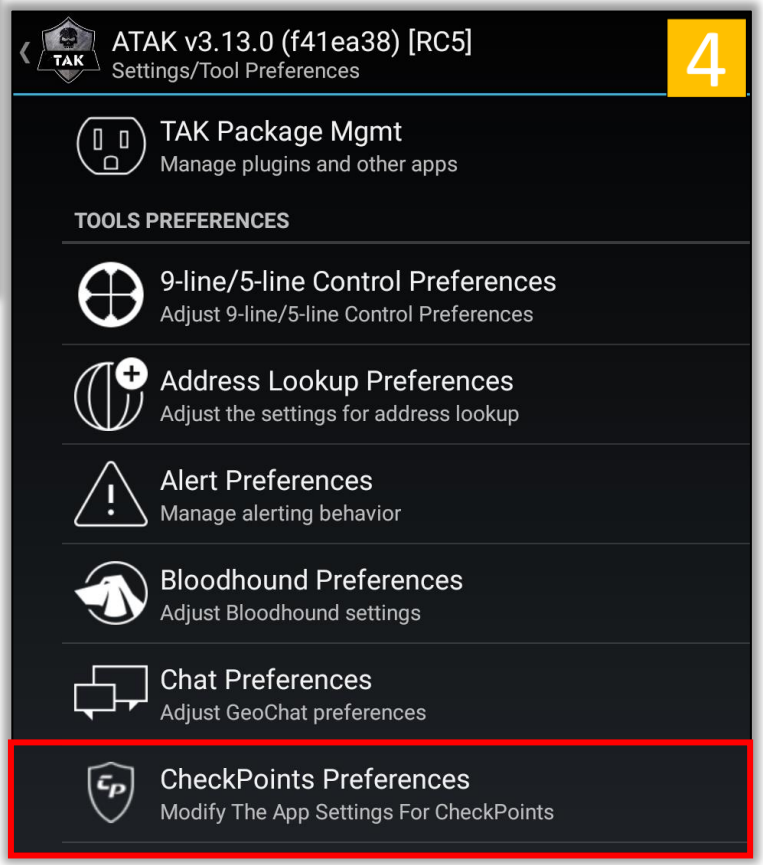
*This should be done with extreme caution!

CheckPoints™ Plugin for ATAK: Access Preferences



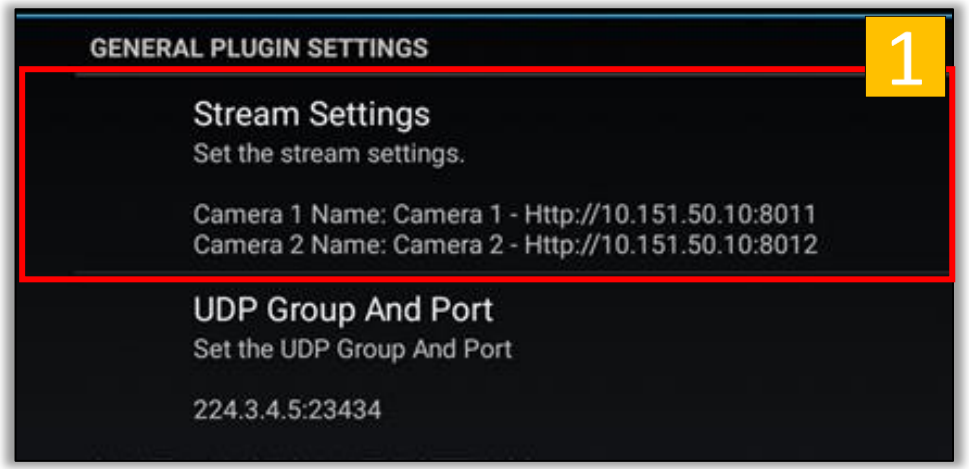


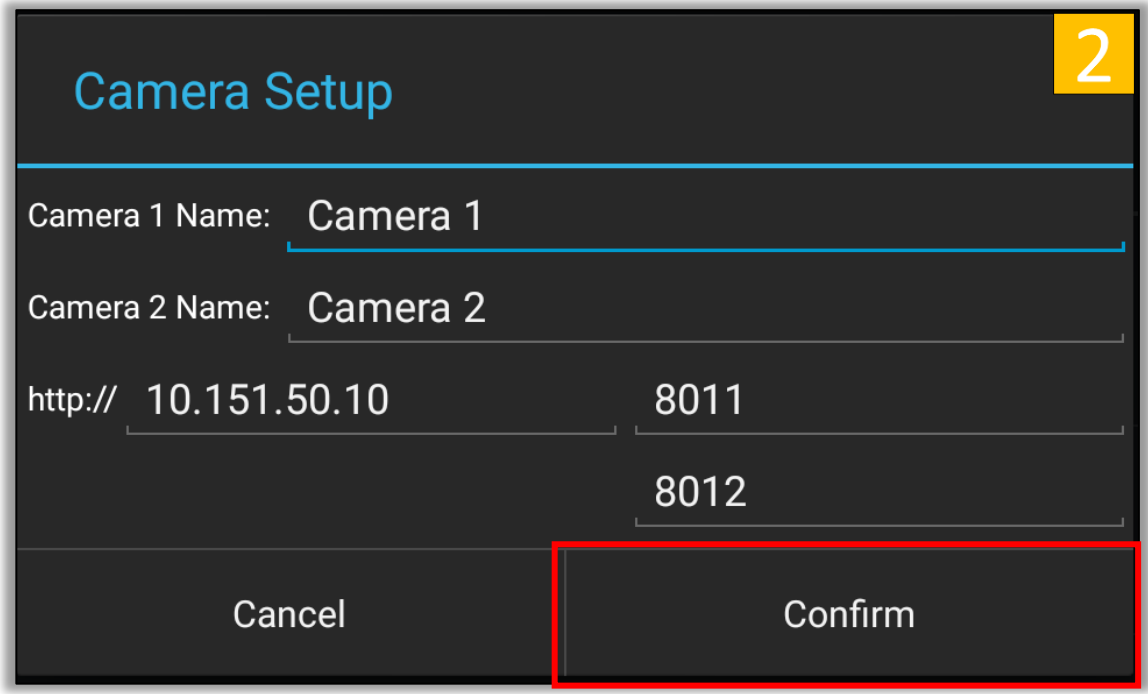




1. ***Tap*** the *Triple Dots* button.
2. ***Tap*** *Settings*.
3. ***Tap*** *Tool Preferences*.
4. ***Tap*** *CheckPoints™ Preferences*.

CheckPoints™ Plugin for ATAK: Preferences – Stream Settings

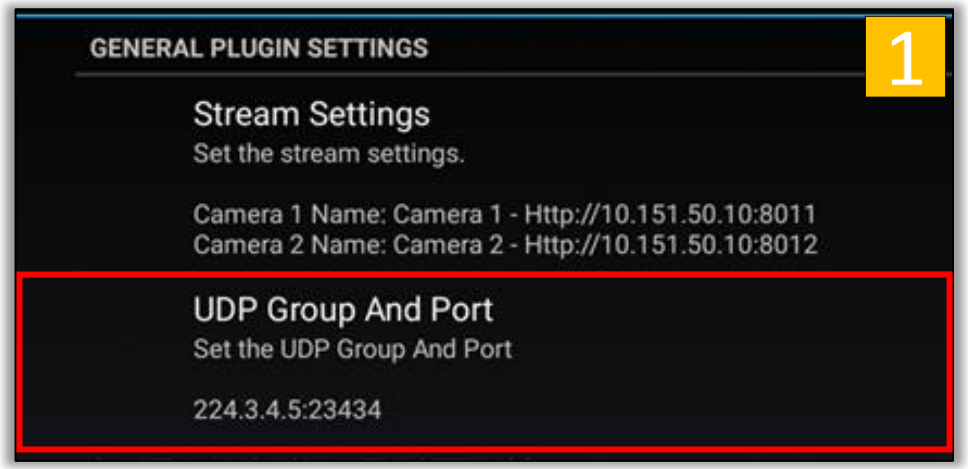


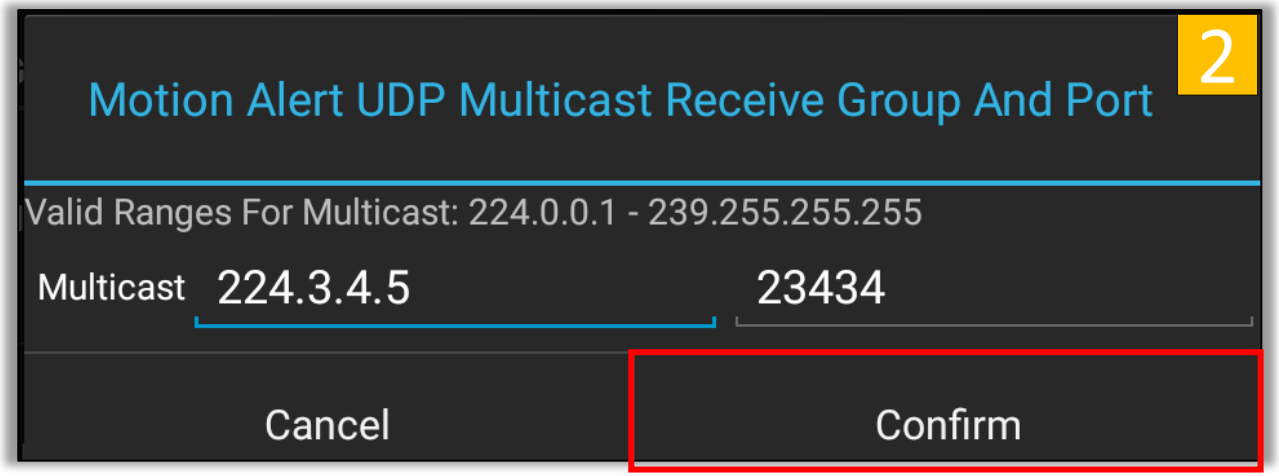


1. Locate and ***tap*** Stream Settings under General Plugin Settings.

2. Change the Camera Setup parameters as needed. ***Tap*** *Confirm* to save the new settings. Continue to make changes to the preferences or ***tap*** *Back* on the EUD three (3) times to return to the main ATAK screen.

CheckPoints™ Plugin for ATAK: Preferences – UDP Group and Port

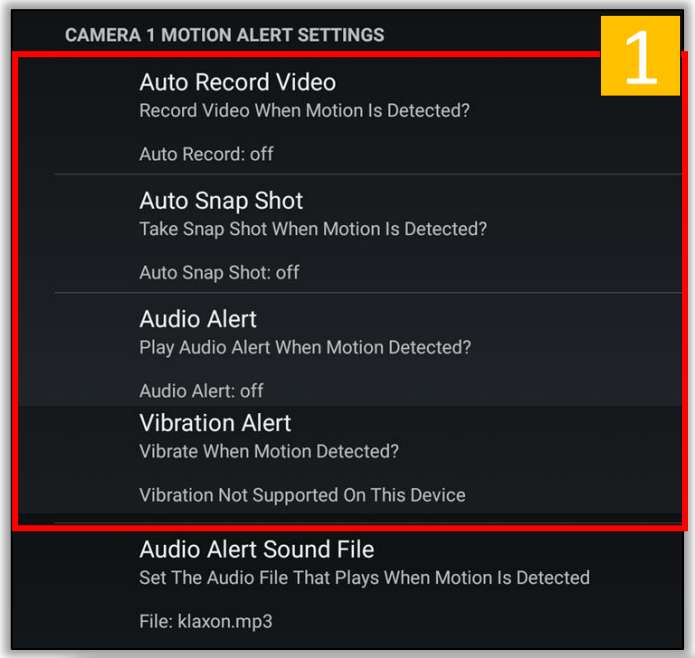


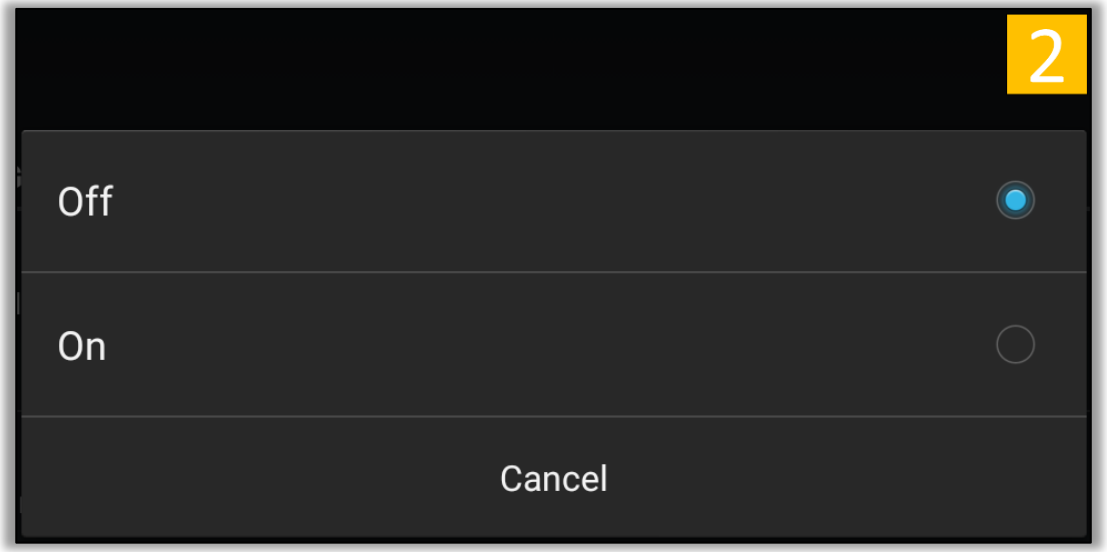


1. Locate the and tap UDP Group and Port under General Settings.

2. Enter the desired Multicast and Port number then ***tap*** *Confirm*. (*In most cases you shouldn't edit this!) Continue to make changes to the preferences or ***tap*** *back* on the EUD three (3) times to return to the main ATAK screen.

CheckPoints™ Plugin for ATAK: Preferences – Camera Motion Alert Settings



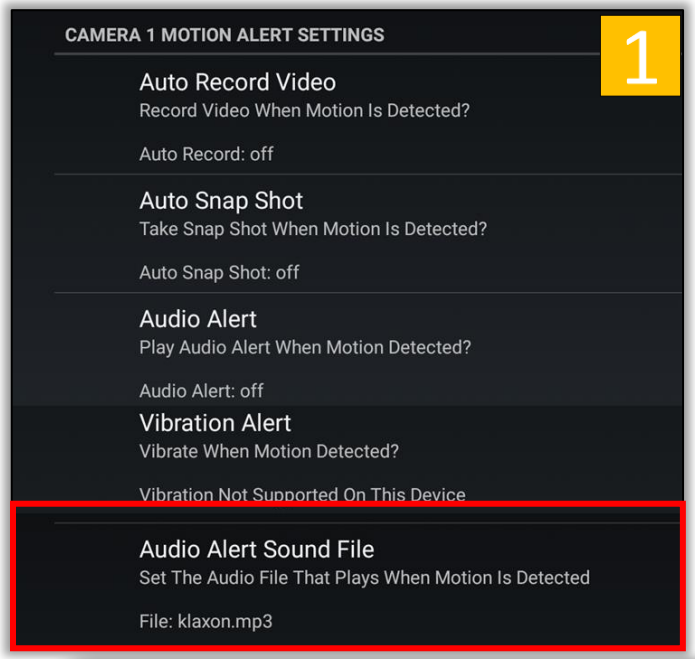


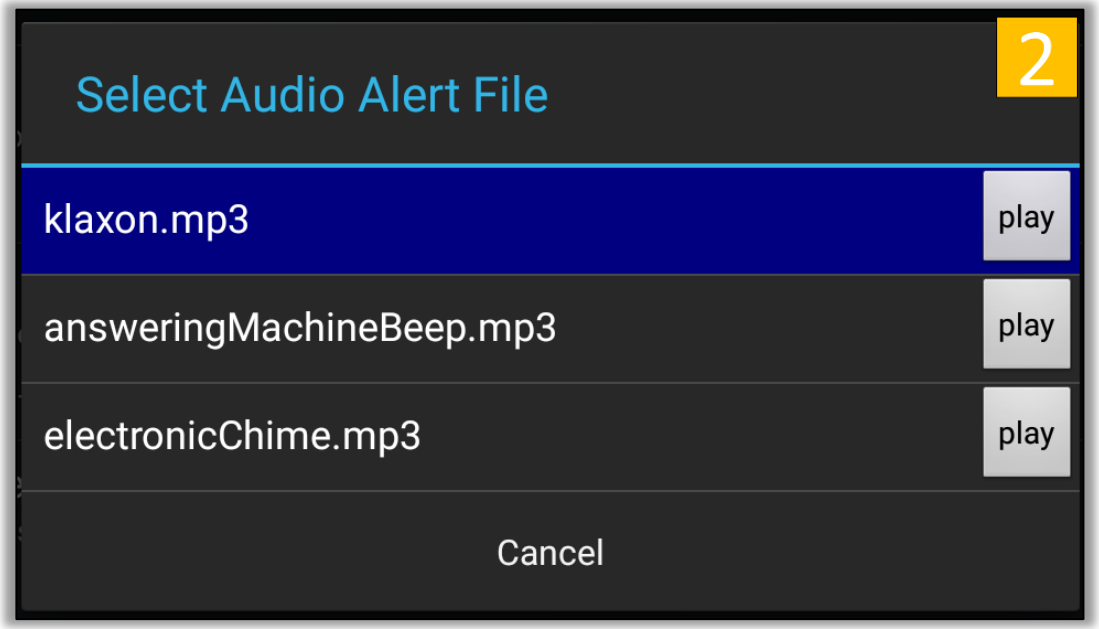
1. Locate the highlighted Motion Alert Settings.

2. ***Toggle*** the highlighted *Camera Motion Alert Settings* from Off to On as desired (Auto Record Video, Auto Snap Shot, Audio Alert, Vibration Alert). Settings for "Camera 1" and "Camera 2" are independent of each other. Changes must be made for both cameras. Continue to make changes to the preferences or ***tap*** *back* on the EUD three (3) times to return to the main ATAK screen.

The CheckPoints™ App provides visual, haptic, and audio alerts to users when the system detects motion.

CheckPoints™ Plugin for ATAK: Preferences – Audio Alert Sound File

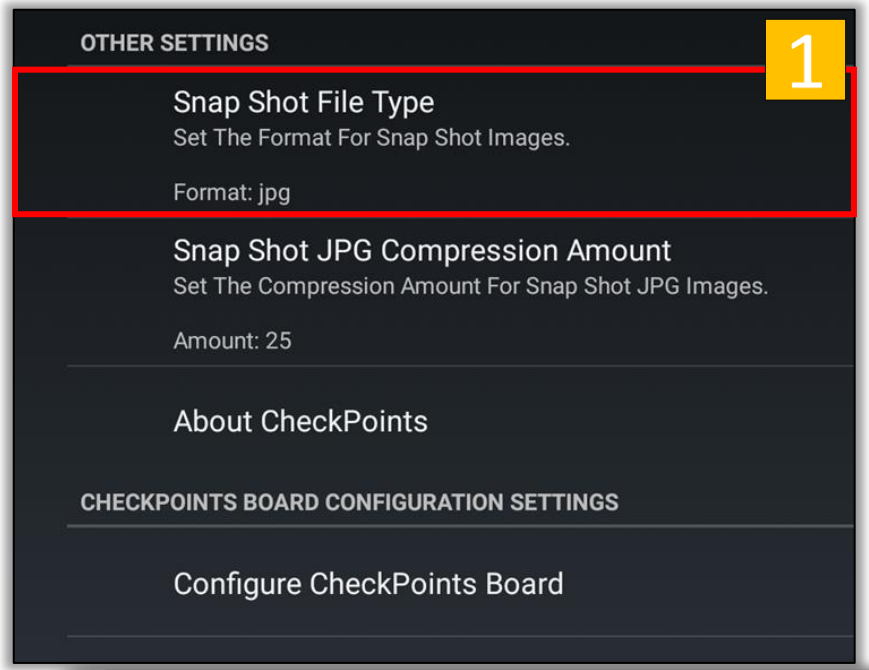


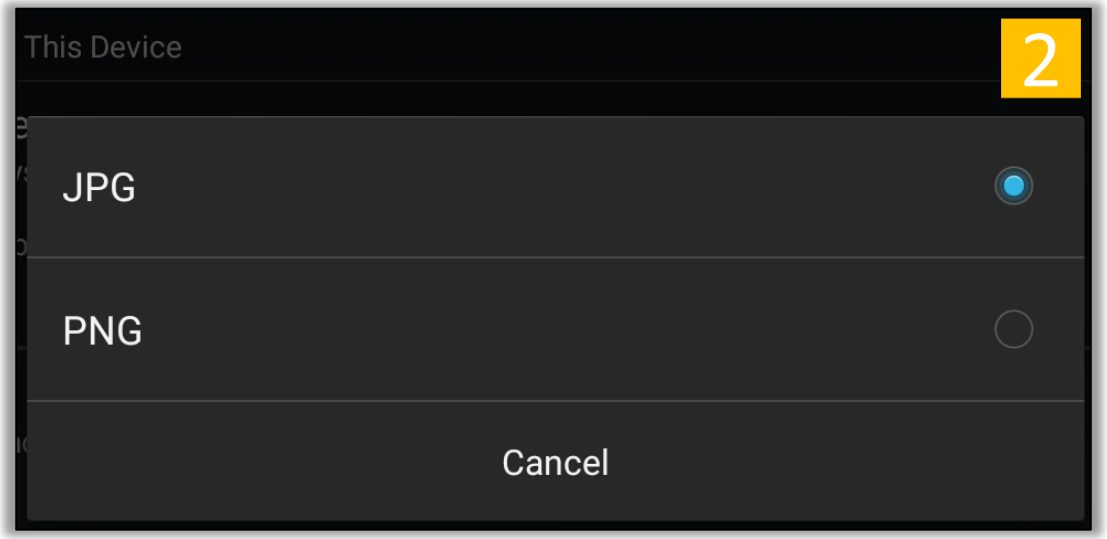


1. Locate and ***tap*** *Audio Alert Sound File* under Motion Alert Settings.

2. ***Tap*** the desired *Audio Alert* File then ***tap*** *Confirm*. Settings for "Camera 1" and "Camera 2" are independent of each other. Changes must be made for both cameras. Continue to make changes to the preferences or ***tap*** *back* on the EUD three (3) times to return to the main ATAK screen.

CheckPoints™ Plugin for ATAK: Preferences – Snap Shot File Type

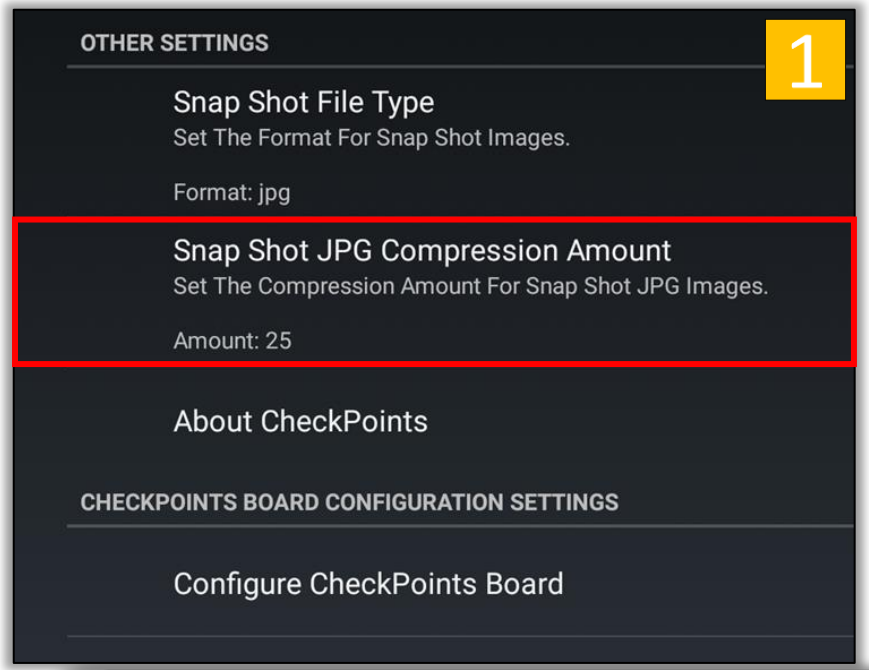


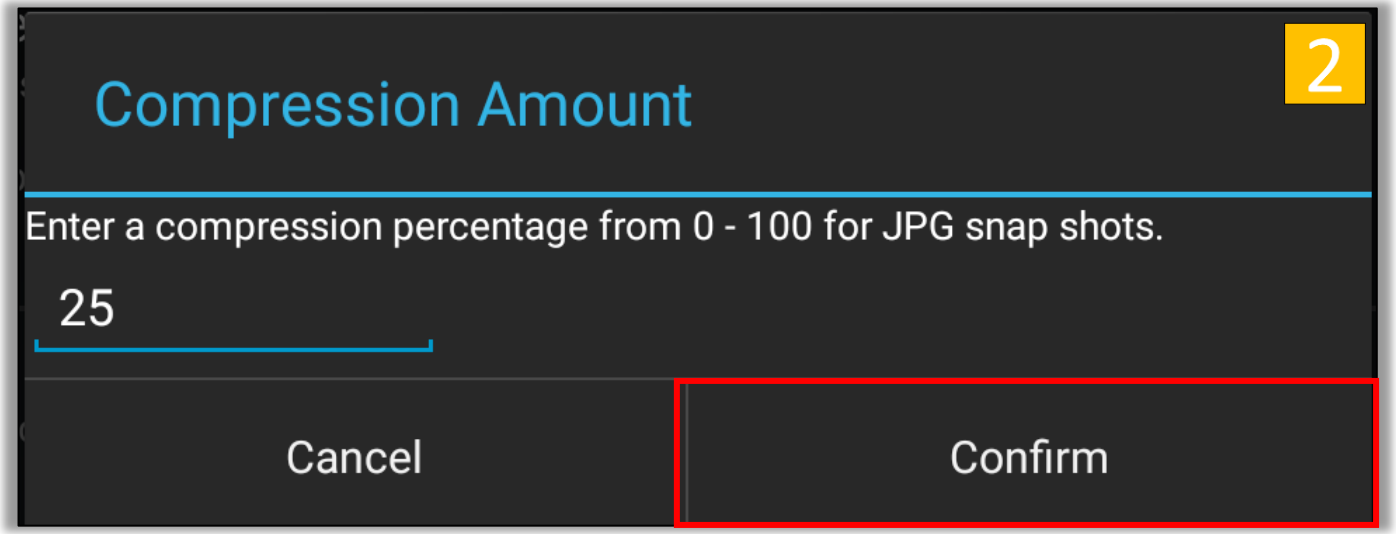


1. Locate and ***tap*** *Snap Shot File* Type under Other Settings.

2. ***Tap*** *JPG* or *PNG* to change the snapshot file type. The default value is JPG. Continue to make changes to the preferences or ***tap*** *back* on the EUD three (3) times to return to the main ATAK screen.

CheckPoints™ Plugin for ATAK: Preferences – JPG Compression

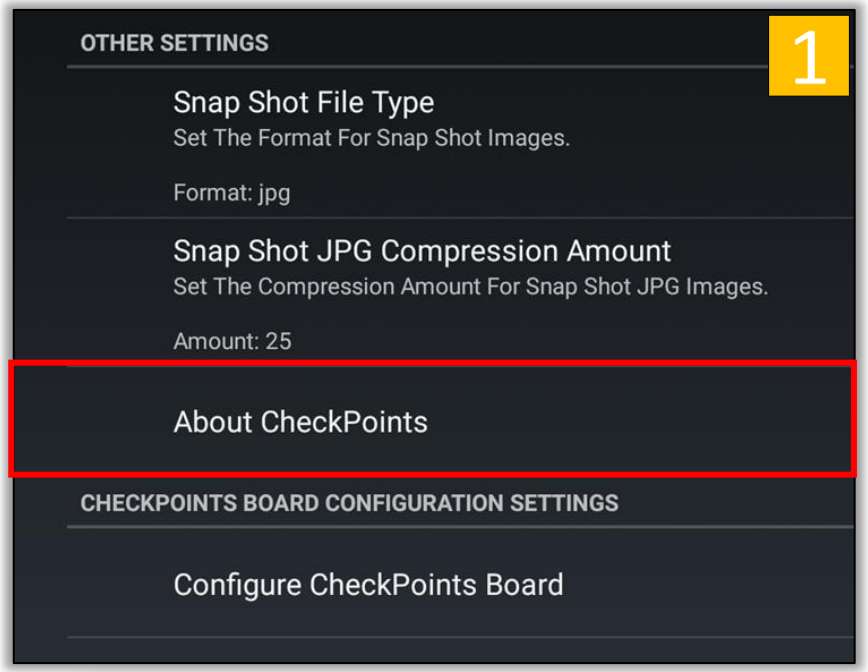


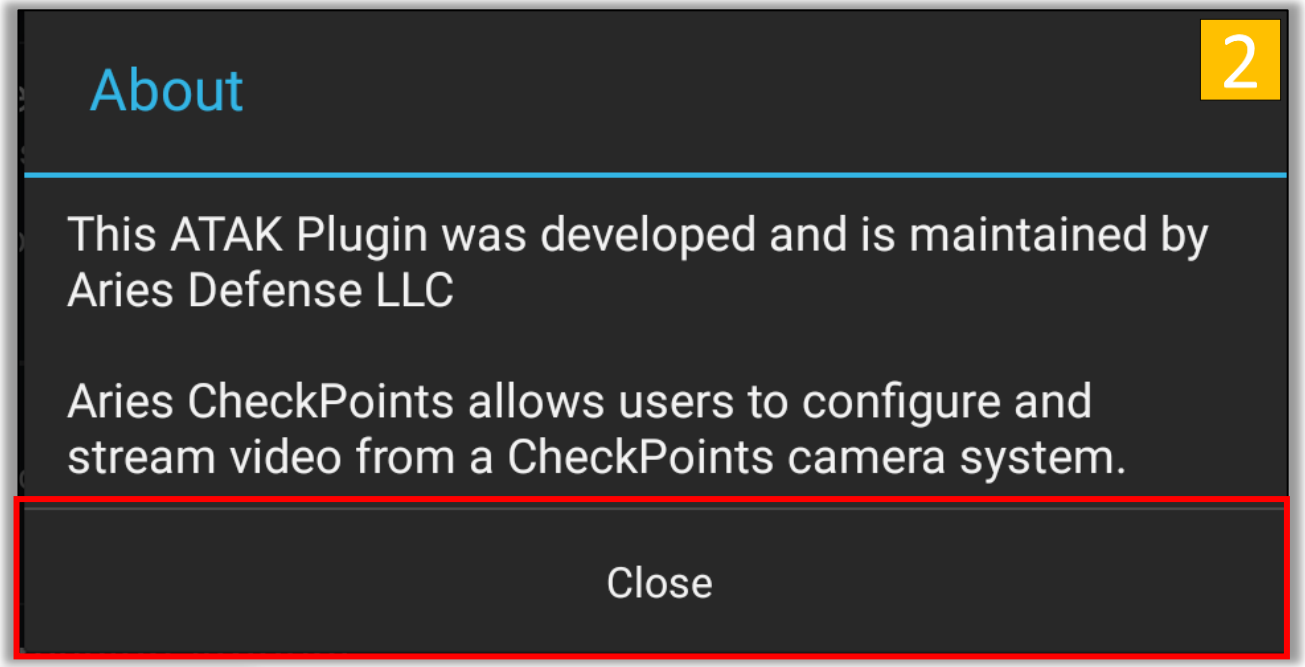


1. Locate and ***tap*** *Snap Shot JPG Compression Amount* Type under Other Settings.

2. Enter the new compression value. The default value is 25%. Continue to make changes to the preferences or ***tap*** *back* on the EUD three (3) times to return to the main ATAK screen.

CheckPoints™ Plugin for ATAK: Preferences – About

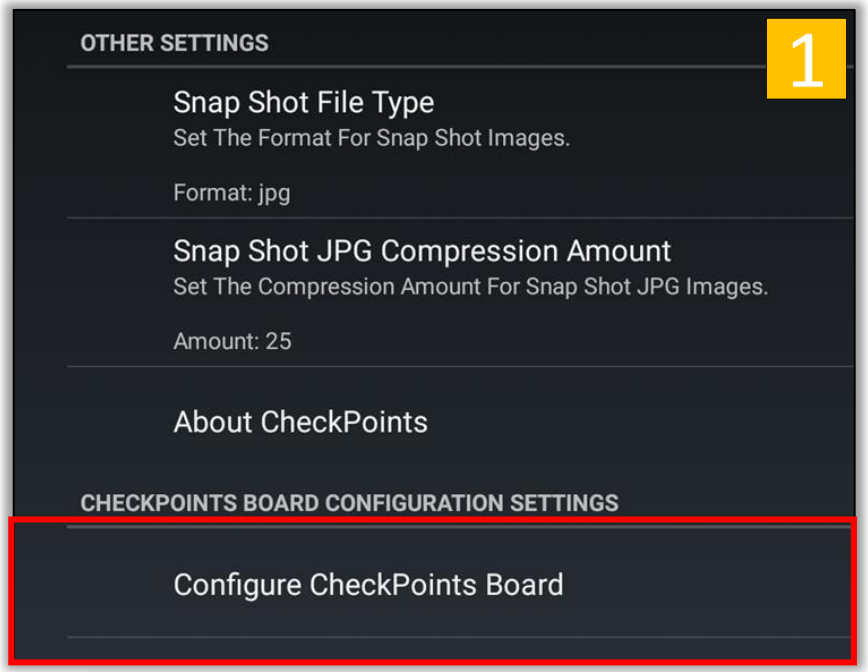


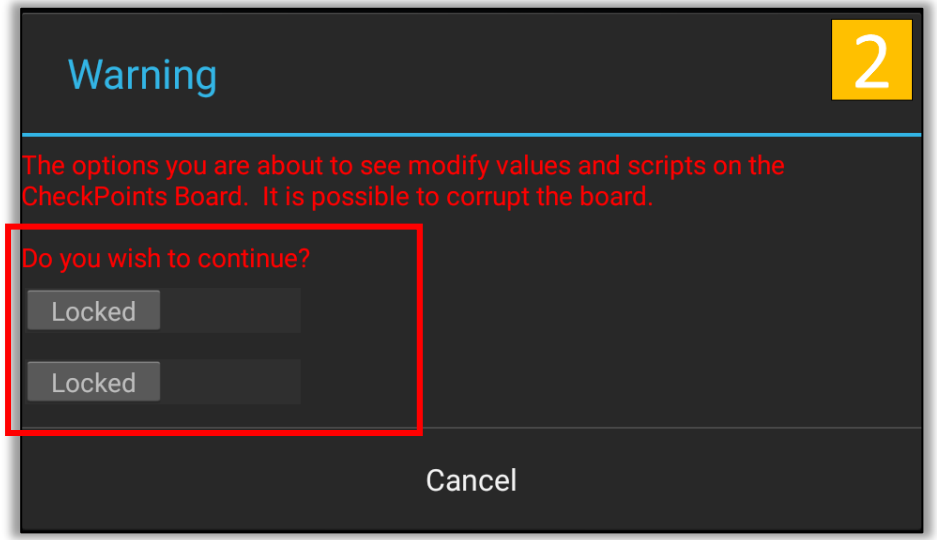


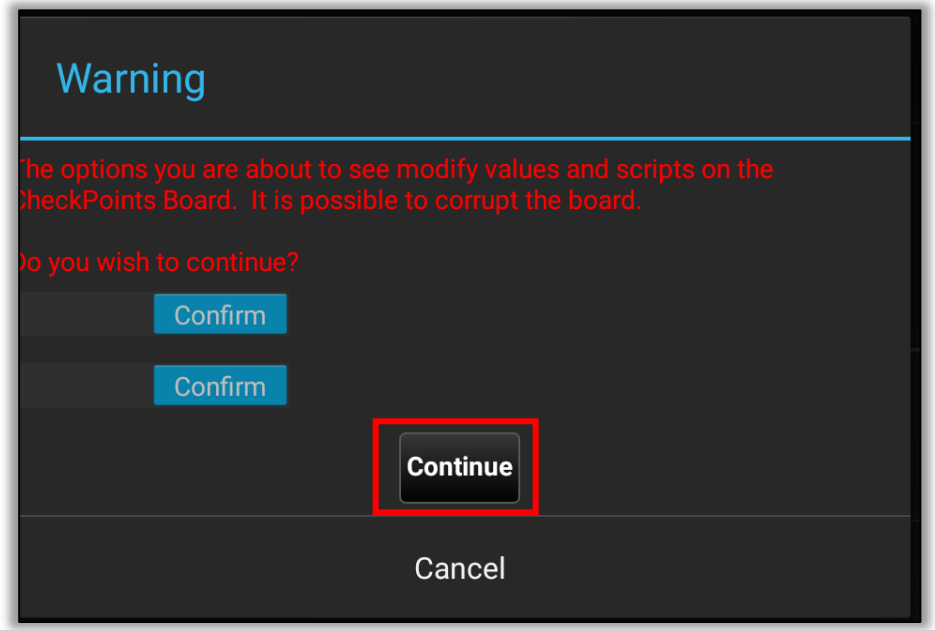
1. Locate and ***tap*** *About CheckPoints™* Type under Other Settings.

2. ***Tap*** *Close* to exit the About window. Continue to make changes to the preferences or ***tap*** *back* on the EUD three (3) times to return to the main ATAK screen.

CheckPoints™ Plugin for ATAK: Settings – Board Configuration







1. Locate and ***tap*** *Configure CheckPoints™ Board* under CheckPoints™ Board Configuration Settings

2. Read the warning message then ***Tap*** both *Locked* Buttons to set them to Confirm then tap Continue enter the Configuration Menu. *WARNING* Entering in invalid settings could potentially render the system inoperable.

CheckPoints™ Board Configuration

CheckPoints™ Board Configuration - Overview

Please see “CheckPoints™ Settings – Board Configuration” on Page xxx and follow the steps to access the Board Configuration Menu. Configuring the preferences options in this section assumes the user has done this step.

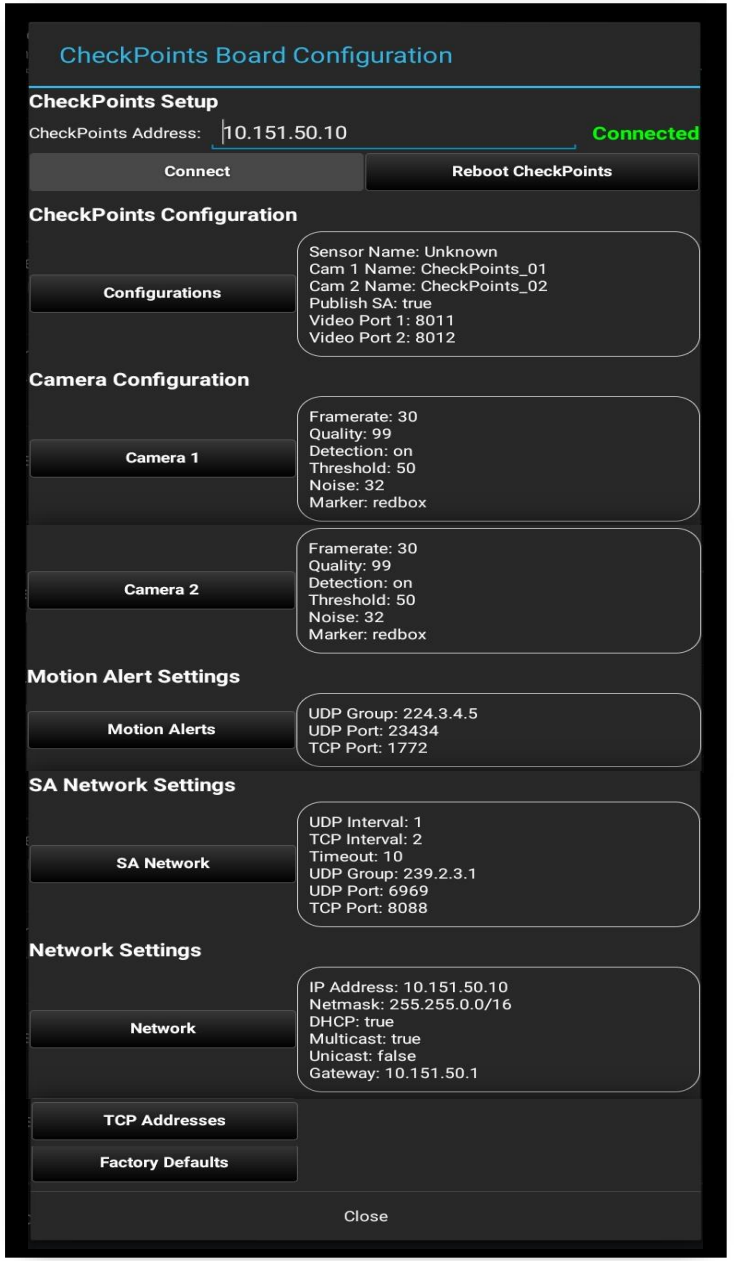
The CheckPoints™ Board Configuration allows the user to:

- Set Camera Label
- Adjust Camera Framerate
- Toggle Motion Detection, Threshold, and Noise Level
- Change Motion Marker
- Modify IP Addresses and Ports

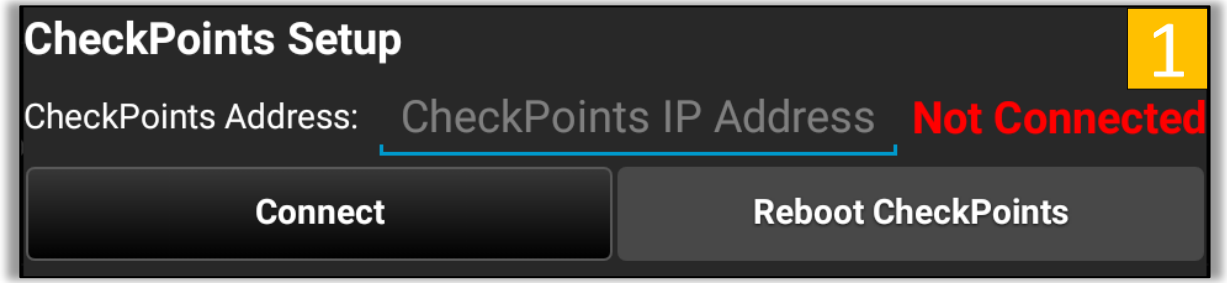
Remember – Cameras configurations are independent of each other. Changes must be done to BOTH cameras

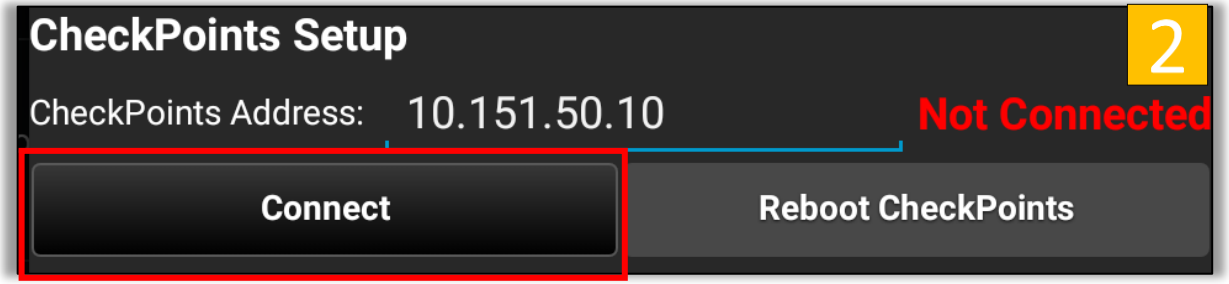
IMPORTANT* After the configurations have been altered the board must be rebooted. This can be done by ***tapping*** the *Reboot CheckPoints™ Button*. Close the CheckPoints™ App and relaunch once the EUD receives a DHCP IP Address from the CheckPoints™ Board.

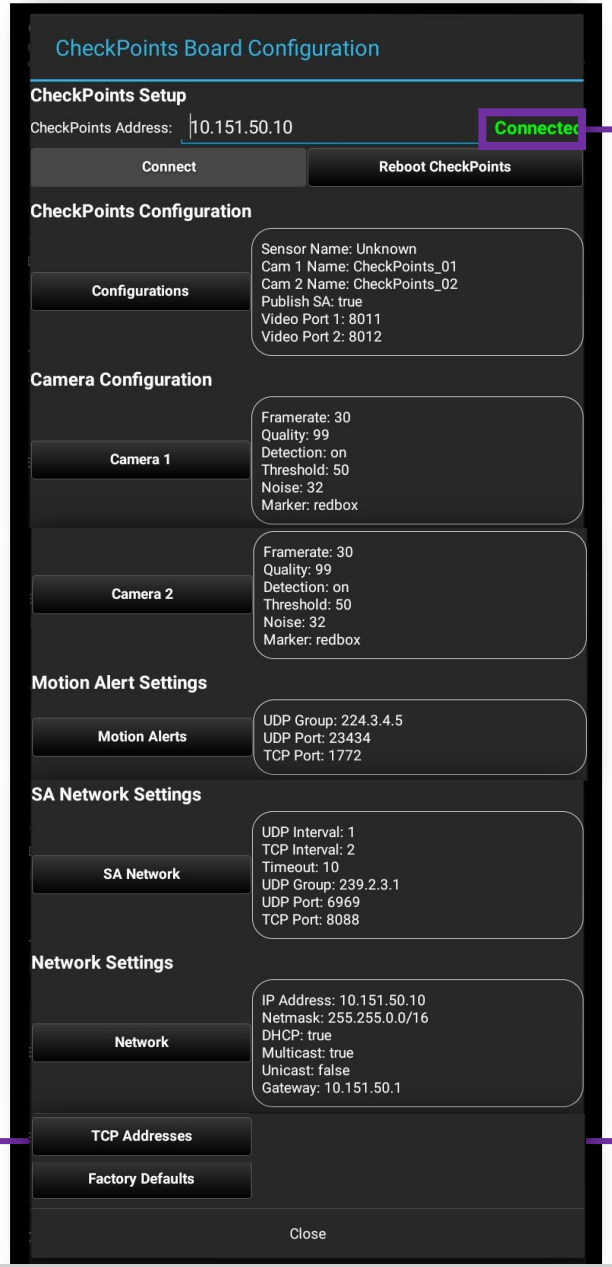
Proceed with caution



CheckPoints™ Board Configuration – Connect to Board







1. Enter the IP Address of the board. The Default IP Address is 10.151.50.10.

2. ***Tap*** *Connect.*

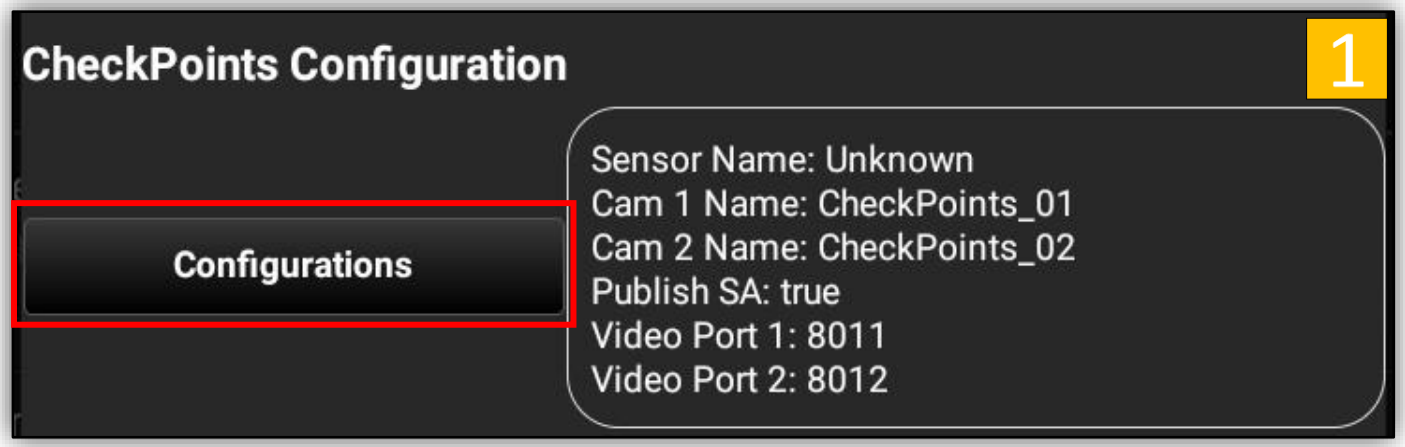
Connection Status:

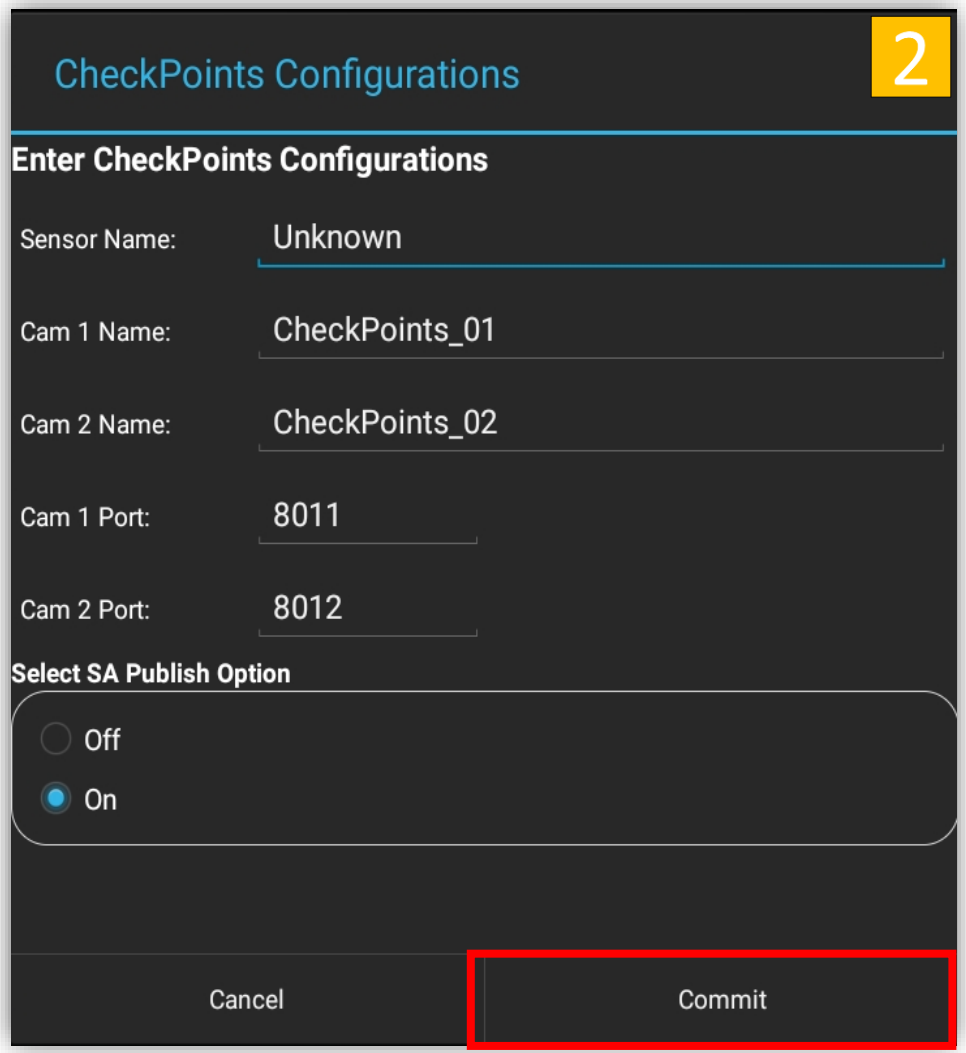
Not Connected – The CheckPoints™ App is not logged into the Board
Connecting… - The CheckPoints™ App is trying to establish a logon session
Connected – The CheckPoints™ App is currently logged into the board.

CheckPoints™ Board Configuration

CheckPoints™ Configuration Settings

CheckPoints™ Board Configuration – Configurations





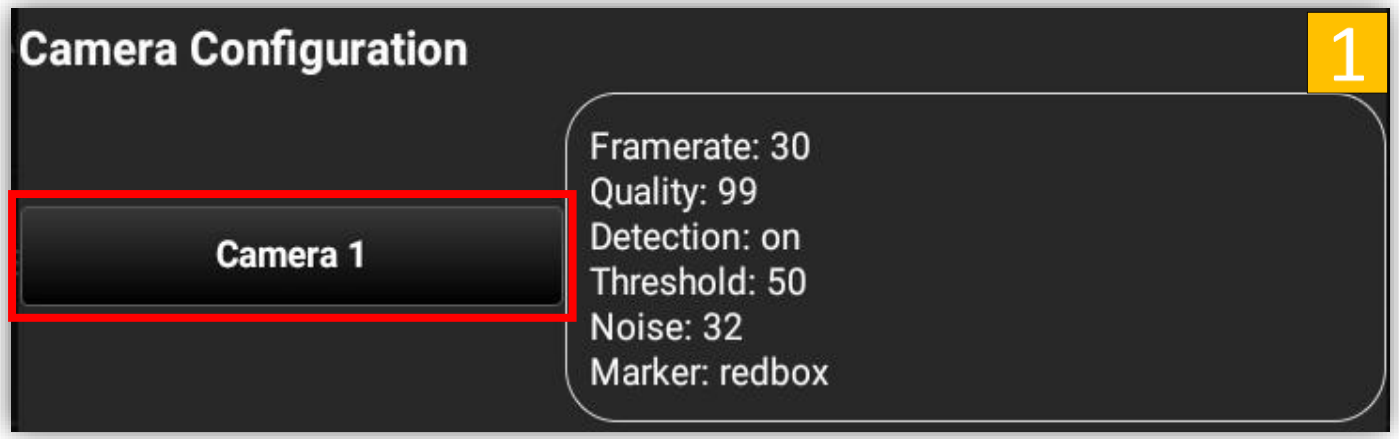
1. Locate and ***tap*** *Configuration* under Configuration Settings.
2. Enter the new Camera Configurations such as Sensor Name, Cam Name, Port, and SA Publish Option then ***tap*** *Commit.*

You may continue to make changes to the board. When finished ***Tap*** the *Reboot CheckPoints* button.

CheckPoints™ Board Configuration

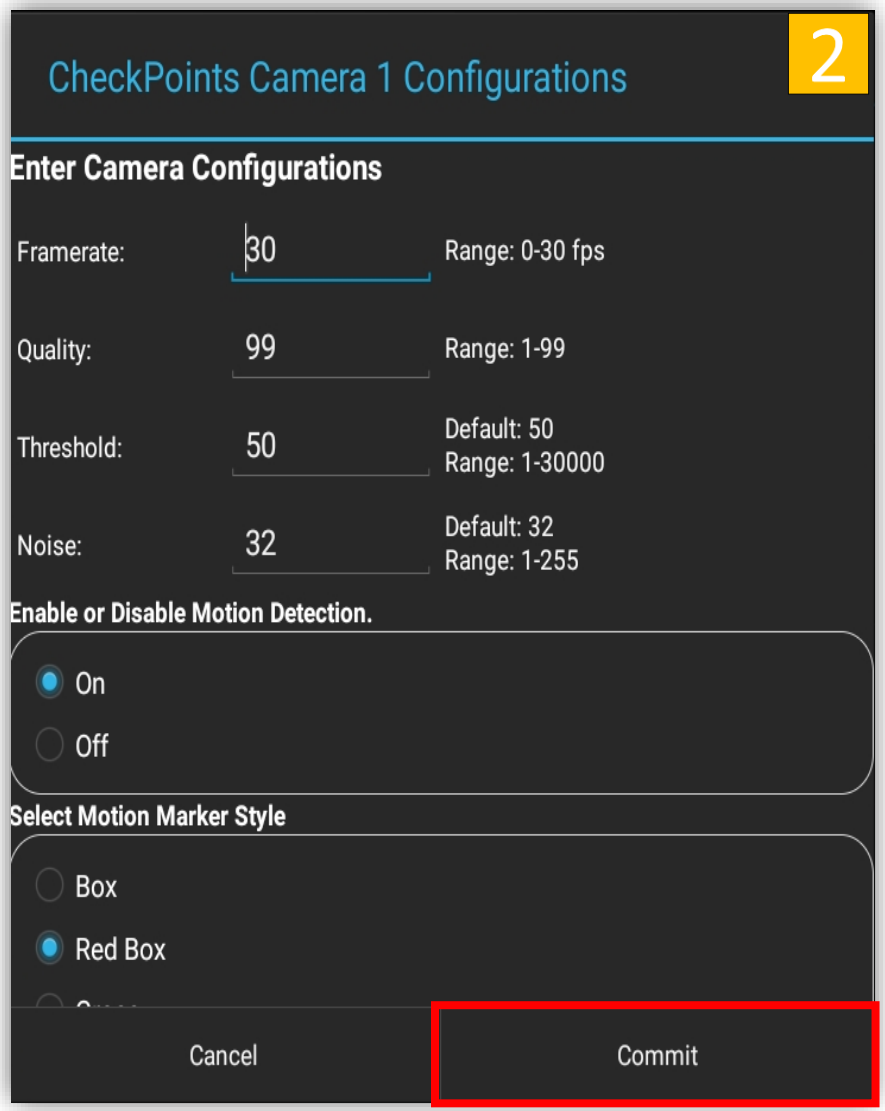
Camera Configuration Settings

CheckPoints™ Board Configuration – Camera Configuration



1. Locate and ***tap*** *Camera 1 or 2* under Camera Configuration Settings.
2. Enter the new Camera Settings then ***tap*** *Commit.*
   i. If you are sending video over a tactical network use lower values (2-10) for the framerate and Quality (less than 60)
   ii. If you want to ignore small motion changes increase the Threshold to a higher value.
   iii. If you want to ignore "electrostatic" effects (grey/black splotches) during low light environments increase the noise level.

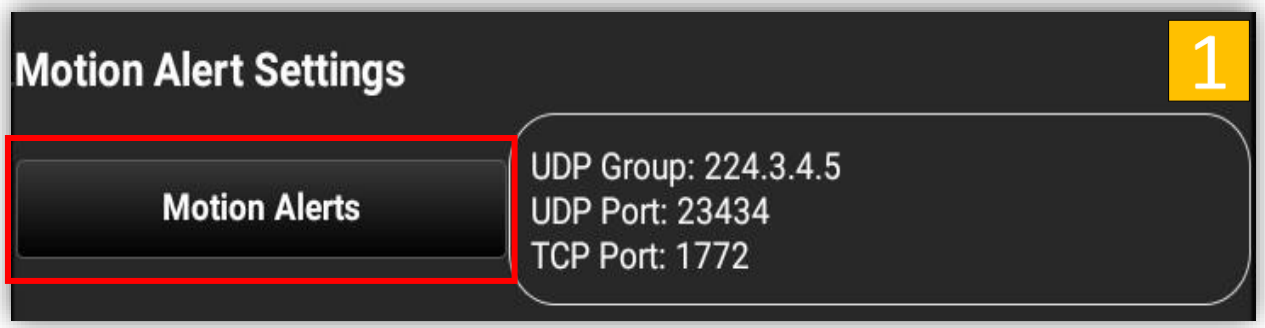
You may continue to make changes to the board. When finished ***Tap*** the *Reboot CheckPoints* button.

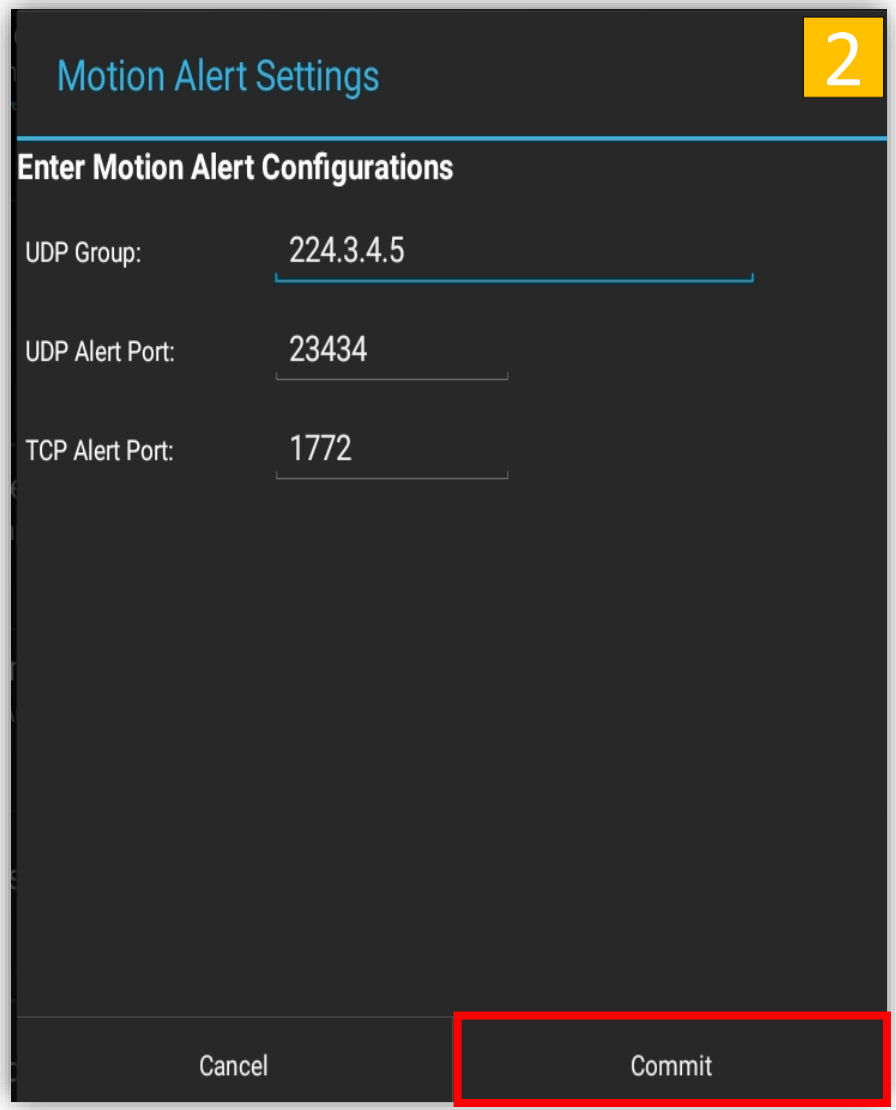


CheckPoints™ Board Configuration

Motion Alert Settings

CheckPoints™ Board Configuration – Motion Alerts**





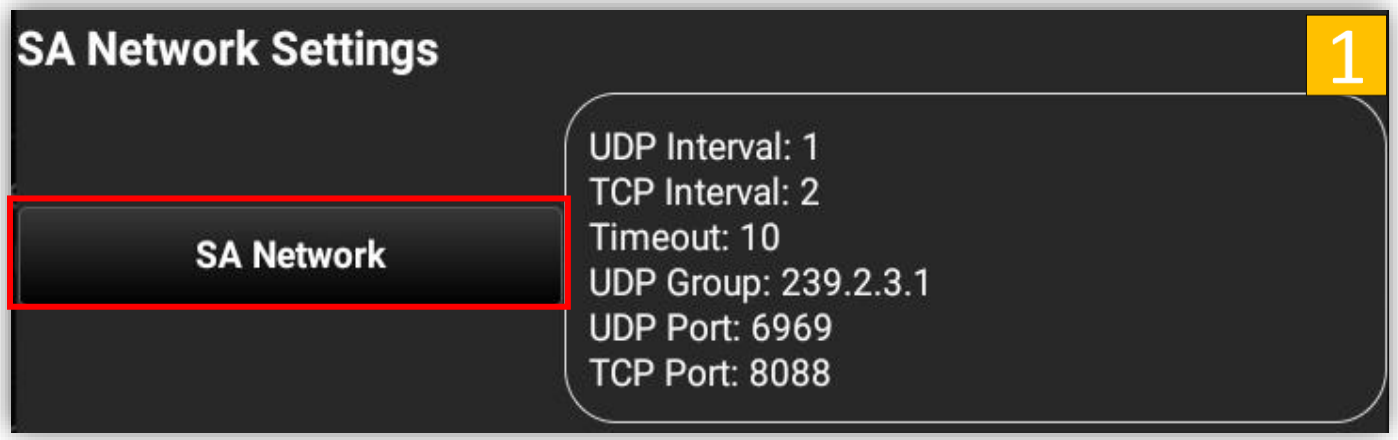
1. Locate and ***tap*** *Motion Alerts* under Motion Alert Settings.
2. Enter the new UDP Group, UDP Alert Port, and TCP Alert Port values (if needed) then ***tap*** *Commit.* **Note: Most users DO NOT NEED to change these values!

You may continue to make changes to the board. When finished ***Tap*** the *Reboot CheckPoints* button.

CheckPoints™ Board Configuration

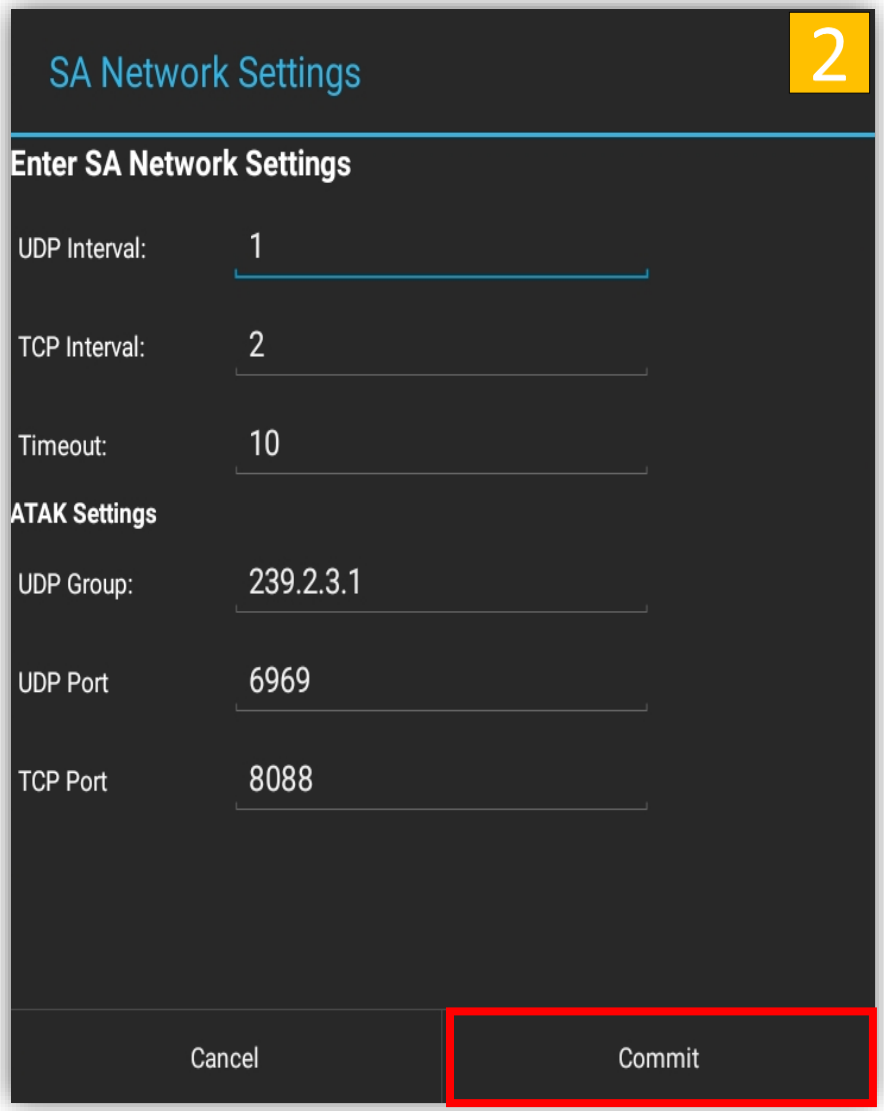
CheckPoints™ SA Network Settings

CheckPoints™ Board Configuration – SA Network Settings



1. Locate and ***tap*** *SA Network* under SA Network Settings.
2. Enter the new Network Settings for the CheckPoints board then ***tap*** *Commit*.

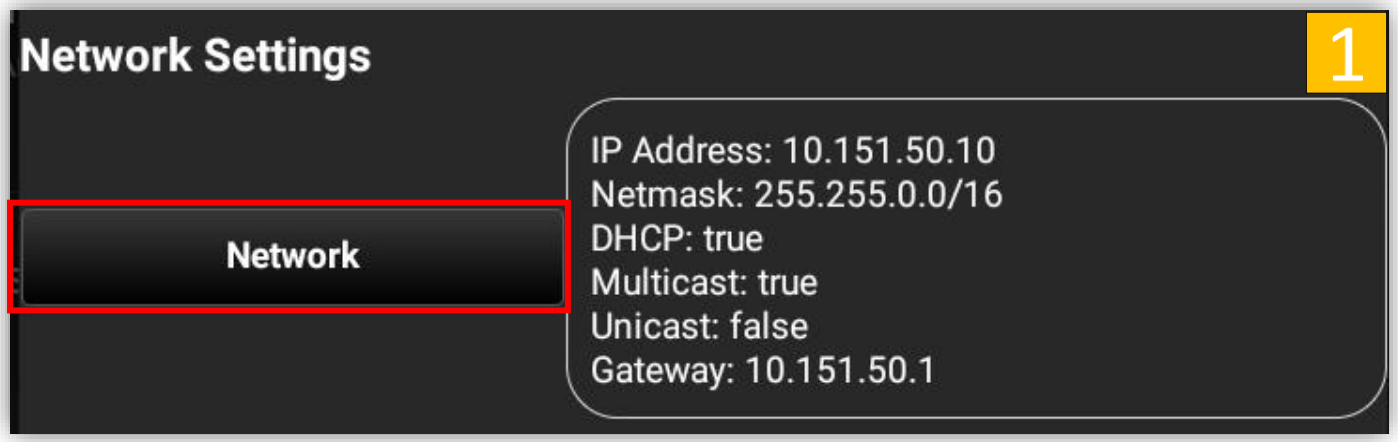
You may continue to make changes to the board. When finished ***Tap*** the *Reboot CheckPoints* button.



CheckPoints™ Board Configuration

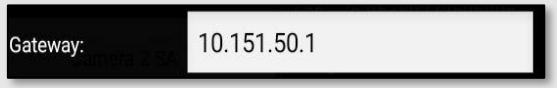
CheckPoints™ Network Settings

CheckPoints™ Board Configuration – Network IP Address***

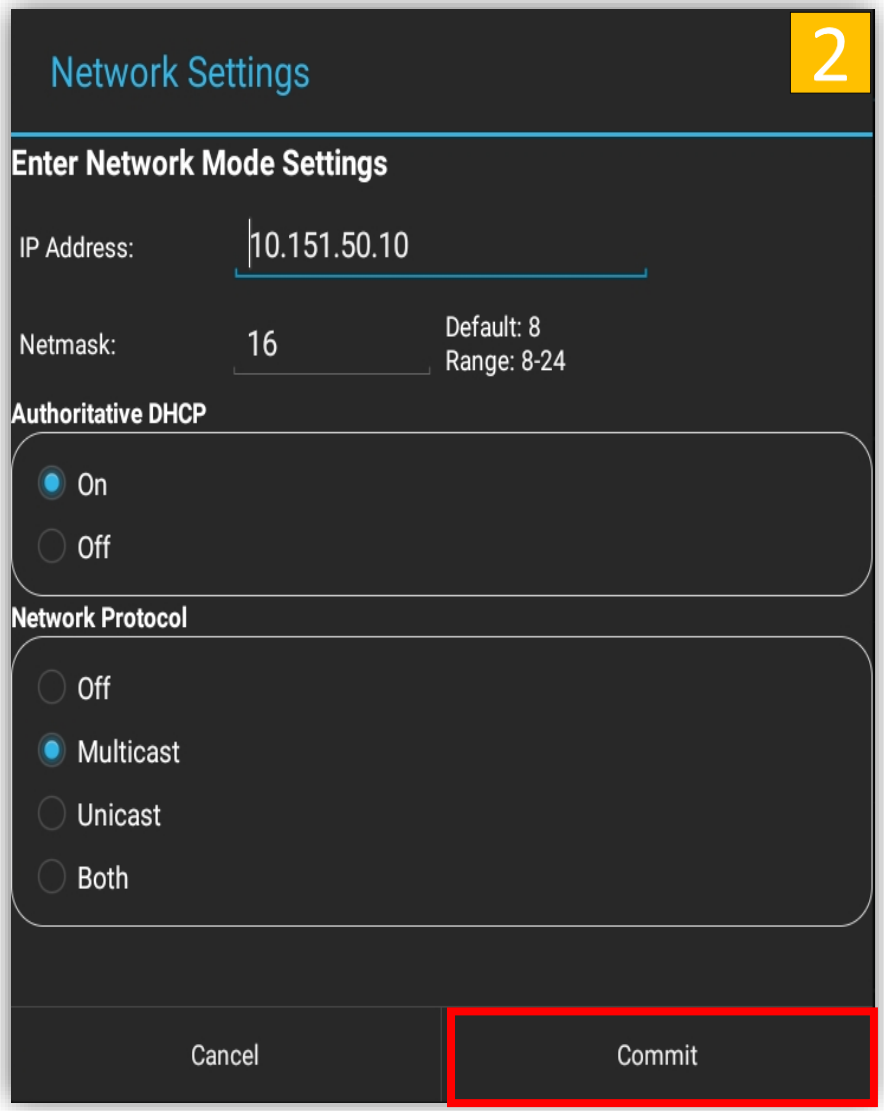


1. Locate and ***tap*** *Network* under Network Settings.
2. Enter the new Network Settings for the CheckPoints board then ***tap*** *Commit.* ***Note: Please write down the new IP address before rebooting the system.

*If your network setup requires a gateway, please **tap** *Unicast* or *Both* under Network Protocol. This will unhide the gateway option.



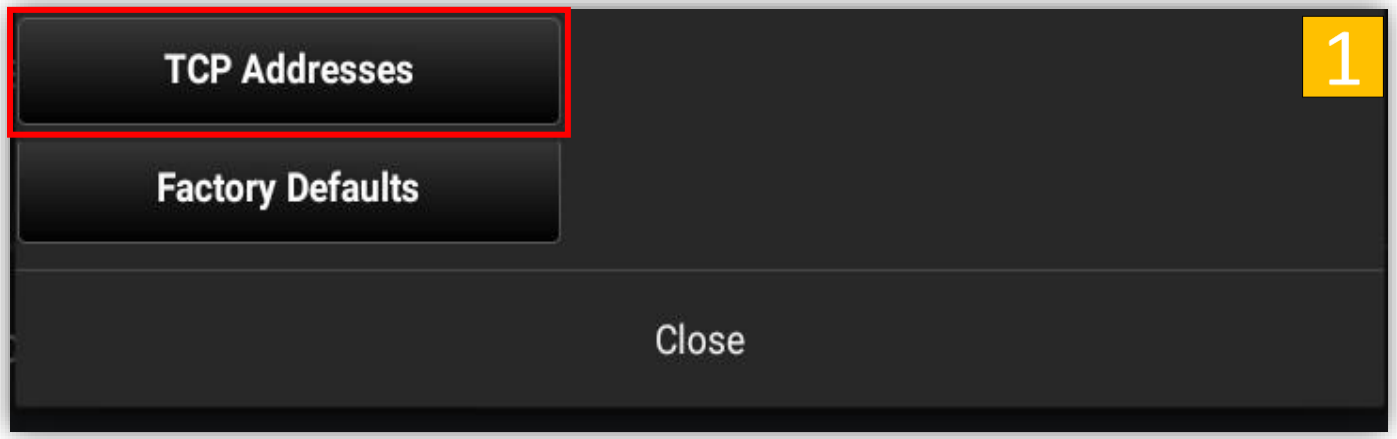
You may continue to make changes to the board. When finished ***Tap*** the *Reboot CheckPoints* button.



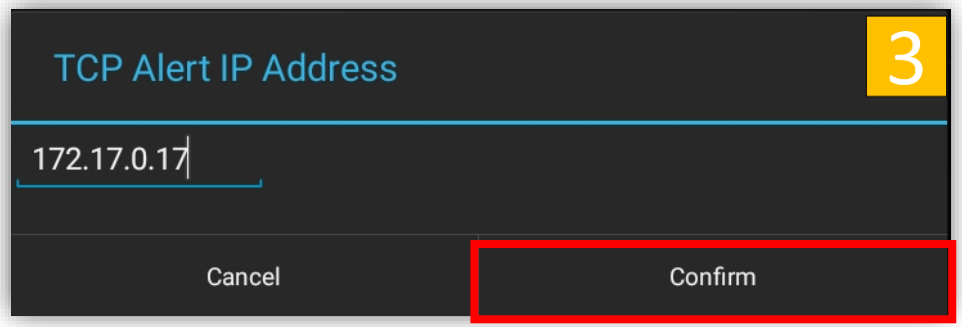
CheckPoints™ Board Configuration

Misc Settings

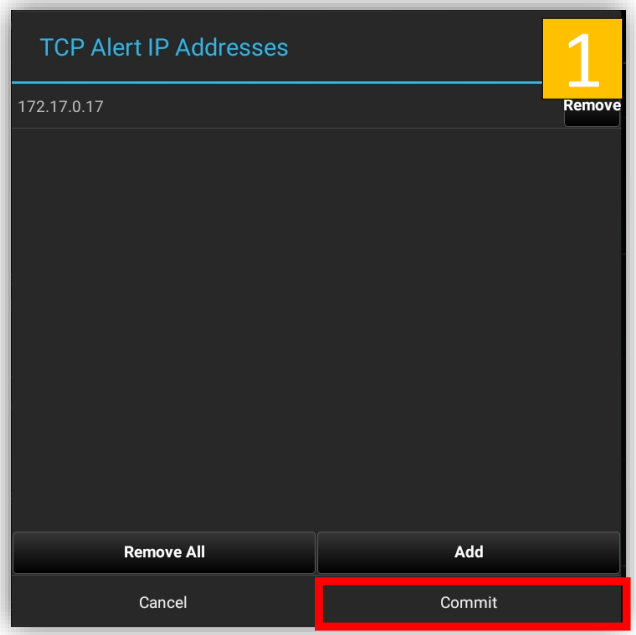
CheckPoints™ Board Configuration – TCP Addresses

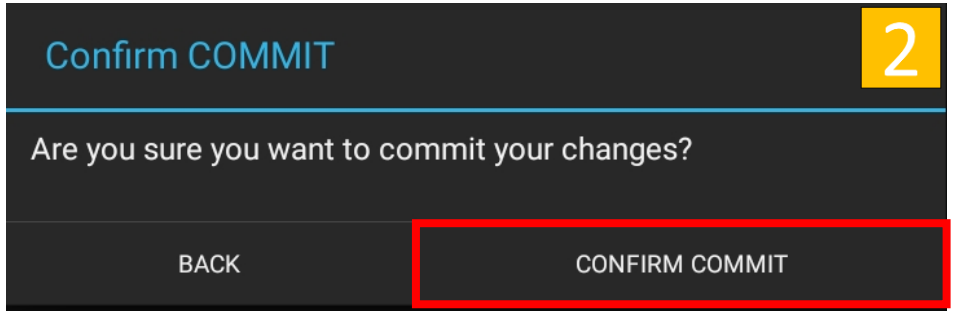


1. Locate and ***tap*** *TCP Addresses* at the bottom of the list.
2. Locate and ***tap*** the *Add* button.
3. Enter TCP Address then ***tap*** *Confirm*.



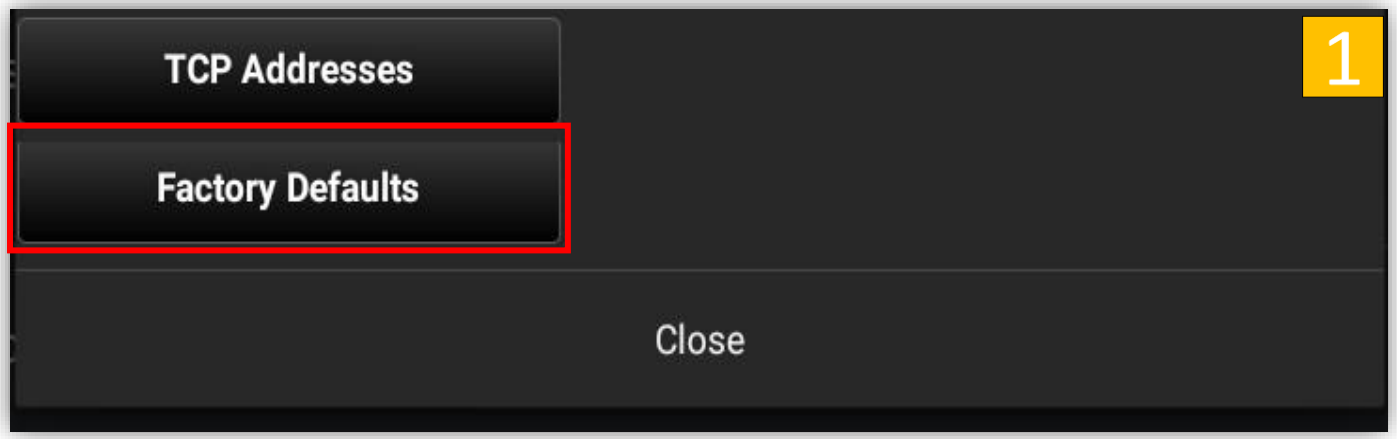
CheckPoints™ Board Configuration – TCP Addresses cont.

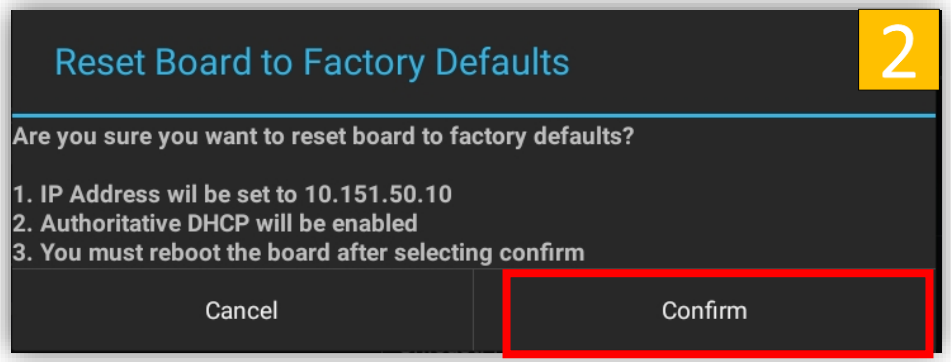




1. When ready locate and ***tap*** *Commit* .
2. ***Tap*** *Confirm Commit* when ready.

CheckPoints™ Board Configuration – Factory Defaults





1. Locate and ***tap*** *Factory Defaults* at the bottom of the list.
2. Remember the Default IP address and that Authoritative DHCP will be enabled if you proceed
3. You must reboot the board after selecting confirm.