Civ-TAK

Version: 3.6

Release Date: 21 September 2017

Contents

Civ-TAK Overview

The **Civilian Team Awareness Kit** (Civ-TAK) is a Government-off-the-Shelf (GOTS) software application and mapping framework for mobile devices. Civ-TAK has been designed and developed to run on Android smart devices used in a first responder environment. The Civ-TAK software application is an extensible moving map display that integrates Department of Defense (DoD) and commercial imagery, map and overlay information to provide enhanced collaboration and Situational Awareness (SA) over a tactical meshed network. Civ-TAK promotes information flow and communications from the field environment to command enterprise locations.

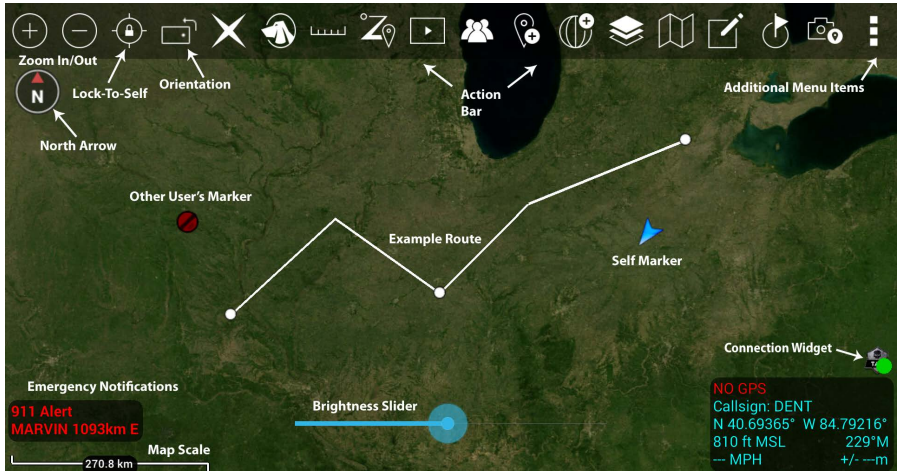
The magnifier buttons allow the user to zoom in on the map by tapping the magnifier with the plus. To zoom out, the user can tap on the magnifier with the minus. Additionally, the user can use two fingers on the screen to pinch and zoom in or out on the map.

The Civ-TAK North Arrow has two primary modes: North up/Track up and Manual map rotation & angle lock. Long pressing on the needle will switch between the two modes, while single pressing will cycle between the two modes, while single pressing will cycle between the North up/Track up, and Manual rotation/lock respectively.

Alerts and notifications are available in the notification region of the Civ-TAK map interface.

The padlock icon can be used to lock to self.

A Long Press on the map is used to hide and reveal the Action Bar.



Civ-TAK includes documentation designed to assist the user with the application. Hint windows are available to alert users to changes or make suggestion about the use of tools the first time they are opened.

Map orientation can be used to rotate the screen position from portrait to landscape.

The Map Scale displays a 1 inch to mi/km reference on the map. The scale adjusts with the map when zoomed in and out.

The optional connection widget indicates whether or not the user is connected to a TAK Server. This has a corresponding Android notification that provides the same information.

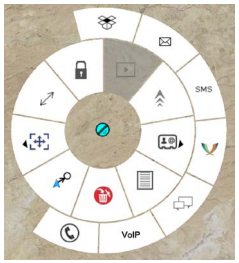
Placement

The user can enter locations of interest using the Point Dropper tool. Tap the [**Point Dropper**] icon to drop symbology (and other iconsets) on the map display, edit the data, and share the markers with other network members.

Self Marker

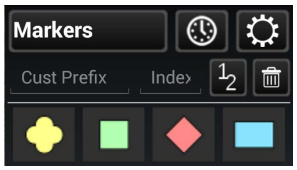
The self marker is displayed as a blue arrowhead at the user's current location. The options available on the self marker radial are: Compass Rose, Polar Coordinate Entry, Fine Adjust, GPS Error, Range & Bearing Line, GPS Lock to Self, Tracking Breadcrumbs Place a Marker at the user's current location and Details. Other TAK users appear on the display as a colored circle. The color of the circle represents the user's Team affiliation, with additional lettering inside the circle to identify the role the user on the team. Team member markers that include a diagonal line indicate that the GPS location is not available. A solid icon indicated that the team member has GPS reception.

Available roles include: Team Member, Team Lead designated by a TL in the center of the marker or Headquarters designated by HQ. The options available when you select another user's self-marker are: Inner Ring – Delete, Polar Coordinate Entry, Fine Adjust, Range & Bearing Line, GPS Lock on Blue Marker, Video Playback (if available), Tracking Breadcrumbs, Communication Options (if configured by that user), and Details.

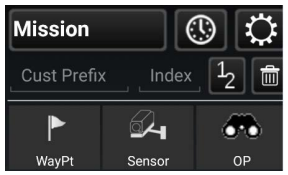


Outer Ring (Communication Options) – Data Package, Email, SMS Messaging, GeoChat, VOIP, and Cellular Phone.

Point Dropper

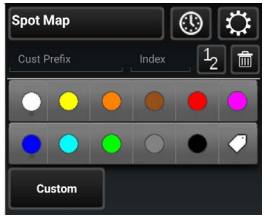


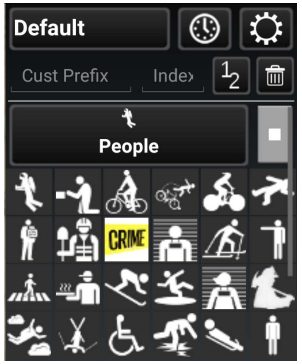
Tapping the [**Point Dropper**] Icon will open the Point Dropper menu, containing marker symbology , one or more icon sets, a Recently Added button and an Iconset Manager button.



The user can select the mission specific pallet to open point options including Waypoint, Sensor, or Observation Point.

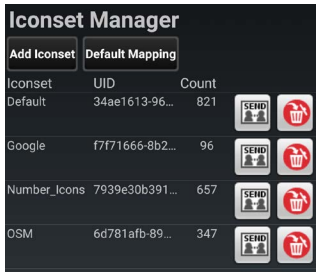
The User can move between icon sets by either swiping in the icon set area or tapping on the icon set name to bring up the Icon Pallet Selection screen. The information for a dropped marker appears in the Recently Added area and can be accessed by tapping the [**Clock**] icon. The Call Sign of the member is included in the marker information along with the Range & Bearing information.

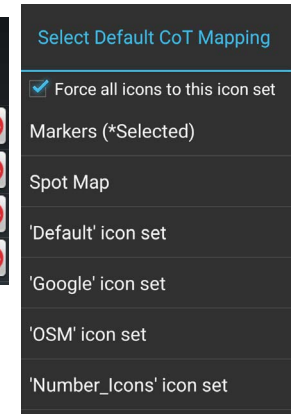


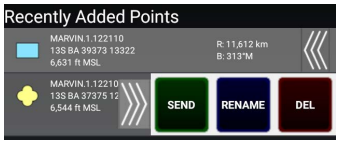


Point Dropper (continued)

The marker symbology affiliations are: Yellow, Green, Red, and Blue. Tap the marker symbology affiliation, and then tap a location on the map interface to drop the marker. If the user wants to change the naming convention they can change the Standard Name to a Custom Name by selecting the custom prefix and index. The user may then enter a title prefix and a starting numbers or letters; the marker will be dropped as the desired name and starting numbers or letters and every marker drop after will be assigned the next consecutive numbers or letters. Tap the [**Iconset Manager**] button to add or delete icon sets or set the default Marker Mapping.







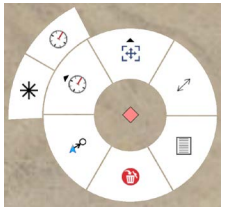
To remove any recently added markers, tap the Arrows next to the marker to reveal SEND, RENAME or DEL buttons. Tap the [**Back**] button to exit the Marker menu.

Radial Menus

Yellow Object

Green Object

Red Object



Blue Object

Spot Object

The options available for **Yellow Object** and **Green Object Markers** are: Polar Coordinate Entry, Fine Adjust, Range & Bearing Line, Details and Delete.

The options available for **Red Object Markers** are: Polar Coordinate Entry, Compass Rose/Bullseye, Fine Adjust, Range & Bearing, Lock-on, Details, and Delete.

The options available for **Blue Object Markers** are: Polar Coordinate Entry, Fine Adjust, Range & Bearing Line, Lock On, Video, Tracking Breadcrumbs, Contact Card, Details and Delete. The Video slice will activate if a properly formatted packet that includes the link to the video feed is included. Simply tap the video slice to open the associated video. The Contact Card can be selected to display additional communication options, including ATAK Chat, Email, VoIP SMS Messaging and Cellular Phone.

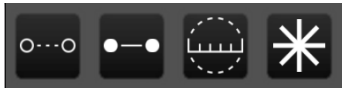
The options available for **[Spot Map]** are: Fine Adjust, Range & Bearing Line, Nav-To, Details and Delete.

The options or **[User Defined Iconsets]** are: Polar Coordinate Entry, Fine Adjust, Range & Bearing Line, Details and Delete.

Range & Bearing Tool

The **[Range & Bearing]** icon allows the user to access the **Range & Bearing** functionality, which provides several measuring tools. When the icon is tapped, the available tools are added to the toolbar for user access.

The [**R&B Line**] icon allows the user to calculate the distance between two locations on a map, to calculate the distance between an object on the map and another point on the map, or to calculate the distance between a point on the map and the [**Self-marker**]. Tap the [**R&B Line**] icon on the toolbar to toggle on (green) and off (gray). When green, tap the point to measure from or long press a point to measure from the Self-marker to that point. Once the first point or object is selected, tap another point or object to measure to.

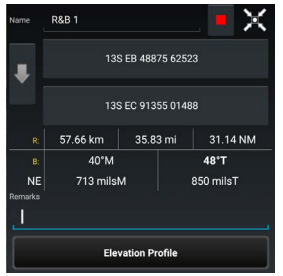


The **Dynamic Range & Bearing Line** can be moved and repositioned by the user. When the desired location is established the user can select the pin button on the radial menu to lock the bearing line. The pinned [**Range & Bearing**] will show the azimuth, distance and depression or elevation degree between the two points. To reposition an anchor point, long press on either end of the bearing line, then tap another location. The line will be moved to the new location with an adjusted distance and azimuth.

Tap either end of the bearing line to display the Range & Bearing end point Radial. The options available are: Fine Adjust or Delete.

To make fine adjustments to either end of the line, tap the **[Fine Adjust]** icon on the radial. Cross-hairs appear and the area is magnified. Drag finger inside the magnified area to finely position the end of the bearing line then select the green check mark to end the fine adjust. To delete the bearing line, tap the [**Trashcan**] on the radial and the line will be deleted.

To obtain even further options for the bearing line, tap along the line and the Bearing Line radial will display. Options available are: Depression or Elevation degree, Angle Bearing Units, Distance Units, Details, and Delete. To change settings of the line, tap the [**Details**] icon on the radial.

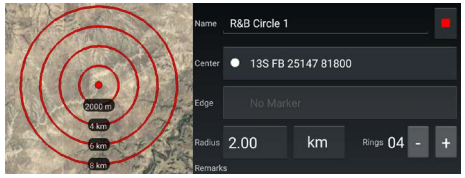


Range & Bearing Tool settings can be customized in Settings > Display Preferences > Unit Display Format Preferences.

Range & Bearing Circle Tool

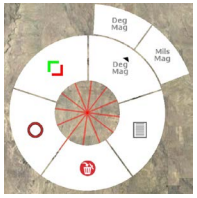
The **Range & Bearing Circle Tool** allows the user to mark one or more range rings around a point. Unlike the circle drawing tool, The circle may not be sent to other users. Tap the [**Circle**] icon on the toolbar to toggle the Circle Tool on (green) and off (white). When green, tap the desired location on the map for the center of the circle. If Self-marker or a marker is selected, the Circle edge will change if the markers are repositioned. A circle's center will drop at the first location and the radius at the second location.

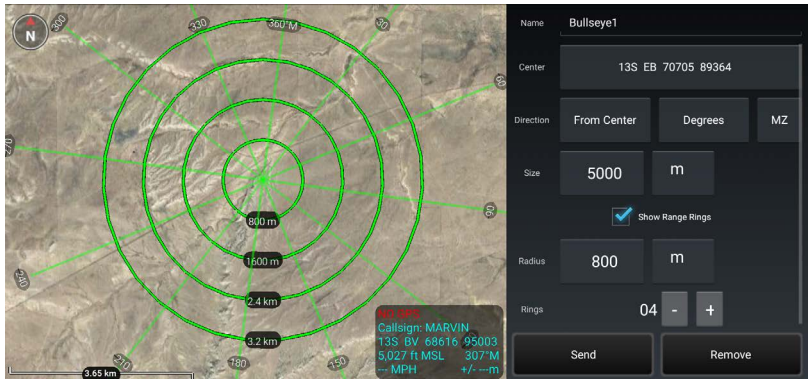
To make further adjustments to circle parameters, tap the center of the circle to display the Circle Radial menu. Options available are: Fine Adjust, Details, and Delete. Tap the [**Details**] icon on the radial to modify the radius rings, the unit of measurement between the rings, and the number of rings. After making adjustments, the circles will be redrawn as specified.

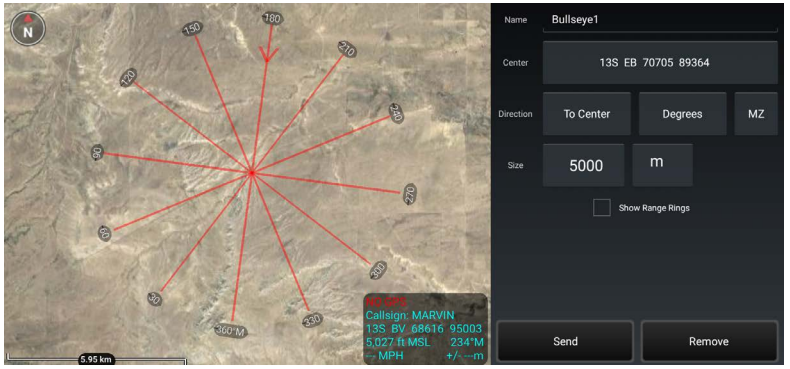


Bullseye Tool

The **Bullseye Tool,** an additional **Range & Bearing** option that gives more information than the standard **Range & Bearing Line** or **Range & Bearing Circle.** The Bullseye provides a circular grid with lines every 30 degrees. The angles can be changed to be either toward the center point or from the center point. Range rings can also be added.







Route Planning and Navigation

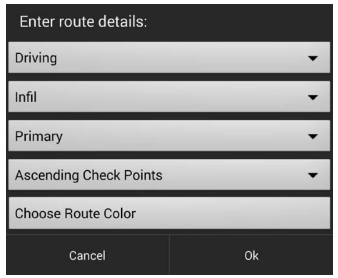
The Routes Tool allows users to quickly create new routes or modify existing routes.

Route planning and navigation capabilities allow the user to calculate distances, create or modify routes, and set navigation objectives.

The **[Navigation Flag]** icon allows the user to navigate to any point or object on the map.

Routes

The **Routes Tool** allows users to quickly create new routes or modify existing routes. Tap on the [**Routes Tool**] icon to list existing routes or to import/create new routes. For each route the following actions are available: Delete, Labels, Navigate, Edit, or Details.

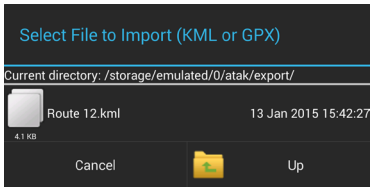


To create a new route, tap on [**Create**]. Enter the initial parameters: method of movement (driving, walking etc.); Infil or Exfil; Primary or Secondary; Ascending or Descending Check Points, and select a route color. Tap [**OK**] to begin building the route once the parameters are selected. Tap a location on the map to make it part of the route. Long press to create Check Points along the route. Tap [**Undo**] to reverse any changes. Tap [**End**] to complete the Route.

Routes (continued)

Once the [**End**] button is tapped, the route details are presented. At this point additional details may be changed. The route can also be exported to a file in either KML or GPX format. This file will be located in the "\atak\export" folder. Routes may also be sent to others in the network, either broadcast to all or send to selected recipients.

Routes can be customized in Settings > Tools Preferences > Route Preferences.

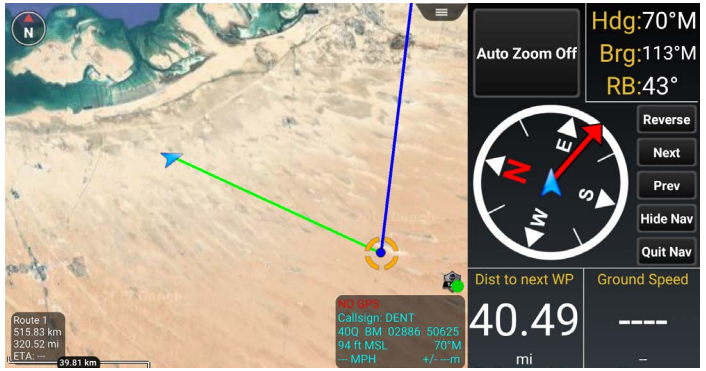


To import a route, tap on [**Import**]. Navigate to the location of the saved routes (in KML or GPX format). Tap on the desired route. The route will be imported and displayed on the map.

Check Points can be used as points of interest along a route. After a route is created with multiple control points, notice that the **Route Detail** window will populate a chart with the length in feet/miles, meters/kilometers, and a change in elevation. A row represents the length and elevation change between Start to CP1, CP2 to CP3 etc. The Elevation button is also available to allow the user to view the elevation profile for that route.

Navigation Flag

Tapping the **[Navigation Flag]** icon will allow the user to begin navigation to any point, object or route on the map. A pairing line is drawn and the Navigation screen is displayed. The information is updated as progress is made toward the specified location on the map. Within the Navigation window, tap **[Auto Zoom]** to toggle it on or off. When **Auto Zoom** is on, the **Self-marker** and **Destination Marker** will remain on the screen at all times. If navigation is to a route, the [**Reverse**], [**Next**], [**Prev**] buttons can be used to modify the current navigation to other checkpoints along the route. Tap on [**Quit Nav**] to close the navigation function. Tap on the Distance area or Ground Speed area to toggle between kilometers and kilometers/ hr or miles and miles/ hr.



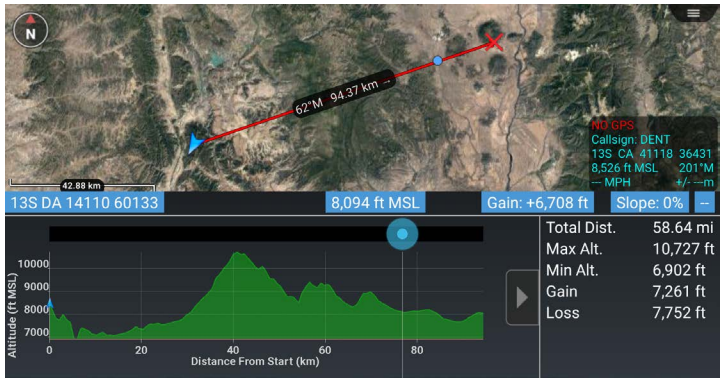
Red X Tool

The **Red X Tool** is available on the action bar for ease of use. It provides a quick way for discerning the coordinate and altitude information of a point on the map along with Range & Bearing with respect to the **Self-marker**. Tap the **[White X]** on the action bar to toggle the Red X tool into a movable state (red with red dot). Tap the desired location on the map and a Red X will appear in that location. Tap another location to move the **Red X**. Tap the X (red with the red dot) on the action bar again to put the **Red X** in a pinned state (Red X). When the **Red X** is in an unpinned state, its position information is displayed in the top right screen. Long press the X on the toolbar to disable and remove the **Red X**.

Note: The **Red X** is not persistent. When ATAK is closed and then reopened, the **Red X** will no longer be present.

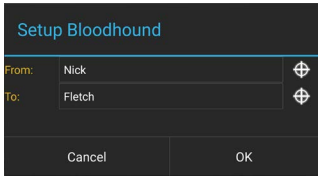
The user can pair a **Red X** with another object (a Self-marker for example) and then the **Bearing Line Radial** can be accessed. Selecting the Details Radial menu will open the **Range & Bearing** details menu. From this menu, the user can change the color of the line; reverse line direction; change the endpoint location information, add a remark, and display an elevation profile.

Tapping on the **[Red X]** icon will open the **Red X Radial**. The options available are: Drop Marker, Range & Bearing, Compass Rose, Field Azimuth Heading, Fine Adjust, and Delete.

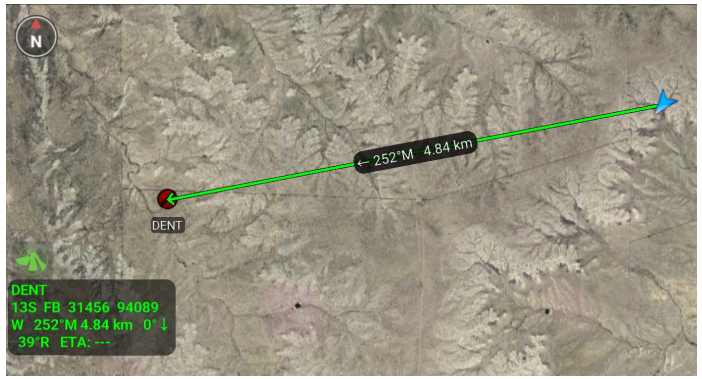


Bloodhound Tool

The **Bloodhound Tool** provides support for tracking and intercepting a map item. This tool allows the user to select a target using a SPI to track and displays a text widget containing Range & Bearing information between the user location and the target location. A remote Bloodhound can also be created between any combination of other contacts, SPIs, markers and the Self-marker. A pairing line is also drawn connecting two selected locations. Unlike Quick Navigation, this does not show the compass.

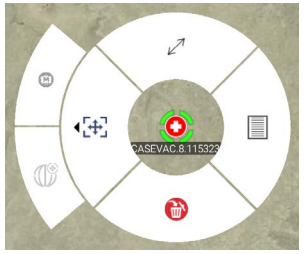


The **Bloodhound Tool** displays the estimated time of arrival (ETA), relative bearing, and cardinal direction. As the user's ETA decreases, the color of the bearing line changes from green (default: 6 minutes from target and then begins to flash); flashing yellow (default: 3 minutes from the target), and flashing red (default: 1 minute from the target destination). The default threshold can be configured in Settings > Tool Preferences > Bloodhound Preferences. The user can long press to acknowledge and discontinue the flashing feature. The Bloodhound Tool can also be initiated from the SPI radial menu. The **[Pan-To]** button is available above the detail display and allows the user to pan to the selected item.



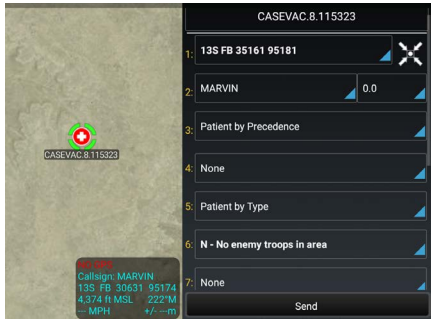
CASEVAC

The casualty evacuation **CASEVAC** is used denote any casualties/injuries in the field. ATAK's CASEVAC tool follows Appendix G of the JFIRE 2016 publication and can be used for either CASEVAC or the more restrictive MEDEVAC.



The user can drop a CASEVAC by locating the CASEVAC icon in the menu and placing a marker in the map interface. Selecting the CASEVAC allows the user to fine adjust, pair, open the medical 9-line or delete.

When the CASEVAC window is opened the user is prompted to fill out the nine lines of required information, the ZMIST (ZAP number, Mechanism of Injury, Injury Sustained, Symptoms and Signs, Treatment Given) report and the Helo Landing Zone (HLZ). Once the user has entered all the applicable information the CASEVAC may be sent to available contacts by selecting **[Send].**

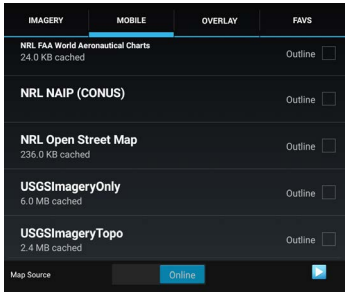


Multiple ZMIST reports can be associated to one CASEVAC. This action can be performed by selecting **[ADD]** next to the initial ZMIST heading and section. ZMIST can also be deleted by selecting the **[Trash Can]** at the beginning of an individual ZMIST report.

Map Manager

Tap on the **[Map Manager]** icon to list the imagery loaded in the Civ-TAK application.

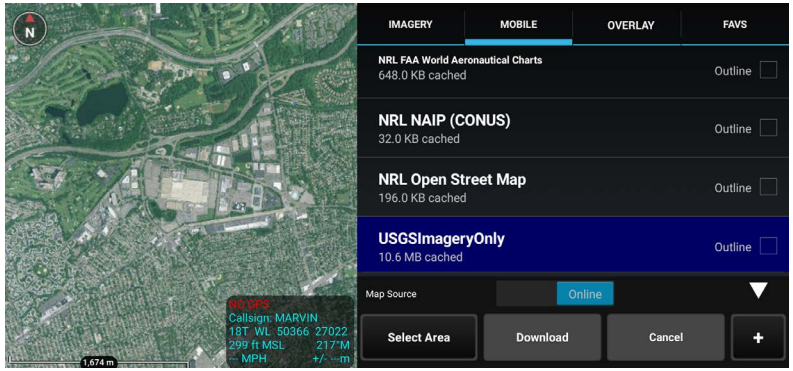
The following categories are shown: **Imagery/Maps, Mobile, Overlay**, Favorites (**FAVS**). Select **[Online/ Local]** on the Mobile tab to toggle between downloading or using locally stored map layers over a desired area. Additionally, the user may tap the **[Overlay]** button to display a list of available Overlay files. Tap on the **[FAVS]** button to add a current view to favorites or to switch to an existing view.

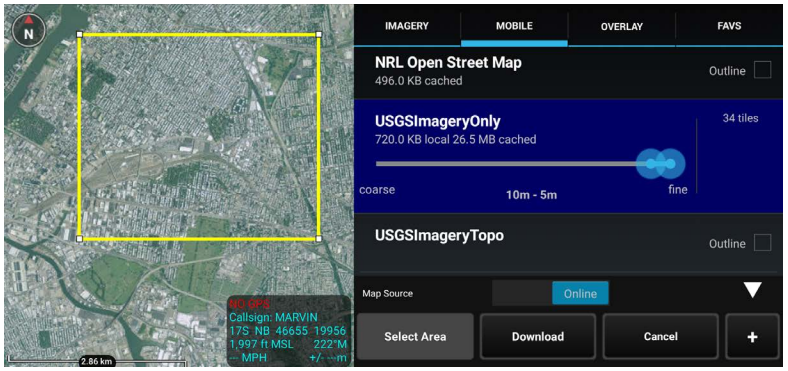


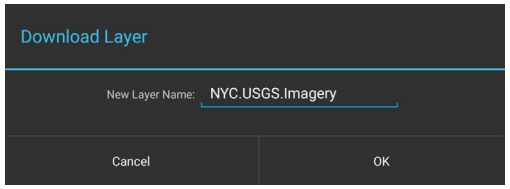
Saving a Map Layer

Expand the **[Map Source]** option by selecting the arrow and tap [**Select Area**] to define a region of interest. Tap the top left and lower right corners to select the area to be saved.

A box will appear to visually display the selected layers. Drag the slider end points to select the resolution of the tileset. The number of tiles to be downloaded will be indicated. Select the **[Download]** button to begin the download process.

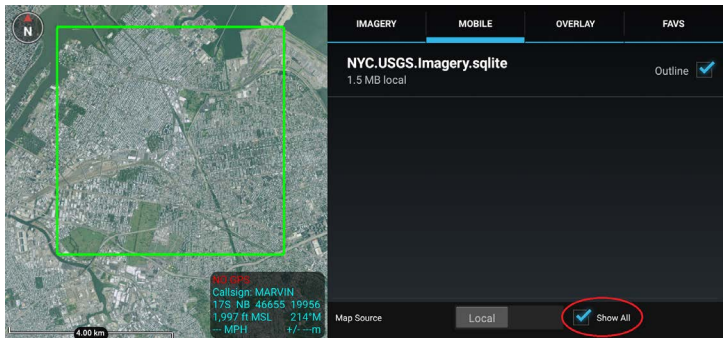






The user can choose to create a new tileset or add to an existing one. Enter the name to be applied to the selected layers and tap **[OK]**. A status indicator will appear to show the download progress.

Saving a Map Layer (cont)

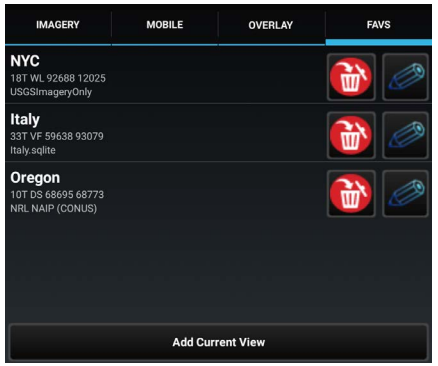


The user can toggle between **[Online]** and **[Local]** map layers. When **[Local]** is selected a listing of the downloaded imagery layers in the current map interface appears. The local layers are listed in order beginning with the area closest to map center. Select the **Outline** checkbox to toggle the outline layers on or off. When the user selects a layer from the list, map source data corresponding to that downloaded layer will be used as the sole source for map data.

NOTE: Refer to the README.txt file in the atak/support folder. The README.txt file states where the user should store a given imagery file or the imagery can be added using the Import Manager tool. All imported imagery will show up in the **[Imagery]** tab and function the same as the **[Mobile]** and **[Overlay]** tabs.

If **Show All** is checked, all of the layers are shown. Otherwise, only layers with coverage in the currently displayed map location will be displayed. Imagery based map products (e.g., MrSID, GeoTIFF, NITF); that are placed in the atak\imagery folder will appear under the **[Imagery]** tab when it is restarted. The list of supported products can be accessed by navigating to the atak\support directory and opening the README.txt file.

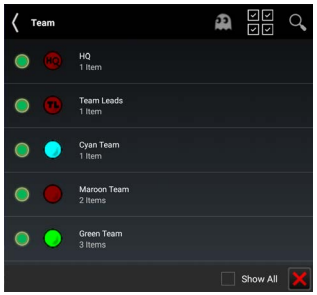
Bookmarking a Location

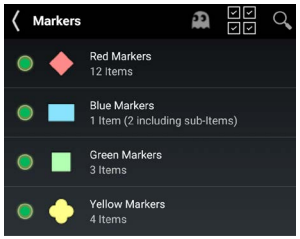


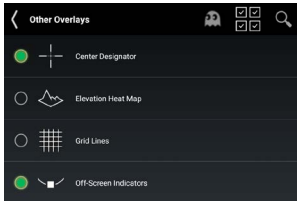
If the User wishes to save the current view and displayed imagery, select the **[FAVS]** tab and tap **[Add Current View]**. The user will be prompted to name the view, this is required to be saved to Favorites.

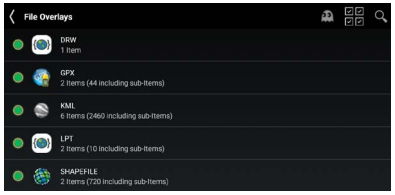
Overlay Manager

The **[Overlay Manager]** allows the user to find a specific item on the map. Tap the [**Overlay Manager**] icon to bring up the menu. Scroll down in the menu to select layer types to explore. Users may select **Team, Markers, Marker Attachment, Data Packages, Navigation, Shapes, File Overlays**, and **Other Overlays** from the menu options. Selecting a category will open a detailed listing of the items available in that category. The available items within each category are annotated on the menu entry, allowing the user to reference sub-menu content.

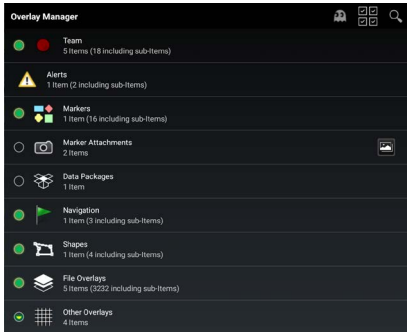


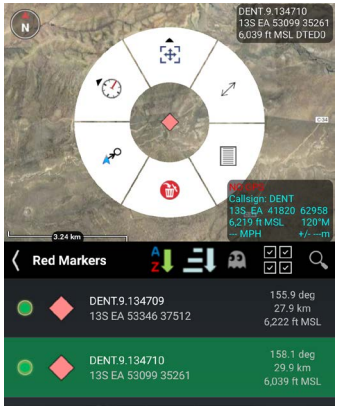


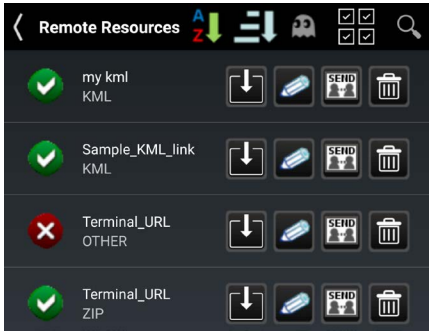




Users may select a layer of interest and use the radial buttons to turn visibility of that layer on and off. When the indicator appears green, the corresponding layer is visible. When the indicator is hollow the corresponding layer is not visible. For example, when **Marker** is selected the various markers can be selected or deselected for display. When a displayed item is selected, a detailed listing will appear. This listing can be sorted alphabetically or by proximity to the self-marker. Additionally, if a category is marked green this indicates one or more sub-element is visible. If the category is not marked green, no sub-elements are visible.

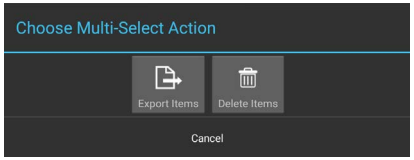


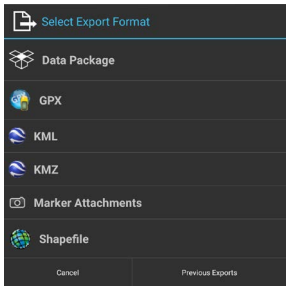


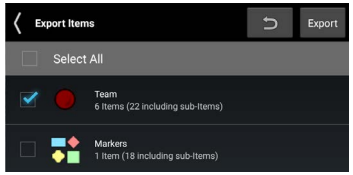


Multi-Select Export

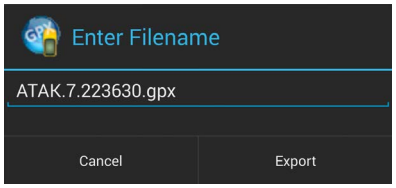
The user can export an existing overlay to a file or directly to additional users for use in other applications. This is accomplished by pressing the **[Multi-Select Action]** icon, choosing a file format, and then selecting each category of overlays that should be included in the export file. The user can also select [**Previous Exports**] to send to other users.

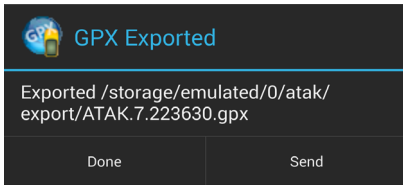


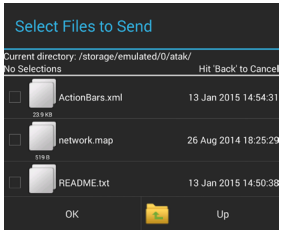




After the selections have been made, Click **[Export]** to open the **Enter Filename** interface. Enter the desired file name and select **[Export]** to create the file. A dialog will open notifying the user the the file has been exported **(in this case a GPX file)**. Select **[Done]** to simply save the file or select **[Send]** to open the **[Select Protocol]** dialog. The user may select a **Contact, FTP** or to choose an application.

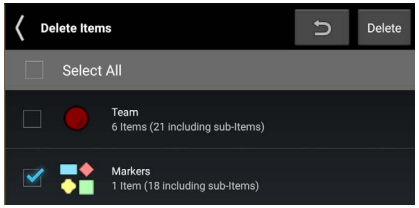






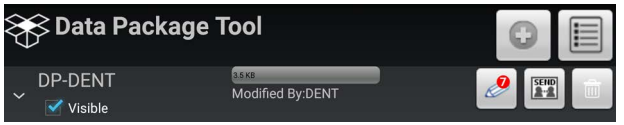
The user can delete existing overlays. This is accomplished by pressing the **[Multi-Select Action]** icon, and then selecting each category of overlays that should be included for deletion. After the overlay categories are selected, press **[Delete]** to open a confirmation screen, verifying the user is confident in the selection.

This interface can also be accessed through the **Clear Content** menu item.

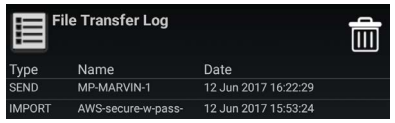


Data Package Tool

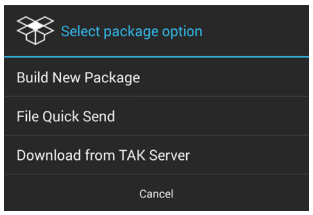
Tap the **[Data Package Tool]** icon to display any Packages that have been stored. New Packages may be built and built packages may be sent to other network members. Data Packages may also be deleted. When preparing for an operation, a team leader may prepare a route, plot markers, shapes, and imagery that pertain to mission objectives. The team leader would then include all those into a data package and send it to each person on the team, so that everyone has the same info.

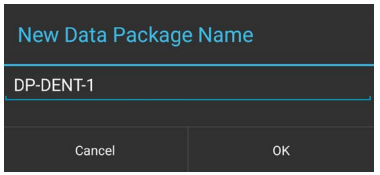


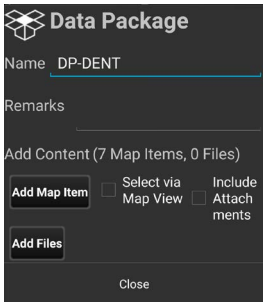
In addition to Map Items, external files (from the SD card) may be included in a package. Map Item attachments may optionally be included. The visibility of the package may also be toggled on/off.



Select the **[+]** icon in the Data Package Tool to create a new Data Package. Select **[Build New Package]** to create a new Data Package for distribution. New Data Packages will be appear in the Data Package Tool main interface. Select [File Quick Send] to open a file browser to select a previously saved Data Package or quickly build a mission package from saved or exported files. **[Select Download from TAK Server]** to access an existing Data Package from the TAK Server.

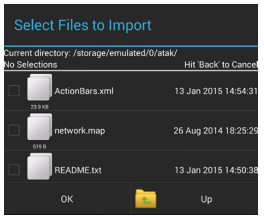


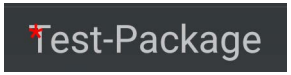




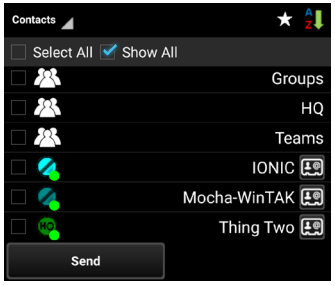
Select the **[Edit]** icon in the Data Package Tool to add **Remarks** and **Content** to a Data Package. Enter any applicable information in the **Remarks** region, select **[Add Map Item]** to open a map interface to add current map items, or open a file browser to select saved files for distribution.

When the user adds to a Data Package, a red asterisk will appear on the Data Package name to indicate that the user should save the Data Package. The number that appears on the Edit icon indicates the number of items in the mission package.





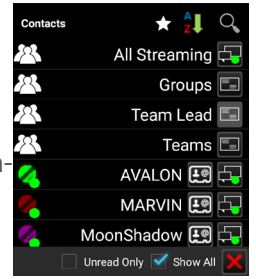
Select the **[Send]** icon in the Data Package Tool to open a list of options for sending the Data Package including: TAK Contact, TAK Server, or another application. The user may either **Select All, Clear All** or toggle recipients by selecting or de-selecting their corresponding checkboxes.

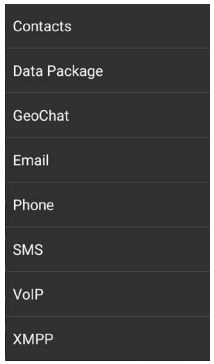


Select the **[Delete]** icon to delete a Data Package. The user will be prompted to remove or leave the contents of the Mission Package on the map interface. The Data Package Tool can be customized in Settings > Tool Preferences > Data Package Control Preferences.

Contacts

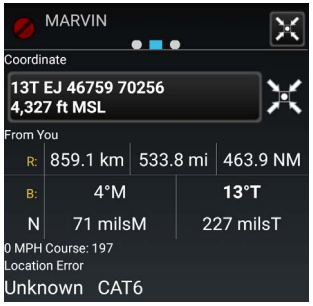
The Contacts list includes a variety of ways in which a user may communicate with other users, such as GeoChat (ATAK's built in Chat capability), Mission Packages, Email, Phone, SMS, VoIP, and XMPP.

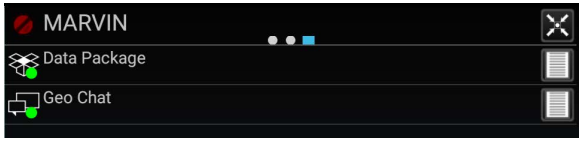




A profile card (shown in the second to last column) is available for each contact containing additional information about that contact (role, software type and version installed, node type, default connector, last reported time, battery life, location information and available types of communication.

A default communication type (shown in the last column) may be selected and used until another type of communication is selected. If the contact is no longer online this will be indicated by changing the contact listing to a yellowish color and the marker changes to gray both in the list and on the map.

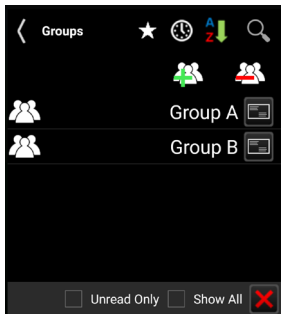




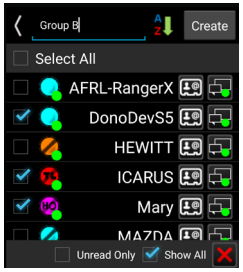
Geo Chat

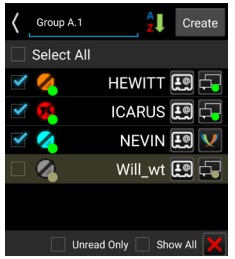
Text-based Chat messages may be sent to active network members by using the GeoChat function. To enter GeoChat management and configuration, tap the **[Contacts]** iconand select GeoChat from the drop down menu.

Management and Configuration

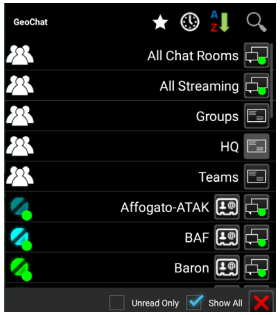


GeoChat management and configuration is initiated through Contacts. Tap the **[Contacts]** icon, then select GeoChat from the drop-down. The user can now create, edit, and delete chat groups, as well as sub-groups. To create a chat group, tap on the **[Groups]** line (not the communications button). This will bring up the group configuration screen. Tap the **[Add Group]** icon to create the name of the group and add contacts to the group and the tap **[Create].** If a parent group is being created, no contacts need to be added at this level. To add a nested group, tap the parent group, tap the **[Add Group]** icon to create the name of the sub-group and add contacts. Groups may be managed using the options to add/delete contacts or to add/delete GeoChat group.





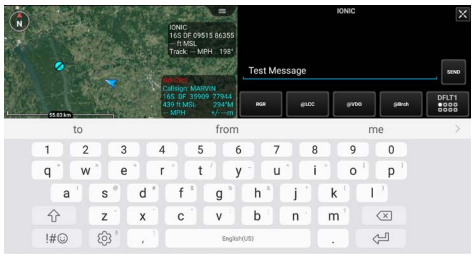
Messaging

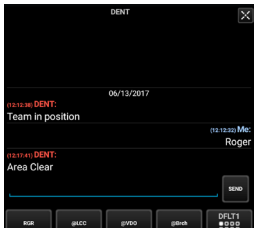


Group and person-to-person messaging is available. To view messages from or send messages to an individual, tap on the desired contact's **[Communication Button]** icon. Tap on **[All Chat Rooms]** to view all messages from or send messages to those present on the network. Tap **[All Streaming]** to view all messages from or send messages to those present on the server. Other groupings available for viewing or sending messages are: Groups, HQ, Team Lead, and Teams. If your current role is HQ or Team Lead you can view or send messages to all other contacts with the same role. If a GeoChat message is sent from the top level of Teams, it will be sent to all contacts, similar to **[All Chat Rooms]** or **[All Streaming]**. When a sub-team is chosen, messages can only be sent to your active (My Team) team color.

When a parent group is chosen, messages are sent to all members of the parent group as well as all of the sub-groups. When a sub-group is chosen, message are sent only to members of the sub-group.

GeoChat (continued)





Tapping in the **Free Text Entry** area will bring up an onscreen keyboard. At the bottom of the Chat area are pre-defined messages that may be used to quickly create a message to send. Tap the current menu button to scroll through the eight different menus of messages, including: **DFLT1, DFLT2, ASLT1, ASLT2, RECON1** and **RECON2.** These pre-defined messages present an easy way to transmit a brief message to other network members concerning position or message understanding. The pre-defined messages may be changed by long pressing on the button and changing its label and corresponding value.

The **[Chat Message]** icon will appear in the Android notification bar when a message has been received. Open the bar to view the notification. Tap on the notification to open the chat session and view the last messages received.
When messages are received on a device, the count will appear on the **[Contacts]** icon on the Action Bar and also in the consolidated contacts list where the messages occur.

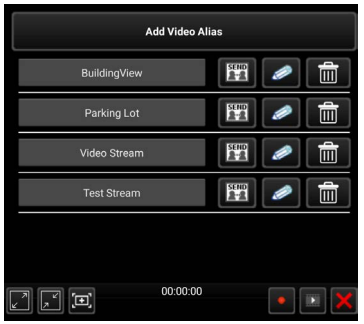
Video Player

The Video Player supports playing video streams from IP cameras. The menu allows adding, editing, deleting, playing, or sending videos to other network members. Tap the **[Video Player]** icon to bring up the Video player.

Tap the desired video alias to begin playing the stored or streaming video. The video will display half the width of the screen.

To view a video at full screen, tap the **[Increase View]** icon.

Tap the **[Decrease View]** icon to return to half screen. Pinch Out or Pinch In to zoom.



Tap the **[Video Listing]** icon to return to the list of available videos. Tap the **[Play]** icon to return to the currently playing video.

When a video is playing at half width, tap the **[Decrease View]** icon to slide away the video but maintain the connection for a configurable time. This time can be configured in Settings > Tool Preferences > Video Preferences > Idle Stream. The default is set to 180 seconds. The video will be hidden and an arrow will appear. Tap the arrow to unhide the video. The status of the video player is reflected in the main Android Notification Bar located at the top of the screen.

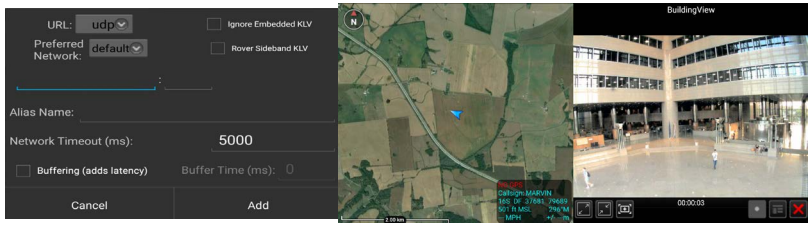
Tap the **[Snapshot]** icon to save the current frame of the video as a JPEG image file, the icon will flash green to indicate that the snapshot has occurred. The file will be saved in the "\atak \videosnaps" folder. The image file can then be viewed in any application capable of JPEG images.

If a live UDP stream is being viewed, it can be recorded by tapping on the **[Record]** icon. The icon will change to a green square while recording. Tap the **[Green Square]** to end the recording. The recordings are saved in a folder in "\atak\videos\.
(**Note**: this is only available for UDP streams).

To close the video player, tap the **[X]** located at the bottom right corner of the video player.

Adding a Video Stream

To add a video alias, tap the **[Add Video Alias]** button and add a video alias or import an alias from the TAK Server.



Enter the necessary information for the selected stream type: Stream Type (UDP, RTSP, RTMP, RTMPS, TCP, RTP, HTTP, HTTPS, RAW) along with the necessary streaming information including, IP address (leave IP blank to listen on your own IP); Port Number; Alias Name; Network Timeout; Buffering; and Buffer Time. Selecting buffering along with a buffer time will provide a small amount of buffering of input video flow to help smooth video streams.

NOTE: Adding buffering will increase latency. When done, tap **[Add]**.

Video Aliases may be sent to other network members by tapping the **[Send]** button on the desired video listing. One or more members may be selected. Tap the **[Send]** button to send to the intended recipients or send to a TAK Server.

To edit an existing Video Alias, tap the **[Edit]** icon to access the same options as shown for the Add Video Alias option. During editing, the video alias can be renamed or redirected to a new address and port combination.

To delete an existing video, tap on the **[Trash Can]** to the right of the desired video alias.

Viewing KLV

If a video includes associated metadata, an option will be available to view a representative SPI or Marker. These markers indicate the map location of the sensor at the corresponding time viewed within the video player. The SPI marker will indicate the center of view corresponding to that sensor as the video plays. The user may zoom to the **SPI** or Marker by selecting the **[Zoom To]** icon on the video controls, or may lock to an **SPI** by selecting the **[Lock]** icon.

Note: This functionality is only available for live streams in UDP format if the KLV data is available as well.

Live Video Map Display

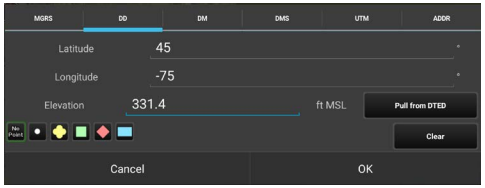
When the user has a video (video stream) with metadata for the four corners of the video, the user can view the video in the map interface. The user starts by opening the video and tapping the **[Globe]** icon in the upper right hand corner of the video window, turning the globe green. When the window is minimized, the video can be viewed on the map interface. The video will overlay upon any current imagery displayed.

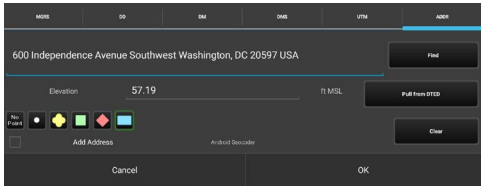
A live stream can be saved and viewed by using a **[Sensor Point]** from the [**Mission Specific**] icon pallet. After the user adds the URL and FOV to the details window of the Sensor Point the video can be viewed. This Sensor Point can be sent to other users when provided with the URL and FOV.

Go To

Tap on the **[Go To]** icon to enter details and navigate to a specific location in the ATAK application.

Select from the **[MGRS]**, **[DD]** (decimal degrees), **[DM]** (degrees - minutes), **[DMS]** (degrees-minutes-seconds), **[UTM]** (Universal Transverse Mercator) or **[ADDR]** tabs on the Go-to interface and enter the location data of interest. Note that the address provider name appears beneath the Elevation Data when the user selects the **[ADDR]** tab.





The user can enter the Latitude, Longitude and Elevation in the space provided for **[MGRS]** , [**DD**], [**D-M**], or [**D-M-S**] searches. The Elevation value can be automatically populated by tapping the [**Pull From DTED/SRTM**] button. The user can select a desired marker type **(Spot, Yellow, Green, Red, or Blue)** to be placed at the entered coordinates. If "No Point" is selected, the map will pan to the location but will not add a point.

The user can also enter an address and drop a marker or zoom to the entered location.

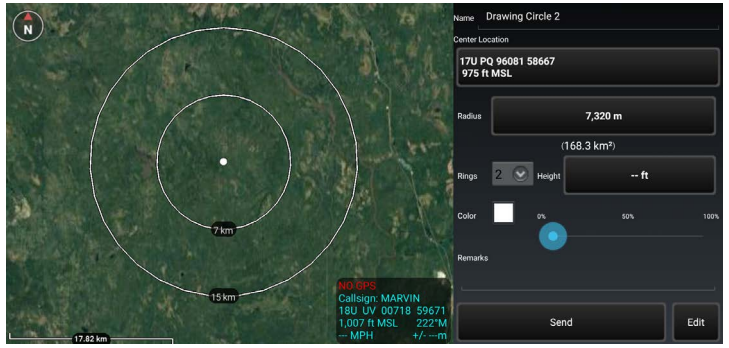
The Address Lookup provider used for the ADDR tab can be configured in the Settings > Tool Preferences > Address Lookup Preferences.

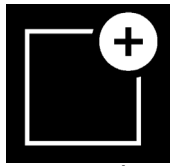
Drawing Tools

The **[Drawing Tools]** Icon allows the user create different shapes and/or telestrate on the map. The Pairing, Fine Adjust, and Delete slices of the radial menus behave in the same manner as other Civ-TAK objects. The user may choose to create a shape by selecting the [Shape] icon. The **Geo Fence Tool** allows users to create a virtual fence, using an existing closed shape, that triggers entry/exit notifications. The **Telestrate Tool** allows the user to create a quick, free form drawing on the interface. The area of a circle and rectangle will be added in the **Details** window.

Create a Shape

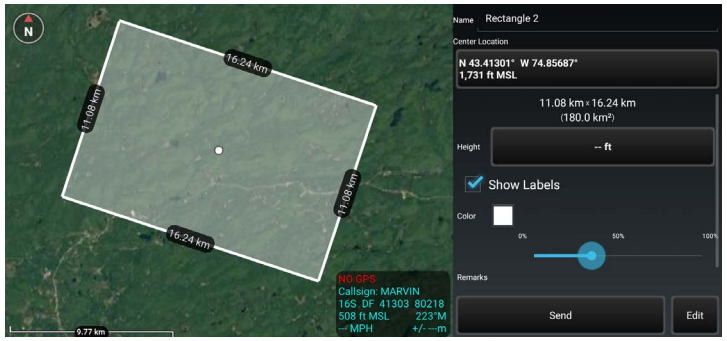
To add a Circle, tap the **[Circle]** icon and then tap on a location to place the center point and tap another location for the radius. Tap the **Circle** and select **Details** on the Radial Menu to change the name, radius, number of rings, color, opacity, addition location information, add a height, a remark or send or broadcast the circle information to others. Tapping on the circle on the map, will bring up the **Circle Shape** radial menu. Options available are: Pairing, Geo Fence, Edit, Details, and Delete. Note that the Fine Adjust icon is gray and not active. To edit the circle, tap on the **[Edit]** icon. Long press the center point to move the circle or long press the edge to resize. Tap **[Undo]** to reverse changes or tap **[End]** to save the changes.





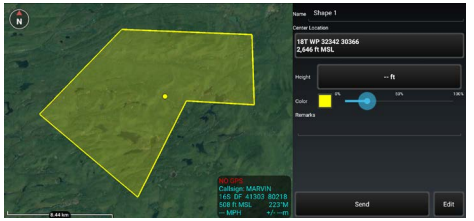
To add a Rectangle, tap the **[Rectangle]** icon, then tap a location to place the first corner, tap another location to add a parallel corner, and tap a third location to indicate the desired depth of the rectangle. Tap the **Rectangle** and select **[Details]** on the Radial Menu to change the name, color, opacity, addition location information, add a height, a remark or send or broadcast the rectangle information to others. Tapping on the rectangle on the map, will bring up the **Rectangle Shape** radial. Options available are: Show Labels, Pairing, Geo Fence, Edit, Details, and Delete. Note that the Fine Adjust slice is gray and not active.

To edit the rectangle, tap on the **[Edit]** icon. Drag a corner or side of the rectangle, or long press a mid-point or vertex, to move the selected side. The rectangle can be rotated if one of the four mid-points are held and dragged. Tap **[Undo]** to reverse changes or tap **[End Editing]** to save the changes.



Create a Shape Continued

To drop a shape on a map, tap the **[Drawing Tool]** button. Tap the desired shape to place on the map: free form, rectangle, or circle.



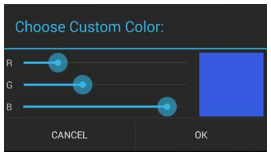
To add a Free Form shape, tap the **[Free Form]** icon and tap a location to place the first vertex for the shape and then continue to tap to add vertices. Tap on the initial vertex to close the shape or tap **[End Shape]** to form an open shape. Tap the **[Undo]** button to remove the links in sequence. Tap the Shape and select Details on the Radial Menu to change the coordinate of shape center point, coordinate type, name, color, opacity, add a height, add a remark, and send or broadcast the shape information to others. Note that an open shape's center point can not be changed. Tapping on the shape on the map, will bring up the **Free Form Shape Radial**. Options available are: Pairing, Geo Fence, Edit, Details, and Delete. Notice that the Fine Adjust slice is gray and not active. To edit the shape, tap on the **[Edit]** icon on the Radial. Drag a vertex of the shape or long press a line to add a vertex. Tap **[Undo]** to reverse changes or tap [End Editing] to save the changes.

Telestrate

Tap the **[Telestrate]** icon to access the Telestrator tool menu items. Tapping the **[Telestrate]** icon enables and disables map scrolling by turning telestration on or off. **[Undo]** removes the most recent activity and **[Pause]** stops all current telestration activities.
Selecting **[End]**, ends the current telestration session saving all activity as a single Multi-Polyline and returns the user to the main Drawing Tools menu. Note that a telestration cannot be moved by a long press. Tapping a telestration will bring up the Radial menu. Options available are: **[Details]** and **[Delete]**.

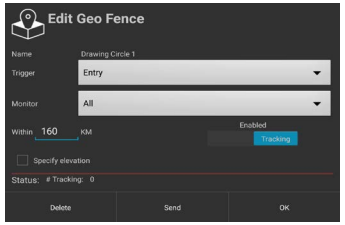
When the **Telestrator** is toggled on, the user is able to free form draw manually or with a stylus.

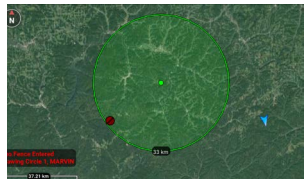
Selecting the **[Change Line Colors]** button will open the Choose Telestration Object Color Menu. The user may choose a provided color or tap **[Custom]** to customize a color using the Choose Custom Color window.



Geofencing

The Geo Fence tool allows users to create a virtual fence that triggers entry/exit notifications if map items of interest cross the virtual boundary lines. The **Geo Fence** options are added to the existing drawing tools. After a shape has been added, the **Geo Fence Tool** can be accessed either by selecting the **Geo Fence** icon from the menu items or selecting it from the radial. Alerts appear on the map interface. Tapping the **[Alert Notification]** will open the alerts menu, detailing the activity monitored in the user defined region of interest. Note the "Within" distance is the radius from the Geo Fence center point to search for map items to monitor. If the user wishes to keep the Geo Fence, but disable tracking, the user can slide tracking off in the Edit Window.

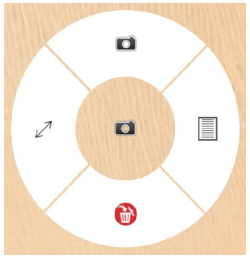




Quick Pic

Tap on the **[Quick Pic]** icon to access the Android device's camera, or another camera application.

After taking a picture, the user may [**Discard**] a picture or [**Save**] it. Saving the picture opens a map view with a camera icon present at the user's location and attaches the image to the camera marker. The user then can send, mark-up, center on the marker in the map pane, or expand the picture to the entire screen.



Tap on the **Quick Pic** marker to activate its radial. Options include pairing, 9-line CAS, image view, details, and delete. Selecting image view allows the user to view the image along with the marker and the approximate field of view of the still image. The image can also be accessed by selecting details and tapping the paper clip and then tapping the thumbnail image.

Gallery

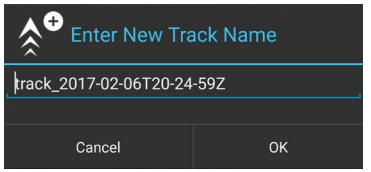
Civ-TAK has an integrated gallery added to view media attachments. The marker attachments are shown on the right side of the screen. The user can add a caption to the image by opening the thumbnail in the gallery and tapping the line at the top of the image.

Track History

The user can use GPS to track movements using the **Track History Tool**. These tracked paths can be exported to a KML file or saved for future use. A GPS position must be established before tracking can begin.

Selecting the Track History icon will open the **Track History Toolbar**. The options include Create a New Track, Track User List, Track Search (Local or on TAK Server), Delete Track, and Clear Tracks.

Create a Track and Track User List



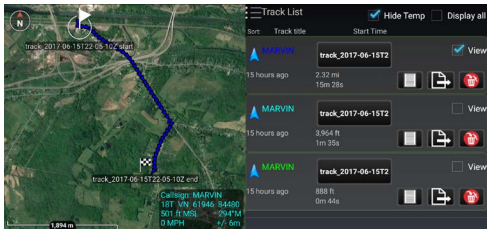
The Create a Track option allows the user to create a new track . The screen displays a default name which the user can accept or edit. When the user selects the **[OK]** button a new track is created in the Track Database and the user's location date is recorded as breadcrumbs.

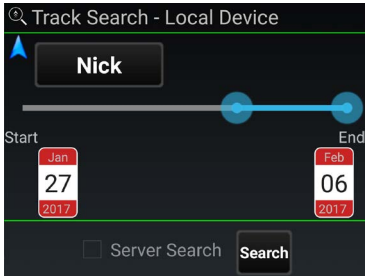
The Track History settings can be configured in the Settings > Tools Preferences > Track History Preferences.

Bread crumb behavior can be configured in the Settings > Tool Preferences > Track History Preferences.

The Track User list identifies how many tracks are stored for each user on the network. The Track History List allows the user to select tracks of other users that have been saved on their device.

Track Search and Clear Tracks





The **Track Search** function allows a user to view previous track information that has been saved locally or on a TAK Server.

The tool searches the Track Database for matches against the specified time range or by user callsign. The matching tracks are displayed as a list. The user can select tracks of interest and those tracks will appear on the map interface.

The query results may be sorted by Name or Time. The user can modify the name, color, and style of a selected track. Selected tracks may be cleared. Tap on any of the query results to move to that track. The query results may also be converted to an TAK route or exported as a KML, KMZ, GPX or CSV file. Select the desired tracks and tap **[Export]**. Enter the export name then tap **[Next]** and choose the export format. Tap **[Done]** or **[Send]** when the export completes.

Tap the **[Clear Tracks]** icon to clear all tracks currently shown on map.

Digital Pointer Tools

Tap the **[Digital Pointer Tools]** icon to begin using the **Digital Pointer Tools** feature. When the icon is tapped, the Digital Point Tools tool set appears in the toolbar. The Digital Point Tools capability in ATAK primarily allows the user to share Sensor Points of Interest with team members.
Additionally the Dynamic Range & Bearing line, Drop Multiple Reds and GoTo MGRS are available for use.

The three Sensor Point of Interest (SPI) buttons allow the user to place indicators on the map interface. If other team members are on the same network, the SPI markers will automatically be sent to them as notification messages. Selecting a SPI opens a radial menu, allowing the user to Fine Adjust, Pair to Self-Marker, Range & Bearing Line, Drop a Red Marker, and Delete.

The Dynamic Range & Bearing Line can be moved and repositioned by user.

When a **[Dynamic Range & Bearing]** is selected, a Radial Menu will appear with the following options available: Slant, Bearing Units, Distance Units, Pin a Permanent Range & Bearing Line, Lock Length, Details, and Delete.

The Digital Pointer Tools settings can be customized in Settings > Tool Preferences > Digital Pointer Toolbar Preferences.

The user can drop multiple red markers on the map interface when the **[Place Red Marker]** icon is selected on the toolbar.

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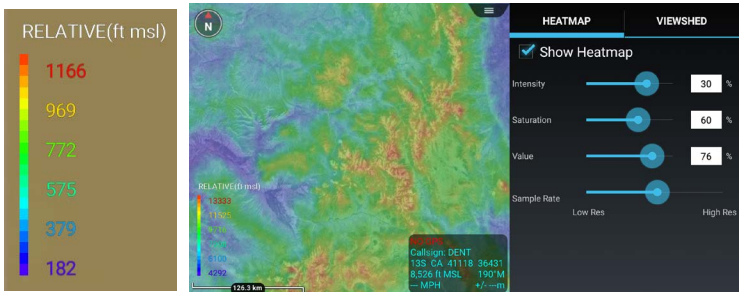
The user can select the **[GoTo MGRS]** icon to manually enter desired MGRS coordinates. This allows for fast entry of the 10 digit easting and northing coordinates and includes the corresponding grid zone for that map view.

Elevation Tools

Tap on the **[Elevation Tools]** icon to open the Elevation Tools which includes Heatmap and Viewshed functionality.

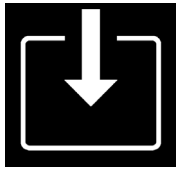
The heatmap shows the user elevation data on a color scale with lower elevations represented by blue and higher elevations in red. The Transparency, Saturation, Value and Sample Rate of Resolution can be modified to user preference. DTED is needed for this tool to work properly.



Viewshed allows the user to choose a position on the map interface and determine visibility from that location. Tap the **[Eye View]** icon and then tap a location on the map or a map marker. An Eye marker will appear on the map interface. Select **[Calculate]** or [**Recalculate**] to determine the level of visibility. A radius will display with green representing areas visible to the viewer and red representing areas that are obstructed from view. The user can modify the viewshed radius between 500 - 5000 meters. The **Height Above Marker** can be altered to reflect how far above ground level the viewshed should calculate. Transparency can be increased or decreased using the slide bar or entering a numeric value. Tap [**Hide Viewshed**] to remove the radius from the map.

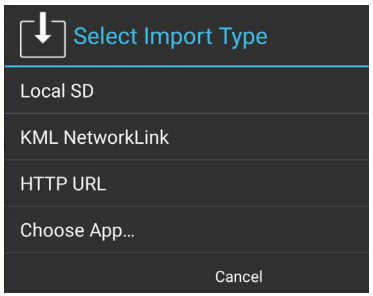
Settings for Elevation Tools can be changed by navigating to Settings > Tool Preferences > Elevation Overlay Preferences.

Import Manager

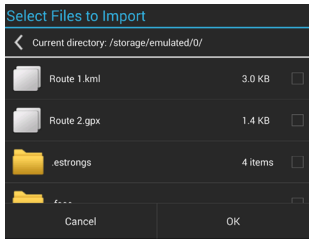


Tap on the **[Import Manager]** icon to import supported files into the TAK application from an SD card or via the TAK Server.

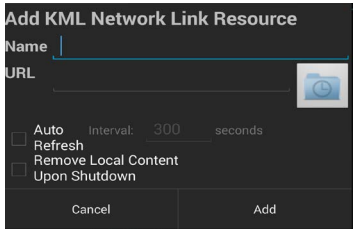
Tap the **[+]** icon on the Import Manager menu to open the Select Import Type interface.. The user can select **[Local SD], [KML NetworkLink], [HTTP URL],** or **[Other App]**.

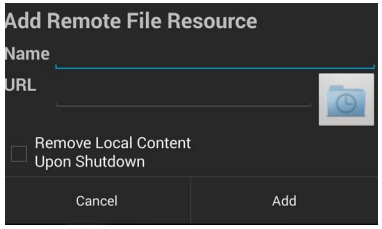


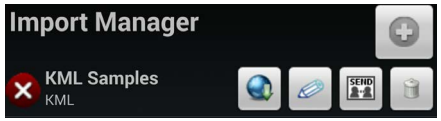
Tap **[Local SD]** to import from the device's local SD card and a list of folders/files are displayed. Supported file types include: KML/Z, DRW, LPT, Data Package, various TAK configuration and preferences files, some imagery types, GRGs, and SQLite. Tap on the folder to open it until the desired file is located, then tap on the desired file.



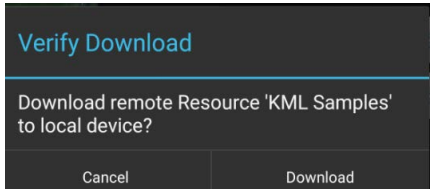
Tap **[KML Network Link]** to import a KML file via the network using HTTP or tap **[Other APP]** to import other file types via the network using HTTP. Enter a name for the link, a valid HTTP URL and a refresh interval, then indicate whether or not the local content should be removed when Civ-TAK is shutdown. Tap **[Add]** to save the link.

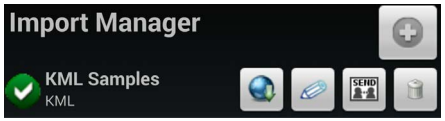






The Import Manager menu will be populated with the listing of links to network files. The Red Status Indicator appears next to files that are available for download but have yet to be added. Tapping the **[Globe]** icon initiates the download process after the user verifies the activity. The Green Status Indicator lists files that have been successfully downloaded.

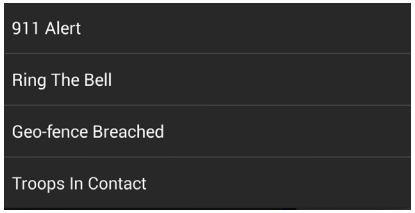




Emergency Beacon

Tap on the **[Emergency Beacon]** icon to open the **Emergency Beacon Tool** in Civ-TAK .

The Emergency Alert (beacon) allows the user to indicate their location and need for assistance by selecting one of the following Alert, Ring the Bell, Geo Fence Breached and Troops In Contact.

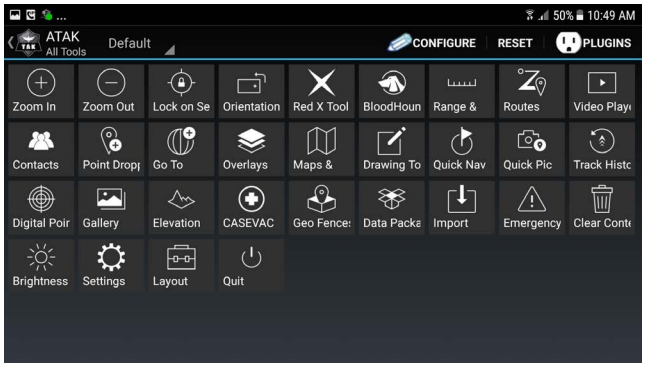


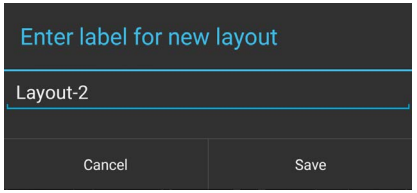
Once the Emergency type has been selected and both switches have been enabled, the TAK Server broadcast the announcements to all network contacts. Even if the user's device is turned off, the beacon will continue. Only when the user returns to the Emergency Beacon tool and turns off the switches will the beacon be canceled and removed.

Layout Manager

Tap on the **[Layout Manager]** icon to access the Layout Manager interface. The user can hide tool icons, customize the icons displayed on the top Civ-TAK menu bar and customize the appearance of tools listed in the additional menu items dropdown.

The Layout Manager interface displays the icons for all the available tools in Civ-TAK. The following preset layouts are available for specific mission sets through the default dropdown: Default, Minimal, and Planning. Pressing **[Configure]** allows the user to change the tool layout on the top menu bar and in the additional tools dropdown list. Plug-ins that have been installed by the user can also be managed through this interface.





The user drags and drops icons to configure the interface as required. The **Configure Tools** interface is comprised of three areas: The Action Bar, which displays tool icons on the main toolbar; the Hidden region, which allows the user to select tools to remove from the toolbar and menu views; and the Overflow region, which lists the tools available in the Additional Menu Items drop down. The **[Undo]** and **[Hide All]** options are available at the top right corner of the interface. Selecting the Additional Menu drop down allows the user top discard the layout or save it.

The user may select **[Reset]** to discard all the layouts that have been configured. The **[Default]** view is always available and after the Layout Manager is reset, Civ-TAK will revert to the default view. Additional views allow the user to customize tools needed for specific mission planning

Clear Content

Tap on the **[Clear Content]** icon to remove all Civ-TAK content from the Android device. Note that this action will permanently erase all content.

Select the **[Clear maps & imagery]** checkbox to clear map and imagery data as well.

To remove all content, lock both switches by swiping them to the right to activate the **[Clear Now]** button. Tap **[Clear Now]**. Civ-TAK will exit after this action has completed. The user can select specific items to delete by tapping the **[Select Items]** button. This will navigate to the Overlay Manager Multi-select tool. Tap **[Cancel]** to return to the main Civ-TAK interface.

During the delete process the file data is corrupted, making file recovery nearly impossible.

This can also be accessed through Settings > Control Preferences > Media Preferences > Clear Content. In the Media Preferences Settings, the user may opt to Clear Attachments or Clear Content Upon Shut Down by selecting the corresponding check box.