



AID iOS App User's Guide

Version 1.2

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1 Introduction

The Automatic Injury Detection (AID) system recognizes when the sensor panel has been pierced by a bullet, knife, shrapnel, etc. and automatically sends an emergency alert via radio, telephone text and/or voice call. This alert will include the wearer's identification, GPS location and injury location.

The AID system consists of a set of front and back sensors, an emergency services radio and/or smartphone/tablet running the AID application.

2 About the AID Sensors

AID sensors are available in a variety of sizes to fit existing body armor. Oftentimes, the sensors selected for the front and back of the vest may be different sizes due to the shape of the vest. The AID sensor is made of a polyester film and a Bluetooth communications module. The AID sensor is designed to fit in the protective vest, in front of the ballistic panel, with the module facing outwards.

Each AID sensor has a unique AID identifier: AID_NNNN where NNNN is a four digit number. The AID identifier is printed on the label next to the module. This allows the user to pair their uniquely identifiable AID sensors. AID sensors are very flexible and waterproof – they only respond to a piercing event (not blunt impact).

The module includes a rechargeable battery that will last up to a year on a single charge. It also has a colored LED within the module. The LED will flash red when the battery is low (<10%), blue while charging and green when fully charged. The LED does not illuminate if the battery is dead and a full charge takes about 2 hours.

The micro-USB port located on the module is used for charging and for connecting to a PC for testing/demo. A common phone/device USB charger can be used (but is not included).

The AID sensor is always 'ON' provided the battery has a charge.



2.1 AID iPhone App Overview

The Automatic Injury Detection (AID) system can send an emergency alert through an Apple iPhone using the AID iPhone App. The app is available on the Apple app store and can be found by searching for ‘Automatic Injury Detection’.

The Apple iPhone does not allow for automated text messages that are sent directly to other smartphones so the AID emergency notification must be sent to an Internet location for distribution as a text message (or other data format) to other smartphones/recipients.

The app supports that function and there are various options for the Internet server that must distribute the notification.

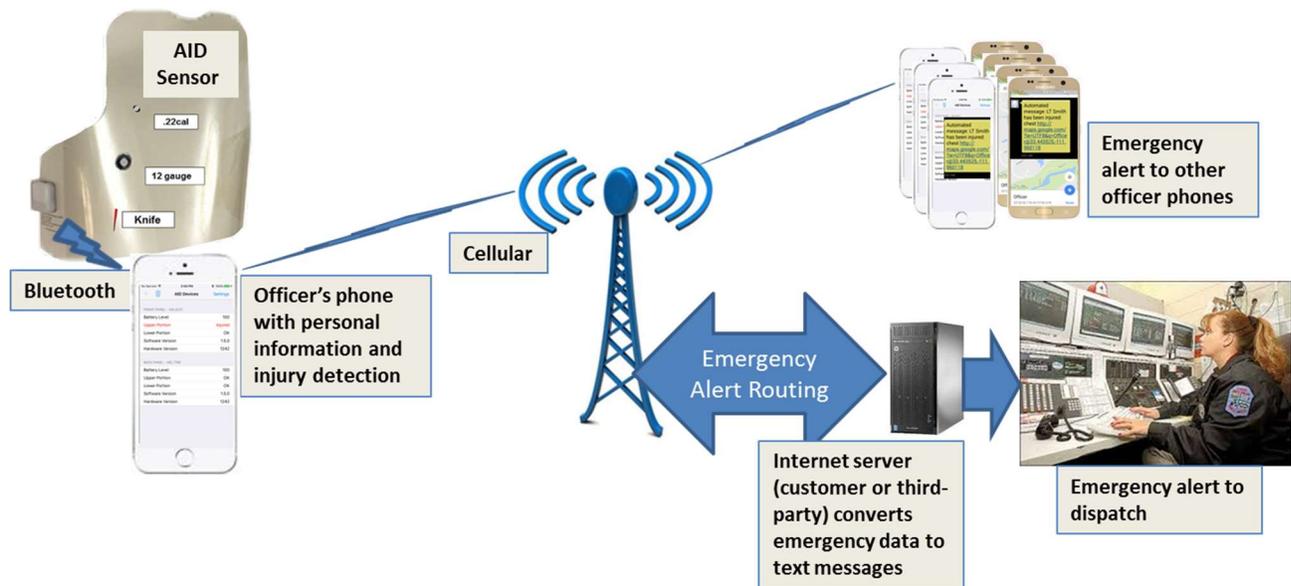


Figure 1 AID iPhone App System Diagram

2.2 AID Emergency Alert Notification Options

The AID system, when used with an Apple iPhone, must include one of the SMS Text Service options that can interpret the emergency alert from the iPhone and distribute it accordingly. (For Android phones, it's optional.) AID supports a few web-based applications that can manage the emergency alert information.

In all cases a Firebase web-portal account is required to manage the AID users and settings for the SMS Text Service. For instructions on how to set-up the Firebase account and SMS Text Service option, refer to the *AID Firebase Web Portal and Text Services User Guide*. Note that the list of people to receive the emergency text alerts can be managed either by the administrator within the Firebase account or by each individual through their AID app. If the administrator enters recipient phone numbers into the Firebase account, those numbers will be used – the user will not be able to enter numbers into their app.

2.2.1 SMS Text Services

Twilio (www.twilio.com): Twilio is a third-party service that allows the customer to create a Programmable SMS account. The cost is \$1 per month for the account and includes a unique phone number that will be used to send the emergency alerts. (Each emergency alert sent by the Twilio Programmable SMS program will cost less than one cent.) The AID iOS app has a login and settings so that emergency alerts can be routed through the Twilio account to reach your desired recipients.

DataGate (www.datalinksystemsinc.com): The DataGate software, an IP data routing and mapping application, from Datalink Systems is supported by the AID iOS app. The user can identify their phone and DataGate port so that the emergency alert gets sent to the users DataGate software – the emergency alert can be displayed on the WebGate mapping application and/or routed to other devices (e.g. smartphone, PC terminal, radio) via text, data string or email.

User-Defined Internet Server: The customer may choose to use their own Internet server/application for the routing of AID iPhone emergency alerts. The CAD system used by dispatch may natively support the functions or it may be possible to develop the capability on the user network. This can eliminate the need to use a third-party solution but may require an update to the AID app depending on the required protocol.

2.2.2 Firebase Web Portal

This (no cost) web-based application allows the customer to create and manage their department iPhone (and other) users. To simplify the process of using one of the SMS Text Services, the Firebase application will allow the customer to define administrators and the SMS Text Service account settings. Firebase will also ensure that the AID app continues to be active on each registered iPhone. The iPhone does not automatically restart the AID app when the phone is rebooted. For that reason the Firebase account will check each phone every 15 minutes to make sure the AID app is active and notify the user if it has been deactivated.

3 Using the AID iPhone App

Search for ‘Automatic Injury Detection’ in the Apple App Store and choose to install and run the AID app.

3.1 Create User Account

The first step with the AID app is to create a user account that connects with the Firebase account for your agency. The Sign-In screen will appear first. Select the ‘+’ symbol to create the new user account. Enter the user name, email address, password and department name.

Note that the department name must match exactly the department name used by the administrator within Firebase.

When finished entering the new user information, select ‘Create’

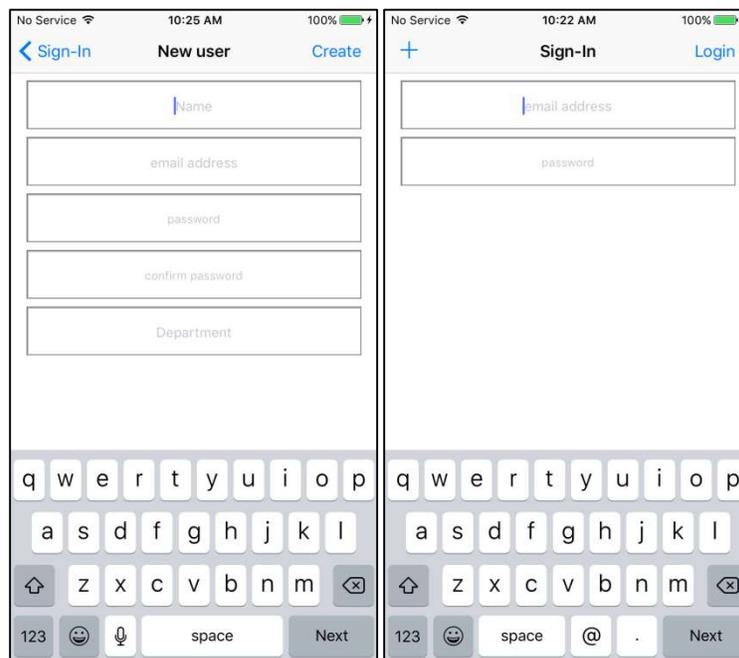


Figure 2 Create New User

Creating a new user will automatically send an email to the Firebase administrator for confirmation. The administrator must approve you as a user before the AID app will properly send the emergency alerts (but the other functions within the AID app can be used in the meantime).

3.2 Selecting the AID Sensor to Pair to the iPhone

From the main screen of the AID app, select the '+' symbol to add/pair an AID sensor. The list of available AID sensors will be displayed. Select the desired AID identifier number from the list and then the 'Connect' function in order to pair to that sensor.

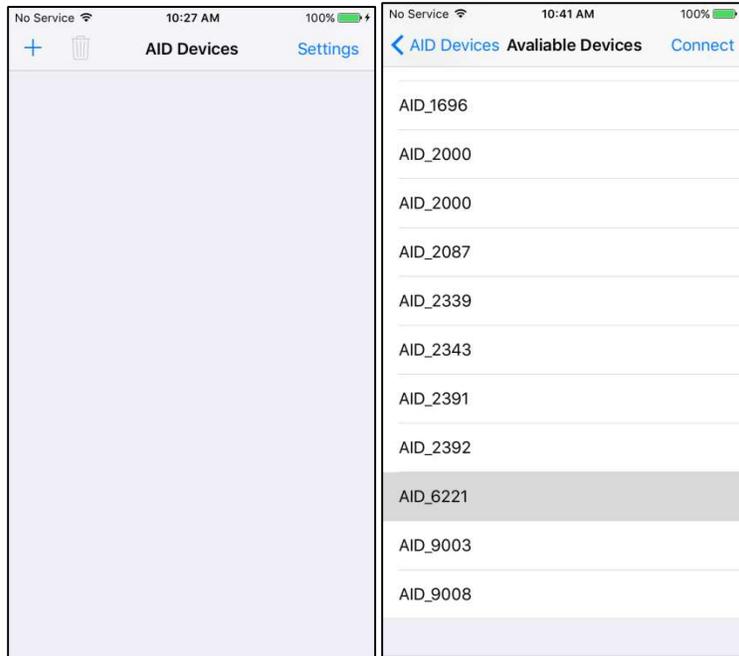


Figure 3 Select AID Sensor to Connect

3.3 Pairing the AID Sensor to the iPhone

Once the desired AID sensor has been selected, the AID app will ask whether the sensor should be set as the Front or Back panel. If the sensor will be worn in the front of the vest, select 'Front Panel'. If the sensor will be worn in the back of the vest, select 'Back Panel'. Once paired, the status of the selected sensor will appear on the main screen as pictured below. If the sensor has not been pierced, the 'Upper Portion' and 'Lower Portion' of the sensor will display a status of 'OK'.

Repeat the process (starting with the + symbol) to add the second sensor.

Unpair from one or both of the sensors by selecting the trash can icon.

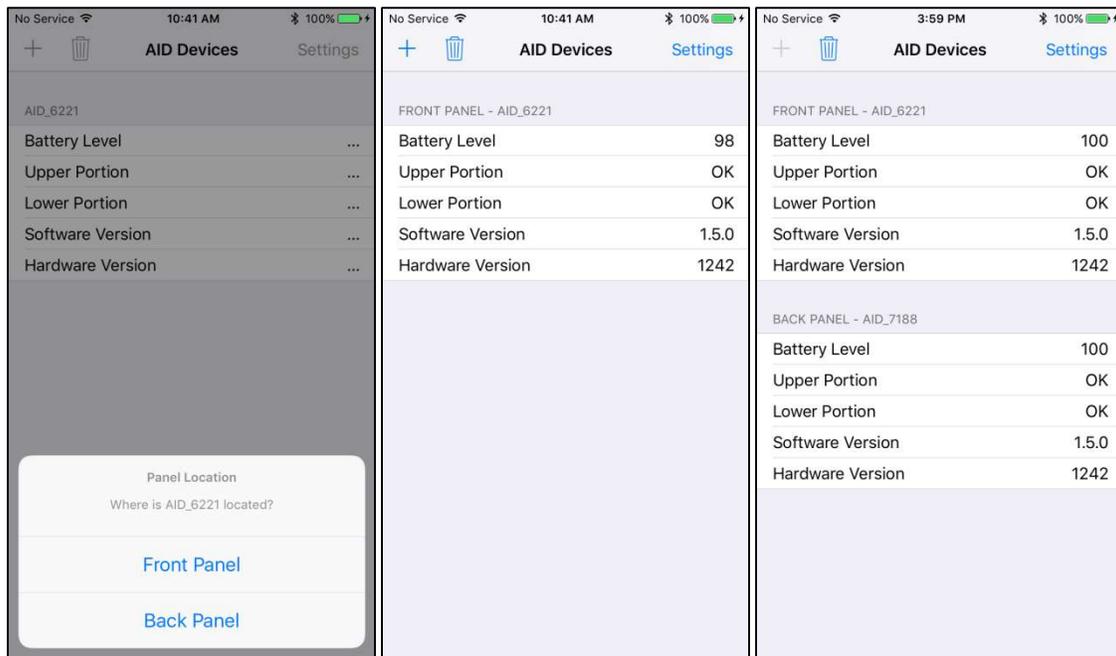


Figure 4 Set Front and Back AID Sensors

3.4 Configuring the Settings

From the main screen of the AID app, select the ‘Settings’ menu option.

3.4.1 General Settings

Geofence Radius: The AID app sends a location from the smartphone immediately when an injury event occurs. The app will automatically send updated location alerts if the accuracy of the smartphone location improves or moves beyond the radius value entered in this field. In other words, an updated location alert will be sent whenever one of the following occurs:

- The accuracy of the GPS location on the smartphone improves over the initial location
- If the current position moves outside the original accuracy boundary
- If the location changes more than the radius value (e.g. the person moves).

Select ‘Geofence Radius’ to change the radius value.

e-Mail Address: Displays the email address used for login (no data entry allowed)

Department: Displays the department name for the user and must match exactly the name used for the Firebase account

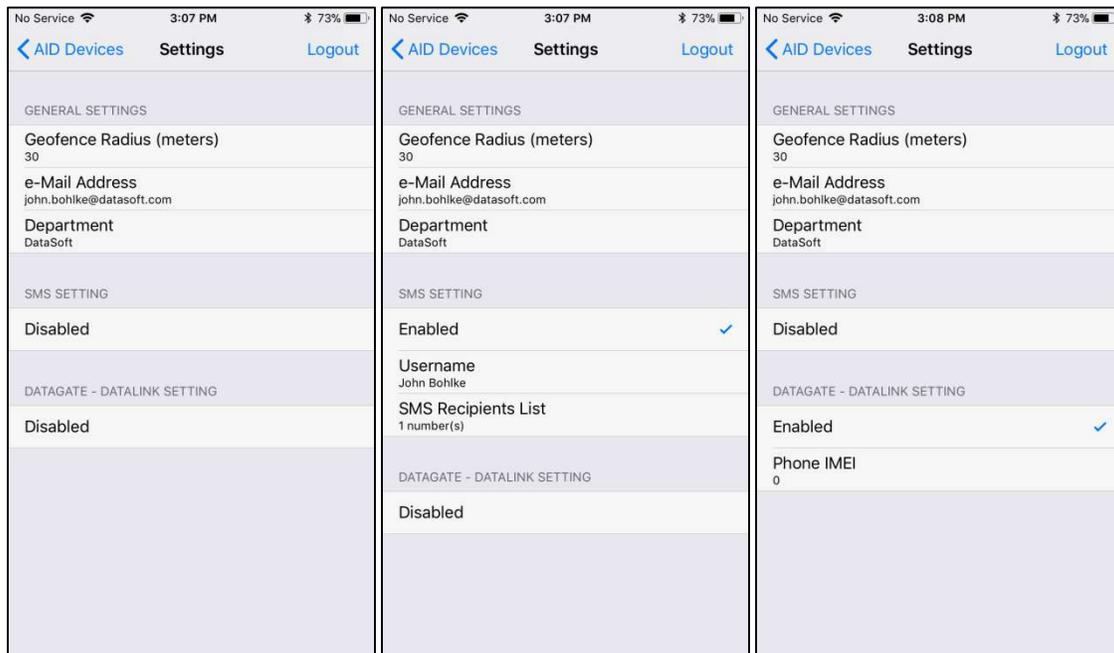


Figure 5 Settings

3.4.2 DataGate – Datalink Setting

Selecting the field labeled ‘Disabled’ will change the entry to ‘Enabled’ and allow the user to send the AID emergency alert data directly to the users Datalink Systems DataGate software – an IP data routing and mapping application. If choosing the ‘Enabled’ setting, the user will need to enter the:

- IMEI number for the phone in the ‘Phone IMEI’ field

3.4.3 SMS Setting

Selecting the field labeled, ‘Disabled’, will change this to ‘Enabled’ and allow the user to send the AID emergency alert to SMS text recipients through one of the SMS text messaging services (e.g. Twilio). If choosing the ‘Enabled’ setting, the user can enter the:

- User name that will be sent with the emergency alert. The ‘Username’ field may contain any useful information about the user including their name, badge number, allergies, blood type, etc. This field is limited to 21 characters so that the emergency alert does not exceed the 160 character SMS text message limit.
- The recipients of the emergency text message can be managed by an administrator within the Firebase account or entered individually into the app. (Note that if the administrator has entered numbers into the Firebase account, the user will not be able to add numbers to the app.) To add the desired recipients’ phone numbers within the app, select ‘SMS Recipients List’ and add a number by selecting the ‘+’ symbol in the upper right and/or select ‘Import’ to import numbers from the iPhone contact list. Delete a number by swiping it to the left and choosing the ‘Delete’ button. When finished, select the ‘Settings’ option to return to the Settings screen.

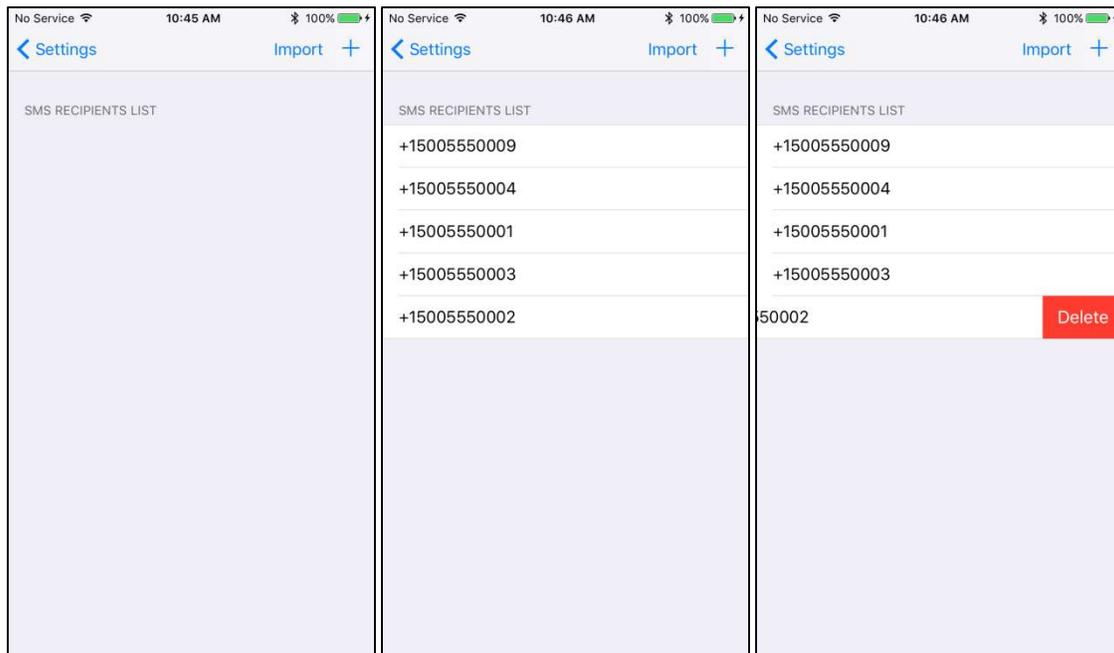


Figure 6 SMS Recipients List

3.4.4 AID Sensor Status

From ‘Settings’, select ‘AID Devices’ to view the connection status (main AID screen). Note the connection and sensor section status (Upper/Lower) and battery level(s). Note: Battery level is not accurate if the AID module USB connection is plugged into a charging device.

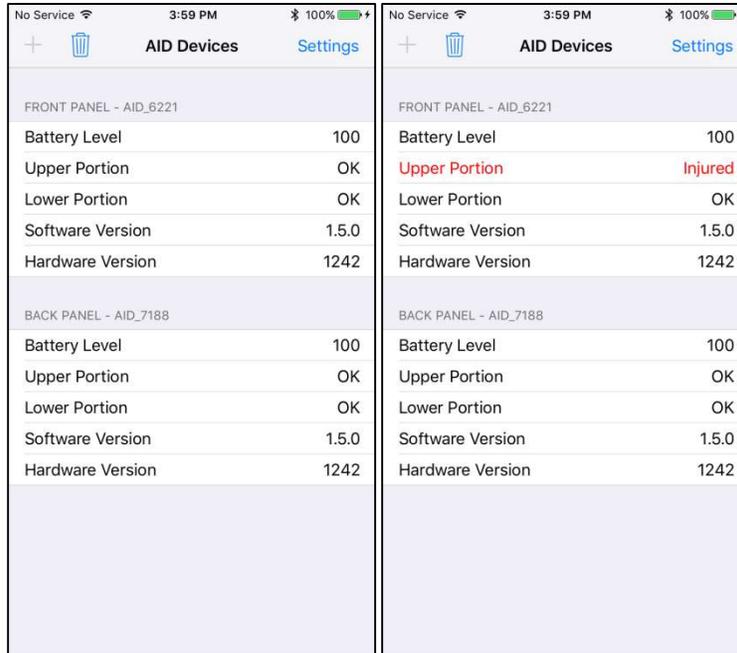


Figure 7 AID Status-Injured

If a piercing event occurs (break in continuity) in the AID sensor, an ‘Injured’ status will be displayed and the device will automatically send the data and/or text messages accordingly (depending on the settings).

An example of the text message sent from AID is pictured below. Note that the automated message includes a Google Map link with the location of the user. Additional automated messages will be sent to update the location of the user per the ‘Geofence Radius’ (see section 3.4.1).

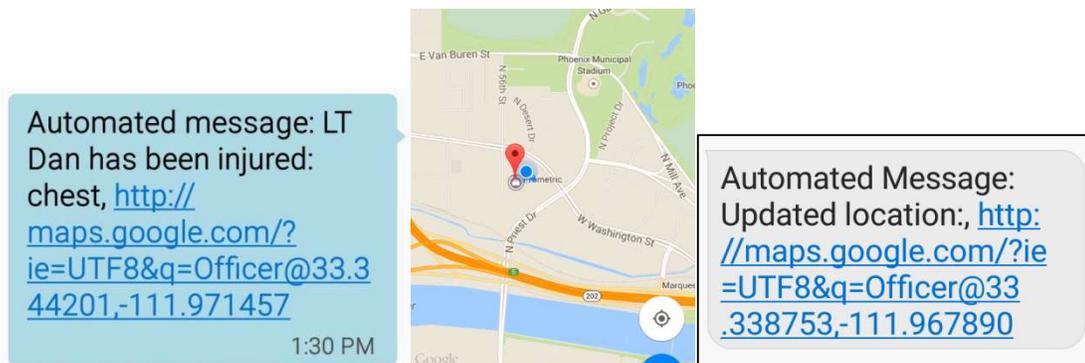


Figure 8 AID Text Message Sent