AID Config PC Software
User's Guide

Version 1.1

December, 2017

Table of Contents

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 rear sensors, an emergency services radio and optional smartphone/tablet running the AID app. The detection sensors are split into upper and lower detection zones. The sensors are powered by rechargeable lithium-ion batteries with a stand-by life of at least six months. The AID system connects to the emergency services radio via Classic Bluetooth. The optional smartphone/tablet is connected using Bluetooth Low Energy (BLE).


Figure 1 AID System Diagram

1.1   AID Config Overview

AID Config runs on a Microsoft Windows PC and allows the user to configure the AID panels to connect to an emergency services radio via classic Bluetooth. The configuration activity needs to be performed for both a front and back sensor. Once configured the AID sensors will send an alert to the radio upon being pierced. AID Config also provides functions for manually testing the AID sensors, checking battery level and for upgrading the AID sensor firmware.
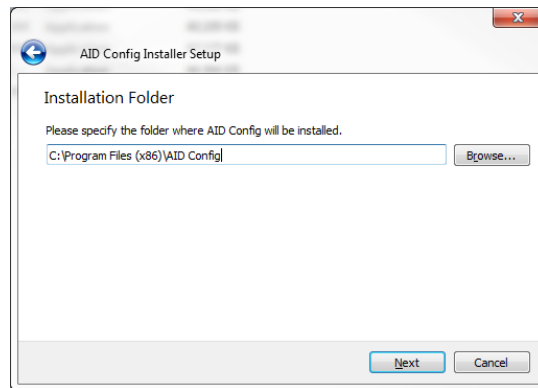
2 Using AID Config, the Windows PC Provisioning Application
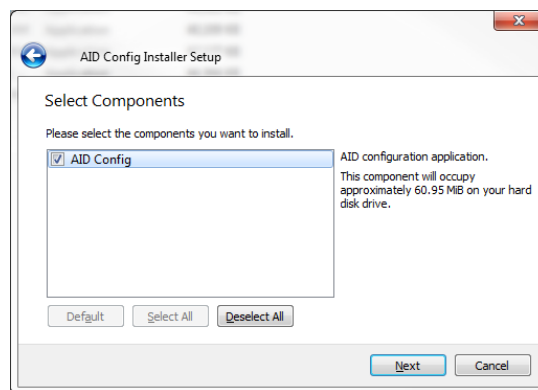
2.1 Installing the Application

Select the AID Windows PC Provisioning Application installer on a Windows PC. Double left click on the installer and the following window is displayed.
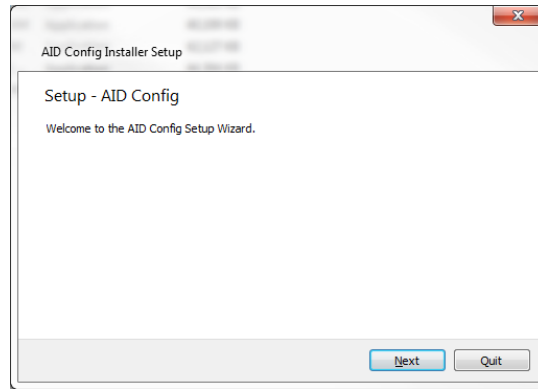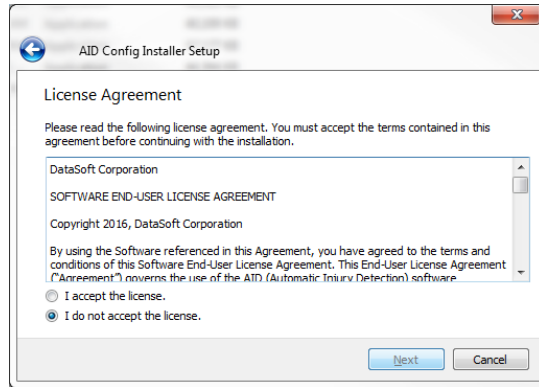

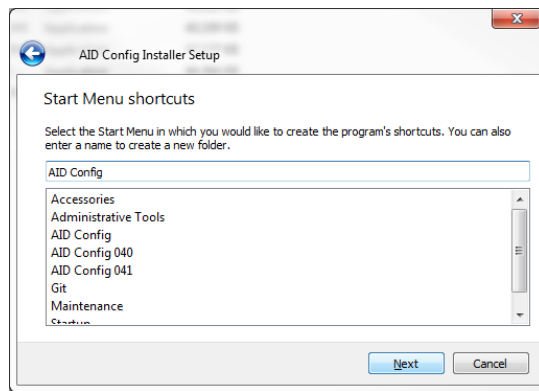Select "Next" and enter the folder where the AID Config application is to be installed.

If not already selected, select the component to be installed as shown below.
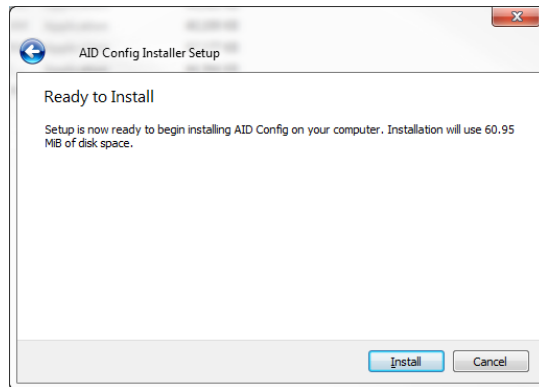
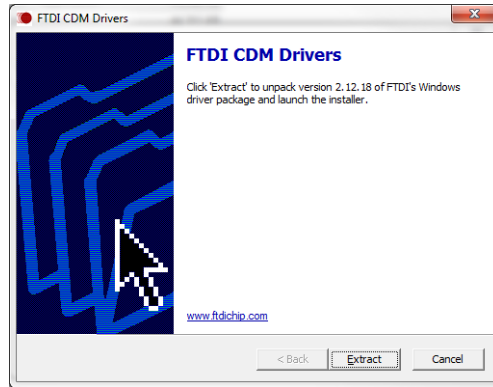Read and accept the license agreement, select "Next".

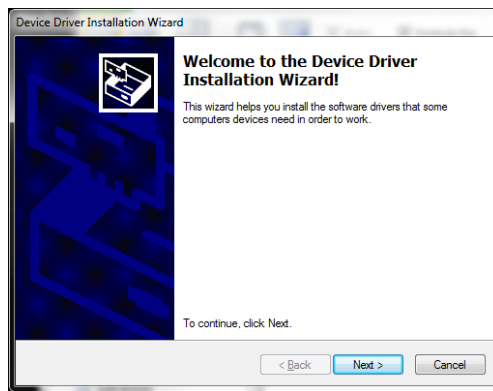Select a Start Menu shortcut and press "Next".

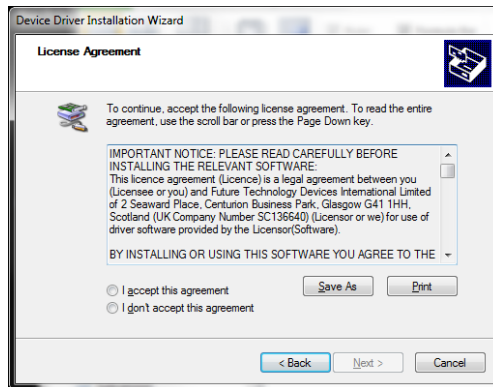Select "Install" as shown below to start the installation.

In the "FTDI CDM Drivers" window select "Extract" to unpack the FTDI Windows drivers.
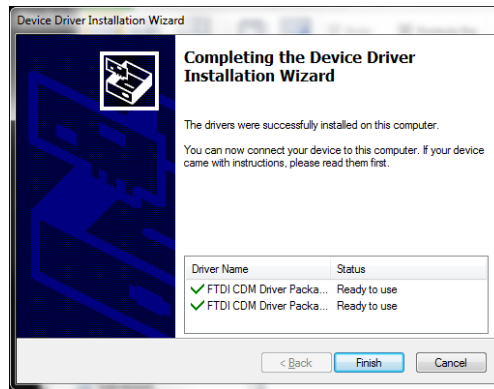

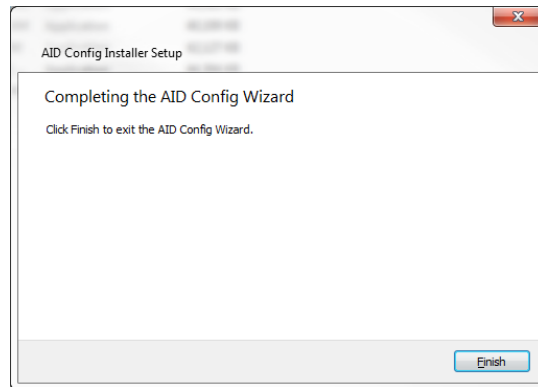Start the Device Driver Installation Wizard by selecting "Next".

Accept the License Agreement and select "Next".

The Device Driver Installation Wizard will display the following window, select "Finish".

When the AID Config installation is completed, the installer will present the following window, select "Finish" to exit the installer.

2.2 Connecting the AID Module to the PC

In order to enable the AID module and the PC to communicate connect a Type-A Plug to Micro-B Plug cable between the USB port on the AID sensor electronics module and a USB port on the PC.
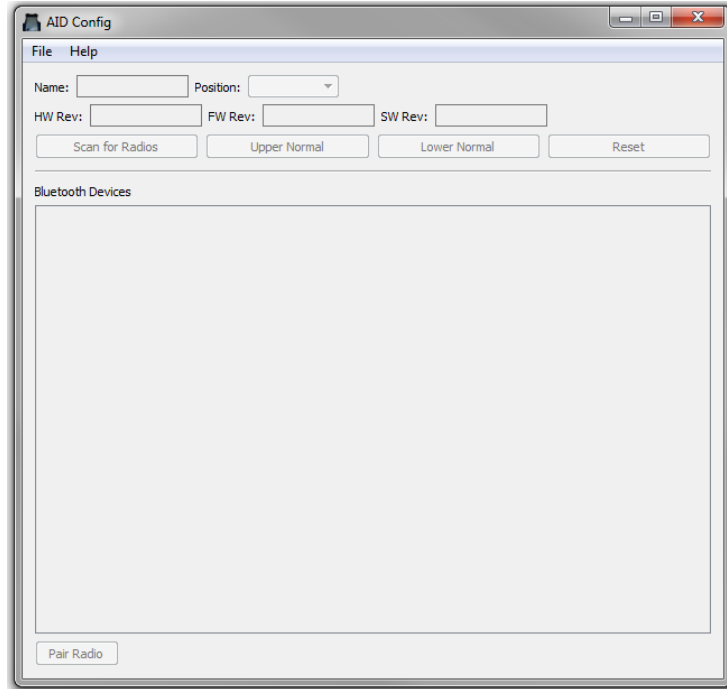

Figure 2 USB Cable and AID Panel Module USB port

2.3 Configuring the AID Module

In the "AID Config" directory on the PC double click on the "AIDConfig" application file, the following application interface will be displayed.

Connecting the AID panel module to the PC will allow the application to display the name of the module and its HW/FW/SW versions and the battery level at the time when the AID sensor is initially connected. Select "OK" to close the "Battery Level" window.
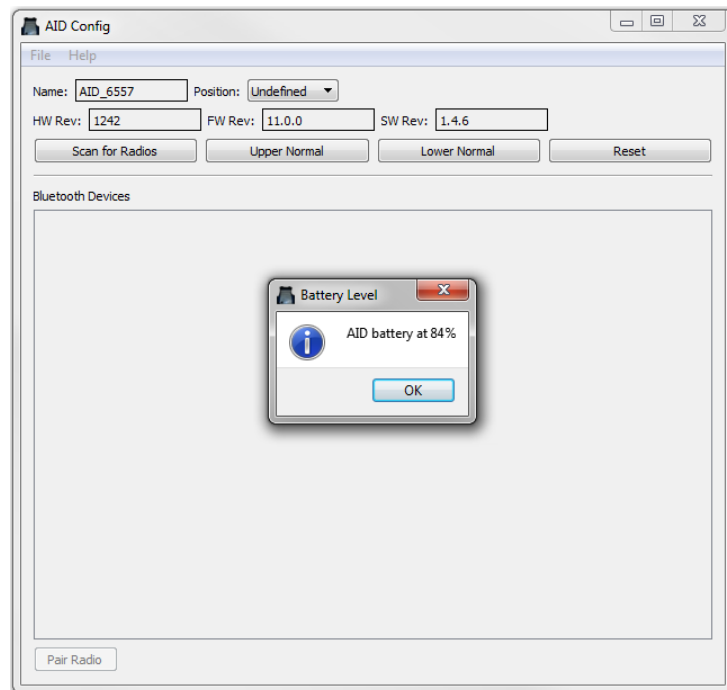
2.3.1 Setting AID Sensor as Front or Back

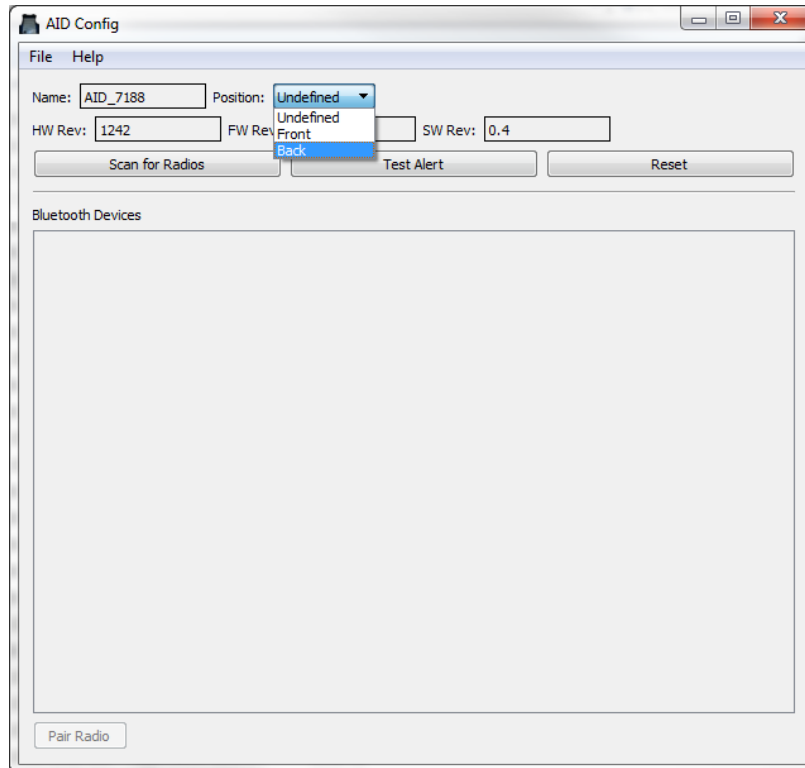To configure the connected AID panel as being either placed in the front or back of the user select the "Position" button, and select either "Front" or "Back". Default position is "Undefined". Once selected the Position field will display the desired position.

2.3.2 Pairing AID Sensor with a Radio

To scan for available radios to pair with, select the "Scan for Radios" button. The application then displays the "Scan Complete" message shown below.
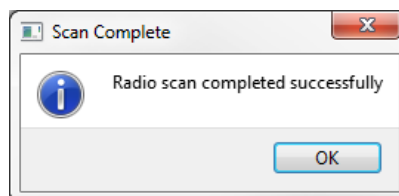
After selecting "OK" on the "Scan Complete" window the application will display all radios found by the connected AID sensor.
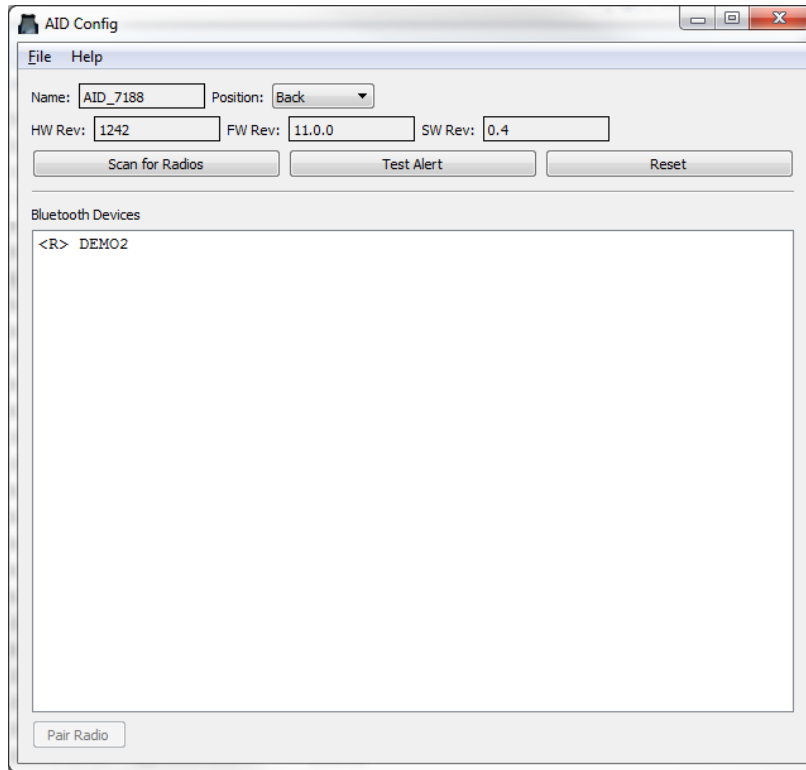
Select the desired radio from the "Bluetooth Devices" list to be paired with the connected sensor. At that point, the "Pair Radio" button will be enabled.
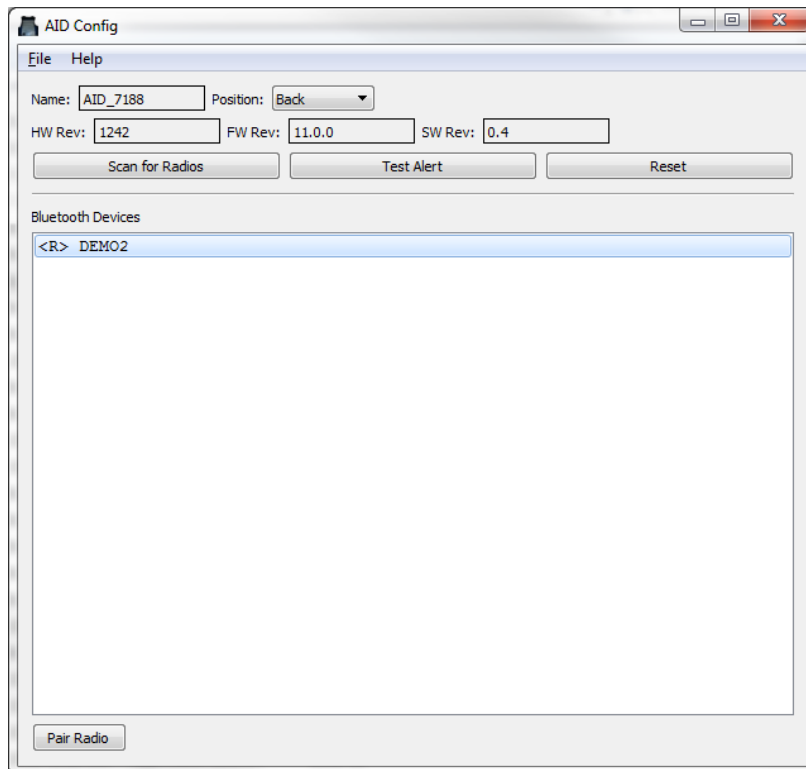
Select the "Pair Radio" button and the application will display the following request.

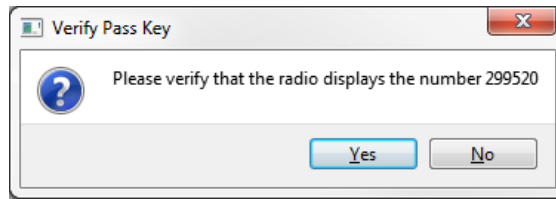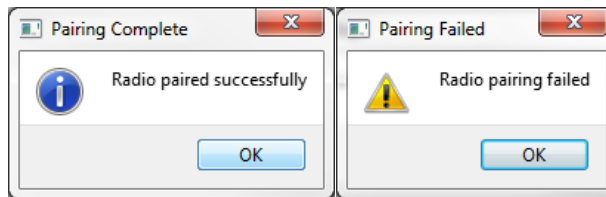Select the "OK" button on the radio and, if the numbers match, select "Yes" in the application. The application will display a message stating that the "Radio paired successfully" or "Radio pairing failed" as shown below. Select "OK" and the application will show the "Scan for Radios" button as being disabled.

2.3.3   Test Alert Function

To conduct a test by sending an emergency alert from the AID sensor, toggle the "Upper Normal" button to read, "Upper Emergency" or the "Lower Normal" button to read, "Lower Emergency". The application will replicate a piercing event in the upper or lower section (depending on the user's selection) of the AID sensor. The paired radio and smartphone (if connected) will receive the emergency alert and transmit the alert according to how the devices have been configured.
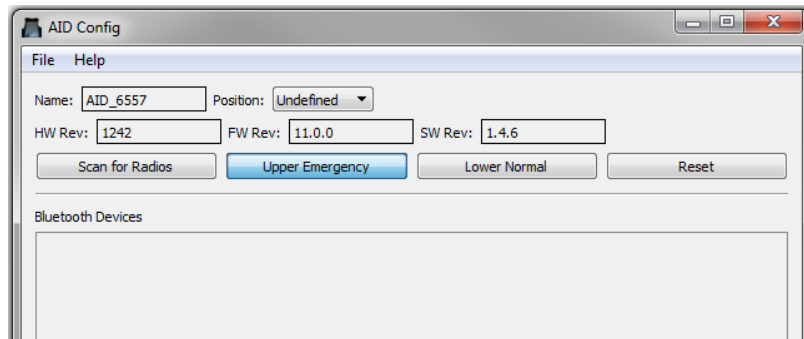
The AID sensor will remain with that injured status until the "Emergency" button(s) are toggled back to the "Normal" setting.

2.3.4   Updating the AID Firmware

When the Windows PC running the AID Config software is connected to an AID module via USB the application compares the version of firmware on the module to the version of firmware associated with the application. If the versions are different, the application will update the module as shown in the following paragraphs. Once updated the AID module will need to be reconfigured.

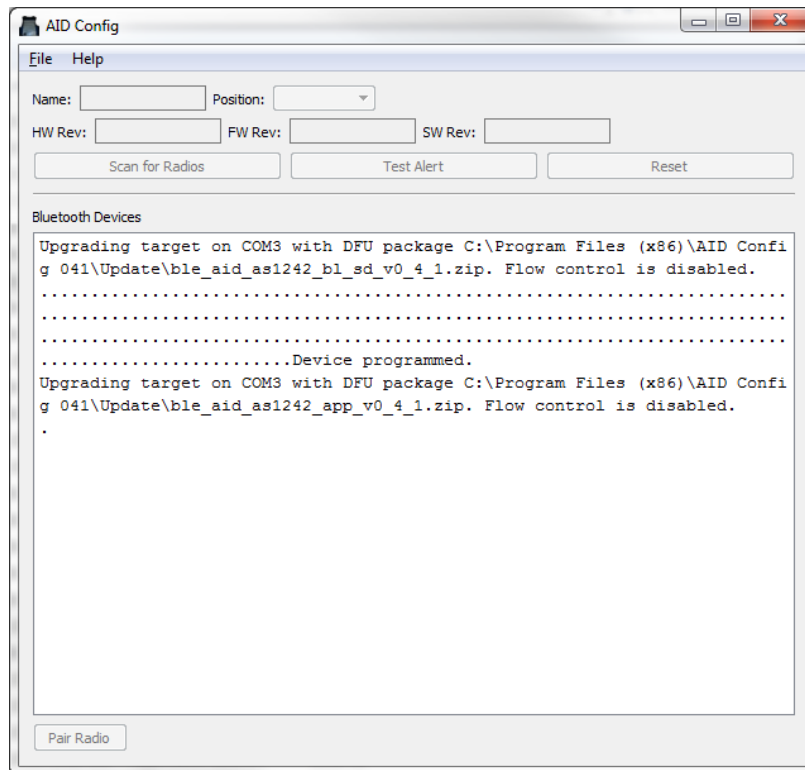The application will display a message indicating that the versions do not match as shown below.
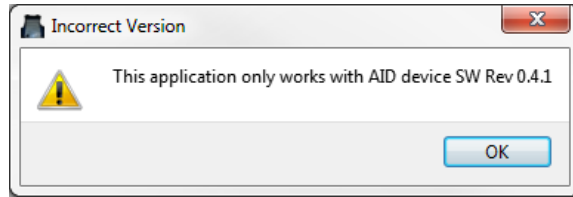
If "OK" is selected the application will then request permission to Update the AID Module firmware.


If "Yes" is selected the AID Config application will start to update the firmware while displaying the following. This takes several minutes. The AID module will illuminate a red LED while being upgraded.

When the firmware update has completed the application will then display a message as shown below.
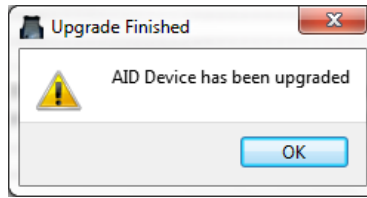
Selecting "OK" returns the application to the AID Config menu showing the new HW Rev, FW Rev, and SW Rev.
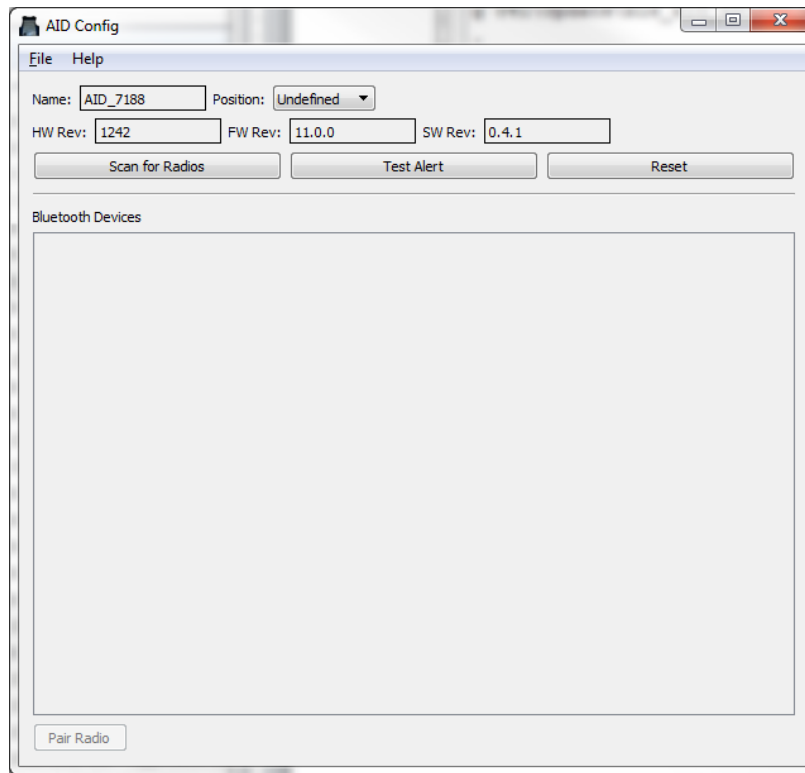
2.3.5 Resetting the AID Module

Selecting the "Reset" button will cause the AID panel module to send a "reset" command to the module and display the following message. As part of being reset the BLE shared keys created during pairing with the smart phone/tablet are erased. The traditional Bluetooth keys for the radio are stored in non-volatile memory and are not erased
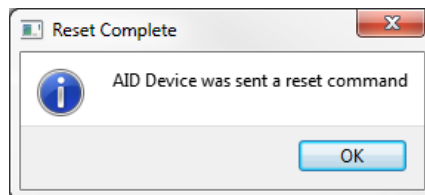
Select "OK" and the application will display the post reset condition of the AID sensor. The Config application "Scan for Radios" button will be enabled and allow the AID module to be paired with a different radio. If the already paired radio is reselected the security code will not be re-verified.

2.4 Charging the AID Battery

When the charge on the AID internal battery has less than 30 days charge remaining the red LED will start flashing. To charge the AID internal battery, connect the AID sensor to a 5v/500ma USB source using the Type-A Plug to Micro-B Plug cable. The red LED will turn off and a steady blue LED will turn on indicating the battery is being charged. When the battery is fully charged the LED will turn green. The battery should be fully charged in less than 2 hours.

2.5 Operating with the Radio

Once the pairing process with the radio is complete, the AID system will remain paired to the radio provided it is within range (typically 100 feet). The pairing remains after performing power cycles on the radio.

When the panel is pierced, the AID system will automatically connect to the radio and trigger the radio to send the emergency alert.