Polara

iNX/iDX Audible Information Device User Manual

Note: The iDX is equivalent to iNX but includes iDetect functionality. Anywhere iNX is used in this manual also applies to iDX.

Rev. J

12/16/2025

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1. Safety Information

Caution! The equipment covered in this manual must be installed and operated as specified in this manual. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

For personal safety, the use of insulating gloves and safety glasses is recommended.

2. Description

2.1 iNX Mid-Block Crossing Audible Information Device

The iNX is an audible information device (AID). These AID units are typically used in pairs, mounted on poles at each end of a mid-block crossing. The audible information device is designed for Rectangular Rapid Flashing Beacons (RRFB) & other approved Flashing Pedestrian Crosswalk Systems.

The system consists of a 9”x12” instructional sign, a push button with directional arrow (bidirectional and blank buttons also available) for activating the flashing lights, a voice message, and one yellow LED above the push button that flashes when the street warning lights are flashing.

The iNX uses the same rugged housing as Polara’s “iNS” iNavigator. In addition to the push button, the iNX contains a speaker, a 10-watt RMS audio amplifier, and a noise monitoring microphone for auto volume control.

The iNX operates off of the warning light system control unit via six wire connections (see pages 6-7). The iNX has the same Bluetooth configuration interface as the “iNS” iNavigator, which is used to select audio messages, change settings, and download firmware updates.

The unit is supplied with mounting hardware and installation instructions. **This unit is not compatible with XAVCU controllers.**

2.1.1 Function

Accessible Information Device for use on mid-block crossings with flashing yellow lights. Connects to warning light system control unit to enable triggering of crosswalk lights and can provide a locate tone and a voice message.

2.1.2 Features

- Instructional 9”x12” retro-reflective sign with tamper-resistant mounting screws
- One yellow LED that flashes when warning lights are flashing.
- ADA-compliant push button with directional arrow, field adjustable to point left, right, up, or down.
- 10-watt audio amplifier.
- Weather resistant speaker.
- Volume and other settings set using the free Polara Field Service App, connected over Bluetooth.
- Speech Messages
    - Standard: "Warning lights are flashing"
    - Alternate 1: "Wait for traffic to stop, then cross with caution"
    - Alternate 2: "Yellow lights are flashing"

2.1.3 Technical Specification-Electrical

Power Requirements		
DC In	10-24 VDC	
Button	7-32VDC	
Lights In	7-32VDC	
Current Draw @ 12 VDC	iNX	iDX
Idle (Locate Tone with default settings)	~10 mA	~27 mA
Peak (Over 6 second period)	~480 mA	~491 mA

2.1.4 Technical Specification-Mechanical

Physical	
Frame and Button Cover	Cast Aluminum, Powder Coated
Housing	Reinforced, UL-listed Thermoplastic
Message Sign	Aluminum with Reflective Vinyl Sheeting
Push Button	Aluminum, Nickel Plated, Powder Coated
Installation	3/4" or smaller banding or 2 tapped 1/4-20 holes on 6" centers; 1/2" or larger hole for wire access
Dimensions	
Width	9"(with sign), 5.1” (without sign)
Length	14.0"
Maximum Height	2.6"
Weight	4.0 lbs. (REF)

2.1.5 Technical Specification-Operating Specifications

Operating Specifications	
Parameter	**Rating**
Operating Temp. Range	-34°C to +74°C (-30°F to +165°F)
Storage Temp. Range	-45°C to +85°C (-50°F to +185°F)
Relative Humidity	95% for Operating Temp
Ingress Protection	NEMA 4X (IP65), follow instructions for proper protection
Operating Force (Typ) Min	0.5 to 1.0 lbs.
Operating Force (Typ) Max	2.0 to 3.0 lbs.
Switch Operating Life	Greater than 20 million operations
Max Volume	100 dB @ 1 meter

2.1.6 Technical Specification-Compliance

Design Compliance	
Test Type	**Compliance**
Functionality	MUTCD 11th Edition
Temperature and Humidity	NEMA TS2
Mechanical Shock and Vibration	NEMA TS2
iNX Enclosure	NEMA 250 Type 4X

2.1.7 Default Message

Per the MUTCD 11th Edition, the approved message is “warning lights are flashing”. Beginning in March of 2024, Polara will begin shipping units with this message as the default. Units already installed in the field can be updated to this standard via the Polara Field Service App.

3. Audible Information Device Installation

NOTE: Prior to installation power should be removed from the warning light system control unit to avoid damage from accidental shorts to the aluminum pole.

INSTALLATION NOTE: You MUST install the Polara Field Service App to complete this installation. Polara suggests downloading it at this time.

- All the available setup and maintenance procedures MUST be performed using a compatible iOS device or Android device. Your device must have iOS version 12.0 or higher or Android 7.0 (Nougat) or higher.
- The Polara FS App will need to be installed on your device. It is available on the Apple App Store and the Google Play Store.

3.1 iNX AID

The iNX AID must be mounted only in the upright orientation with the connection terminals at the bottom, any other mounting orientation will void the warranty. If retrofitting these buttons on a mid-block crossing with existing buttons, remove existing buttons. Our AID requires the wires to reach the bottom of the unit. Verify 8” of wire extends beyond wire exit hole in pole. If enough wire is not available, evaluate whether a new, lower wire exit hole that would line

up with the terminal block access point in the bottom of the AID would provide adequate wire length. If yes, drill and reroute wires, the optimal position of this hole is approx. 6.25” below the lower mounting hole. If not, you need to figure out a way to achieve more wire length.

The iNX AID is a modular device consisting of a backplate, electronics module, speaker module, arrow button diaphragm, button cover, sign, and sign backplate. The AID is shipped partially assembled to secure it during transport. To prepare for mounting, remove 3 screws from the lower cover. Remove all screws securing the sign and sign backplate if present. Remove Earth ground screw located between the two terminal blocks at the bottom of the unit. Store this screw in a safe place; it ensures the unit is grounded to the pole, establishing a connection to Earth ground, and must be re-installed. Verify the arrow on AID module, if present, is oriented toward the associated crosswalk. If necessary, the button diaphragm assembly may be taken off and rotated as needed. Secure the button diaphragm in the correct orientation by tightening the two retaining screws with a Phillips-head screwdriver. **Please use caution as the metal button diaphragm is sharp.** Remove the electronics module and speaker module together from the backplate.

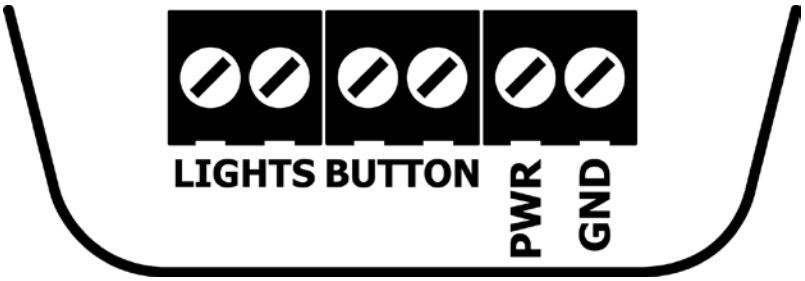
Position backplate on pole at correct height and orientation so arrow will point to ending of crosswalk on the opposite side of the street. Orientation is very important because a blind person uses the arrow and face of the sign to orient themselves to the direction of travel. Mark mounting bolt locations on pole if existing holes not correctly located. MUTCD max. height is 48”. Typical recommended height is 42”, but can be lower. Drill and tap ¼-20 bolt holes and wire access hole (if necessary). Route a 6-wire cable from the warning light system control unit to the AID. The cable should be supplied by the customer/installer.

Position the backplate against the pole and route the wires forward near the bottom end of the backplate. Position the wire such that 3 or 4 inches of wire is available at the bottom of the backplate.

Attach the backplate to the pole using the provided ¼-20 bolts with washers.

Re-install the electronics/speaker modules. Re-install the sign with the sign backplate, securing the AID Module in place before wiring. Re-install Earth ground connection screw to location between terminal blocks.

Connect the six wires from the warning light system control unit to the AID unit’s terminal block. Make sure the wiring matches at both ends according to the LIGHTS, BUTTON, PWR, and GND labels at the terminals. **See figure below.**



Note, to maintain corrosion protection, leave the blue dielectric grease intact while tightening the screws.

With the power on, check that the AID is operational. Recheck tightness of all connections. Re-install the lower cover.

For programming and configuration of the iNX AID, launch the Polara Field Service App and complete the sections of this User Manual listed below:

Section 7.4 - Setting Device Password

Section 7.5 – Assigning a Name to AID

Section 7.6 – Setting AID Time and Date

The iNX AID is now ready to use. If you wish to customize more available settings, please review Section 7.3.

3.2 Connecting an External Button

The iNX AID supports connection of an external button such as the Polara Bulldog BDSP-014 or the BDL3. The button wire pair should connect to the large terminal block labeled “BUTTON” with one wire to each terminal. Polarity is not important. The external button would be connected in parallel with the button wires to the warning light system control unit.

If an External Button is attached and the Wireless Sync feature is enabled, the Wireless Sync transmission will be sent when a signal from the warning light system control unit is asserted on the LIGHTS connection (requires firmware v1.0.3 or newer). At that time, any other iNX units listening for a Wireless Sync signal with the same settings will trigger their BUTTON signals causing activation of the connected warning light system control unit.

4. Technical Support Contact

Polara @ 903-366-0300 EXT 4 or 888-340-4872

The latest version of this manual is available in PDF format at www.polara.com.

5. Using the Polara Field Service (Polara FS) App

All the available setup and maintenance procedures may be performed using a compatible iOS device or Android mobile device. Your device must have iOS version 12.0 or higher or Android 7.0 (Nougat) or higher.

The Polara FS App will need to be installed on your device. It is available on the Apple App Store and the Google Play Store.

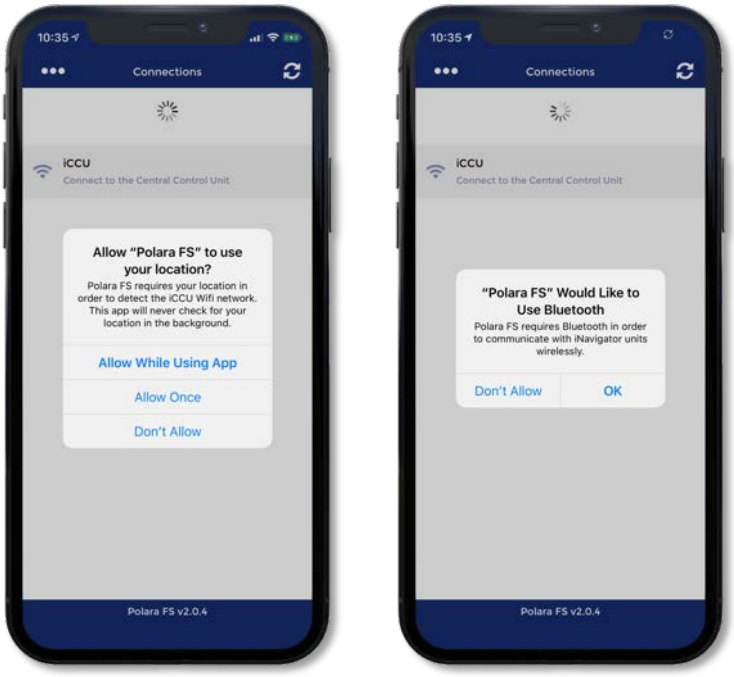
For more information on installation, please visit Polara's web site - www.polara.com.

Note: Most of the below screenshots use the Apple iOS platform, but the Android app uses nearly identical screens for iNX configuration.

5.1 Bluetooth Connection

Before starting the Polara FS App, make sure your mobile device has Bluetooth set to ON in Settings. Start the app.

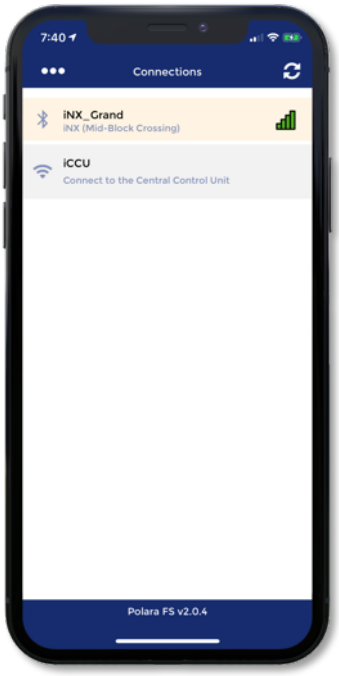
Connecting to an iNX AID with an iOS or Android device requires the use of Location and Bluetooth services. If you are prompted to allow the use of these services, please choose to allow to proceed to connect to the devices.



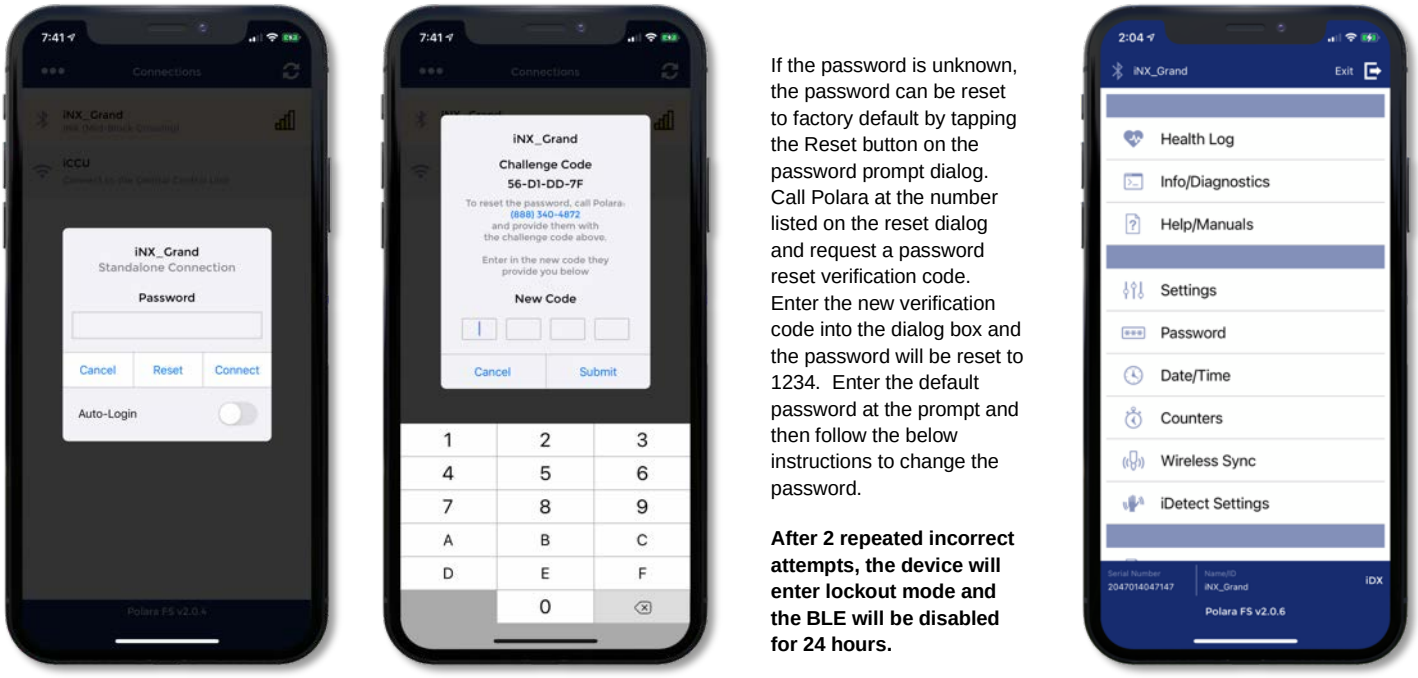
Enabling Location Services and Bluetooth Usage Screens

Tap the refresh symbol at the top right or pull down to refresh. This will display a list of all available devices within range. Tap a name to select, enter the password (factory default is 1234), then tap “Connect”. This will display the main menu.

Please note, Bluetooth connections are disabled while the iNX AID is actively playing audible messages other than the locate tone.



Device Connection Screen

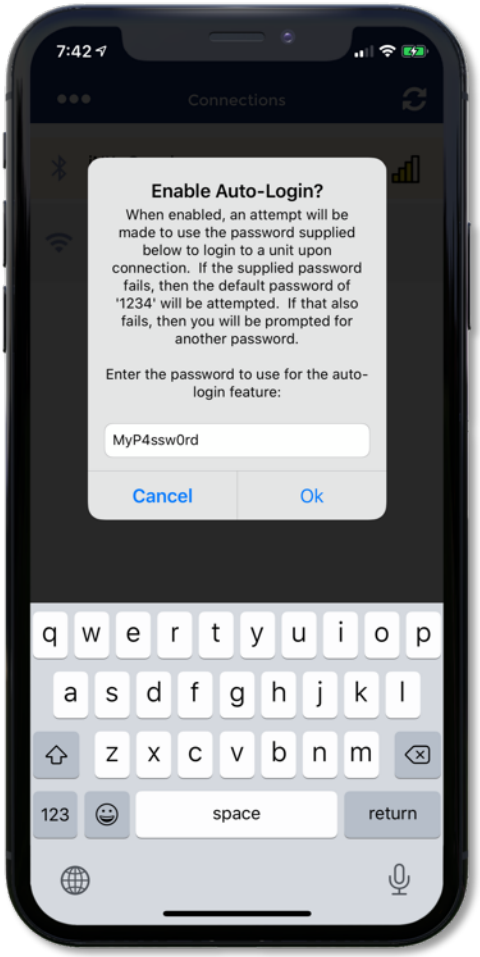


If the password is unknown, the password can be reset to factory default by tapping the Reset button on the password prompt dialog. Call Polara at the number listed on the reset dialog and request a password reset verification code. Enter the new verification code into the dialog box and the password will be reset to 1234. Enter the default password at the prompt and then follow the below instructions to change the password.

After 2 repeated incorrect attempts, the device will enter lockout mode and the BLE will be disabled for 24 hours.

Field Service APP Password Prompt, Password Reset, and Main Menu

5.2 Auto-Login

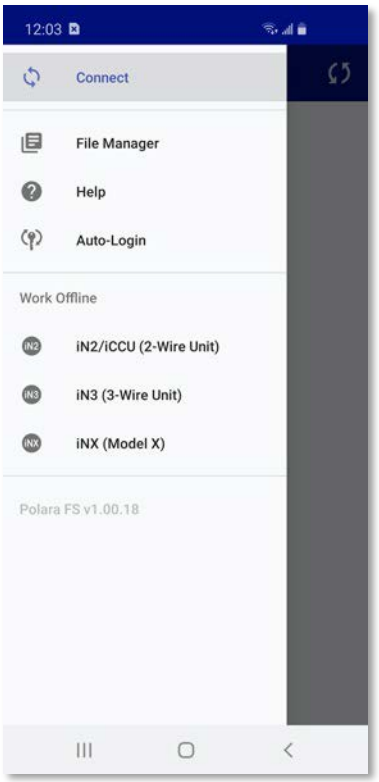


For customers where the majority or all of the mid-block crossings used within an area have the same password, a feature is available to enable logging in without having to re-enter the password. After tapping on a device in which to connect, at the password prompt, flip the switch for Auto-Login and a prompt will appear for a password that will be stored. Once this password has been stored, upon any new connections, that password will automatically be tried. If that password fails, then the default password of 1234 will be attempted. If both password attempts fail, then the standard password prompt will appear.

To change a previously stored password, turn off the Auto-Login switch and then turn it back on.

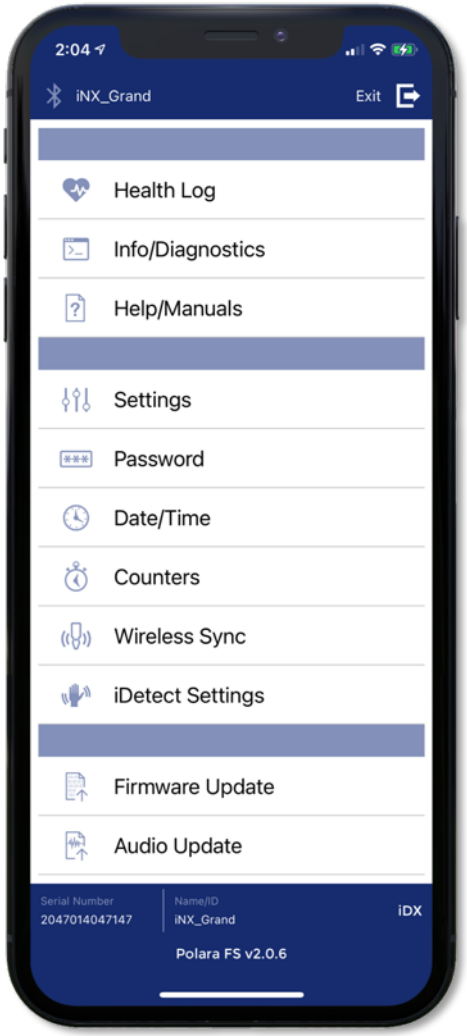
Note: Upon 5 failed attempts at entering the password a 10-minute lockout will be initiated. After 10 minutes, the original, correct password will still be allowed. Remaining lockout time will be displayed to the user.

On the Android system, the Auto Login option is available in the side menu while offline.

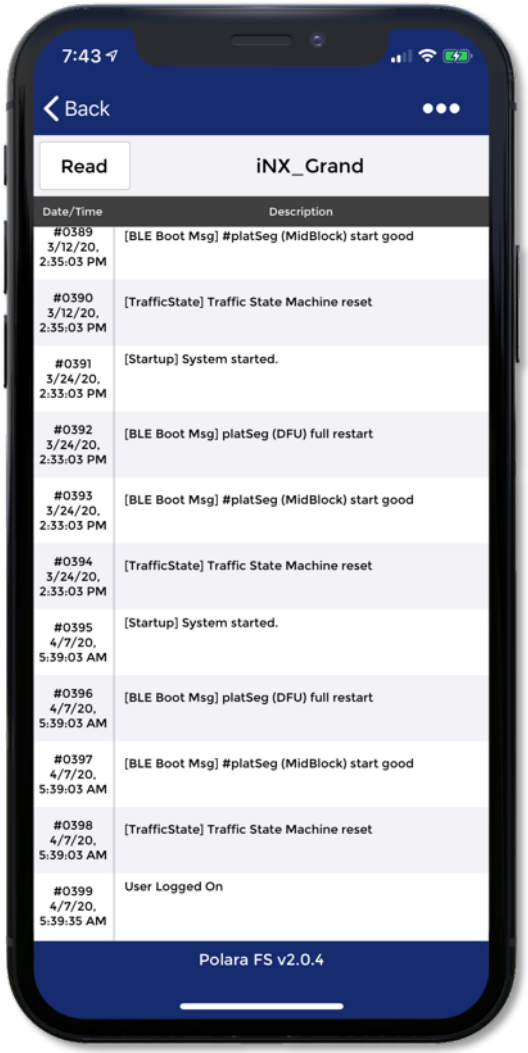


6. Home Page Menu Options

The home page (main page) lists all available menu options for the iNX.



6.1 Health Log



Select “Read” to display all activity entries. Select the ellipsis in the top right corner to bring up the options menu.

6.1.1 Clear Health Log

This selection will clear the health log following a confirmation.

6.1.2 Export Health Log

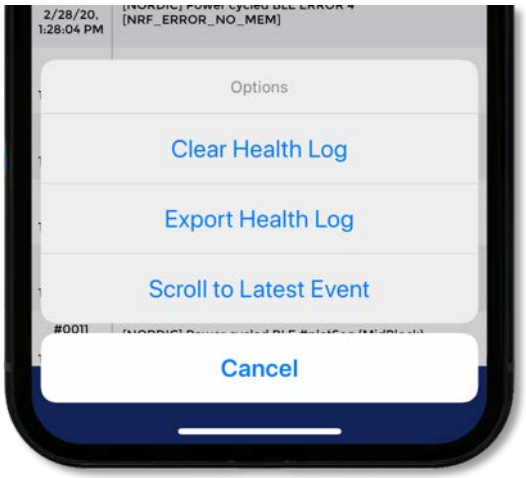
This selection extracts the information into a text file that can then be emailed as an attachment, airdropped, texted etc. to any desired destination.

6.1.3 Scroll to Latest Event

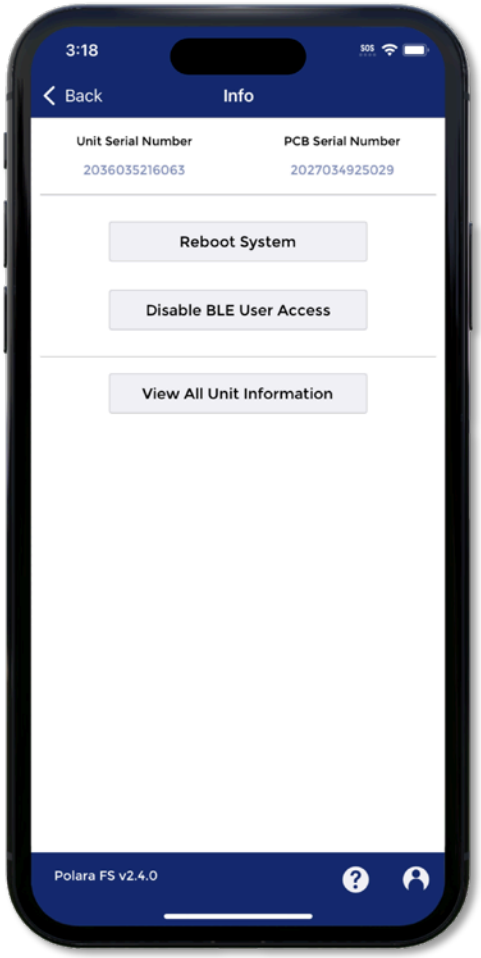
This will scroll to the last/latest entry in the health log.

6.1.4 Cancel

Closes the options menu.



6.2 Info/Diagnostics

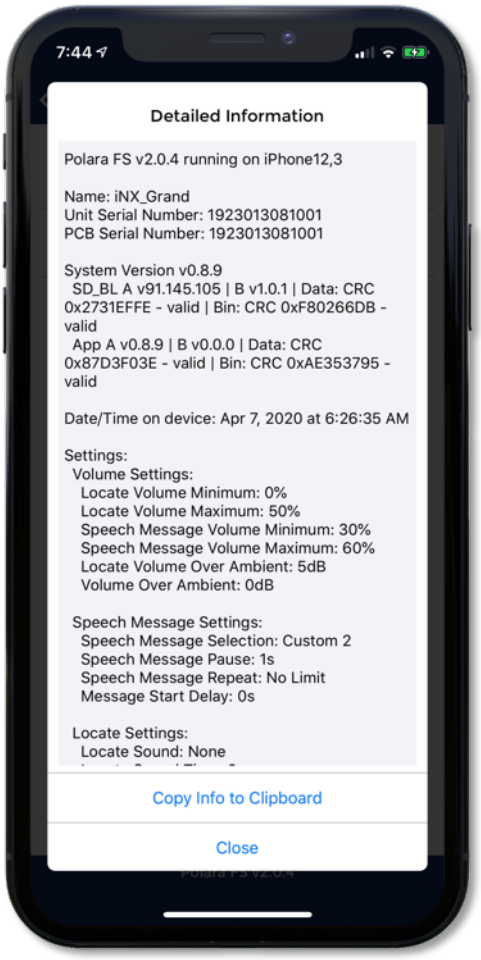


From the Home page, tap “Info/Diagnostics”.

On this page the iNX device Unit Serial Number and PCB Serial Number are displayed. There is a button to Reboot the Device, a second button to “View All Unit Information” and a third button to Disable BLE User Access.

Tap on the “Disable BLE User Access” to prevent users from accessing the iNS via the FSA app. Doing this action will disconnect you from the device. To re-enable access, power-cycle the device and press the button for 10 seconds until a two-tone sound is heard. The ability to perform this press will only be available for 5 minutes after a power-cycle.

On Android devices, the unit can be renamed in this menu by tapping the Rename button. On iOS devices, this is done on the home page (see section 6.5).



View All Unit Information

All available information is displayed about the connected device. This includes the serial numbers, version information, date/time, all configuration settings, and Wireless Sync settings. This information can be copied and pasted into another application by tapping the Copy Info to Clipboard button.

Note: This information is also included as the header of the health log file when it is exported to file.

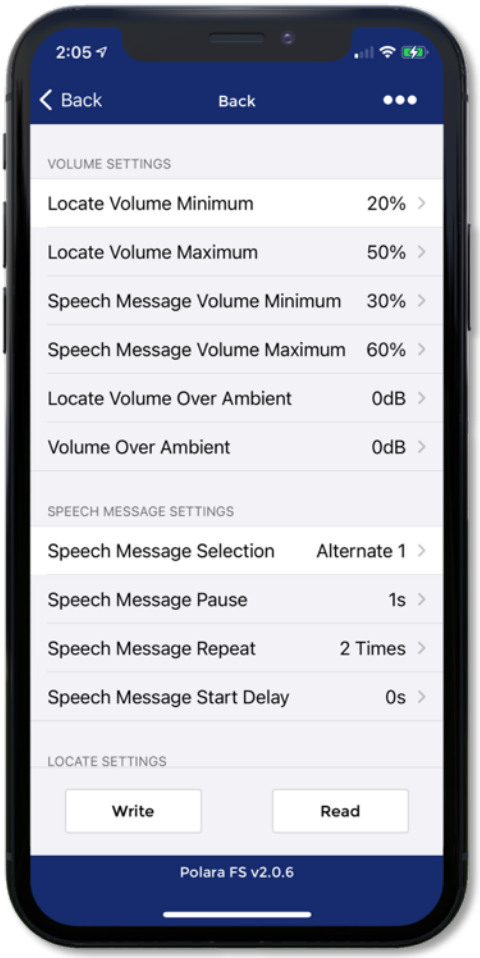
6.3 Settings

The settings page contains all the iNX parameters that can be adjusted. In the following pages they will be described and explained.

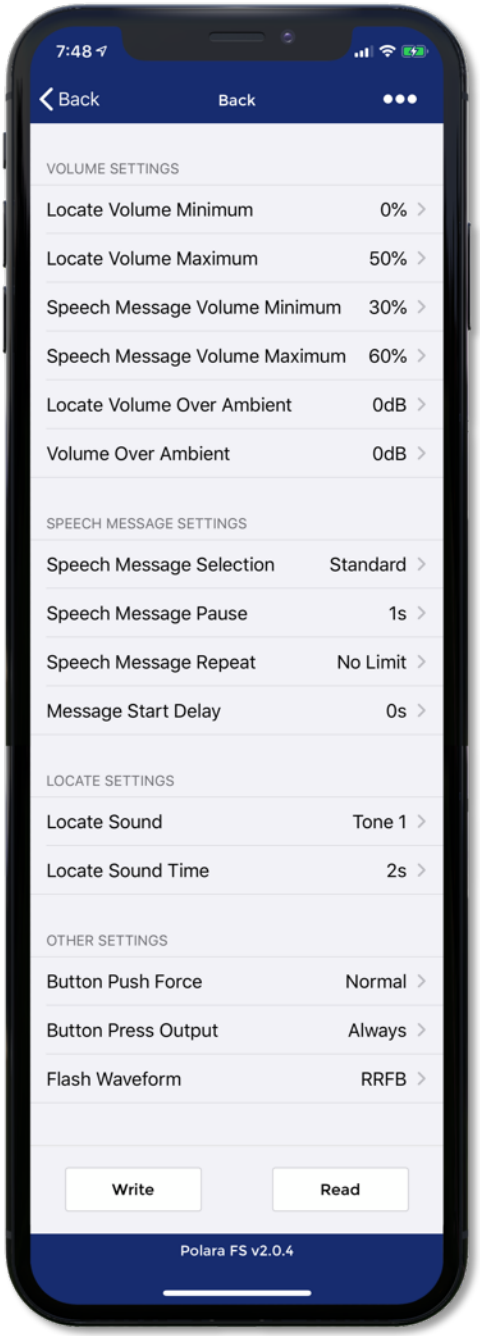
This page lists all available configurations. The elipsis at the top right hand corner enables the loading of default values. When the changes are complete, tap the “Write” button on the bottom of the page. The “Read” button will refresh and display the values currently stored in the device.

As changes are made, any settings which have been changed from what is saved on the connected device are highlighted with a white background. Once the settings have been written by tapping the Write button, the highlighting disappears indicating that what the screen shows is the same as what is saved on the device.

Note: This is enabled by default on iOS devices. On Android devices, enable the switch on the top right of the screen for “Write Changes Only”. Then the changed values will be displayed with a red background.



In the above image, the Locate Volume Minimum and Speech Message Selection settings have been modified but have not yet been written to the device.



6.3.1 Volume Settings

6.3.2 Locate Volume Minimum

This setting adjusts the minimum level at which the locate sound will be played. The auto volume adjustment will not go below this setting.

6.3.2.1 Locate Volume Maximum

This setting adjusts the maximum level at which the locate sound will be played. The auto volume adjustment will not go above this setting.

6.3.2.2 Speech Message Volume Minimum

This setting adjusts the minimum volume level at which the speech message will be played. The auto volume adjustment will not go below this setting.

6.3.2.3 Speech Message Volume Maximum

This setting adjusts the maximum volume level at which the speech message will be played. The auto volume adjustment will not go above this setting.

6.3.2.4 Locate Volume Over Ambient

This setting can increase or decrease the playback volume of the locate sound relative to the measured ambient sound pressure, but still be constrained within the set minimum and maximum settings. This compensation function is adjustable from -30dB to +20dB over ambient in 2.5dB steps.

6.3.2.5 Volume Over Ambient

This setting can increase or decrease the playback volume of the speech message relative to the measured ambient sound pressure, but still be constrained within the set minimum and maximum settings. This compensation function is adjustable from -30dB to +20dB over ambient in 5dB steps. Very seldom should this feature need to be used and typically +/- 5dB is adequate. In very rare cases might +/- 10dB be necessary. We provide greater ranges but they should never be necessary.

6.3.3 Speech Message Settings

6.3.3.1 Speech Message Mode Sound

This function selects the preferred message played while the lights are flashing. Alternate options can be modified and may differ from the factory default messages listed below.

- **None**: No audio plays while the lights are flashing.
- **Standard**: “Warning lights are flashing”
- **Alternate 1**: “Wait for traffic to stop, then cross with caution."
- **Alternate 2**: “Yellow lights are flashing”
-

6.3.3.2 Speech Message Sound Pause

This setting selects the length of silence between the speech messages while the lights are flashing. The range is from 0 to 10 seconds.

6.3.3.3 Speech Message Repeat

This setting selects the number of times the speech message will be played. Options are **1**, **2 (DEFAULT)**, or **3** times while the lights are flashing, or **No Limit** allows the speech message to repeat continuously while the lights are flashing.

6.3.3.4 Speech Message Start Delay

This setting controls the amount of time that will pass after detection of the Lights Input signal before beginning to play the speech message.

6.3.4 Locate Settings

These settings are associated with the Locate sound.

6.3.4.1 Locate Sound

This setting allows the choice of a few standard locate sounds.

Note: These sounds are programmed at the factory and cannot be customized by the user.

6.3.4.2 Locate Sound Time

This setting selects the start-to-start repetition time of the locate sounds. The range is from 0 to 5 seconds in 0.5 second increments.
The factory default setting is 2 seconds, to differentiate a mid-block crossing from a signalized crossing with APS, which has a locate tone of once per second (1s).

6.3.5 Other Settings

6.3.5.1 Button Push Force

This setting adjusts the necessary force required to actuate the button. The force required ranges from approximately 0.5 to 1lb for the Soft setting to 3.0 to 5.0lbs for the Hard setting.

6.3.5.2 Button Press Output

When Button Press Output is set to “No Retrigger”, only the first button press triggers a call; subsequent presses are ignored until after the lights stop flashing.

If the Button Press Output is set to “Always”, the iNX AID will send a signal to the warning light system control unit anytime the button is pressed.

6.3.5.3 LED Flash Behavior

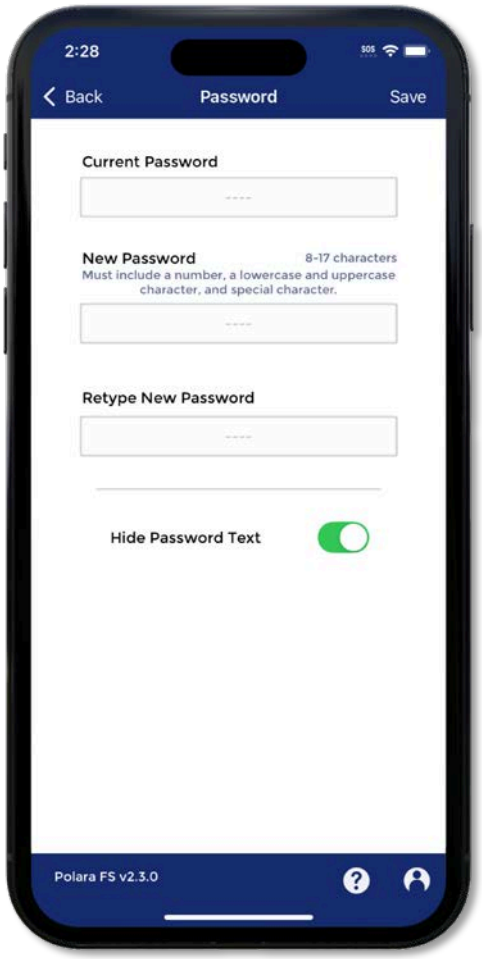
The iNX's LED Flash behavior can be programmed to either track the LIGHTS INPUT signal, such that whatever pattern of High and Low voltages is present on the input will be reflected on the LED, or it can be programmed to play a predefined pattern when the input goes HIGH, following a button press. Note, this LED flash behavior begins upon the unit detecting a high signal at the LIGHTS INPUT. It lasts until the LIGHTS INPUT detects a low signal lasting at least 600ms.

1. Track LIGHTS INPUT signal:
   The LED output will mimic the signal present on the LIGHTS INPUT. When the input is High, the LED will be on. When the input is Low, the LED will be off. This setting is commonly used with an RRFB.

2. Play predefined pattern:
   Upon detecting a High input, the iNX will play a predefined pattern so long as the LIGHTS INPUT is held High. The options for this mode are as follows:
   A. Solid LED On
      In this mode, the LED stays on while the LIGHTS input is held High.
   B. Simple On-Off
      In this mode, the LED turns on for 500ms and then off for 500ms and repeats while the LIGHTS input is held High.
   C. Rapid Flash
      In this mode, the LED follows this sequence while the LIGHTS input is held High:
      ON for 50ms → OFF for 150ms → ON for 50ms → OFF for 150ms → ON for 50ms → OFF for 50ms → ON for 50ms → OFF for 250ms

6.4 Password

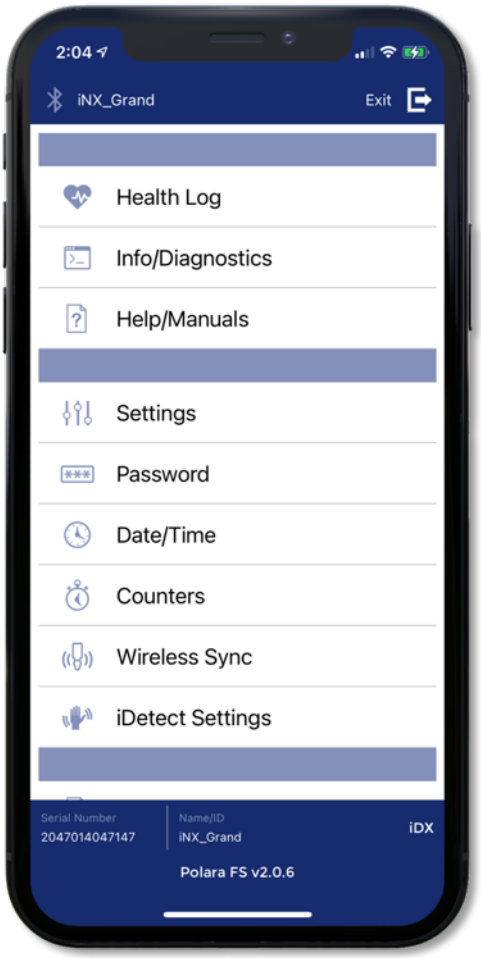
Each unit will require the password be changed from default in order to avoid the repeating “Change Password” voice message. At the main menu, tap “Settings”. Tap “Password” at the bottom of the screen. Tap in the boxes and enter the old and new passwords as shown on the screen below. Tap “Save” in the upper right corner. Polara recommends updating button passwords using agency-provided complex passwords. New password must be a minimum of 8 characters and include at least one of each: upper case letter, lower case letter, number, and special character.

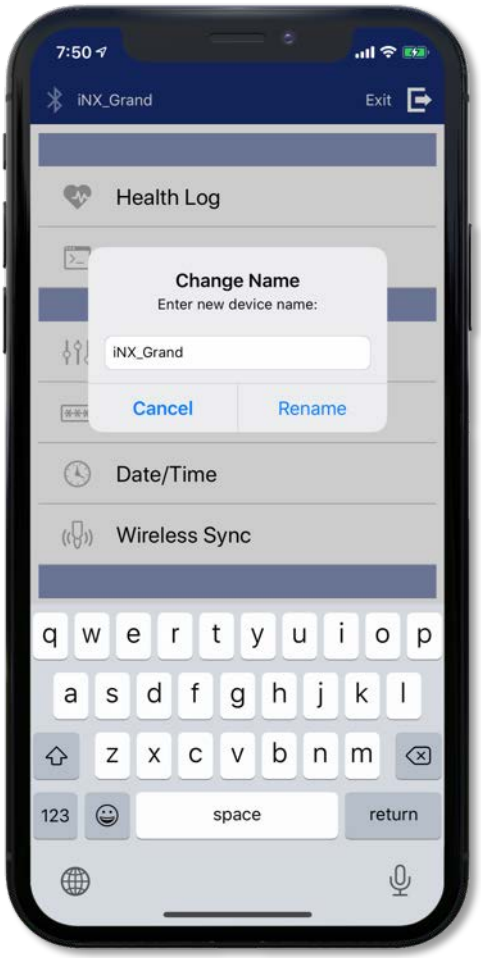


6.5 Assigning a Name to an AID

Each AID may be given a name to help identify it while performing configuration and updates. You may want to use a name that will include the location.

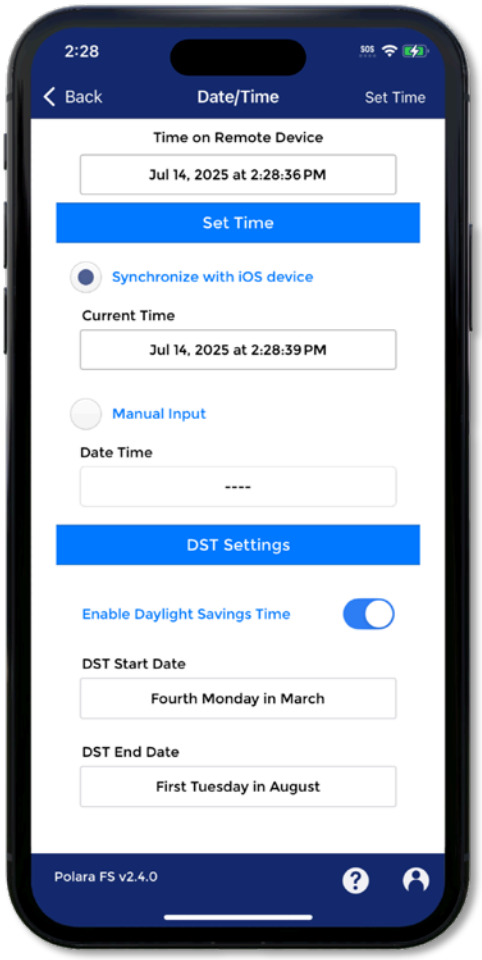
On iOS devices, while viewing the home page, tap on the current name at the bottom of the page. Tap in the name box and type a new name as desired, then tap “Rename”.





On Android devices, from the flyout menu, select Button Info/Diagnostics and then tap the RENAME button in the top right corner of the screen.

6.6 Setting the AID Time and Date



While viewing the main menu, select AID Configuration, then select Date/Time. When the radio button is set to Synchronize with iOS device, the time on the AID will be set to the time currently detected on your iOS device. Tap the three dots on the upper right corner of the screen and select Set Time.

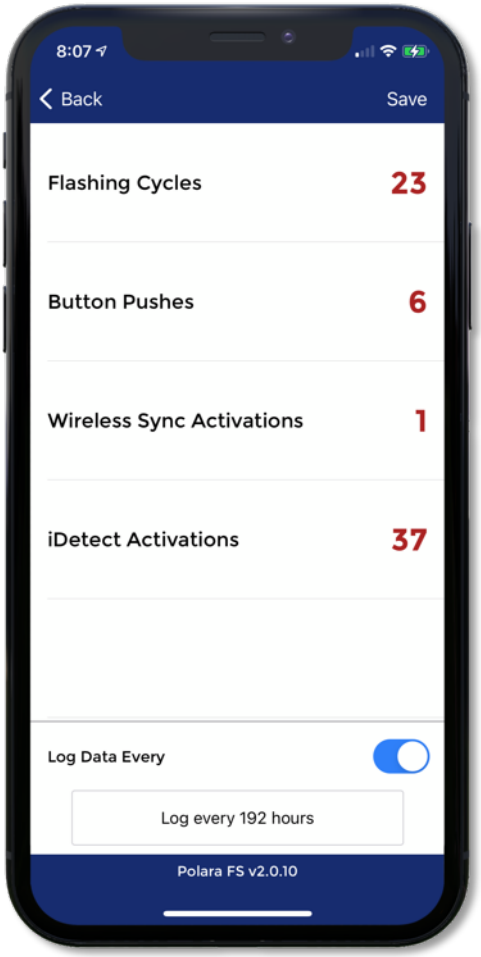
If you wish to specify a specific date/time that is different from your computer's time select the Manual Input option and set the desired time, then tap Done. Tap the three dots on the upper right corner of the screen, then select Set Time to apply the changes.

You can manually enable and disable the daylight savings time adjustment and can also modify the date that DST starts and ends.

6.7 Counters

Starting with firmware v1.0.1, each unit keeps a count of events that have occurred. These numbers act as a kind of odometer for the unit and cannot be reset. The counts are:

- Flashing Cycles
  - The number of flashing cycles the unit has received. This includes all cycles initiated due to detection of signals from the LIGHTS input.
- Button Pushes
  - The total number of physical button pushes that have been detected by the AID unit's arrow button.
- Wireless Sync Activations
  - The number of indications received wirelessly through the Wireless Sync feature to assert the button output signal.
- iDetect Activations (only iDX units)
  - The number of activations that have been detected by the AID unit's iDetect sensor.



Note: While this screen is visible, the displayed counters will increment with real-time events.

In units with firmware v1.0.5 or greater, a logging feature is included. This feature will add the button counter information to the health log at the selected rate. It is intended to be used to determine the amount of pedestrian traffic that is passing through during a period of time.

For example, setting the feature to log counts every 24 hours will log all counts to the health log once a day, and that data can be used to determine how many times the button has been used during the day. This can be used to track traffic per week (every 168 hours), as well. At high rates (such as once or more per day), logging should only be used for a short period of time (a few weeks) to determine the traffic flow and should not be kept enabled for extended periods so that the health log is not overrun with logging messages.

6.8 Wireless Sync

Use this feature to configure AID-to-AID wireless links for warning light system control units that are not using a Radio Transceiver. This function provides a link between AID units on the same mid-block crossing such that a button press on one unit enables flashing lights, voice message and flashing yellow LED on the unit at the opposite end of the crosswalk.

On the Home page, after connection Tap ‘Wireless Sync’.

Enable this function by tapping the ‘Wireless Sync’ switch at the top of the screen.

The Mid-block crossing ID is used to prevent any possible interference between nearby mid-block crossings which are also using this feature. All iNX AID units on the same crossing should be programmed with the same Mid-block crossing ID, which needs to be a different ID than is used on nearby crossings. Tap the ‘Mid-block crossing ID’ box and enter a positive number and tap ‘Save’. Any number is acceptable as long as it is different from that used on any nearby mid-block crossing.

Note: This feature is compatible with external button usage. See note in section 3.2.

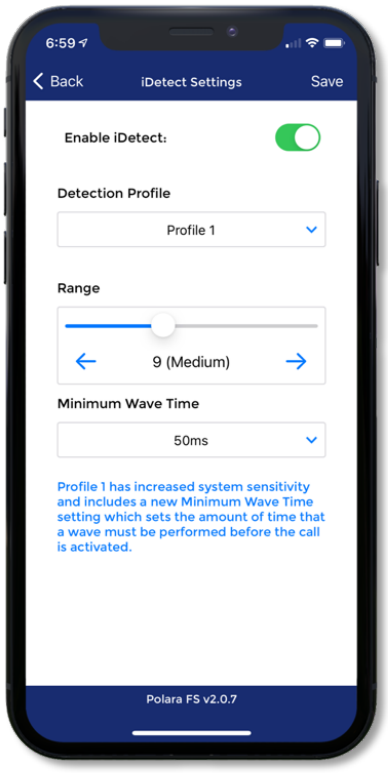
6.9 iDetect

6.9.1 Settings

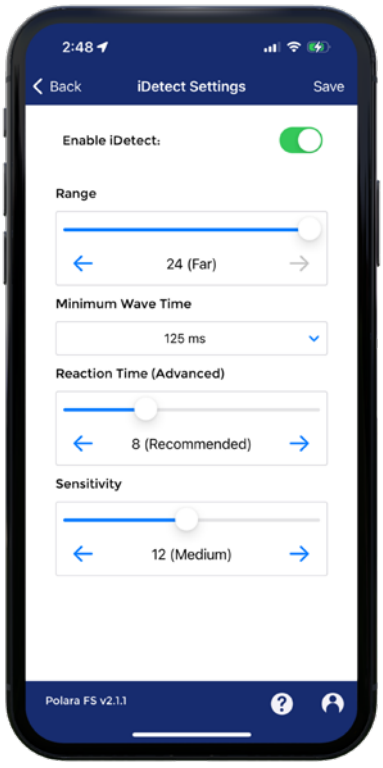
iDetect brings touchless actuation and is an added feature in all iDX units. There are many technologies that can facilitate touchless actuation, but each has strengths and weaknesses. Polara has chosen to use radar technology because of its performance, reliability, and resistance to vandalism. The intent of iDetect is to provide touchless actuation within a sensing range of 2” to 12”. A basic configuration of iDetect is necessary after installation is complete (i.e., the unit is mounted to the pole properly, the button cover is installed, and the sign is installed).

Settings for the performance of iDetect functionality can be modified in the iDetect Settings screen. This screen can be found from the Main Menu by selecting iDetect Settings.

The iDetect function can be completely disabled by turning off the Enable iDetect switch. This switch must be enabled in order for iDetect to be operational.



iDetect settings (older units)



iDetect settings (newer units)

Refer to the iDetect settings in the Polara FS App for specific configuration information.

6.9.2 Troubleshooting

If a unit is not operating as intended, use the following troubleshooting steps to improve performance.

1. Ensure that the settings are appropriate (newer units).
    a. If a unit places false calls during rain, adjust the sensitivity down and/or choose a longer reaction time to improve robustness.
    b. If a unit is not detecting hand-waving, try increasing the sensitivity.
    c. If a unit appears sluggish to react, try decreasing the reaction time.
2. Try returning to the default iDetect settings, which were selected to provide good performance across a variety of environments.

6.10 Quiet Time

The iNX has a feature to easily allow the button to become quieter at a specified time of day. This is useful, for example, when a residential street experiences a lot of traffic during the day, but very little in the evening. In this scenario, it may be useful to have the iNX set loud enough to be heard over traffic during the day but be nearly inaudible in the evening hours as not to disturb residents living nearby. Quiet Time allows for a reduction in volume between a specified time interval, within a 24-hour day.

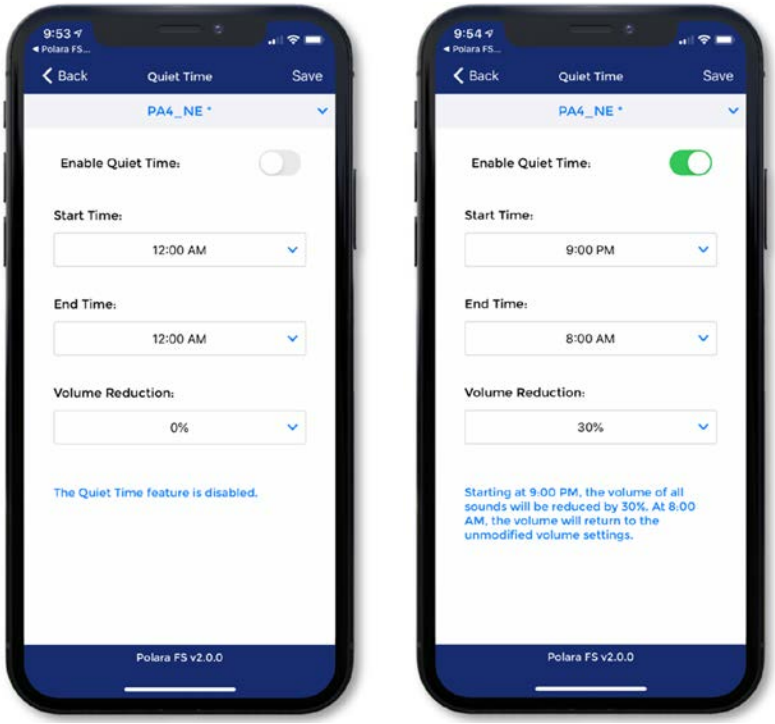
The details of the feature's operation are such that if the current time of day falls between the selected start and end time of the Quiet Time period, then all Minimum and Maximum volume settings will be reduced by the specified reduction amount.

Note: The "Minimum" volume setting can be reduced to 0%, but the "Maximum" volume setting will only be reduced to 25%. This follows what is settable in the configuration parameters or settings screen.

The table shows what the effective volume settings would be with the Quiet Time set to reduce the volume by 30%. With the values set as shown in the screenshots, between the hours of 9:00am and 7:59pm, the volume will be as set configured in settings (shown in the "set value" column). At 8:00pm to 8:59am the following morning, the volumes will be reduced as shown in the "reduced value" column:

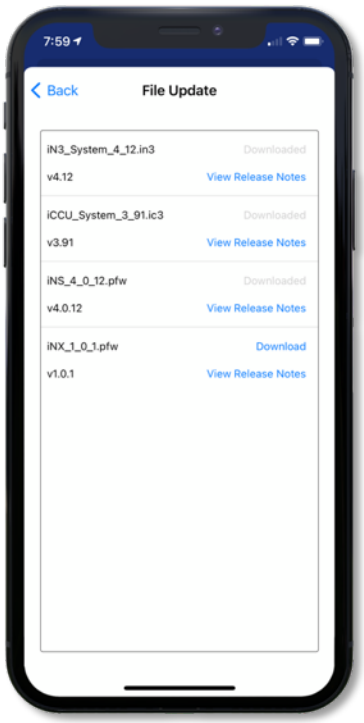
Setting Name	Set Value	Reduced Value
Locate Volume Minimum	0%	0%
Locate Volume Maximum	50%	25%
Speech Message Minimum	65%	35%
Speech Message Maximum	100%	70%

From the main, select "Quiet Time". Enter the desired settings, then click Save at the top right of the screen.



7. Firmware Update

7.1 Checking for the Latest Firmware



The latest firmware files are automatically bundled with the Polara FS App whenever a new version of the app is released, however, there may be additional firmware updates which are released in-between FS App releases. To verify that the bundled firmware is the latest and to also view a list of the changes in the firmware, view the Check For Updates page.

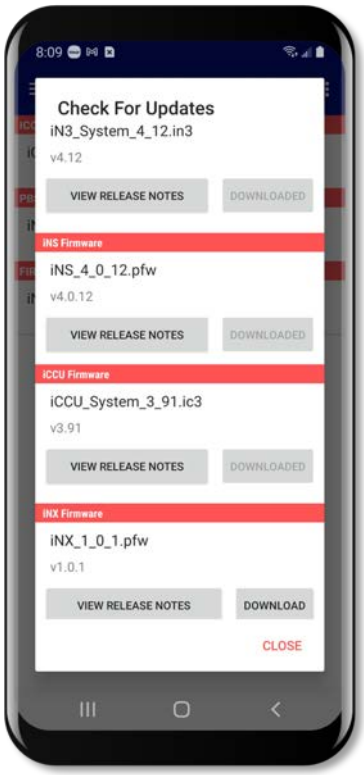
Your mobile device must be connected to the internet in order to check for the latest updates.

7.1.1 Check for Updates – iOS

Tap the three dots on the upper left of the connection screen, then tap File Browser to view all files loaded into the FS App. Tap the folder icon in the upper right corner of the screen to access the options and then tap Check For Updates.

7.1.2 Check for Updates – Android

In the flyout menu, tap the File Manager item. The list of files loaded into the FS App will appear on screen. Tap the three dots in the upper right corner of the screen to access the options menu, then tap Check For Updates.



All files that are available for download will have a Download button enabled, otherwise, if the file already exists in your app, then the button will be greyed out as Downloaded.

Tap the View Release Notes button on each firmware file to view the latest changes in that version. Tap the Back button to go back to viewing the list of files.

Once all the files are updated, then you can go back to the connection screen and proceed to connect to the desired unit and perform a firmware update.

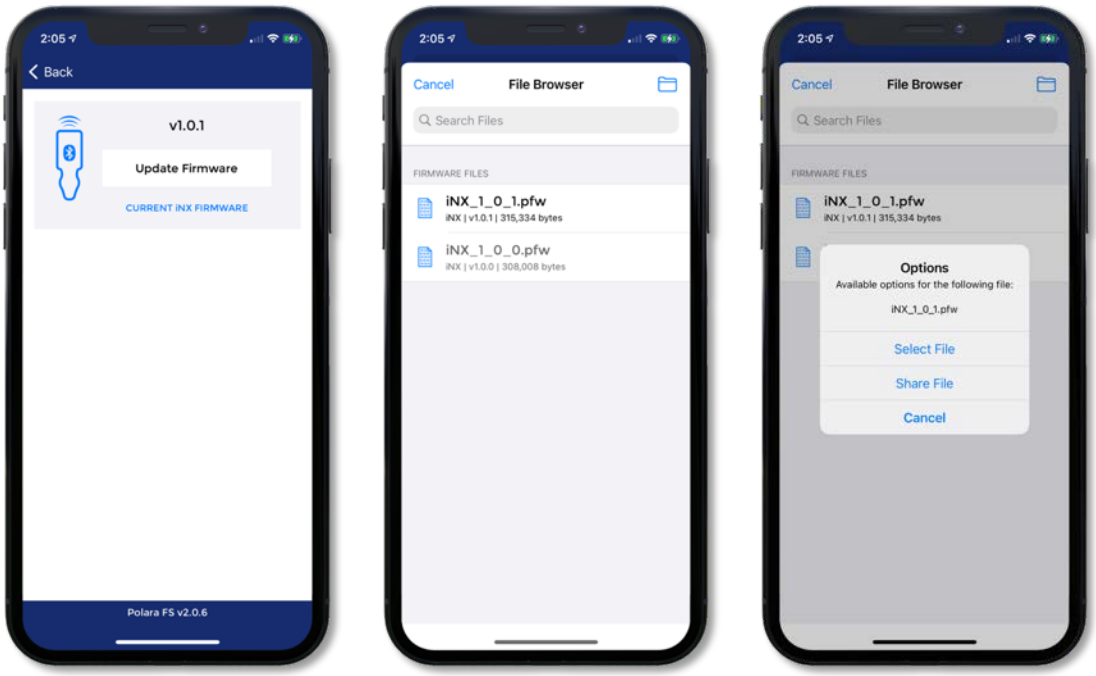
7.2 Updating Firmware

Connect to the AID and from the Home page tap “Firmware Update”.

The current version is displayed. (Note the released AID firmware will be v1.0.0 or higher).
Tap the “Update Firmware” button.

A File Browser will appear with all valid firmware files. The file which is bundled with the installed Polara FS app (which typically indicates that it is the newest file) will appear in dark text and other firmware files will appear lighter. Also, the files will be listed in order from newest to oldest. Tap the desired file to use to upload the firmware.

Under the Options window tap “Select File” the firmware download will start.



Note: If the device already contains the firmware in the selected file, then a dialog box will appear saying that the device is already up to date, otherwise the firmware update process will begin.

Once this has completed, the App will disconnect and the AID will be rebooted and begin to load the new firmware. During this time, the device will be unresponsive for about 30 seconds. **Do not power off the device during this time.** Upon completion, the double-beep startup sound will be heard, and the AID will boot with its latest firmware version.

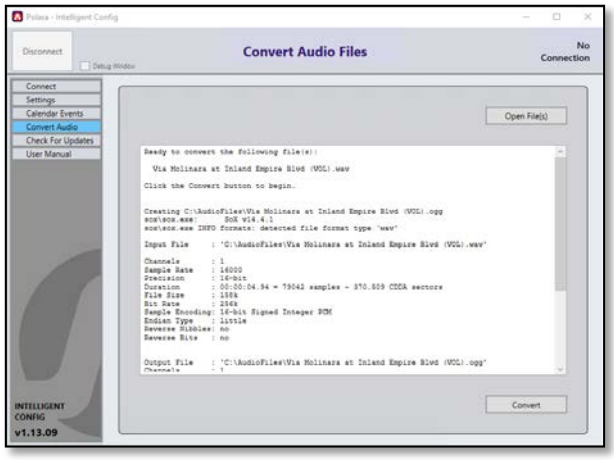
8. Audio Update

8.1 Preparing Audio Files

The audio files which are played in iNX units are encoded using the open-source Ogg Vorbis codec. Polara provides professionally recorded audio files for download. You can request to have custom messages recorded for you by clicking on the Request Custom Message option on Polara.com under the Audio Library link. Fill out the form on the page to complete your request. You can search for audio files which have already been recorded if the streets on the desired intersection are common. The ability to search for audio files and import them into the Field Service app is also available directly within the app. See the next section for details.

If you wish to record your own messages or already have messages in another format (such as .wav or .mp3), these messages can be converted to the specific Ogg Vorbis format needed by the iNX devices by downloading the Intelligent Config application (also available on the Polara.com website) and using the Convert Audio option.

Note: Customer-recorded audio messages must use the Intelligent Config app to convert to the proper audio format. The built-in Ogg encoder in other audio programs will not use the specific compression settings needed and the audio will sound garbled when installed in an iNavigator.



Once you have your .ogg files prepared, they must be transferred onto your iOS device. Files can be transferred to the Polara FS app using a variety of methods:

- E-mail the file to an account on your iOS device and tap the file, then choose Open in Polara FS. Note: This works best in the built-in Mail app. Some apps like Microsoft Outlook do not offer the option to open the file in the Polara FS app. If this is the only mail application available, use one of the alternative methods to import the file.

- Store the file or files using a cloud-based storage utility such as Dropbox, iCloud Drive, Google Drive, Microsoft OneDrive, and others. Then use the iOS “Files” app to copy the files into the Polara FS audio directory or access the Share feature of the file to open the file in Polara FS. This method can be used to import large groups of messages into the Polara FS app.

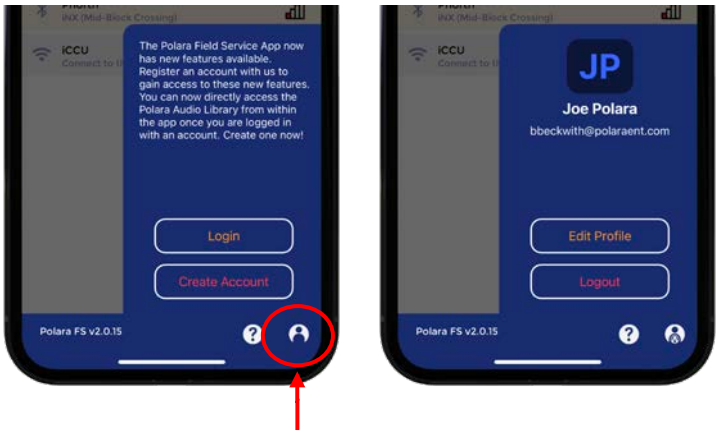
- Download the .ogg file from the Polara.com website into the iOS Downloads directory and then import it using the iOS Files app. This method is demonstrated in detail in the following pages.

- Within the Polara FS app while not connected to a device, tap the three dots in the upper left corner and select Audio Files, then tap the Import button in the upper right corner of the File Browser. This will open a system file browser that will allow you to select files that have been downloaded into the iOS file system and access files from cloud-based storage apps.

8.2 Audio Library

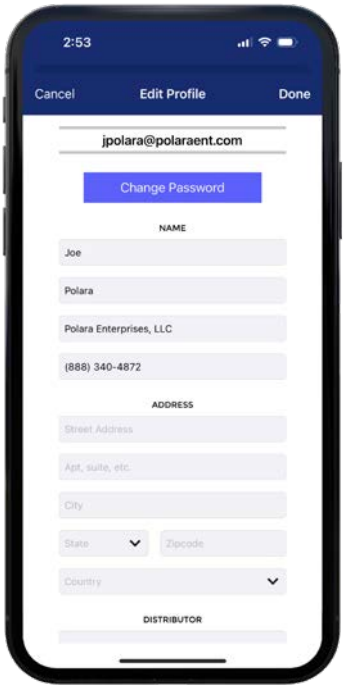
The library of audio files that have been recorded and are available from Polara on the website is accessible directly via the Field Service App through the Audio Library screen.

Access to the Audio Library is available only after creating a user account through the app's profile interface. Tap the User Profile icon in the bottom right corner of the app to open the menu and tap Create Account. Only a name, e-mail address, and password are required to create an account. Once the account is created, a verification e-mail will be sent. Enter the code from the e-mail into the verification code field on-screen to finish account creation. Once you are logged into your account, your name and e-mail are shown in the User Profile menu.



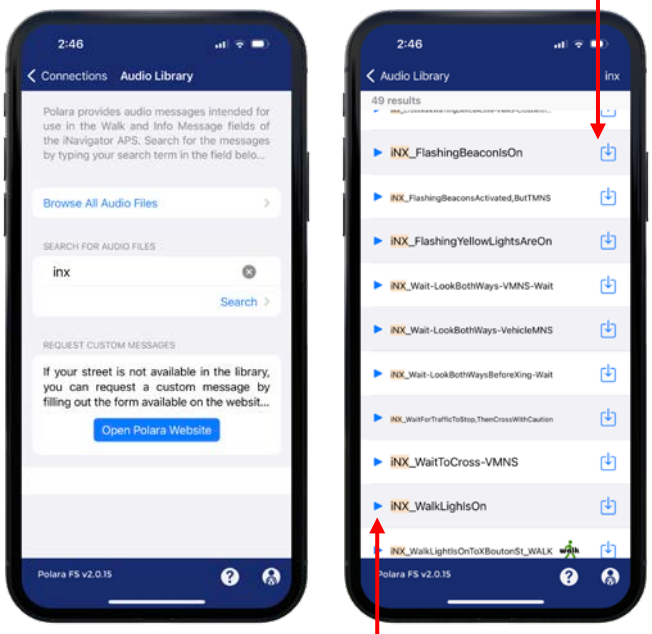
Tap to open User Profile screen.

You can add additional information by editing your profile. This will allow you to associate an address, phone number, and company name to the user profile.



Once you are logged in, then tap on the Audio Library option in the main menu to access the search screen. Enter the name of the street to search for and tap Search. A results screen will appear with all audio files containing the search term(s). Tap on the play icon to hear the audio file. Tap on the download button to import the file into the app. Once the file is imported, the file can be uploaded to an iNX by following the instructions on the following pages.

Tap to download audio



Tap to hear audio message

Note: A connection to the internet is required to create a user account and search for audio messages.

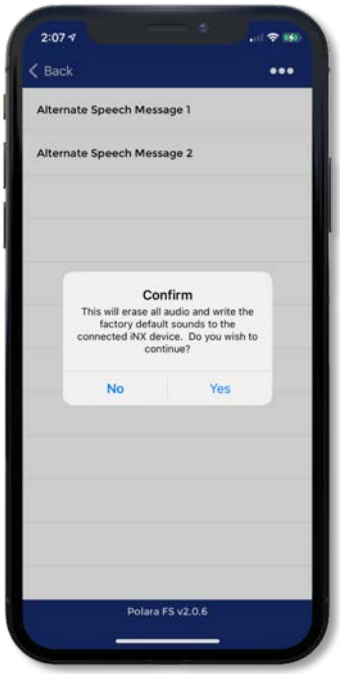
8.3 Sending Audio Files

Connect to the AID and from the Home page tap “Audio Update”

Only the Speech Message options for Alternate 1 and Alternate 2 can be changed from factory default.

Tap the location in which to upload your custom audio file and then the File Browser will appear with the .ogg files which have been imported into your iOS device. Tap on the .ogg file you wish to upload and then tap Select File to confirm. The upload process will begin immediately.

To restore all audio files to factory default, tap the three dots (ellipsis) in the upper right corner of the screen to open the menu and select Reset Audio To Default. Then tap Yes on the confirmation dialog. This will overwrite any custom messages that have been uploaded and return the audio files to factory default.



Note: User-generated audio files can only be uploaded if the firmware is up to date. If an update is required, there will be a popup warning informing the user.

9. Regulatory Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.