

APS Audible Beacon Device User's Manual

906-0024

Revision A • March 8, 2024



PedSafety

PedSafety, A Campbell Company

450 W. McGregor Drive

Boise, Idaho

83705

USA

Tel: 1-208-345-7459 Fax: 1-208-345-7481

Last edited: 08 March 2024

This document is copyright © 08 March 2024 by Pedsafety, A Campbell Company. All rights reserved.

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from PedSafety.

All copyright, confidential information, patents, design rights and all other intellectual property rights of whatsoever nature contained herein are and shall remain the sole and exclusive property of PedSafety. The information furnished herein is believed to be accurate and reliable.

However, no responsibility is assumed by PedSafety for its use, or for any infringements of patents or other rights of third parties resulting from its use.

The PedSafety, A Campbell Company name and PedSafety logo are trademarks or registered trademarks of PedSafety, A Campbell Company.

All other trademarks are the property of their respective owners

Audible Beacon Device User's Manual

906-0024

Document Revision History		
Revision	Revised By	Date
A	Travis Goldsby	3/7//24



**Audible Beacon Device
(ABD)**

1 Table of Contents

1	Table of Contents	4
2	Introduction	5
2.1	PURPOSE OF THIS DOCUMENT	5
2.2	ADDITIONAL INFORMATION	5
2.3	CONTACT INFORMATION	5
3	Overview	6
3.1	PRODUCT OVERVIEW	6
3.2	COMPONENTS	8
3.3	CUSTOM AUDIO MESSAGES	8
4	System Configuration	9
4.1	SETTINGS AND OPERATIONAL MODE FEATURES IN PEDCONNEX	10
4.2	AUDIO FILES	10
5	Appendix A: Acronyms, Abbreviations & Definitions	11

2 Introduction

2.1 Purpose of this Document

The purpose of this document is to describe the operation of the APS Audible Beacon Device (ABD).

2.2 Additional Information

- The ABD has many different functions and comes with various mounting configurations.
- A Signal Power Interface (SPI) is required convert to Walk and Don't Walk signals from the pedestrian signal head to low voltage control signals to operate the ABD.
- A Signal Power Interface XC (SPI) is required when used in conjunction with a Guardian APS unit.
- See the ABD Installation Guide instructions for the specifics of each mounting.
- See the ABD Wiring Quick Guides for a brief graphical installation guide and wiring instructions.
- Refer to the PedConnex Utility manual for specific instructions for programming.

2.3 Contact Information

The first line of contact should be your regional distributor that the system was purchased from. If you are unable to contact the distributor, please contact PedSafety directly. PedSafety Technical Support: 1-208-345-7459 option #2

3 Overview

3.1 Product Overview

The APS Audible Beacon Device (ABD) is the most versatile programmable speaker in the traffic market, providing intelligent communication to assist pedestrians with audible indications for safe passage in high traffic areas. The ABD can function independently, be paired with a standard pushbutton, or integrated with our APS units for advanced broadcast functionality.

Functionality – BBU (Based Broadcast Unit)

- The ABD provides audible indications each time the Walk Display is active. It is intended for corridors where there is no pedestrian activation.
- The ABD can provide additional audible indications in the Don't Walk and Clearance cycles when configured in "Beacon" mode.
- Time of Day settings allow the ABD to utilize Quiet Signals Technology, typically during nighttime.

Functionality – Beacon APS

- The ABD used in conjunction with a Guardian APS system (including Guardian Mini and Guardian Wave) provides amplified broadcasting when directed towards the crossing.
- An extended press of the pushbutton enables the ABD to broadcast an audible indication during the active Walk and Clearance cycle.
- The ABD is typically mounted near the ped head 7 to 10 feet above the ground and is focused to provide sound to the closer third of the crossing.
- The beaconing or indications provide a sound path to assist visually impaired pedestrians to finish the crossing.
- The ABD may be used in conjunction with any typical pushbutton to provide audible APS indications. It can be set to activate with either a momentary or extended press utilizing the PedConnex software utility.

Beacon – Preemption

- The ABD is designed to provide Light Rail, and other Preemption Warnings at the crosswalk.
- In light rail applications, the ABD can broadcast the status of the platform and pedestrian areas as a train approaches the station area.
- The ABD can provide audible warnings of vehicle movement near pedestrians in sidewalk crossing entrance / exit areas. Particularly useful in parking garages and tight downtown corridors. The ABD may be used as a temporary advisory device during construction.
- Each preemption mode requires an input from the controller or external device.

PedConnex Utility

- The ABD comes fully configured and customized for installations. It is also supported by PedConnex utility, easy to use with straight forward installations and is available for download on the PedSafety website, www.pedsafety.com.

Installation

- The ABD requires a signal power interface (SPI) to be mounted into the Pedestrian Signal Head.
- A Pan Tilt bracket (included with ABDs) allows the unit to be mounted on a traffic pole or extension arm.
- In a BBU configuration, the unit can be installed underneath the pedestrian signal head directing audible information at the initiation point of the cross walk.

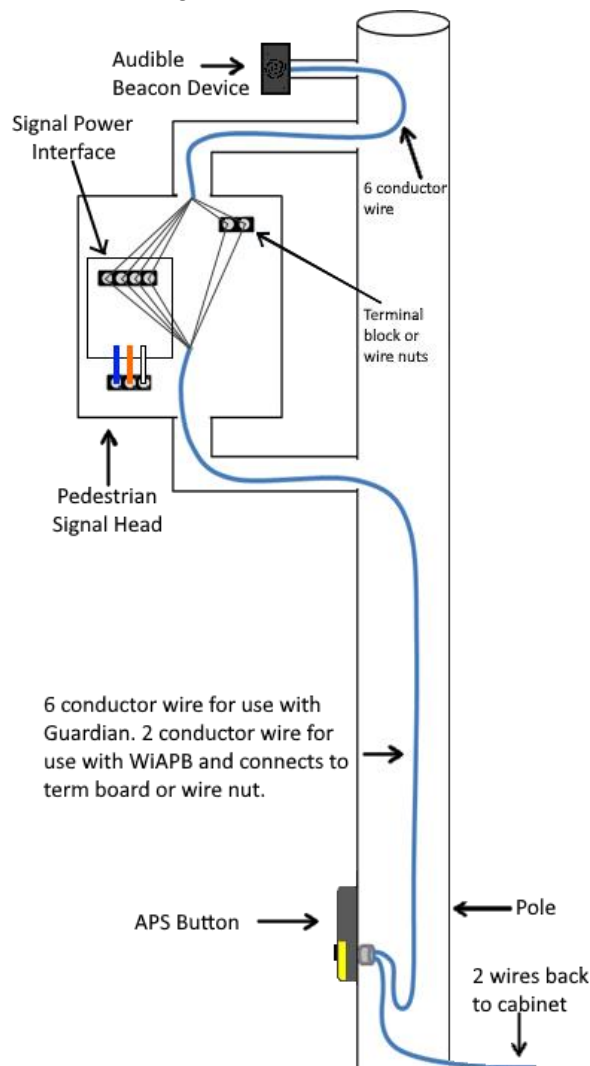


Figure 2. ABD wiring diagram



Figure 1. ABD

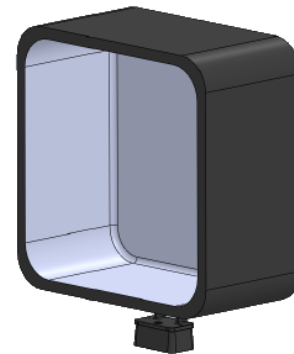


Figure 3. ABD mounted to Ped Head

3.2 Components

There are four primary components for the ABD:

- ABD
- Pan Tilt Mount (included with every order)
- Bluetooth® (included with every order)
- Signal Power Interface (unless being paired with a PedSafety APS, then see below)

Additional Option

- Signal Power Interface XC (extra capacity, used when installing a PedSafety APS and a ABD at the same crossing)

There are two additional components for the ABD APS functionality:

- Guardian APS, 4 EVR MOAB PPB, or mechanical PPB
- 6 Conductor wire

3.3 Custom Audio Messages

ABDs come fully programmed with generic or custom audio files from the factory. If custom audio files are to be used a PedSafety [Intersection Planning Form](#) must be completed and sent in with the purchase order. If custom audio is to be added after the time of purchase, contact PedSafety Technical Support or find several free applications such as Audacity that give you the option to create your own custom messages or tones in a simple .wav format (for units with firmware version 7.0.3 or earlier) or .opus format (for units with firmware version 7.5.0 or later) that can be easily uploaded via PedConnex through the USB port or Bluetooth®.

Second languages, gender narrative, and special percussive tones can be easily created and uploaded.

4 System Configuration

The ABD comes with the user friendly PedConnex utility to configure the station. While the ABD comes configured from the factory, some installations require modifications to audible messages, volumes, or functionality to best fit the needs of the crosswalk location. This can be accomplished after factory configuration.

PedConnex can be downloaded and launched on any number of computers or mobile devices that will be used in the field. The PedConnex utility includes a detailed electronic version of the PedConnex Utility Manual which will be referred to in this document. This document will direct you to main areas of interest in the PedConnex User's Manual. Please refer to the PedConnex Utility manual for more detailed information on programming and configuration.

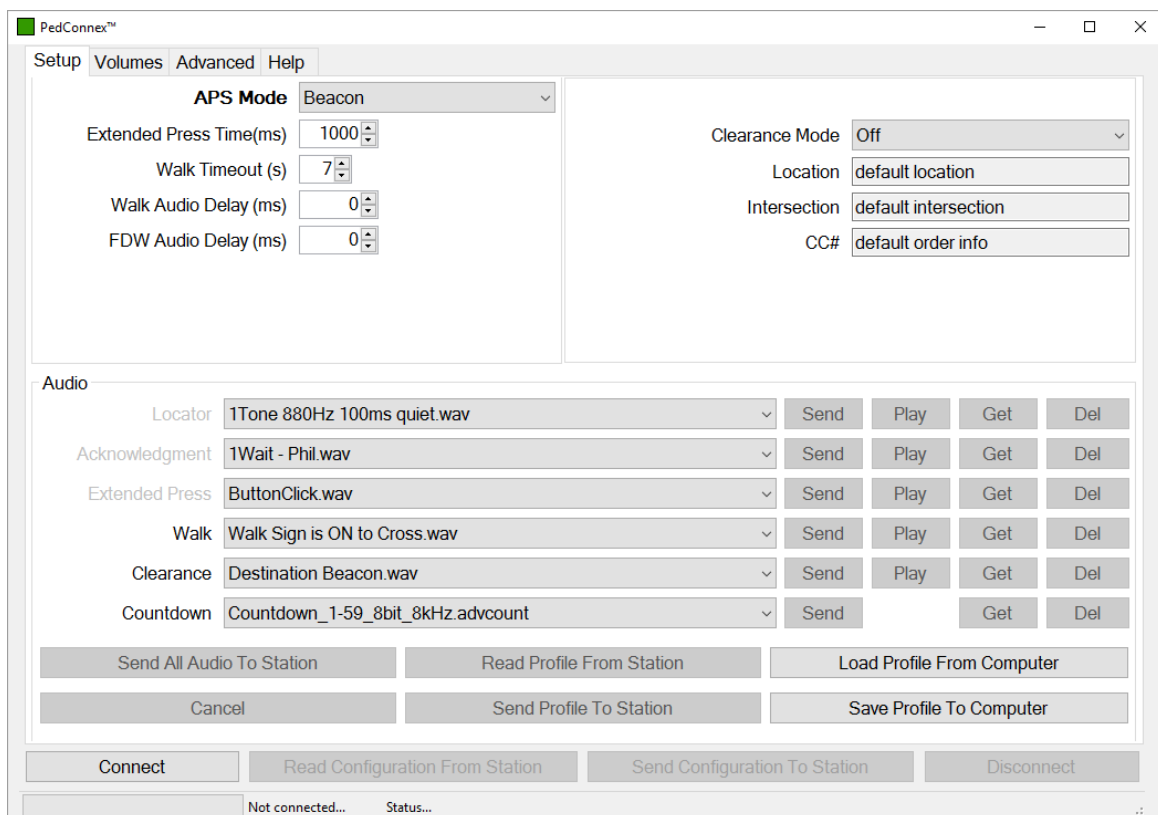


Figure 4. PedConnex Utility set to Beacon Mode

PedConnex also incorporates “roll over” help bubbles that explain the various options and how to set them up.

Obtain PedConnex APS configuration utility by visiting: www.Pedsafety.com/downloads
Then click “Download PedConnex”.

4.1 Settings and Operational Mode Features in PedConnex

The primary operational settings are located on the “Setup” page

APS Mode: Set to “Beacon”.

Extended Press Time: Time in milliseconds to hold the button to turn on the audible walk and clearance indications. For use with 4EVR buttons set to 100ms, set to 0 to play every cycle.

Walk Timeout: Maximum time in seconds for walk message to play.

Walk Audio Delay: Time to delay Walk indication from the start of the walk phase.

FDW Audio Delay: Time to delay Clearance indication from the start of the clearance phase.

Clearance Mode: Select from; Off, AlwaysON, and Countdown.

Location: City, State.

Intersection: Cross Street for reference.

CC#: PedSafety Sales Order Number.

Volume and Sound Controls are located on the “Volumes” page.

Volume: Two settings adjust volume for non-locator indications and locator tone independently

- *Non-Locator Volume* – Adjusts the volume of the audible messages or percussive tones or indications
- *Locator* – The ABD/BBU does not have a Locator tone, so this setting is not applicable

Night Mode: Night Mode changes the volume settings based on the time of day

Automatic Gain Control: Automatic Gain Control (AGC) settings change the rate at which the unit volume output reacts to changes in the ambient noise level

4.2 Audio Files

The ABD comes fully programmed with audio files from the factory. PedSafety generates custom messages for the intersection from information on the intersection worksheet submitted at the time of order placement.

1. Walk - plays when Walk sign is on.
2. Clearance - plays clearance message in the flashing don't walk if clearance mode is set to “Always on”
3. Countdown - provides audible countdown of remaining time during flashing don't walk.

In “Beacon” mode “Off” will ensure only the locator tone is played in the clearance phase.

5 Appendix A: Acronyms, Abbreviations & Definitions

Term	Meaning
Accessible Pedestrian Signal	A device that communicates information about pedestrian signal in a non-visual format such as audible tones, verbal messages, and/or vibrating surfaces (MUTCD)
Audible Beaconing	Use of sound to provide directional orientation and alignment information in the clearance phase.
Audio File	A file format for storing digital audio data on a computer system.
Automatic Gain Control (AGC)	An APS volume control that is automatically responsive to ambient (background) sound.
Clearance Interval Indication	Tones sounding during the pedestrian clearance interval that are differentiated from the WALK interval indicator (tones)
Clearance mode	<p><i>Sets what and how audio files are played in Flashing Don't Walk.</i></p> <ul style="list-style-type: none"> • <i>Off</i> – No FDW audio. Goes back to locating. • <i>Always On</i> – Plays Clearance indication every activated cycle. • <i>Countdown</i> – Audible countdown of the clearance phase. <p>Note: Requires one cycle to calibrate Flashing Don't Walk time.</p>
Extended Press	Holding the pedestrian push button down from 1-5 seconds will activate features, including audible Beaconing.
Night Mode	An alternate configuration typically used to control audio volume at night time.
Signal Power Interface (SPI)	Power source that interfaces with Pedestrian Signal Head power for Base Station interface.
SPIXC	SPI for use with ABD/BBU plus AGPS/Guardian
USB Port	USB connection on ABD/BBU stations.
.wav file	An audio file format.
.opus file	An audio file format.