

# **Advisor Advanced Pedestrian System (AAPS) User's Manual**

**906-0005**

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# AAPS User's Manual

## 906-0005

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## 2 Introduction

### 2.1 Purpose of this Document

The purpose of the document is to describe the operation of the Advisor Advanced Pedestrian System (AAPS). This document doesn't cover the installation of the AAPS.

### 2.2 Additional Information

- See the AAPS Installation Guide for installation instructions.
- Reference the Campbell Company Intersection Worksheet for location specific information.
- Set the AAPS Installation Quick Guide for a brief graphical installation guide.
- See the Base Station Mounting Template for an easy to use hole pattern for mounting APBs.

### 2.3 Contact Information

The first line of contact should be the distributor that the system was purchased from. If you are unable to contact the distributor, contact Campbell Company directly.

## 3 Overview

### 3.1 Product Overview

The AAPS is an Accessible Pedestrian Signal (APS) based on network communications. Communication from the traffic controller cabinet to the pedestrian station is done over two conductors. Power for the pedestrian stations is also provided on the same two conductors. In many cases, the two conductors are already at the intersection from the previous pedestrian system.

The AAPS uses a webpage based interface to manage and monitor the system. This webpage can be viewed on any device with a network connection to the APC. Desktop computers, laptops, and even handheld devices can connect and operate the system as long as they share a network connection.

The AAPS provides all of the standard features for an APS as defined by the MUTCD as well as additional features based on local specifications. A locator tone tells a pedestrian that the crossing is equipped with APS and where it can be found. An extended press provides specific intersection information and access to additional functions. The audible walk tone or message is accompanied by a vibro-tactile indication during the visual walk display. Optional clearance phase indications may provide additional information to the pedestrian where appropriate. Each AAPS is pre-configured at the factory based on the documentation provided by the customer. Configuring the AAPS can be done entirely through the APC management webpage, so the customer can re-configure the system as needed.

Campbell Company cannot guarantee the AAPS will work properly with all existing field wiring, especially if a single common to the buttons and signal lighting is shared. Each case will have to be tried and proven because it depends on the condition of the wires, splices, etc. In the event there are no field wires, AAPS can be swapped out for an alternative as long as there is no damage to the AAPS units.

### 3.2 Features

- Capable of using existing pedestrian field wiring to provide power and communication to the push button stations reducing costs in retrofit installations
- Ethernet access for remote communication
- All configurable settings available over network via webpage including audio message upload
- Time of day functions including night time audio volumes
- Pedestrian call count data
- Independent volumes for locator and non-locator audio messages
- Station independent volumes
- Automatic Gain Control (AGC) available for all audio messages
- Accepts any audio message in WAV format

- Audio messages and station configuration backed up on the APC enables quick recovery after a station knock-down
- Clearance interval options including beaconing and audible countdown
- Preemption options available

### 3.3 Components

There are three primary components to the AAPS; the Advanced Pedestrian Controller, a Termination Board, and one or more Advanced Pedestrian Button (APB).

The APC is the center point of the AAPS. It provides both power and pedestrian signal information to all of the APBs. The APC is also the point at which the system is configured. The APC is located in the traffic controller cabinet. It connects to the 120VAC load switch outputs for the pedestrian signals and the low voltage pedestrian call inputs.

The Termination Board is located in the traffic controller cabinet with the APC. It provides a convenient place to land all of the field connections to the APBs. The Termination also provides current protection to each field connection individually.

The APB is the point of interaction with the pedestrian. The APB is available in several form factors including:

- Base Station: A fully integrated pedestrian station
- 400(A): A station designed to drop into a 400 style frame

In addition to different form factors, the stations are available in a wide range of colors.

### 3.4 Audio Messages

The AAPS comes fully programmed with audio files from the factory but we give you the option to create your own custom messages in a simple .wav format that can be easily uploaded via the APC network connection. Second languages, gender narrative, and special percussive tones can be easily created and uploaded.



Figure 1. Base Station

## 4 System Configuration

### 4.1 Accessing the Webpage

To make changes and view the AAPS webpage simply plug an Ethernet cable into the Ethernet port on the front of the APC. Then connect the Ethernet cable into your laptop. Start up a web browser such as Google Chrome and type in the IP 192.168.1.101 into the address bar. (See Below)

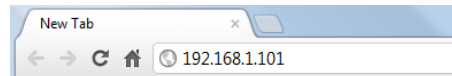


Figure 2 Webpage Address bar

You will see the following screen pop up looking for credentials. Default user name: admin Password: password.

Username

Password

Login

Figure 3 Authentication Page

### 4.2 Main Screen

The first screen is shown below it gives the status of the pedestrian system (figure 5.) To view this screen click “Here” to enable real time status

Location  
Intersection

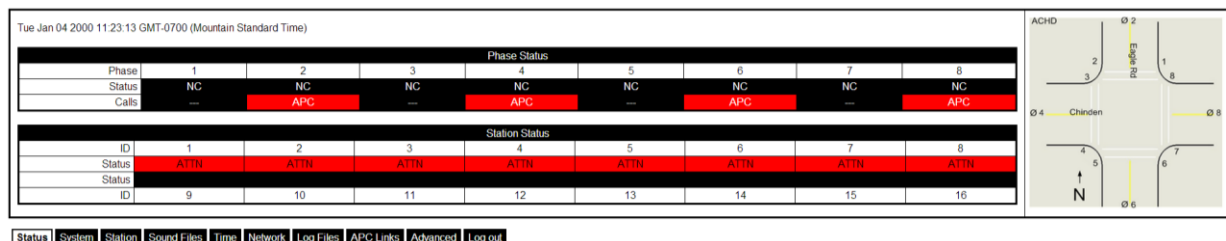


Figure 4 Status Page

The Pedestrian Signal Status shows the state of the Signal (DW, FDW, W) and if a call has been placed. Stations Status bar will show a state of the stations;

The *Status* tab gives an overview of the system.

The *System* tab allows for global settings to be adjusted.

The *Station* tab allows for individual station settings to be adjusted.

The *Sound* tab allows for audio files to be changed.

The *Network* tab allows for changes to the APC IP address.

The *Time* tab allows for the time to be adjusted.



The *Log Files* tab is where log files are located

The *APC Links* tab allows for all APC's IP addresses to be stored

The *Advanced* tab is where advanced settings can be found.

*Log out* tab logs you out of the system.

## 4.3 Making Changes

### 4.3.1 System Changes

System Tab: This tab is where changes are made to the entire system

1	2	3	4	5	6	7	8	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	10	11	12	13	14	15	16	

Update Active Stations

System Configuration		
	Current Value	New Value
APS Mode	Default	Default ▼
Extra Press	No	<input type="checkbox"/>
Vib Call Pulse	No	<input type="checkbox"/>
Auto Recall	Yes	<input checked="" type="checkbox"/>
Locator AGC	No	<input type="checkbox"/>
Night Mode Enabled	No	<input type="checkbox"/>
Night Mode Start Hour	20	20 ▼
Night Mode Start Minute	0	0 ▼
Night Mode End Hour	7	7 ▼
Night Mode End Minute	0	0 ▼
Clearance Mode	Audible Countdown	Audible Countdown ▼
AGC Responsiveness	5	5 ▼
Walk Timeout	10	10 ▼ This must be greater than the actual walk time for clearance options other than "Nothing" to work
Extended Press Time	1	1 ▼
Repeated Acknowledgement	0	0 ▼
APB Protocol	BSON V1 (2.2.0 - 3.0.0)	BSON V1 (2.2.0 - 3.0.0) ▼
Intersection Interface	120V I/O	120V I/O ▼

Submit System Configuration

Figure 5

- a. The check boxes at the beginning signify what stations are active. To add a station, click the checkbox and it will add more stations to the system (figure 6.) Black means checked, white means unchecked.
- b. AAPS mode: 4 options; Off, Default, EP APS, and Identify (figure 6.)
  - i. Off behaves like a typical button, places calls, no Audio
  - ii. Default is normal APS operation
  - iii. EP APS only actuates APS audio when an extended press is placed
  - iv. Identify will put the APB's into a mode where their LED's will blink the assigned station ID (troubleshooting)
- c. Extra-press mode: places two calls to the traffic controller one for current cycle and one for following cycle
- d. Vib Call Pulse: Allows for vibrotactile feedback when the button is pressed
- e. Auto Recall: When checked constant calls will occur if a button is at ATTN
- f. Audio Countdown: When checked audible countdown will be enabled

- g. Locator AGC: When checked locator AGC will be enabled. If un-checked locator tone will be constant
- h. Clearance mode: 5 options Off (no Beacons), Ping Pong, Dest/Init beacons and Audible countdown.
  - i. Destination beacons implements beacons (only the destination APB will beacon in the clearance phase)
  - ii. Initiation beacons implements beacons at the initiation station only.
- i. Night mode: Check the box to enable and then set the time for the hours that you would like to adjust the volume differently
- j. AGC responsiveness: Adjusts how quickly the ambient gain responds. (1-20, 20 least responsive)
- k. Walk message Timeout: Refers to a rest in walk situation, adjusts the time the walk message will timeout without being interrupted by the flashing don't walk.
- l. Extended press time: Adjusts the length time required to place an extended press or APS call.
- m. Repeated Acknowledgement: Number of seconds between each repeated acknowledgement message (0 means no repeat)
- n. Submit system Configuration button: will submit all changes to APC – must be pressed once all settings are made Note: this only saves settings! To update buttons go to the station tab and click "send all settings"

### 4.3.2 Changing Station Settings

The most common changes will have to do with the Station tab Shown Below.

Status	System	Station	Sound Files	Time	Network	Log Files	APC Links	Advanced	Log out
<b>Station Configuration</b>									
	1	2	3	4	5	6	7	8	
Phase	8 ▾	2 ▾	2 ▾	4 ▾	4 ▾	6 ▾	6 ▾	8 ▾	
Group	8 ▾	2 ▾	2 ▾	4 ▾	4 ▾	6 ▾	6 ▾	8 ▾	
Recall	None ▾	None ▾	None ▾	None ▾	None ▾	None ▾	None ▾	None ▾	
Group Call	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Day Locator	20	-20	-20	-20	-20	-20	-20	-20	
Day Speech	50	50	50	50	50	50	50	50	
Night Locator	-60	-60	-60	-60	-60	-60	-60	-60	
Night Speech	40	40	40	40	40	40	40	40	
<b>Save APB Configuration to APC</b>									
<b>Save and Send All Settings</b>									
<b>Send to station</b>									
	1	2	3	4	5	6	7	8	
Settings	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	
Remote Call	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	
Remote APS Call	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	
<b>Station ID</b>									
Old Station ID	<input type="text" value="New ▾"/>								
New Station ID	<input type="text" value="New ▾"/>								
<b>Change ID</b>									

Figure 6 Station Tab

All active stations will be shown in this tab.

To change the Signal (phase) of the button, change the Phase number.

To change the group of the button, change the Group number

To change the volume level, enter a number between -300 and +300. Defaults are shown above.

In order to make the changes permanent click "Save APB Configuration to APC."

To save and send all settings to buttons click "Save and Send All Settings."

Buttons with ID's can be changed back to "new." Simple change old station ID to be the ID of the button you want to be "new" leave New station ID at New and click "Change ID".

### 4.3.3 Changing Audio files

The Sound File tab allows for audio files to be uploaded to individual stations.

- First add sound files to the file system. Click Choose Files/ select them/ then click upload (figure 6.)
- Next find the message that you will be changing the audio files on.
- Simply click on the dropdown box and select each audio file for each message on each station slot (figure 7).
- Click "Send" in the matrix (figure 6) to send audio files to the ped stations.

- a. Message that is to be sent is on the left. All messages button is one from the bottom.

<a href="#">Emergency Vehicle - Clear Crosswalk - Phil.wav</a>	Delete		0:00	
<a href="#">Locator 880hz 100ms 60pct.wav</a>	Delete		0:00	
<a href="#">Perc FW 20.wav</a>	Delete		0:00	
<a href="#">Perc NS 20.wav</a>	Delete		0:00	
<a href="#">Train Approaching - Phil.wav</a>	Delete		0:00	
<a href="#">Wait - Phil.wav</a>	Delete		0:00	
<a href="#">Wait look both ways - Phil.wav</a>	Delete		0:00	
<a href="#">Wait to Cross - Phil.wav</a>	Delete		0:00	
<a href="#">Walk Sign is ON - Phil.wav</a>	Delete		0:00	
<a href="#">Walk Sign is ON to Cross - Phil.wav</a>	Delete		0:00	
<a href="#">Warning Lights Activated - Phil.wav</a>	Delete		0:00	
<div> <div>Upload File</div> <div>Choose Files</div> <div>No file chosen</div> <div>Upload to APC</div> </div>				

Message	Send to APB								All Stations
	1	2	3	4	5	6	7	8	
Locator	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>
Acknowledgement	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>
Location	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>
Walk	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>
Destination Beacon	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>
Initiation Beacon	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>
Preempt	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>
All Messages	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>
Countdown	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>	<input type="button" value="Send"/>

Figure 7 Audio send Matrix/Audio list

Station #	Locator Selected File
1	Locator 880hz 100ms 60pct.wav
2	Locator 880hz 100ms 60pct.wav
3	Locator 880hz 100ms 60pct.wav
4	Locator 880hz 100ms 60pct.wav
5	Locator 880hz 100ms 60pct.wav
6	Locator 880hz 100ms 60pct.wav
7	Locator 880hz 100ms 60pct.wav
8	Locator 880hz 100ms 60pct.wav

**Save Locator to APC**

Station #	Acknowledgement Selected File
1	Wait - Phil.wav
2	Wait - Phil.wav
3	Wait - Phil.wav
4	Wait - Phil.wav
5	Wait - Phil.wav
6	Wait - Phil.wav
7	Wait - Phil.wav
8	Wait - Phil.wav

**Save Acknowledgement to APC**

Figure 8 Setting up audio files

### 4.3.4 Changing APC IP

In order to remotely communicate with the APC the IP address must be set up.

- a. Before changing settings consult you IT Department. Also, remember that the IP address is how access is granted to the webpage. If the IP address is changed document it!

Status System Station Sound Files Time Network Log Files APC Links Advanced Log out

The system must be rebooted for network changes to take effect.

Network Configuration		
	Current Value	New Value
Hostname	apc	<input type="text" value="apc"/>
DHCP	None	<input type="text" value="None"/>
IP Address	192.168.42.123	<input type="text" value="192.168.42.123"/>
Netmask	255.255.255.0	<input type="text" value="255.255.255.0"/>
Gateway	192.168.42.1	<input type="text" value="192.168.42.1"/>
Broadcast	192.168.42.255	<input type="text" value="192.168.42.255"/>
DNS Server	8.8.8.8	<input type="text" value="8.8.8.8"/>
Ping Destination		<input type="text"/>
Ping on Boot	No	<input type="checkbox"/>
Ping on Hour	No	<input type="checkbox"/>

**Submit Network Configuration**

Figure 9 Network Tab

### 4.3.5 Setting the Time

The Time tab is used for setting up the Real Time clock

There are two ways of setting the time:

- a. NTP enable or getting the time from the internet. Note: the APC must be able to access to the network and an IP address must be entered in the NTP server box.
- b. The time can be set by clicking Submit Time configuration or the Day Month and Year can be manually entered.

Once the time options are chosen click Submit Time configuration.

Status System Station Sound Files Time Network Log Files APC Links Advanced Log out

Submitting the time will log you out of the webpage

A normal reboot is required to save the time to the battery backed clock

Time Configuration		
	Current Value	New Value
Time	January 4th 2000 11:35:22	<input type="text" value="January"/> / <input type="text" value="4"/> / <input type="text" value="2013"/> : <input type="text" value="11"/> : <input type="text" value="35"/> : <input type="text" value="22"/> <input type="text" value="America/Boise"/>
NTP Enabled	No	<input type="checkbox"/>
NTP Servers	""	<input type="text"/>

**Submit Time Configuration**

Figure 10 Time Tab

### 4.3.6 Viewing Log Files

There are three sets of logs to be viewed: APB log, Event log, and System log.

Pedcall log reports ped call counts by hour by day

Event logging reports any conflicts and/or loss of station communication

System logging reports changes made to the system.

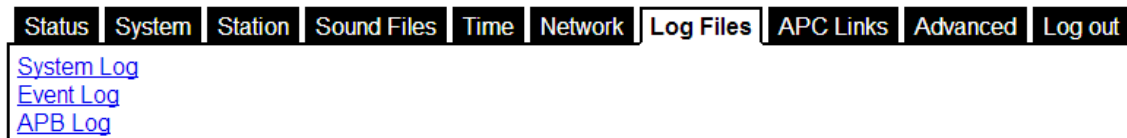


Figure 11 Log File tab

### 4.3.7 Configuring the APC Link Tab

APC links tab will keep track of all the APC's on the network on one APC.

1. Make sure the network APC is viewable on the network.
2. Enter a Name or the location of the network APC
3. Type in https:// in the **URL** box then the IP address of the network APC
  - a. Example: <http://192.168.1.101>
4. Click **Add**
5. Click the new link to make sure it links to the network APC

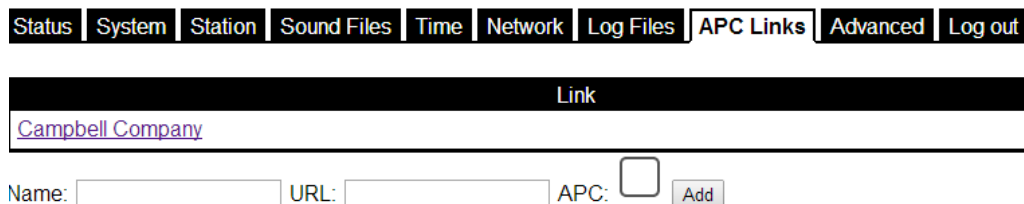


Figure 12

### 4.3.8 Configuring the Advanced Tab

Status	System	Station	Sound Files	Time	Network	Log Files	APC Links	Advanced	Log out
--------	--------	---------	-------------	------	---------	-----------	-----------	----------	---------

Configuration File		
New Configuration File	<a href="#">Choose File</a>	No file chosen
Current Configuration File	<a href="#">Configuration file</a>	
<b>Upload configuration file</b>		

Reboot	
Reboot	<a href="#">Reboot</a>

Logging Options	
Reset APB Log	<a href="#">Reset APB Log</a>

User Management			
Username	Real Name	Access Level	
admin	Default user	Can manage	<a href="#">Delete</a> <a href="#">Edit</a>
cody	Cody Browne	Can edit	<a href="#">Delete</a> <a href="#">Edit</a>

[Create user](#)

Intersection Identification	
Location	<input type="text" value="Location"/>
Intersection	<input type="text" value="Intersection"/>
CC#	<input type="text" value="XXXX"/>
PO Info	<input type="text" value="PO# XXXX"/>
Intersection Image	<a href="#">Choose File</a> No file chosen If no file is selected, the map will not be changed.
<b>Submit Intersection Identification</b>	

APC Info	
<a href="#">View Syslog</a>	
<a href="#">View Boot Log</a>	
<a href="#">View EoP status</a>	

Figure 13

1. Configuration file is able to be uploaded to the APC. Older versions may not work.
2. Reboot button will do a software reboot. Must be done to set time and IP address for the APC.
3. Reset APB log. This will clear the button log files.
4. Additional users can be created
  - a. Change password: click on edit user: Will reset the password on the AAPS webpage (**Remember what you changed it to! Mark it on Intersection Planning Sheet and store in cabinet Doc Sleeve.**)
5. The intersection identification can be found here:
  - a. Location Example: Boise ID
  - b. Intersection: Example: 1<sup>st</sup> at Main
  - c. CC# (order #) 1234
  - d. PO #
  - e. Intersection image can be selected here and then click "Submit Intersection Identification" to update APC
6. There are three additional logs that can be accessed: Syslog, bootlog, EoP status.

7. APB Memory allows the user to wipe the button memory completely, view files stored on the button and also view firmware. (figure 13)

APB Memory								
	1	2	3	4	5	6	7	8
View Files	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>
Clear Memory	<input type="button" value="Clear"/>	<input type="button" value="Clear"/>	<input type="button" value="Clear"/>	<input type="button" value="Clear"/>	<input type="button" value="Clear"/>	<input type="button" value="Clear"/>	<input type="button" value="Clear"/>	<input type="button" value="Clear"/>
View Firmware Info	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>	<input type="button" value="View"/>

Advanced Configuration		
	Current Value	New Value
Ped Closure Dwell (ms)	200	<input type="text" value="200"/>
APS Closure Dwell (ms)	500	<input type="text" value="500"/>
CID Scan Rate (ms)	100	<input type="text" value="100"/>
APB Update Rate (ms)	250	<input type="text" value="250"/>
Display Update Rate (ms)	1000	<input type="text" value="1000"/>
Display Timeout (ms)	60000	<input type="text" value="60000"/>

Phase	Walk Input	Wire Map Dont Walk Input	Call Output
1	<input type="text" value="DB25 Pin 19 Red/White"/>	<input type="text" value="DB25 Pin 23 Green/White"/>	<input type="text" value="DB9 Pin 1 Orange/Black"/>
2	<input type="text" value="DB25 Pin 6 Blue/Red"/>	<input type="text" value="DB25 Pin 10 Black"/>	<input type="text" value="DB9 Pin 6 Green/Black"/>
3	<input type="text" value="DB25 Pin 18 Green"/>	<input type="text" value="DB25 Pin 22 Blue"/>	<input type="text" value="DB9 Pin 2 Red"/>
4	<input type="text" value="DB25 Pin 5 Red/Green"/>	<input type="text" value="DB25 Pin 9 White"/>	<input type="text" value="DB9 Pin 7 Red/Black"/>
5	<input type="text" value="DB25 Pin 17 Blue/Black"/>	<input type="text" value="DB25 Pin 21 Black/White"/>	<input type="text" value="DB9 Pin 3 White"/>
6	<input type="text" value="DB25 Pin 4 Green/Black"/>	<input type="text" value="DB25 Pin 8 Red/Black"/>	<input type="text" value="DB9 Pin 8 White/Black"/>
7	<input type="text" value="DB25 Pin 16 Orange/Black"/>	<input type="text" value="DB25 Pin 20 Red"/>	<input type="text" value="DB9 Pin 4 Black"/>
8	<input type="text" value="DB25 Pin 3 White/Red"/>	<input type="text" value="DB25 Pin 7 Orange/Green"/>	<input type="text" value="DB9 Pin 9 Blue"/>

Figure 14

8. Ped Closure Dwell: Time in (ms) the contacts will closed to the traffic controller to signify a normal press was made.
9. APS Closure Dwell: Time in (ms) the contacts will closed to the traffic controller to signify an extended press was made.

**Any changes to the advanced configuration should only be done at the direction of Campbell Company.**

10. CID scan rate: How often the I/O is read.
11. APB update rate: How often the buttons receive an update.
12. Display Update rate: How often the Front panel display is updated.
13. Display timeout: Time before the front panel display times out (shuts off)
14. Countdown Number: How many audible numbers to send to stations
15. APB Timeout tuning parameter: Sets time to display a station as "ATTN"
16. Wire map: The wire mapping can be changed
- Walk input: Able to choose what phases are assigned to what pins by color code.
  - Don't walk Input: Able to choose what phases are assigned to what pins by color code.
  - Call output: Able to choose what Pin/wire will place a call on a certain phase.



## 5 Troubleshooting

The following chapter discusses troubleshooting the AAPS system in three parts: APC, Running Patches and APB.

### 5.1 APC Troubleshooting

1. Check Status light on front panel of the APC (RED and Green). Both should be blinking, RED at a fast speed signifying communication with the buttons, and Green at a ½ second rate.
  - a. If status light (green) has stopped blinking (solid on/off) Contact Campbell Company for assistance.



Figure 15 LED's/ Screen

- b. Status screen showing buttons that are running (up arrows) and buttons that are not communicating (down arrows.)
2. No Communication to APC
  - a. Check computer's IP address
    - i. Hold Windows key+ R and then type in "cmd" and hit enter
      1. A prompt will appear (figure 13)

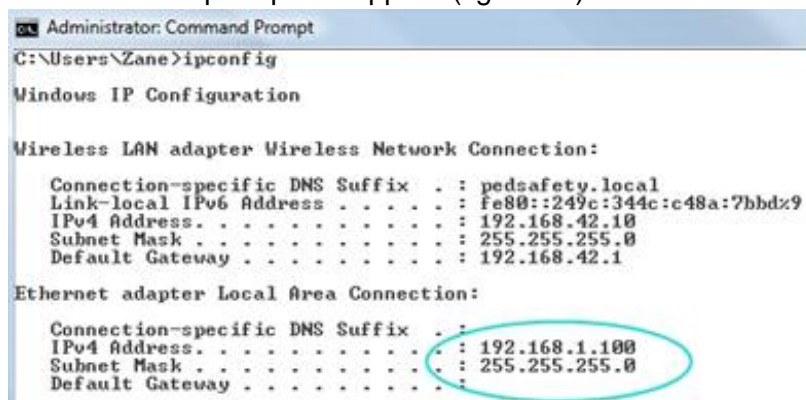


Figure 16 Showing connection and IP address

- ii. Type *ipconfig* and hit Enter
    - iii. Look at local area connection

- iv. Make sure IP has the first same three octets (192.168.1) and the last octet is not the same as the APC's (101) OR that it is not 255 or 1.
- b. Type the APC's address in web browser ie: 192.168.1.101
- c. If no connection check for LED on computer's Ethernet port
  - i. Also can try "pinging" APC
  - ii. Open Command prompt (type cmd in the search bar and hit enter)
  - iii. Type `ping 192.168.1.101` then Enter
  - iv. The APC will reply if the computer IP is configured properly

## 5.2 Running a Patch

1. Make sure there is communication with the APC (see above)
2. Download patch folder and Extract All (right click and choose the option below)
3. Open patch folder (the unzipped one) and open the ips text document
  - i. Add the IP address of the APC unit in the ips text doc and save
4. Double click on patch (windows batch file)
5. Click yes to any warnings
6. Once the patch is done it will say "Press any key to continue"

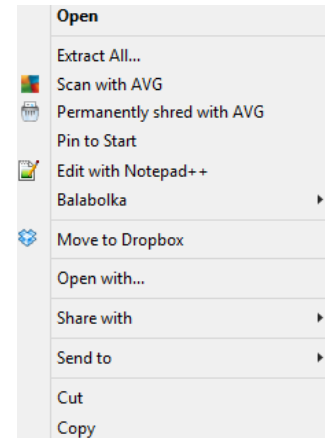


Figure 17 Extracting Patch

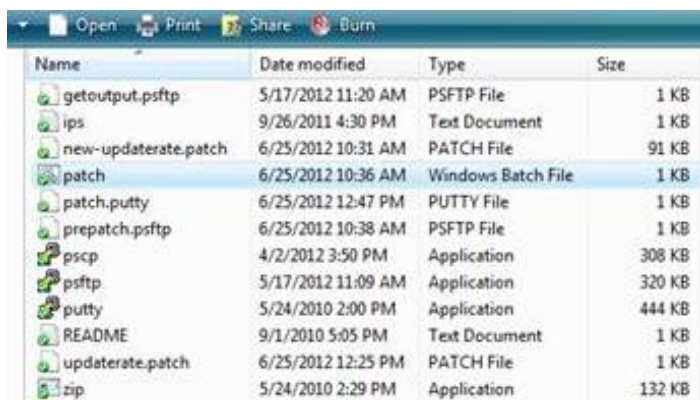


Figure 18 Patch

## 5.3 APB Troubleshooting

When troubleshooting button problems, first start by bringing up the APC's webpage. Refer to the Station tab (figure 7) above.

### 5.3.1 APB Communication issues

1. First check voltage on the APB. Should be 16-18 VAC.
  - a. If Voltage is at ~4 VAC the fuse has tripped.
  - b. If Voltage is at 0 VAC it is possible lightning has destroyed the termination board fusing. Check for short. Warning this may cause APC to shut off.

- c. Power cycle and check voltage. If fuse trips again disconnect button and power cycle. Voltage correct?
  1. Yes → Replace button
  2. No → Ohm wiring for shorts
2. If APB is not communicating you will see ATTN and a red light next the station number. Start up the station tab on the APC.
3. If the station that has lost communication is station 1 then the first step would be to try changing the station number. Set up the Change Station ID to the figure shown below and click change. If the button's ID is zero it will come back up in 15 seconds.
4. If an error "button not found" is displayed go to the System tab and uncheck the station that is not communicating. (Meaning remove the button from the system.) Then click submit changes.
5. Wait for approximately 30 seconds
6. Ctrl-r will refresh the page. Next go back to the system tab and click the station back into the system. Click **Submit System Configuration**.

### 5.3.2 Calls placed on two phases

1. If one button press places calls on two phases check the grouping (Station Tab). This usually means a grouped button is on an improper phase.
2. To fix, simply change the grouping to be correct.
3. Typically all buttons on a phase are grouped together

	1	2	3
Phase	8 ▼	2 ▼	2 ▼
Group	8 ▼	2 ▼	2 ▼
Recall	None ▼	None ▼	None ▼
Group Call	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Day Locator	20	-20	-20
Day Speech	50	50	50
Night Locator	-60	-60	-60
Night Speech	40	40	40

*Figure 19 Station Settings*

## 6 Appendix A: Acronyms, Abbreviations & Definitions

Term	Meaning
Accessible Pedestrian Signal (APS)	A device that communicates information about pedestrian timing in a non-visual format such as audible tones, verbal messages, and/or vibrating surfaces (MUTCD)
Actuated operation	A type of traffic control signal operation in which some or all signal phases are operated on the basis of actuation (MUTCD)
Audible Beaconsing	Use of sound source to provide directional orientation and alignment information.
Automatic Gain Control (AGC)	An APS volume control that is automatically responsive to ambient (background) sound.
Base Station	Fully integrated APS station that contains the Micro-controller, push button, speaker, adapter plate
Crosswalk	Any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines of other marking on the surface (MUTCD)
DHCP	Dynamic Host Configuration Protocol
EoP	Ethernet over Powerline
Night Mode	Ability to change audio volumes by time of day
Phase	Pedestrian Signal Designation