PAR Clear System Installation Guide

DOCUMENT NUMBER: 770510701

REVISION E

Contents

Overview

Safety Information

Safety Rules

Read, understand, and follow all safety information contained in these instructions prior to installation & operation of the PAR Clear Drive Thru Communications System and its components. Failure to follow all the instructions listed could result in electrical shock, fire and/or other personal injury. Retain these instructions for future reference.

Intended Use

The PAR Clear Drive Thru Communications System and its components are intended for use to provide 2- way radio-frequency audio communication in quick service drive-through restaurants and convenience stores.

This system requires professional installation by PAR authorized service personnel only and must be installed as specified in the PAR Clear Drive Thru Communications System Installation Instructions and operated as specified in the PAR Clear Drive Thru Communications System Instructions in quick service drive-through restaurants and convenience stores. It has not been evaluated for other uses or locations.

Signal Words

⚠ **WARNING**

Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.

⚠ **CAUTION**

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury and/or property damage.

ⓘ **IMPORTANT NOTE**

Indicates a potentially hazardous situation, which, if not avoided, may result in property damage. It is strongly recommended that you pay attention to information inside of an Important Note.

System Warnings

⚠ WARNING

To reduce the risk associated with hazardous voltage:

- Disconnect power to the receptacle before installing or removing the Basestation Power Supply. When removing receptacle cover screw, cover may fall across plug pins or receptacle may become displaced. Use only with duplex receptacle having center screw. Secure unit in place by receptacle cover screw.
- If power supply is supplied with a grounding pin, connect directly to a grounding receptacle – 3 prongs.
- Do not use the PAR Clear Drive Thru Communications System and its components, if the power supply cord or enclosure is damaged.
- Use the power supply indoors and in dry locations only.

⚠ WARNING

To reduce the risks associated with fire, explosion & property damage:

- Immediately discontinue use of the battery if, at any time, the battery feels hot, changes color or shape, emits an unusual smell, or appears abnormal or damaged in any other way.
- Do not open, disassemble, pierce, crack, crush, incinerate, or expose to heat above 55 °C/130 °F. Keep batteries away from children.
- Do not store or carry batteries with metal objects. Store batteries in cool, dry, clean places.
- Always replace batteries, battery chargers and power supplies, and all other system components with only PAR approved units acceptable for use in this system to avoid system malfunction and safety concerns. Replace model batteries with PAR only batteries. Use of another battery may present a risk of fire or explosion.
- Do not immerse batteries in water or other liquids.
- Discontinue use if damage or abnormalities are observed. Conduct regular visual inspections of batteries to look for damage or abnormalities, such as changes in shape or color.
- The PAR Drive-Thru Headset Battery Charger, 12-slot and the PAR Drive-Thru Headset Charging Station, are supplied with two power connections to allow for connecting an additional charger. During installation, do not connect more than one power supply to one charger, or to the interconnected string of chargers.
- Do not modify this PAR Clear Drive Thru Communications System and its components.
- For additional charging and use instructions, review the Installation Guide and the Operations Guide.

⚠ CAUTION

To reduce the risks associated with environmental contamination due to battery packs:

- Dispose of batteries, power supplies, battery charger and basestation in accordance with federal, state & local requirements. If preferred, return these components to PAR Service Center for recycling.
- Many rechargeable batteries are required to be recycled by local, state/province, and national laws. To properly recycle/dispose of the battery or battery pack, always follow local solid waste disposal regulations. Additionally, in the United States and Canada, PAR is partnering with Call2Recycle (RBRC) to provide recycling service to you to help ensure that the rechargeable batteries within our products are recycled properly. To assist you in using this service call the Call2Recycle battery recycling information help line at:
    - 1-800-8-BATTERY (1-800-822-8837) or consult Call2Recycle's battery recycling guidance online at www.call2recycle.org.

Other Conventions

FCC and Industry Canada Information

ⓘ IMPORTANT NOTE

FCC RF Exposure Statement:

The PAR Clear Drive Thru Communications System and its components comply with FCC RF radiation exposure limits set forth for an uncontrolled environment when operating based on time-averaged output power with duty cycle not to exceed 7.63% with a separation distance of 25mm. The wireless system must not be co-located or operated in conjunction with any other antenna or transmitter.

The PAR Clear Drive Thru Communications System and its components complies with FCC RF radiation exposure limits. This equipment should be installed and operated at a minimum distance of 20cm between the radiator and your body. This includes any PAR approved external antenna.

The use of accessories not approved by PAR Tech, including but not limited to batteries, antennas, wall adapters, chargers, ear pads and foam tips and convertible covers, may cause your PAR Clear Drive Thru Communications System and its components to malfunction or in the case of unapproved electrical accessories and antennas may cause the devise to exceed RF energy exposure guidelines.

FCC Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada Note: CAN ICES-3 A/NMB-3 A

This device complies with part 15 of the FCC Rules and with Industry Canada license-exempt standard RSS- 210 as of the date printed. Operation is subject to the following two conditions: (1) this device may cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec la norme RSS-210 d'Industrie Canada exempte de licence à compter de la date imprimée. Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil peut causer des interférences, et (2) cet appareil doit accepter toute interférence, y compris celles pouvant provoquer un fonctionnement indésirable de l'appareil.

FCC and IC Identifiers

PAR Clear Headset:
FCC ID: AVHPCH1
IC ID: 10329A-PCH1

PAR Clear Transceiver:
FCC ID: AVHPCT1
IC ID: 10329A-PCT1

ⓘ IMPORTANT NOTE

Modifications to this device shall not be made without the written consent of PAR Tech. Unauthorized modifications may void the authority granted under Federal Communication Rules and Industry Canada Rules permitting the operation of this device.

Recycling / Disposal (Notice to European Union customers)

These products must be disposed respectively recycled at the end of their lifetime according to the mandatory laws and rules.

Under European Union ("EU") Directive on Waste Electrical and Electronic Equipment, Directive 2012/19/EU products of "electrical and electronic equipment cannot be discarded as municipal waste anymore and manufacturers of covered electronic equipment will be obligated to take back such products as the end of their useful life. For appropriate disposal and recycling instructions, contact your local PAR representative.

Part Numbers Reference

Part Numbers	Description
M7800	PAR® Drive-Thru Base Station w/ power supply, PAR Clear
78801698131	Magnetic Loop Kit, Saw-In
75040033724	Magnetic Loop, Prefabricated
K7801	PAR® LAi- Lane Audio Interface
K7802	PAR® Array Mic with Foam assembly Clear
K7803-04	PAR® POE Switch 4+ 1 Port, PAR Clear
K7807-01	PAR Clear Wall Mount Transceiver - FCC
K7807-02	PAR Clear Wall Mount Transceiver - CE
K7807-03	PAR Clear Wall Mount Transceiver - Japan
K7808-01	PAR Clear (G7) Control Pod - Universal
K7806	PAR Clear Vehicle Detector Kit
C8602R	3 Meter USB A/B Cable
78811748793	Battery PAR Clear w/extended tab
78811746581	Drive Thru Headset Charging Station
78811746573	Battery Charger G5 (12-Slot)
78691152231	Power Supply, Battery Charger/Charging Station
78811746326	Drive Thru Headset Carrier
465006501D	PAR® 300 Foot Spool - Cat5e Network Cable (LAI >Network)
70071544665	PAR® Acoustic Kit
M7810	PAR® Clear Command Console Display Unit
K3712D	PAR® Clear Command Console Wall Mount
78691152025	PAR® Speaker Assembly, Duplex, 4"

PAR G-Portal Setup

Prerequisites

- A device such as a laptop, tablet, or desktop for accessing the internet
- An internet connection that can connect to the PAR Drive-Thru Cloud Portal at https://portal.drivethru.partech.com
- An account on the PAR Drive-Thru Cloud Portal
- Either Option A (store has accessible internet) or B (store does not yet have internet)
    - Option A: Laptop/tablet/desktop connected to store network with Wi-Fi or ethernet cable
    - Option B: Laptop/tablet/desktop with ethernet port and ethernet cable connected to Basestation (must have own stable DHCP internet via Wi-Fi hotspot or other methods)
      (will reference Windows 10+)

Creating a Corporate/Franchise on DT Cloud Portal

1. Log into the PAR Drive-Thru Cloud Portal on the Basestation with provided address or link and enter in your credentials with Laptop or computer that is accessible to the internet: https://portal.drivethru.partech.com
2. *You can skip this step if a Corporation is already present for your account and/or for the Basestation that you are setting up.*
   Navigate to the '**Corporations**' section, select '**Corporations**' and click '**+ Add New Corporate**'.
3. Populate the necessary fields and click '**Add Corporate**':
4. *You can skip this step if a Franchise is already present for your account and/or for the Basestation that you are setting up.*
   Navigate to the '**Franchise**' section and click '**+ Add New Franchise**'.
5. Populate the necessary fields and click '**Add Franchise**'.

Creating a Site on DT Cloud Portal

1. Navigate to the '**Sites**' section and click on '**+ Add New Site**'.
2. Populate the necessary fields and click '**Add Site**':
3. After a Site has been added, a pop-up screen appears with a 6-digit Activation code. Copy the code by clicking the copy button or writing it down. The code will expire in 24 hours and is a one-time use code. You can close the pop-up if you have copied or written the code down.

Creating a Site Admin on DT Cloud Portal

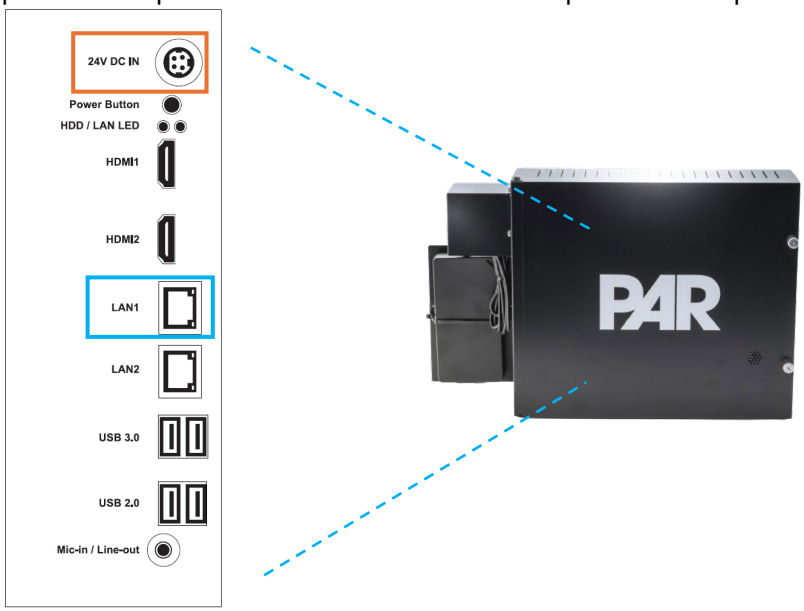
1. Navigate to **'Users' > 'Site Admins'**.
2. Click the **'+Add New Site Admin'** button and populate the **Name** and **Email** fields.
3. Select the appropriate site from the **'Select a Site'** dropdown menu and click **'Add User'**.

Logging into the Basestation

Option A

DHCP Setup

1. Open up the basestation and plug in the store's live ethernet cable to basestation LAN 1. Next, plug in the power adapter to the basestation and proceed to power up the unit.



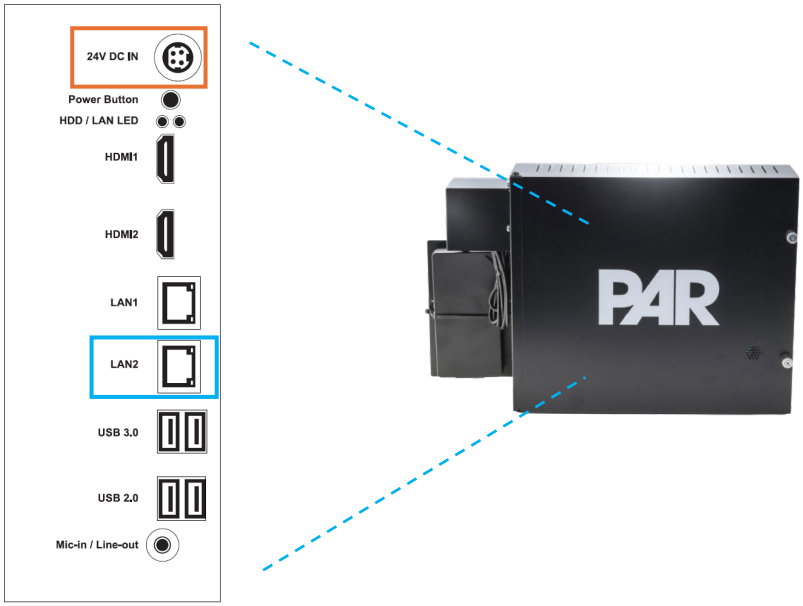
2. Wait about 1-2 minutes until the basestation boots up, then connect your Laptop/Computer to the store's network by either Wi-Fi or ethernet cable to the store's network switch.
3. Open a Laptop/Computer browser and type http://m7800-0810:7800/ into the address bar and hit **Enter**.
4. Enter the default password which is '**12345**'. Once logged in you will be prompted to change the password. Click '**Set Password**' to change the password
    a. Password minimum requirements: 8 characters, 1 symbol, 1 capital letter, and 1 number.
5. The '**Network Setup**' screen should then appear. Select **DHCP** under the **'Control Unit Network'** section and click the '**Save & Next**' button.
6. The '**Cloud Setup**' screen should appear. Click on '**Save & Next**' to proceed. **These fields are pre-populated but are editable and should not be edited unless under the advice of a PAR employee.**
7. The '**Certificate Claim**' screen appears. Select '**Activating Hardware in a New Site**'. A field appears in which to enter the activation code. Paste or enter the activation code copied earlier in Step 3 of "Creating a Site on DT Cloud Portal". Click on '**Claim Certificate**'. The screen should load and a "Connected Successfully" message appears. If an error message

is returned, redo Step 3 on page 4 of "Creating a Site on DT Cloud Portal" above. If it still unsuccessful, please contact PAR Drive Thru Support.

8. Open the Drive Thru Cloud and login with credentials.
9. Navigate to '**Devices**' and look for the '**Site Name**' added in the Creating a Site on DT Cloud Portal section.
10. Select the '**Actions**' column for the device and navigate to **'Settings' > 'Network Setup'**.
11. Select **'DHCP'** and click the **'Apply'** button.
12. Reboot the basestation by selecting **'System Settings' > 'Reboot System'**. Check the **'PAR Clear Basestation'** box and click **'Reboot Now'**.
13. WHILE THE BASESTATION IS REBOOTING, switch the Ethernet connection from the LAN1 port to the LAN2 port.
14. Confirm on the Cloud Portal that the basestation appears as **'Connected'** on the **'Devices'** screen.

Static Setup

1. Open the basestation and plug in the store's live ethernet cable to basestation LAN2. Next, plug in the power adapter to the basestation and proceed to power up the unit.

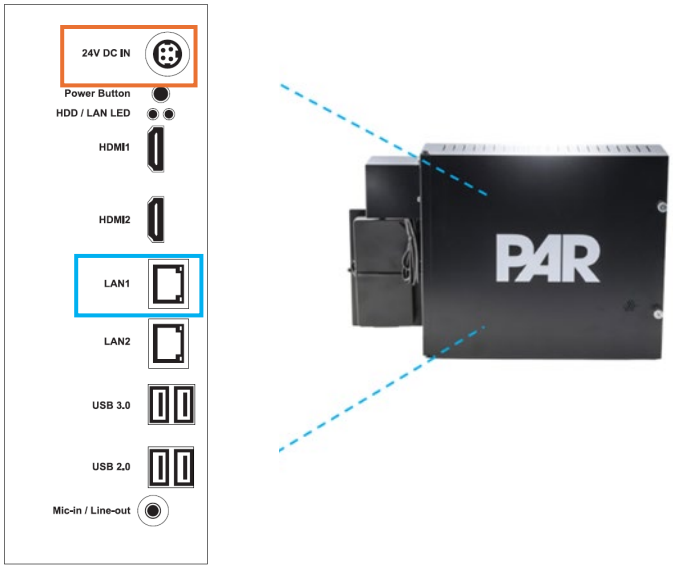


2. Wait about 1-2 minutes until the basestation boots up, then connect your Laptop/Computer to the store's network switch (this assumes you have access to the store's network and have a port assigned to the laptop/computer).
3. Configure the laptop/computer network ethernet port to static and match the basestation's default network settings range (example on a Windows machine below):
    a. **IP** = 192.168.99.77
    b. **Subnet Mask** = 255.255.255.0
    c. **Default Gateway** = 192.168.99.1

   d. **DNS** = 8.8.8.8, 1.1.1.1
4. Open a browser window on the computer and type in http://m7800-0810:7800, and click 'Enter'. If that doesn't work type in the default base station IP http://192.168.99.20:7800 in the address bar and click 'Enter'.
5. Enter the default password which is '**12345**'. Once logged in you will be prompted to change the password. Click '**Set Password**' to change the password
   a. Password minimum requirements: 8 characters, 1 symbol, 1 capital letter, and 1 number.
6. The '**Network Setup**' screen should then appear. Select '**Static'** under the **'Control Unit Network'** section and populate the remaining fields with values supplied by the store's IT team. Example 'http://192.168.1.77:7800'. Click the '**Save & Next**' button to continue.
7. Next, configure your laptop/computer network ethernet port again to match the basestation's new network settings range that you have inputted in Step 6 above.
8. Then 'Refresh' the current browser used in Step 6 with the address, http://m7800-0810:7800. If that doesn't work, then type in the new base station IP address that you have inputted in Step 6 in the address bar and click 'Enter'. Example 'http://192.168.1.77:7800
9. The '**Cloud Setup**' screen should appear. Click on '**Save & Next**' to proceed. **These fields are pre-populated but are editable and should not be edited unless under the advice of a PAR employee.**
10. The '**Certificate Claim**' screen appears. Select '**Activating Hardware in a New Site**'. A field appears in which to enter the activation code. Paste or enter the activation code copied earlier in Step 5 of "Creating a Site on DT Cloud Portal". Click on '**Claim Certificate**'. The screen should load and a "Connected Successfully" message appears. If an error message is returned, or if not successful, please proceed to redo **Step 3 on page 4 to generate a new code** and enter or paste the new code as started above in the beginning of this step. If still not successful, please contact PAR Drive Thru Support.
11. Open the Drive Thru Cloud and login with credentials. Navigate to '**Devices**' and look for the '**Site Name**' added in the Creating a Site on DT Cloud Portal section.
12. Select the '**Actions**' column for the device and navigate to **'Settings'** to ensure the device is accessible.

Option B (Windows 10+)

1. Open the Basestation and connect an ethernet cable from your laptop/tablet/desktop system to the basestation LAN 1 port.
2. Plug in the power adapter to the basestation and proceed to power up the unit.



   a. The laptop/tablet/desktop system must have a stable DHCP internet connection via Wi-Fi hotspot or by other methods.
3. Navigate to the **Control Panel** > **Network and Internet** > **Network Connections**.
4. Bridge the Wi-Fi internet connection to the ethernet connection port of the device that is connected to the basestation:
   a. Select the Wi-Fi adapter, and then select the ethernet adapter.
   b. Once both are selected, right click on the Wi-Fi adapter and select '**Bridge Connections**'.
   c. Once established it should show '**Bridged**'.
5. Next proceed to open up a browser and enter in 'http://m7800-0810:7800/' to open up the G Portal and proceed to step 8 below. If G Portal does not open up in the browser, please proceed to the next step below.
6. If not already installed on your device, proceed to download a tool such as 'Advanced IP Scanner' and scan the network. Sample range of 192.168.1.1-254. Optional: Type 'command prompt' from your device search bar and open the terminal. Type 'ipconfig' in terminal and look for your Ethernet Adapter Bridge IPv4 Address and scan that range from 1-254. Open Advanced IP Scan, scan the range, and look for the active device for M7800-0810 and copy or note the IP address of the Basestation.
7. Open a browser on the device and type in the IP address of the basestation in the address bar followed by:7800. (Example: "192.168.1.241:7800")
8. Proceed with Steps 3-14 in the Option A: DHCP Setup section to complete setup.

Digital Microphone and Speaker Installation

Tools and Materials Required*

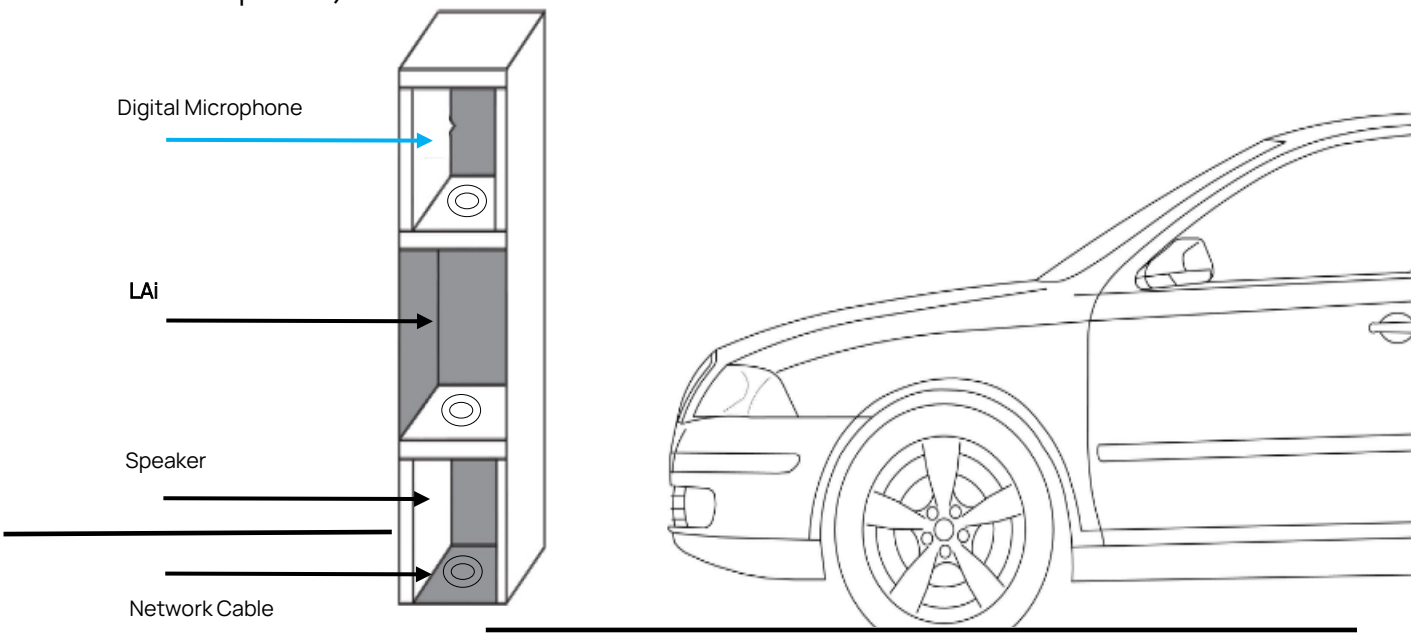
**Assuming all other system components will be or have been installed such as the LAi, Speaker, Basestation, Transceiver, POE, and Network Cable*

- PAR Acoustic Kit, part # 70071544665 as needed
- Basic tool kit: screwdrivers, zip ties, scissors, hand drill (as needed)

Design the Installation

The Digital Microphone and Speaker are to be placed inside the speaker post where the Menu Speaker is located.

1. Choose the optimal location for the Digital Microphone and Speaker making sure the:
   a. Microphone cable and speaker cable are within reach to the LAi
   b. Height of the microphone placement is a recommended 24 inches from the speaker and is partitioned
   c. Distance between the customer (in the car) and the microphone is about 3 feet (on axis to the microphone)



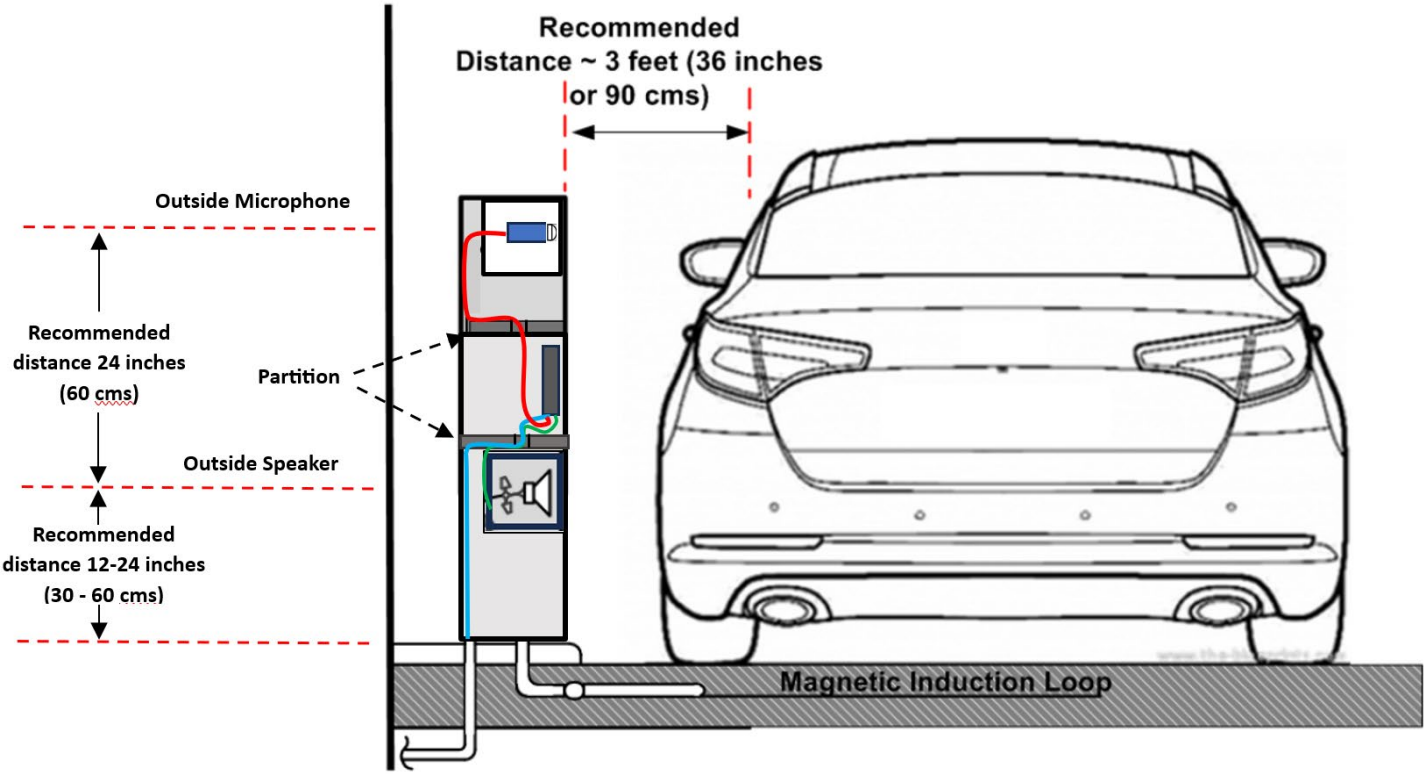
The car's position in front of the speaker post's microphone, at the recommended distance, depends on the following:

- Where the Speaker post is located at the drive thru, and
- A car's turn radius

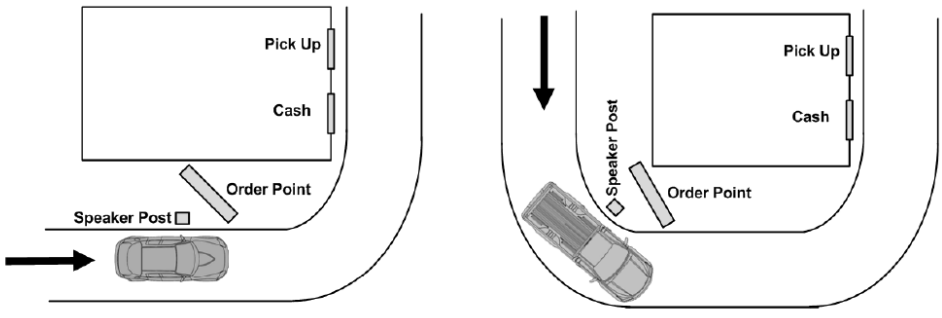
SOUND PRESSURE is the determining factor in the quality of sound collected from the microphone. Factors that determine the sound pressure are 1) distance to the customer, and the direction of the sound projection. Possible problem mic locations include:

- Mics placed back from the curb, outside of 3 feet, or on a menu board
- Mics placed above or behind the natural arrival location of the car
- High microphone placement collects more ambient noise
- Mics placed too close to the Speaker or not isolated from the Speaker in the post

Ideal mic height is about 36 to 40 inches, just above and slightly forward of the side-view mirror for the majority of vehicles.



It is recommended to locate the speaker post on the straight edge of a drive thru as illustrated below and NOT situated on a corner. A vehicle with a smaller turn radius may not have difficulty maneuvering to the correct position in front of the speaker post, but a vehicle with a large turn radius tends to stop ahead of, short of, or too far away from the speaker post.



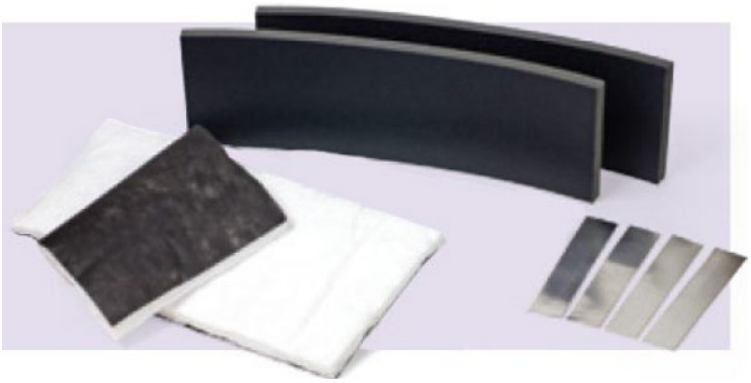
Recommended Speaker Post position **Incorrect Speaker Post position**

Acoustic Kit

The PAR Acoustic Kit used for communication posts is suitable for new or retrofit installations and can readily be used with various housing designs. One kit contains enough materials to accommodate a typical microphone and speaker system. It may be used for a microphone and speaker installed either in a single housing or in separate housings.

When installed according to the guidelines below, these components act together as a system to help enhance speech intelligibility. System components include:

- Six (6) pieces 2" x 10" PAR Vibration Control Tape
- Two (2) pieces 1" x 8" x 27" TUFCOTE® TBK Faced Foam
- One (1) piece 2" x 12" x 30" Thinsulate™ Acoustic Insulation



Preparing Outside Speaker Post

1. Ensure that the inside of the housing is clean and dry.
2. Install the PAR vibration control tape to inside of the top and side walls of the housing (fig. 1).
3. Using a pair of scissors, cut one piece of tape approximately 1" less than the length of the top wall. Cut two pieces so they are each approximately 1" less than the side walls.
4. Peel and discard the release liner from the back of the tape.
5. Center each piece of tape on the inside of the top and side walls of the housing, as shown in the illustration.
6. Install the TUFCOTE® TBK faced foam to the inside of the housing and over the vibration control tape (fig. 2).
7. Check the fit of the foam to the inside of the housing. The foam can either be formed into an upside-down “u” shape to fit against the inside of the top and side walls as one piece or cut into individual pieces to fit the inside of each wall.
8. Peel and discard the release liner from the back of the faced foam.
9. Align the center of the foam with the centerline of the top wall and then work toward the edges until the foam is centered on inside of the top and side walls of the cavity.
10. When positioned correctly, press the foam firmly to secure it in place.
11. Install the Thinsulate™ acoustic insulation (fig. 3).
12. Loosely line the housing with the acoustic insulation. For the best appearance, position the black side of the insulation toward the outside of the housing.

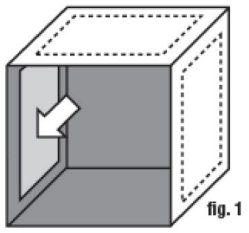


fig. 1

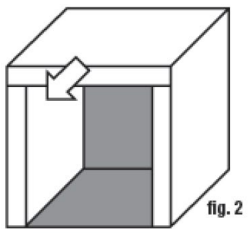


fig. 2

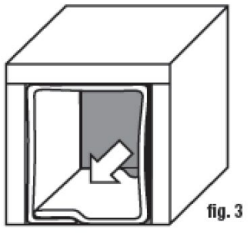


fig. 3

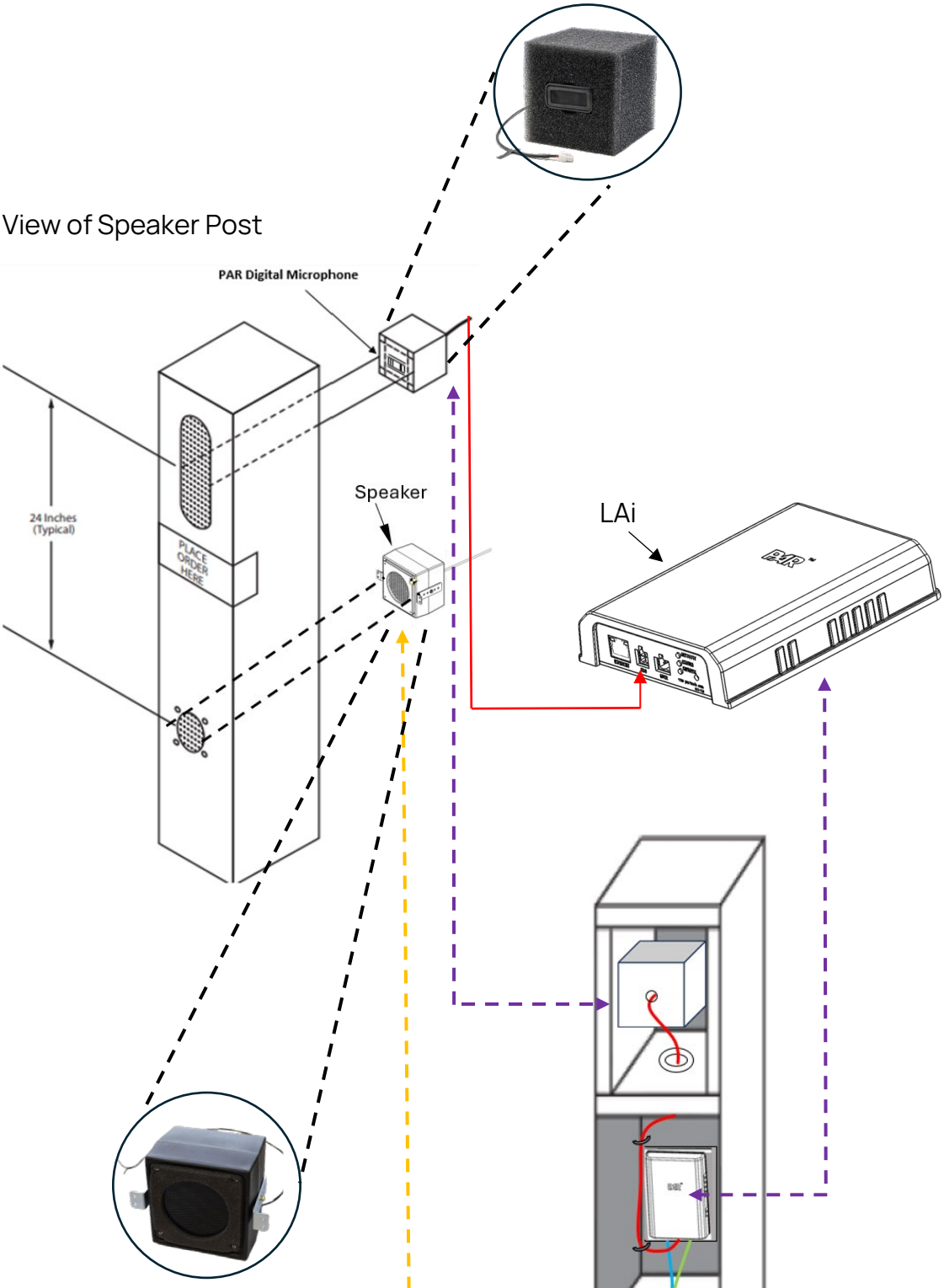
Installing Digital Microphone and Speaker

These instructions describe the installation of the Microphone Foam Block Assembly in a speaker/ordering post with the new PAR Digital Microphone along with the Speaker. Please review these instructions before you begin the installation. These instructions are general in nature, describing a complete installation in a typical speaker post. If the menu sign or speaker post you are working with is different than those shown in the instructions, you may need to modify the procedure. The PAR Digital Microphone box and Foam Assembly may only be mounted inside a post along with the speaker.

Internal mounting and Connection Procedure

1. Trim the foam microphone block to the appropriate size for the mounting space by removing one or more of the tear-away portions of the foam block. Ensure the foam fits tightly into the given space. If you need to trim additional foam away, the best tool is sharp scissors.
2. Insert the Digital Microphone box into foam with the windscreen facing outward. The microphone box should be slightly recessed into the foam (about 3/8 of an inch) to protect it from direct contact with rain.
3. Insert the complete foam assembly into the post enclosure with the wire hanging out the back for connection to the LAi Lane Hardware.
4. Connect the white connector to the MIC input of the LAi.
5. Insert the Speaker box into the post.
6. Connect the speaker to the green phoenix connector and plug into SPKR input of the LAi

Front View of Speaker Post



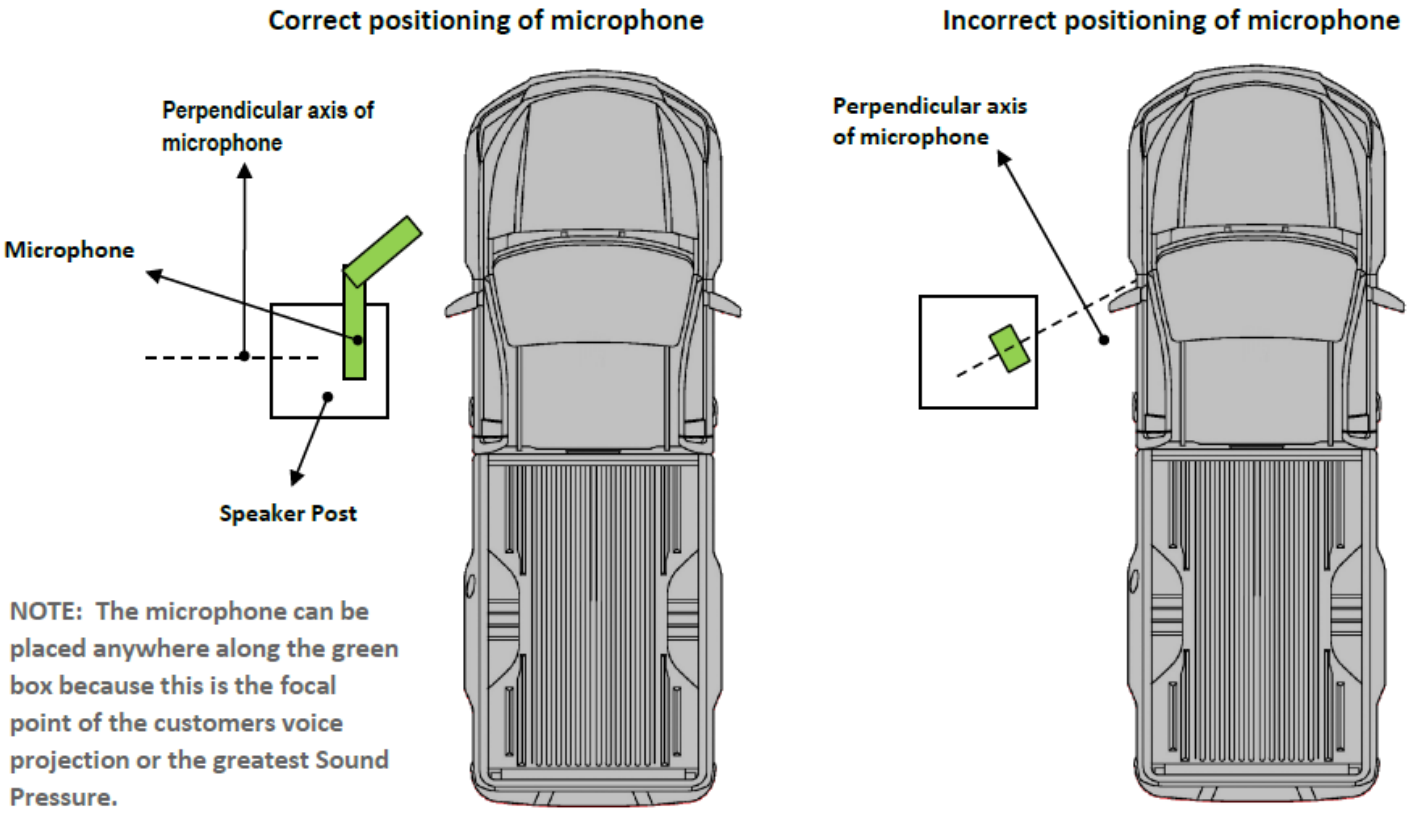
Back View of Speaker Post

Inspecting and Testing the Digital Microphone and Speaker

Inspecting the Speaker Post

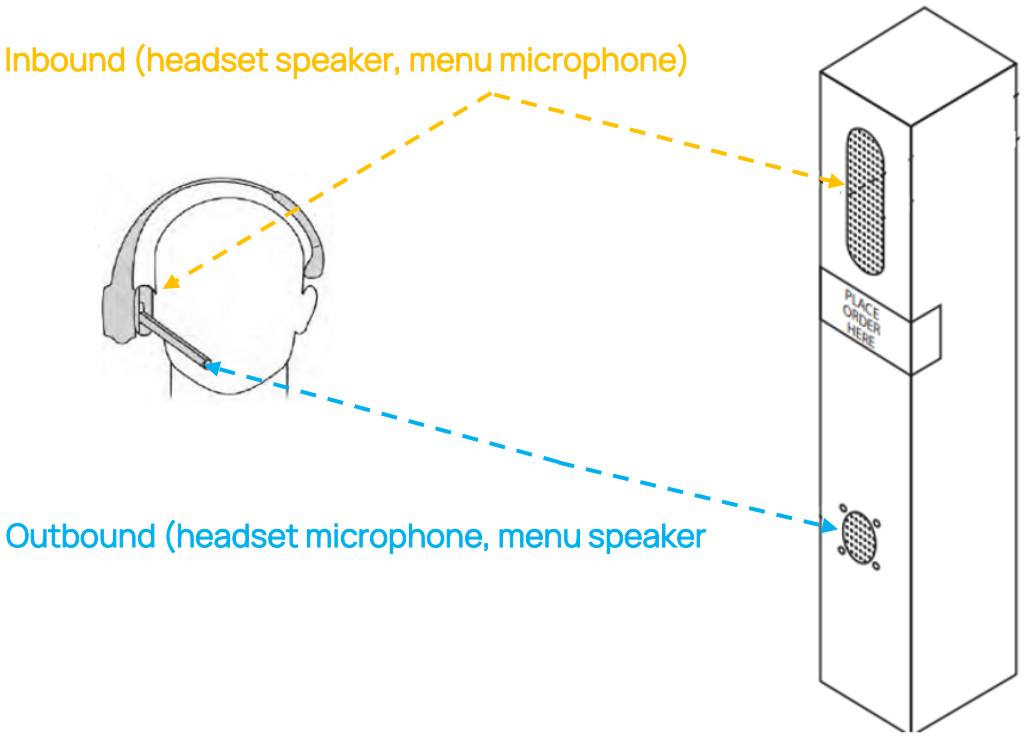
- Ensure the microphone and speaker have not moved out of position.
- Ensure speaker post acoustic treatment material has not slipped in front of the microphone or speaker.
- Ensure the microphone is not angled in such a way that its perpendicular axis is no longer in line with the customer in the vehicle.

In the cases above, the digital microphone will be unable to accurately pick up the customer's voice and will deliver more ambient noise.

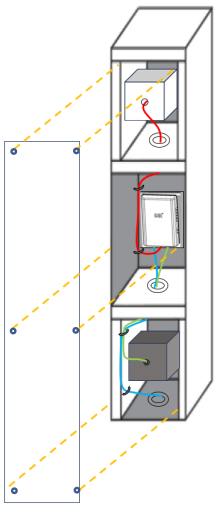


Testing the Digital Microphone and Speaker

1. Use a registered headset and test the system inbound and outbound. Inbound can be heard through the order taker headset speaker coming from the outside order post microphone. Outbound can be heard at the speaker post when the order taker hits the talk button on the headset and is speaking through the headset microphone. You can have another person stand or drive a car up and speak into the microphone to simulate a customer order. Adjust the gains accordingly to the site and environment using the DT Portal. ***(Assumes all other system components have been installed in this guide)***



2. Once you confirm the inbound and outbound audio settings are acceptable, proceed to put the cover back on the speaker post.



PAR Digital Microphone Specifications

Physical

Parameter	Specification or Requirement
Dimensions (l x w x d)	3" L x 1 5/8" W x 1.5" D
Weight	2.6 oz. (73.7 grams)

Electrical

Parameter	Specification or Requirement
Frequency Range	150-7000 Hz
Microphone	MEMS-High dynamic range

Functional

Parameter	Specification or Requirement
Operating Temperature	-40 deg C to 70 deg C

PAR Speaker Specifications

3M™ Speaker Assembly, Duplex, 4-inch Specifications
Part Number: 78-6911-5202-5

Physical

Parameter	Specification or Requirement
Dimensions without bracket (l x w x d)	5.5" W x 5.5" H x 4.563" D
Dimensions with bracket (l x w x d)	7.149" W x 5.5" H x 4.563" D
Weight	2 lbs 11oz. (43 oz)
Nominal Basket Diameter	4.0 inch or 100.0mm
Voice Coil Diameter	1.0 inch or 25.4 diameter
Magnet Weight	10.0 ounces or 284 grams

Electrical

Parameter	Specification or Requirement
Frequency Range	200 – 10,000 Hz
Sensitivity	92 dB SPL (2.83 V input measured at 1 Meter)
Impedance	8 ohm nominal
Rated Power	15 Watts
Program Power	30 Watts

Functional

Parameter	Specification or Requirement
Operating Temperature	-40 deg C to 70 deg C

Mechanical

Parameter	Specification or Requirement
Basket	Stamped Steel
Terminal Size	0.205 X 0.02
Magnet	Ferrite
Voice Coil Wire	Copper
Voice Coil Form	Aluminium
Cone	Water Resistant Paper
Cone Edge	Pre-treated Black Cloth
Dust Cap	Paper

POE Switch Installation

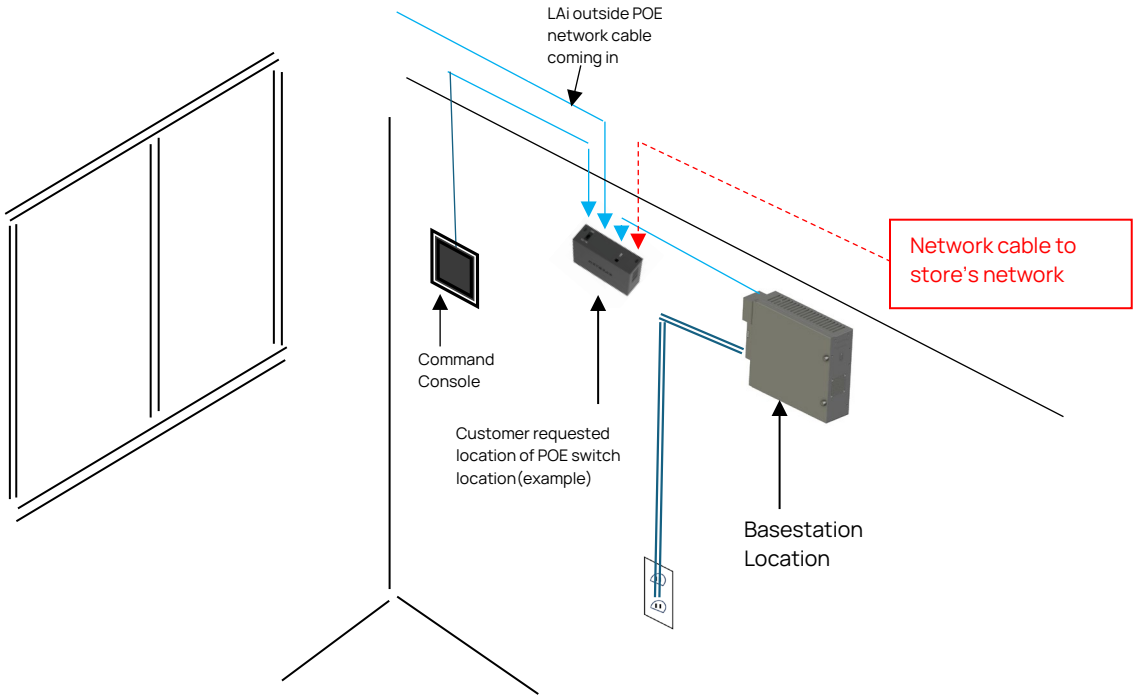
Required Tools and Materials

- Assortment of sheet metal screws or wall anchors and screws as required by site
- Basic tool kit: screwdrivers, hand drill, drill bits, measuring tape
- Conduit as needed

Designing the Installation

Survey the site as needed prior to finalizing the location.

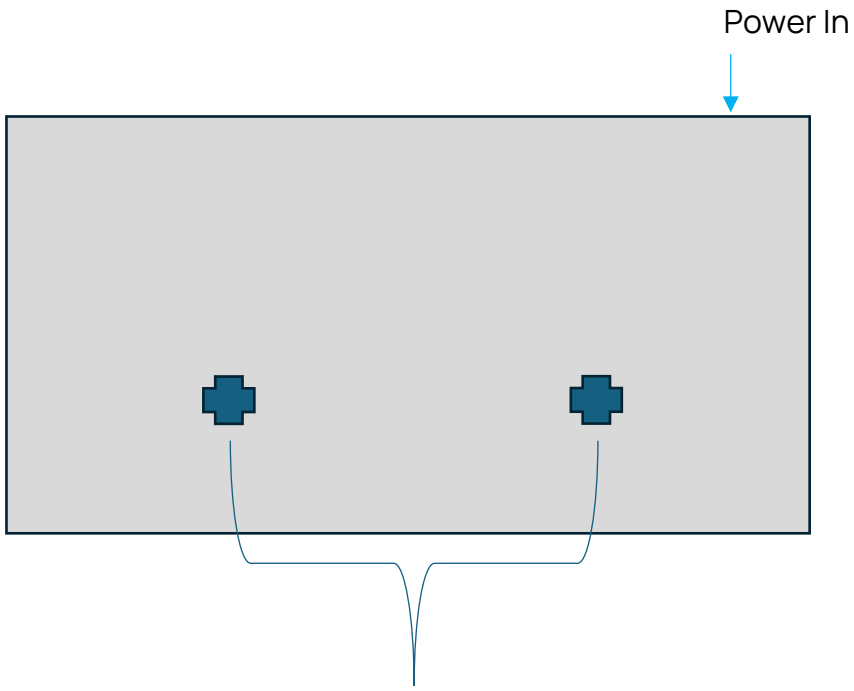
1. Choose the desired location (wall mountable) for the POE switch and ensure:
    a. There is a network line available at the location of the POE switch to connect to the store's network.
    b. The LAi network cable is within reach to the POE switch.
    c. POE switch is in reach of an electrical outlet or approved surge protector
    d. Use conduit as needed, depending on site
    (The example below shows the basestation, command console connected to the same switch as one of the methods to connect the system.)



Install the POE Switch (supplied switch)

It is recommended to use the wall-mount screws that come with the switch.

1. Locate the two mounting holes on the bottom panel of the switch.
2. Mark and drill two mounting holes in the wall where you want to mount the switch. The two mounting holes must be 2.95 in. (75 mm) apart, center-to-center.
3. Insert the supplied anchors into the wall and tighten the screws with a No. 2 Phillips screwdriver. Leave about 0.125 in. (4 mm) of each screw protruding from the wall so that you can insert the screws into the holes on the bottom panel.
    a. NOTE: The screws are 6.5 mm in diameter, 16 mm in length.
4. Plug in the supplied power adapter when ready to power on.

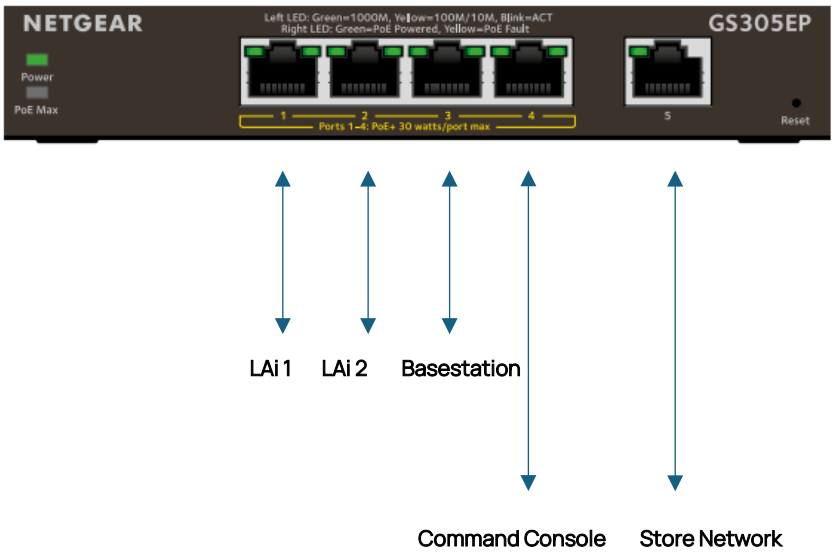


2.95 in. (75 mm) apart, center-to-center

Connect the POE Switch

The following instructions assume that other devices in this guide have already been installed and illustrate one method of connecting the system devices (more than one method is possible).

1. Connect a POE port of the switch to LAi, Port 2 for 2nd LAi if a dual lane.
2. Connect the Basestation to an available port of the switch.
3. Connect the Command Console to an available port of the switch.
4. Connect the network line from the store's network to an available port of the switch



Basestation Installation

Disclaimers

- DO NOT connect any external non-PAR Clear devices to the basestation ports!
- Basestation is recommended to be set up with G-Portal prior to installation.

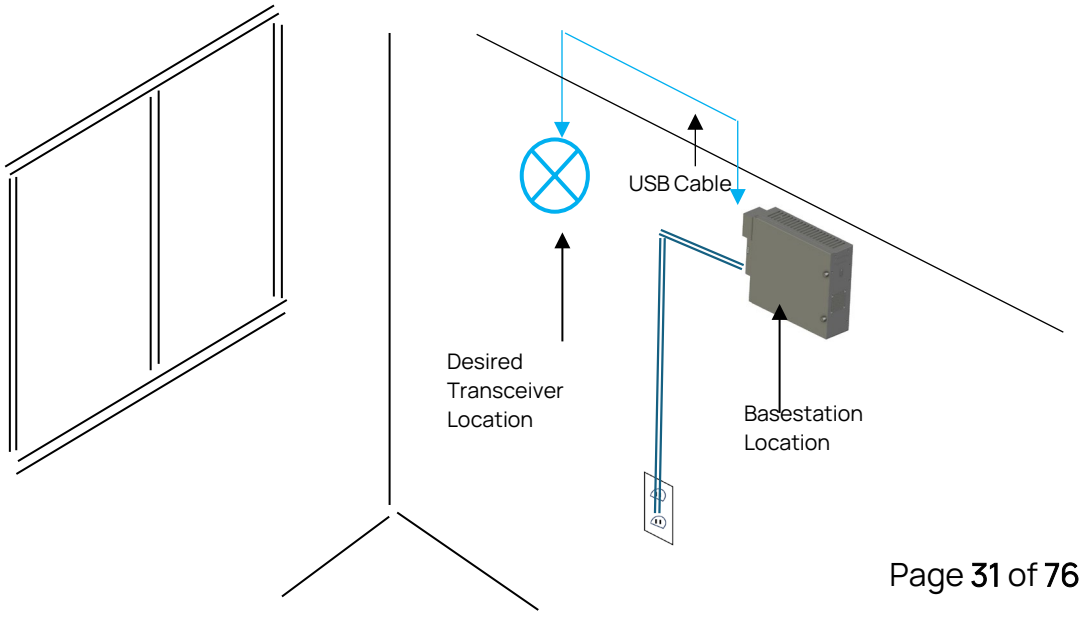
Required Tools and Materials

- Assortment of sheet metal screws or wall anchors and screws as required by site
- Basic tool kit: screwdrivers, hand drill, drill bits, measuring tape
- Conduit as needed

Designing the Installation

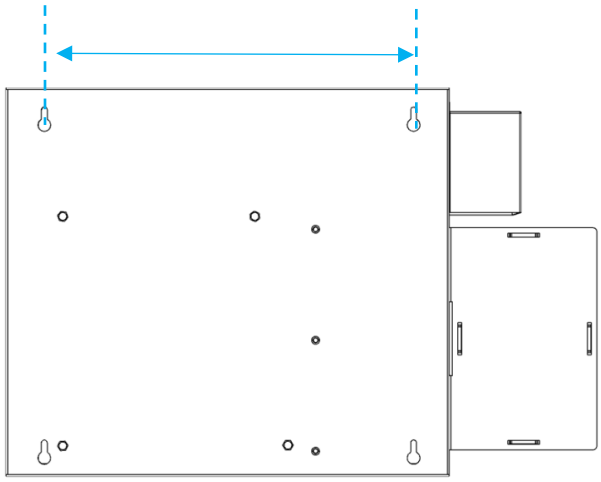
Survey the site as needed prior to finalizing the location. Choose the desired location (wall mountable) for the Basestation and ensure:

1. The Transceiver is within installation USB cable length.
2. The Basestation can be accessible by the store technical team and other installers.
3. Basestation is in reach of an electrical outlet or approved surge protector.
4. Use conduit as needed, depending on site.

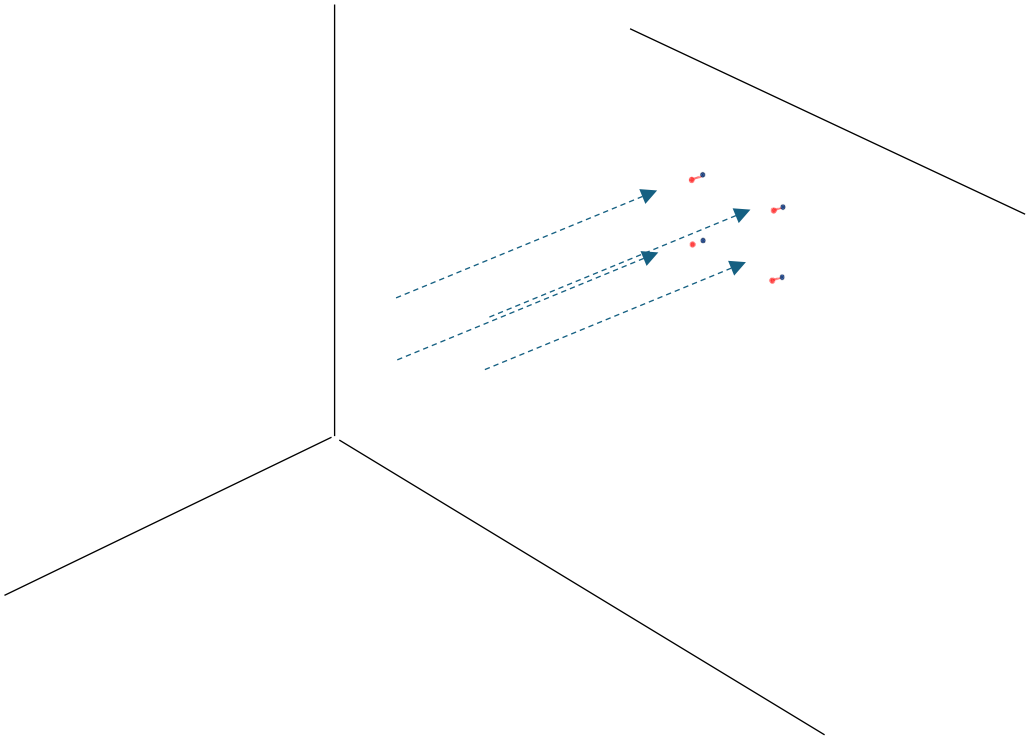


Installing the Basestation

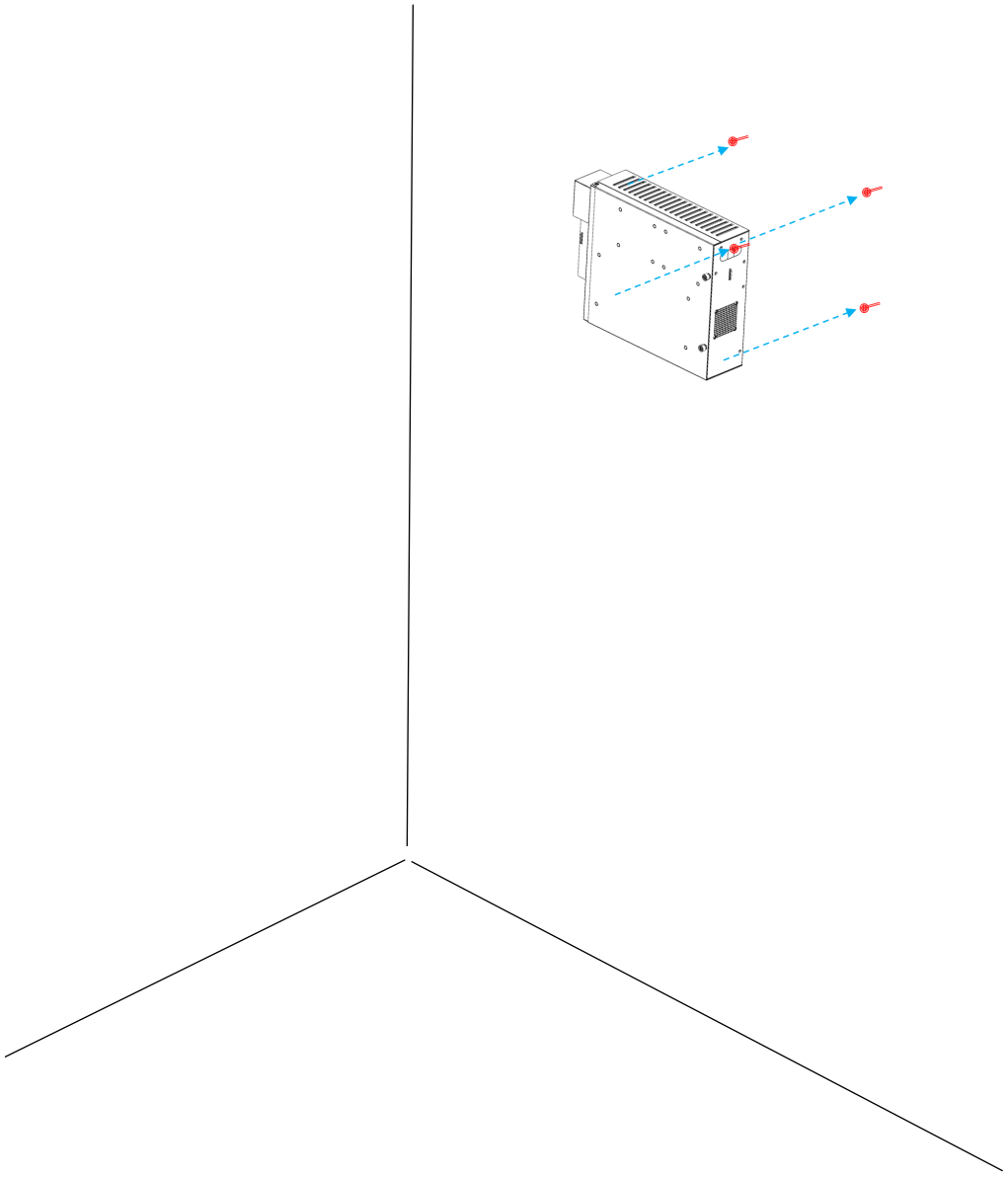
1. Take measurements of the mounting holes you will be using from the back of the Basestation case (or use the template provided).



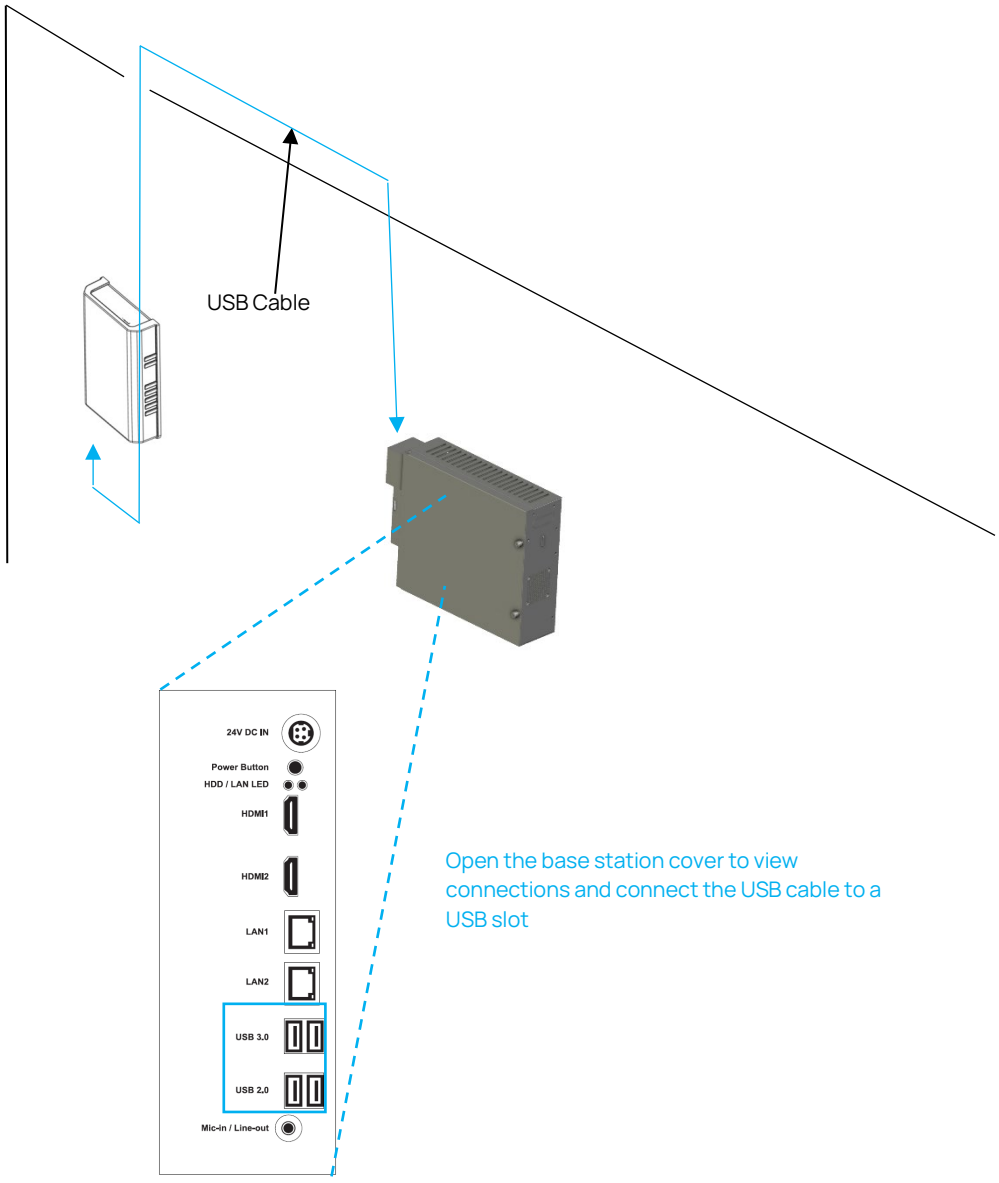
2. Mark the location with measurements you just took on the wall/location where you will be mounting the unit.



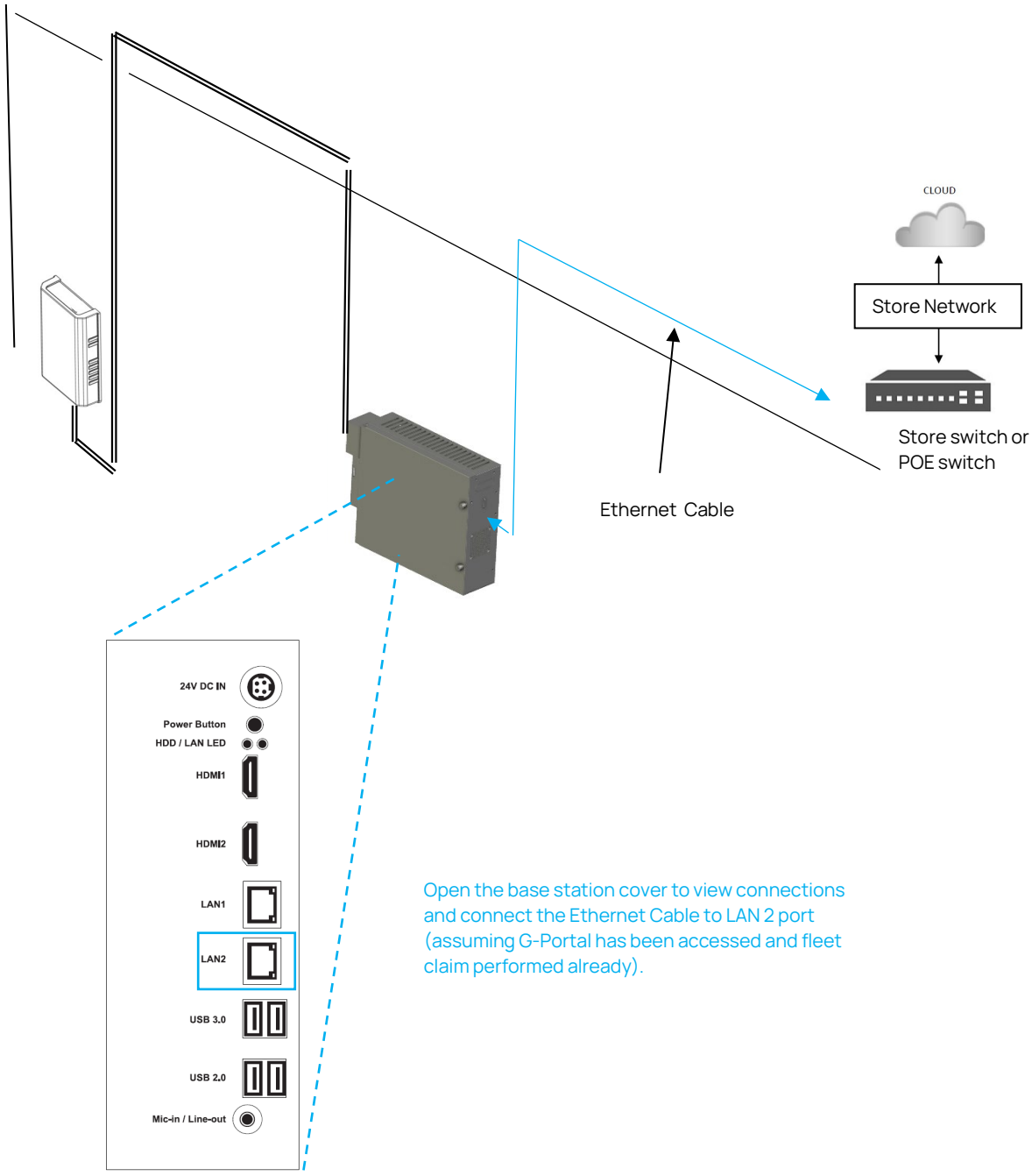
3. Pre-drill the holes as needed referencing your markings and use screws and or anchors as applicable to hang and mount the Basestation.
4. Hang and mount the Basestation and tighten down the screws.



5. Plug in the USB cable to the transceiver and the other end of the USB cable to the basestation (ensure the basestation is powered off).
    a. Proceed to complete the other system installation(s) and refer to the Installation Guides/Manuals and Quick Start/Full User Manuals as needed for the Transceiver, LAi, DT Portal, and PAR CLEAR Communications System.

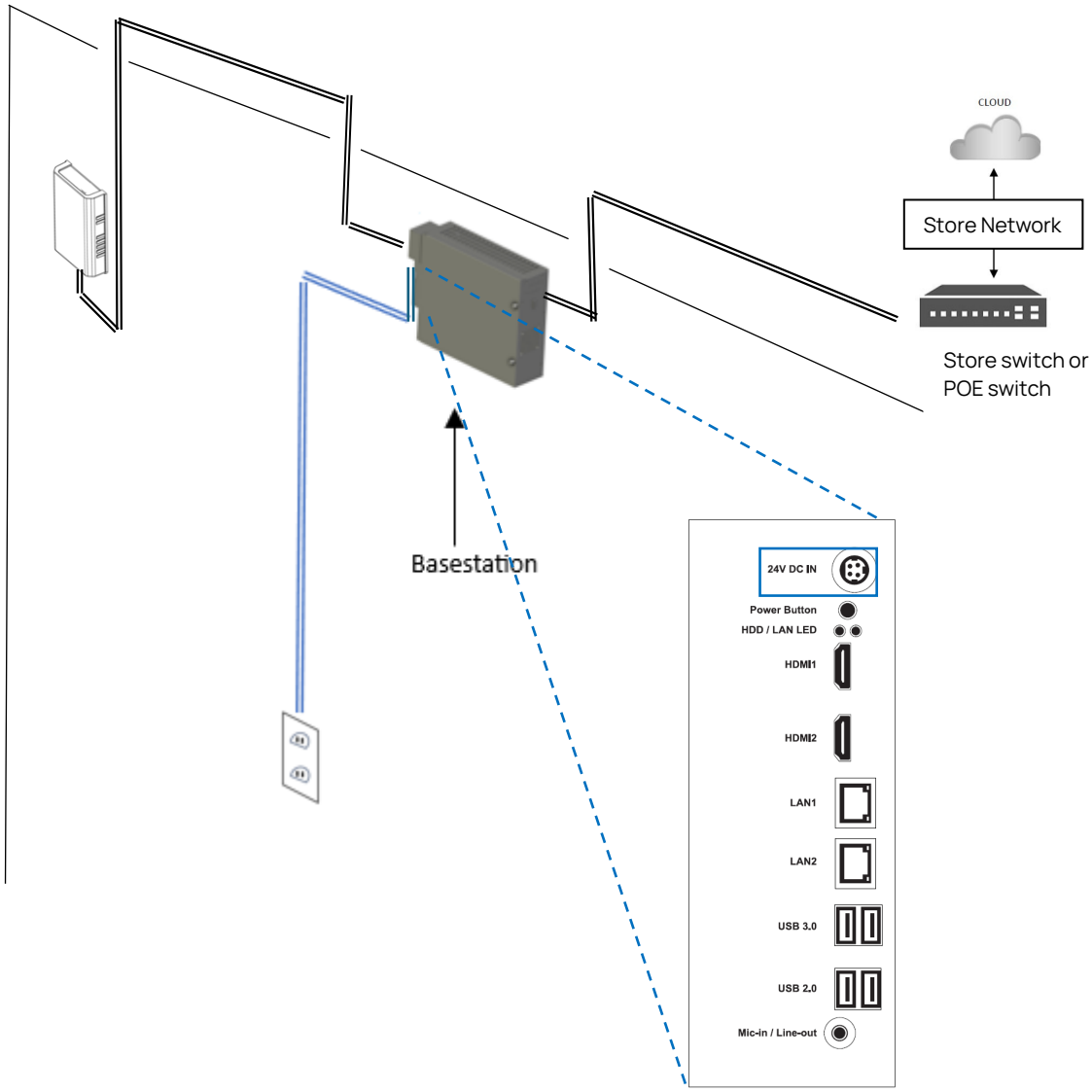


6. Assuming the basestation has been configured with the G-Portal, connect an Ethernet Cable to the basestation's LAN 2 port. Note that the basestation must be connected to the same LAN as the LAi and Command Console for the system to work. The basestation default static IP is listed in the table below (ensure the basestation is powered off when installing).



Setting	Address
IP	192.168.99.20
Subnet	255.255.255.0
Gateway	192.168.99.1
DNS	1.1.1.1, 8.8.8.8

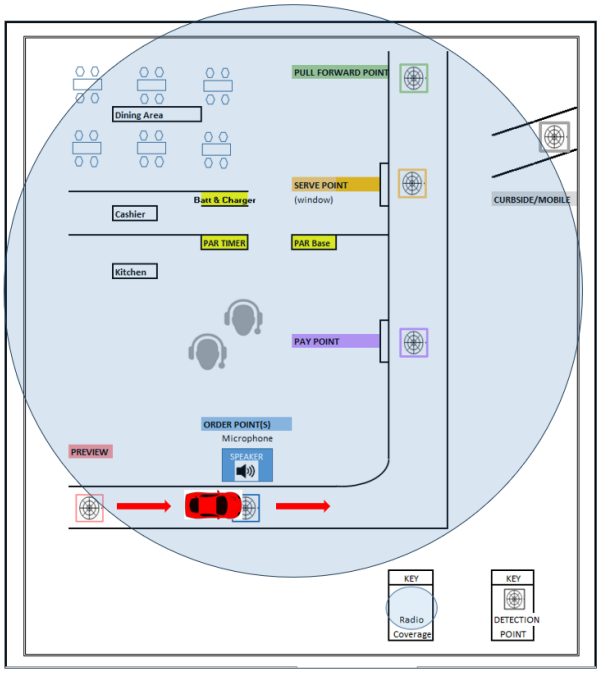
7. Plug in the power and turn on the basestation



Testing the Basestation

Basestation testing assumes the LAi, Digital Microphone, Speaker, Transceiver, and DT Portal are properly installed and configured.

1. Register a headset(s) and test the inbound/outbound of the system, vehicle arrival alerts, and volume adjustments accordingly. Ensure the store is operational by pulling a car into the lane to see if communications are clear and headsets function as expected (use the other quick reference guides as needed for the Headset, LAi, and DT Portal for configurations and volume adjustments).



2. Once you have ensured that the Basestation and system are operating as expected, check to make sure all system wirings are soldered, protected/insulated, and all screws are tightened properly.

Basestation Setup

Please refer to the *G-Portal Installation Guide* to set up the Basestation as needed (this guide is for installation purposes only).

Basestation Specifications

Physical

Parameter	Specification or Requirement
Dimensions (l x w x d)	10.4" L x 12" W x 3.5" D
Weight	3.3Kg, 7.26lbs

Electrical

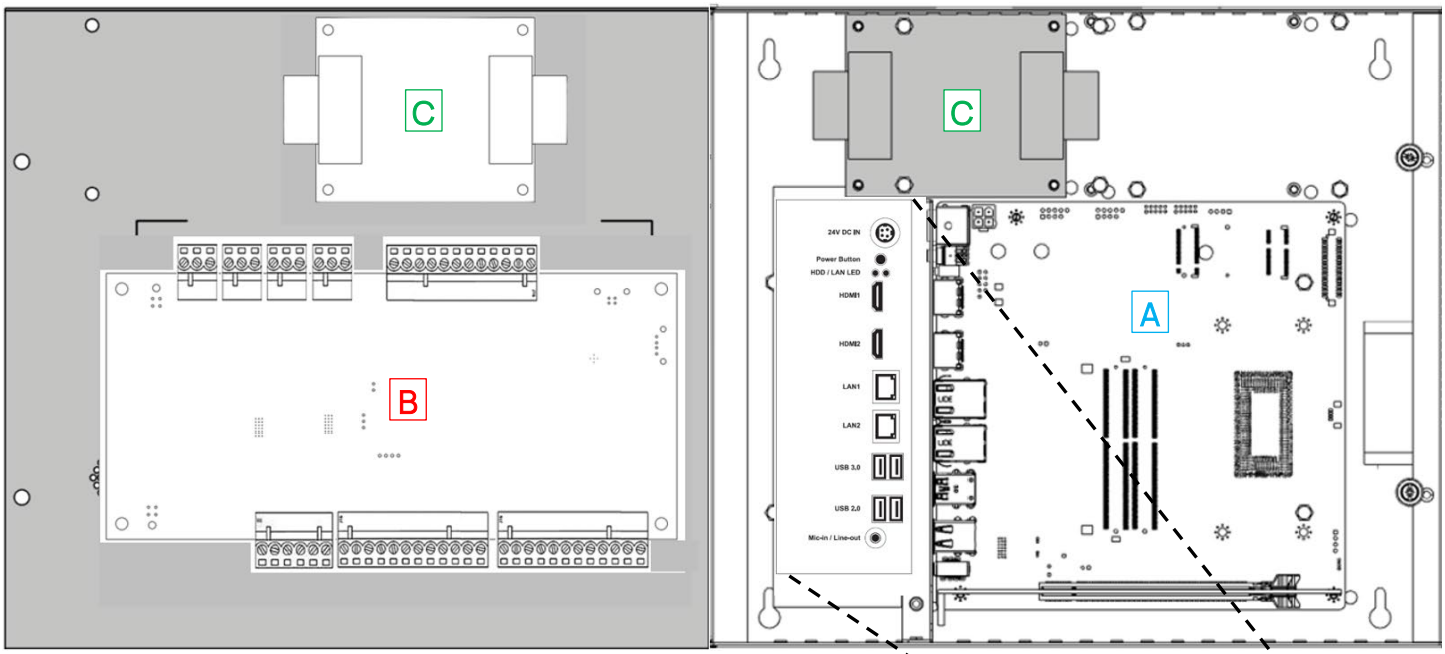
Parameter	Specification or Requirement
Input Power	100 VAC ~240 VAC
Frequency	50/60 Hz

Functional

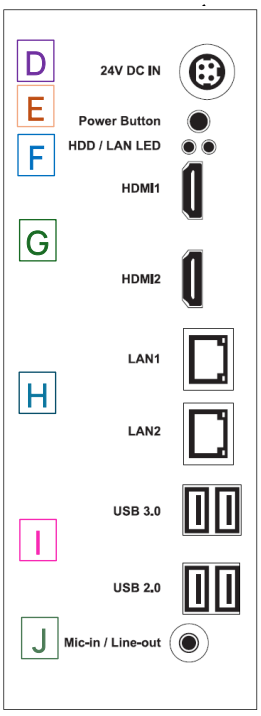
Parameter	Specification or Requirement
Indicator	Red, Green, and Blue LED
Operating Humidity	5% to 85% non-condensing
Operating Temperature	0 C to 60 C

Inside the Basestation Reference

Reference Letter	Item Description
A	Basestation Motherboard
B	PTIO Board
C	Vehicle Detector Boards (VDB)



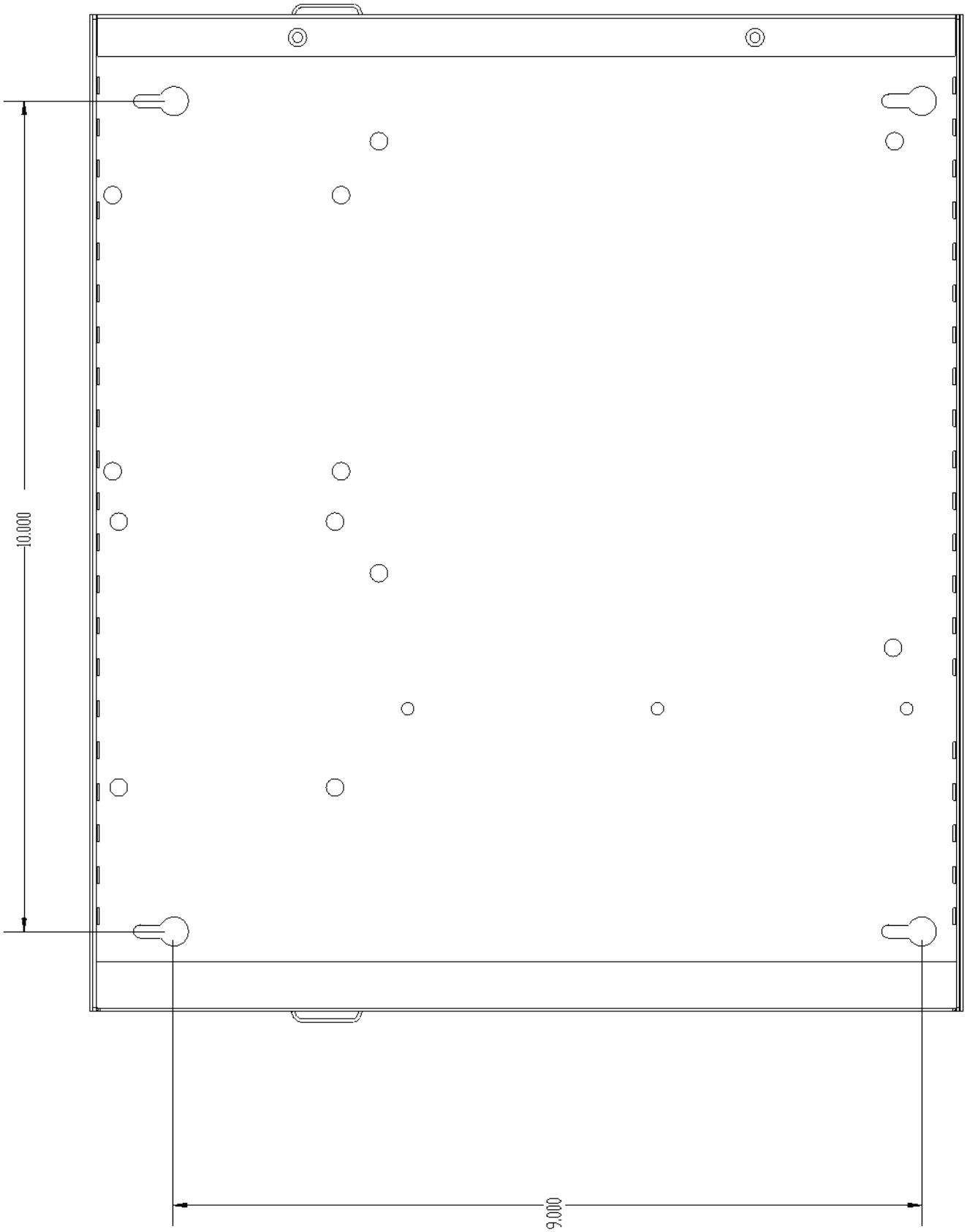
Reference Letter	Item Description
D	Power In- 24 VDC
E	Power Button
F	HDD-SSD/ LAN LED Indicators
G	HDMI Outputs
H	LAN Ethernet Connections
I	USB 3.0 and 2.0 Connections
J	Mic-In/ Line out jack



Base Station LEDs

The Base Station has 8 LED indicator LEDs:

- The on/off switch has a white LED indicating the system is turned on.
- The HDD LED is red when the mSATA drive is being accessed.
- The LAN LED is green when the network is being accessed.
- The LAN2 connector has a network connectivity speed LED and will be either green or orange.
- The PTIO board has 3 orange LEDS indicating the board has power and 1 blue LED when the headsets are talking.


10.000
9.000

Lane Audio Interface (LAi) Installation

Tools and Materials Required*

**Assuming Digital Microphone, Speaker, Basestation, Transceiver, POE, and Network Cable have already been installed.*

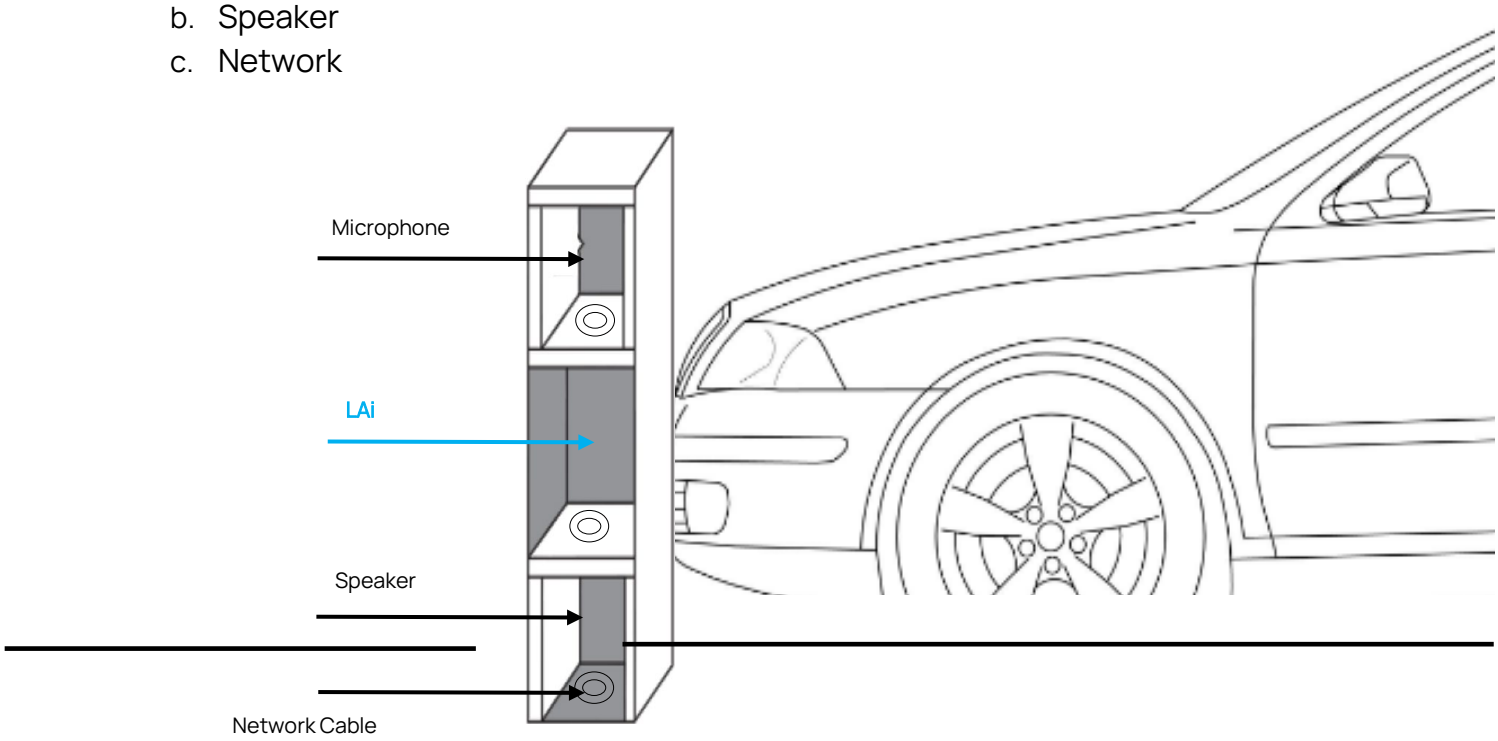
- Basic tool kit- screwdrivers, zip ties, hand drill (as needed)
- Mounting tape (recommend SCOTCH-MOUNT EXTREME DOUBLE-SIDED MOUNTING TAPE)

Designing the Installation

The LAi should be placed in the speaker post where the Digital Microphone and Speaker are located.

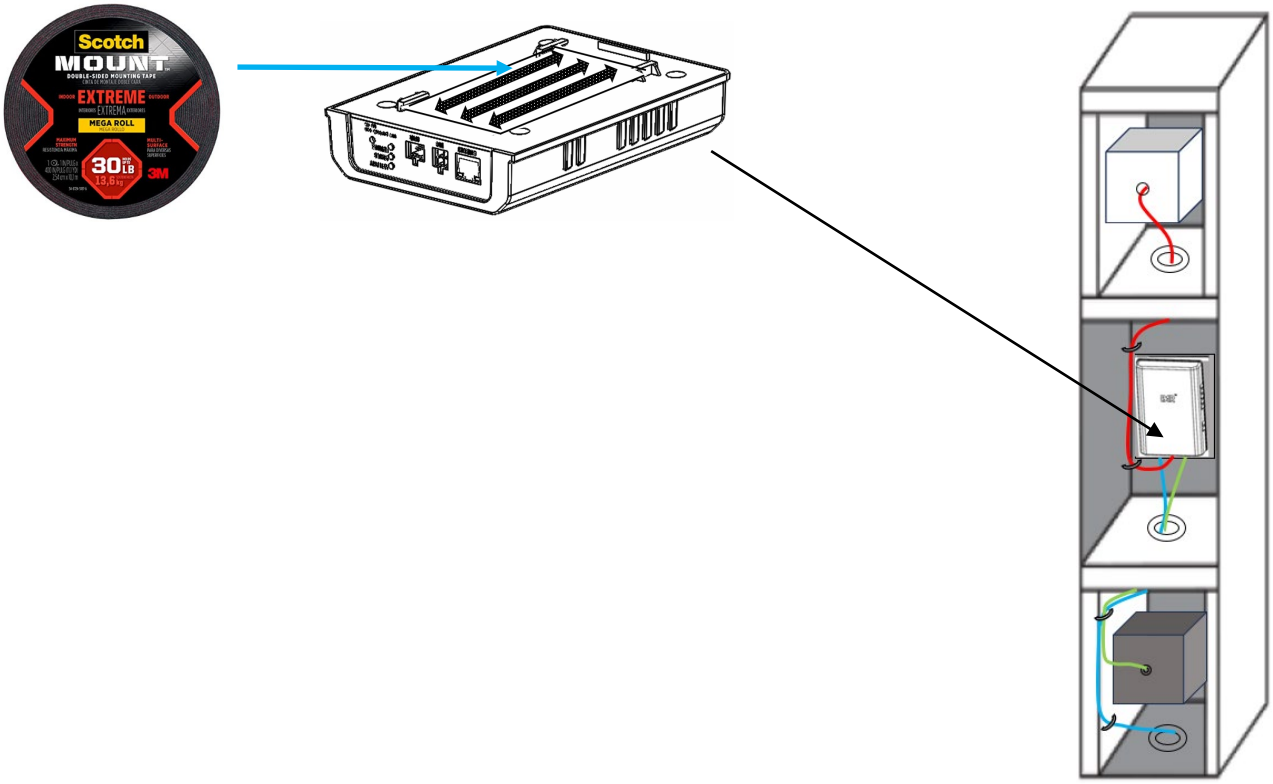
Choose the desired location for the LAi ensuring the following cables are within reach:

a. Microphone
b. Speaker
c. Network



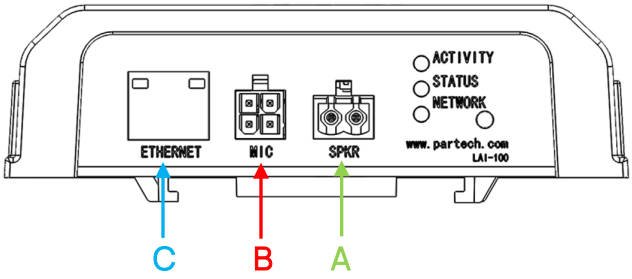
Installing the LAi

1. Using SCOTCH-MOUNT EXTREME DOUBLE-SIDED MOUNTING TAPE, cut three strips and adhere them to the back of the LAI Lane Hardware sliding plate.
2. Find the appropriate location inside the post for mounting. LAI must be mounted with the connectors facing downward to prevent water or any liquid from entering the unit.



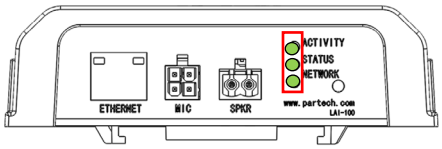
3. Connect the following to the LAi (use zip tie cables where applicable): *(Please take note of the MAC ID of the LAi for systems that use multiple LAis for the correct lane assignment for faster installs during configuration in the portal)*
   - A. Connect Menu Speaker **green** connector to the "SPKR" connection jack
   - B. Connect the Digital Microphone **white** connector to the "MIC" connection jack
   - C. Connect the POE Network Cable to the "ETHERNET" connection jack

(LAi Connections Shown)



LAi Connection

1. Ensure the Basestation, Transceiver, and POE are all powered on. (assumes all other devices in this guide have been installed)
2. Once the LAi has power connected over the ethernet/network cable, all LEDs should be green.



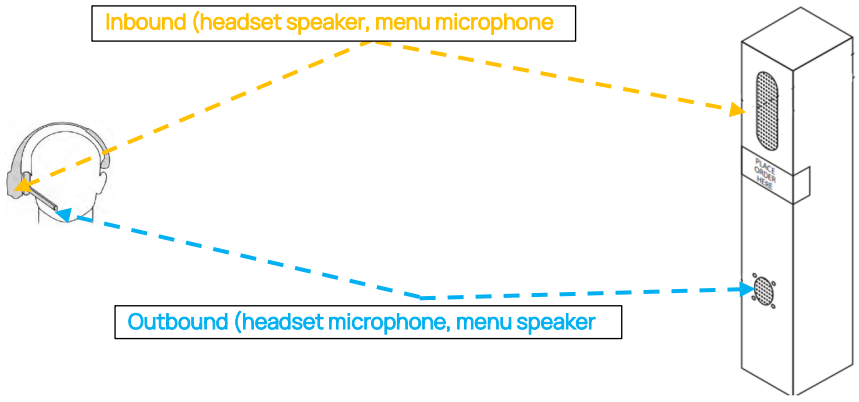
3. **DHCP Network Configuration:** Proceed to log into the webpage/portal with the provided link and credentials. The LAi should automatically be discovered. To confirm connection, go to '**Devices'** on the left panel, then select your Basestation. Click on the '**Actions**' ellipsis and select '**Settings**'. Go to the '**Volume & Devices**' then to the '**Connected Devices**' section. It should show under 'LAis','Connected' and 'Healthy'. Then go the '**Actions'** ellipsis and assign the LAi to the correct Lane # with the correct MAC ID that was mentioned to note during installation in step 1 section 3. This is useful when installing Drive-Thrus with multiple lanes. Click on '**Apply Changes**'

4. **Static Network Configuration (Windows 11 example):**
    a. Obtain the required IP address, gateway, and DNS servers from the store's technical team.
    b. Use a computer (Windows 11 example below) connected to the same POE switch as the LAi.
    c. Use an IP scanner tool such as "Advanced IP Scanner" to obtain the LAi's current IP address. The LAi's name will likely be "**LAi**" or "**beaglebone**".
    d. Open "Windows Powershell" and SSH into the LAi with the current IP address of the LAi and the following prompts:
        i. ssh debian@192.168.1.xxx (IP address of the LAi obtained by scan or other means)
        ii. Enter password provided by PAR and type "yes" if prompted.
        iii. Enter the new static network information by using the following command (use same password in the step above as needed): **sudo /usr/bin/set_ip_address.sh -i 192.168.1.XXX -s 255.255.255.0 -g 192.168.1.1 -d 8.8.8.8 -e 1.1.1.1 -c eth0**
        iv. If successful, the following message is returned: "Network configuration for eth0 has been updated."
        v. To confirm successful network configuration, use the following command: **sudo /usr/bin/get_ip_address.sh -c eth0 -i g d**

e. Proceed to log into the webpage/portal with the provided link and credentials. To confirm connection, go to '**Devices**' on the left panel, then select your Basestation. Click on the '**Actions**' ellipsis and select '**Settings**'. Go to the '**Volume & Devices**' then to the '**Connected Devices**' section. It should show under '**LAis**','**Connected**' and '**Healthy**'. Then go the '**Actions**' ellipsis and assign the LAi to the correct Lane # with the correct MAC ID that was mentioned to note during installation in step 1 section 3. This is useful when installing Drive-thrus with multiple lanes. Click on '**Apply Changes**'.

Testing the LAi

1. Use a registered headset and test the audio of the LAi's inbound and outbound. Adjust the gains accordingly to the site and environment using the DT Portal. Use two people as needed. (Use the other quick reference guides as needed for the Headset, Transceiver, and Basestation and/or the Complete PAR Clear System Installation Manual)



   a. Adjust the audio out at the speaker post lane by selecting '**Volume & Devices**', then '**Volume Settings**', the **'Lane Volume'**. Adjust the '**Day Time Speaker Volume**', '**Night Time Speaker Volume'**, and '**Greeter Message Relative Volume**' accordingly as needed for the corresponding Lane. Select '**Apply Changes**' when completed.
   b. Adjust the main audio inbound for all headsets by selecting '**Headset Volume**' tab and adjust the '**Headset Speaker Baseline Volume'** as needed. Click on '**Apply Changes**' when done.
2. Confirm audio settings are acceptable and place the cover back on the speaker post to finalize the install.

LAi Specifications

Physical

Parameter	Specification or Requirement
Dimensions (l x w x d)	6 5/8" L x 4 7/8" W x 1 3/8" D
Weight	0.3 kg

Electrical

Parameter	Specification or Requirement
Input Power	PoE 802.3af, 15.4 W source
Data Connectivity	Audio over IP connection using Ethernet 10MB/100MB RJ45 Ethernet physical layer
Audio Output Power	95dB SPL (linear weighting) at 5W rated power, [1 m] 1kHz sine wave

Functional

Parameter	Specification or Requirement
Indicator	Red, Green and Blue LED
Operating Altitude	=< 2000 meters
Operating Temperature	0 to 60 C

Transceiver Installation

Tools and Materials Required

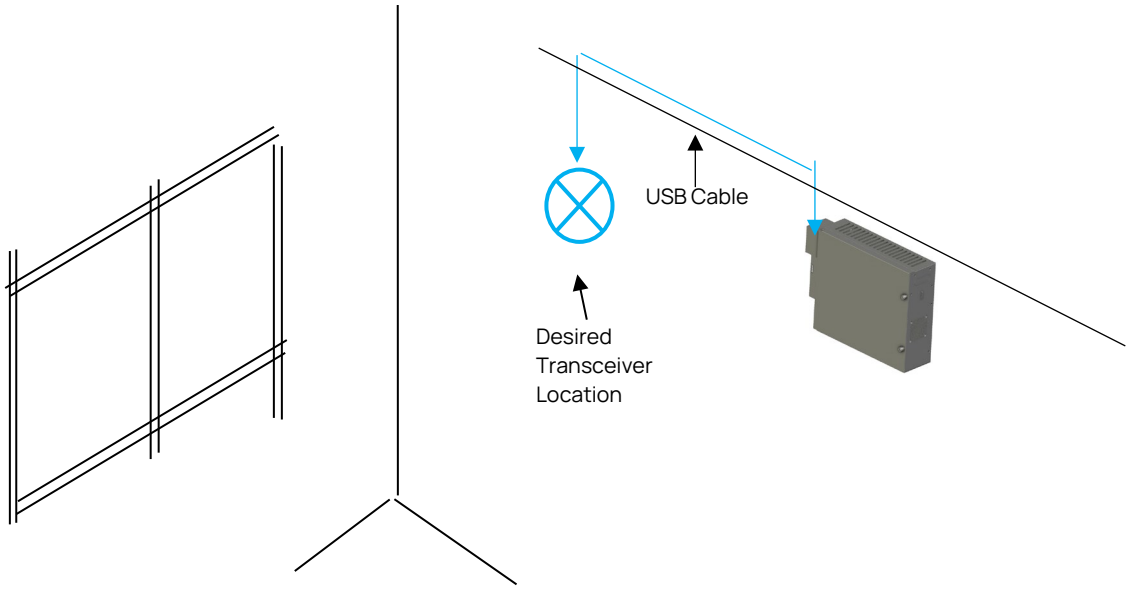
- Assortment of sheet metal screws or wall anchors and screws as required by site
- Basic tool kit- screwdrivers, hand drill, drill bits, etc.
- Conduit as needed

Designing the Installation

The Transceiver should be placed in a location that has the desired range and coverage for the site. Survey the site as needed and test the transmission coverage prior to finalizing the location.

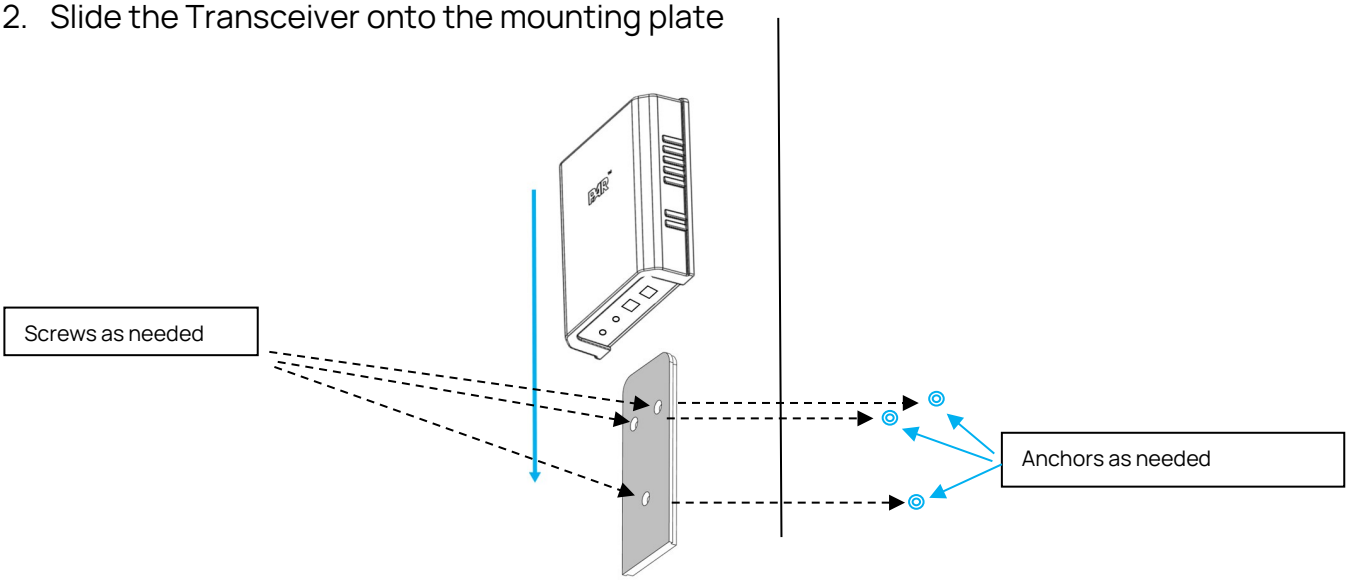
Note: WMT mounting should be at least 20cm away from any human contact.

1. Choose the desired location for the Transceiver making sure:
    a. USB cable has enough length to reach the basestation
    b. Use conduit as needed, depending on site

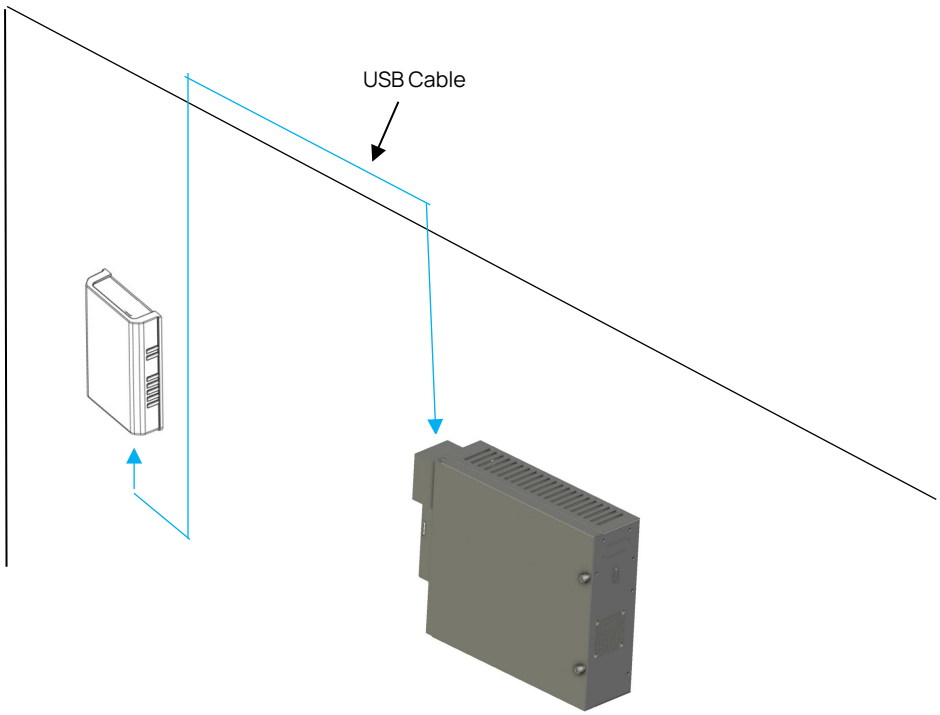


Installing the Transceiver

1. Mount the mounting plate of the Transceiver after range has been tested using screws or anchors as needed, do not yet tighten screw all the way.
2. Slide the Transceiver onto the mounting plate

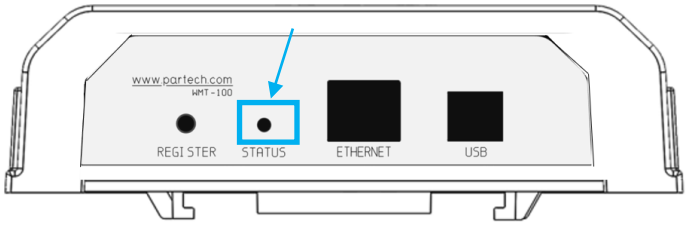


3. Plug the USB cable into the transceiver and the other end of the USB cable into the basestation (ensure the basestation is powered off)



Connecting the Transceiver

1. Power on the basestation.
2. Observe the LED status of the Transceiver, it will blink red repeatedly out of the box and when no headsets have been registered with the Transceiver. After a headset has been registered, it will flash green and will be on standby mode. When there is activity from a headset to the Transceiver, the LED will turn solid green.

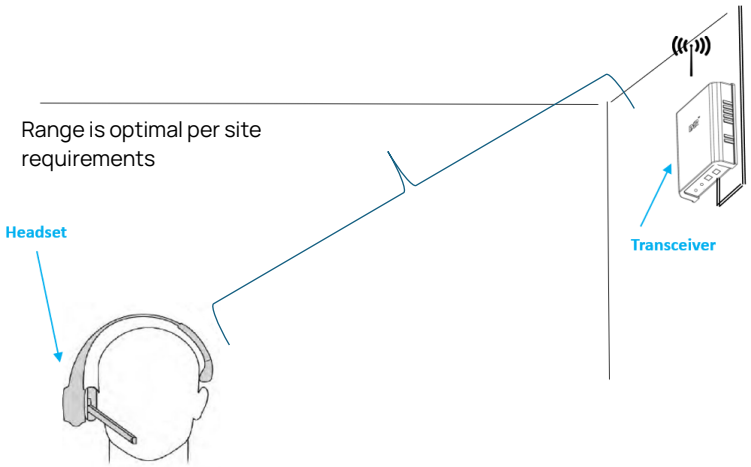


3. Log into the webpage/portal with the provided link and credentials. The Transceiver should automatically be discovered. To confirm connection, go to '**Devices'** on the left panel, and select your Basestation. Click on the '**Actions'** ellipsis and select '**Settings'**. Go to the '**Volume & Devices**' then to the '**Connected Devices**' section. It should show under '**Transceiver**', '**Connected'**.

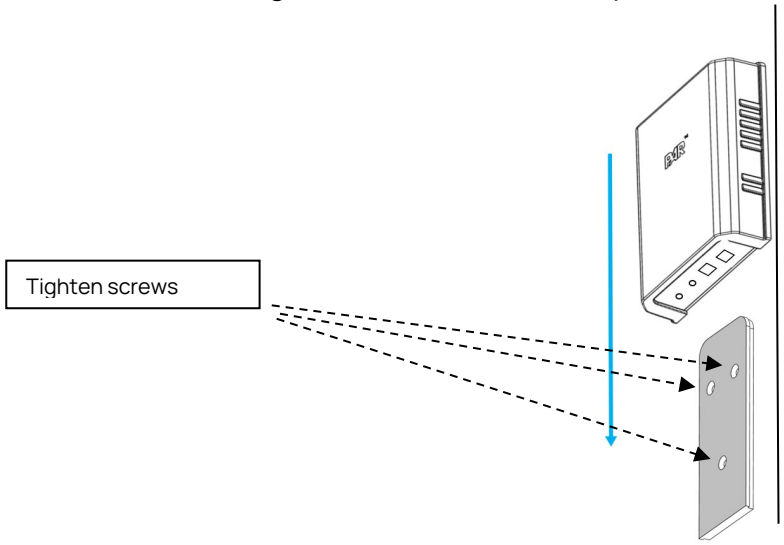
Testing the Transceiver

1. Use a registered headset and test the range of the system. (Use the other quick reference guides as needed for the Headset, LAi, and Basestation)

   Important: Ensure basestation, LAi, speaker, and microphone are installed.



2. If the system audio and range tests are optimal, proceed to tighten down the screws on the Transceiver mounting plate by sliding the Transceiver out and sliding it back on once the screws are tightened. Otherwise, repeat the steps above.



Transceiver Specifications

Physical

Parameter	Specification or Requirement
Dimensions (l x w x d)	6 5/8" L x 4 7/8" W x 1 3/8" D
Weight	0.3 kg

Electrical

Parameter	Specification or Requirement
Input Power	USB Type B, 5VDC
Radio Frequency	DECT
Maximum Output Power	DECT Per Region

Functional

Parameter	Specification or Requirement
Indicator	Red, Green and Blue LED
Operating Altitude	=< 2000 meters
Operating Temperature	0 to 60 C

Vehicle Detector Board (VDB) Installation

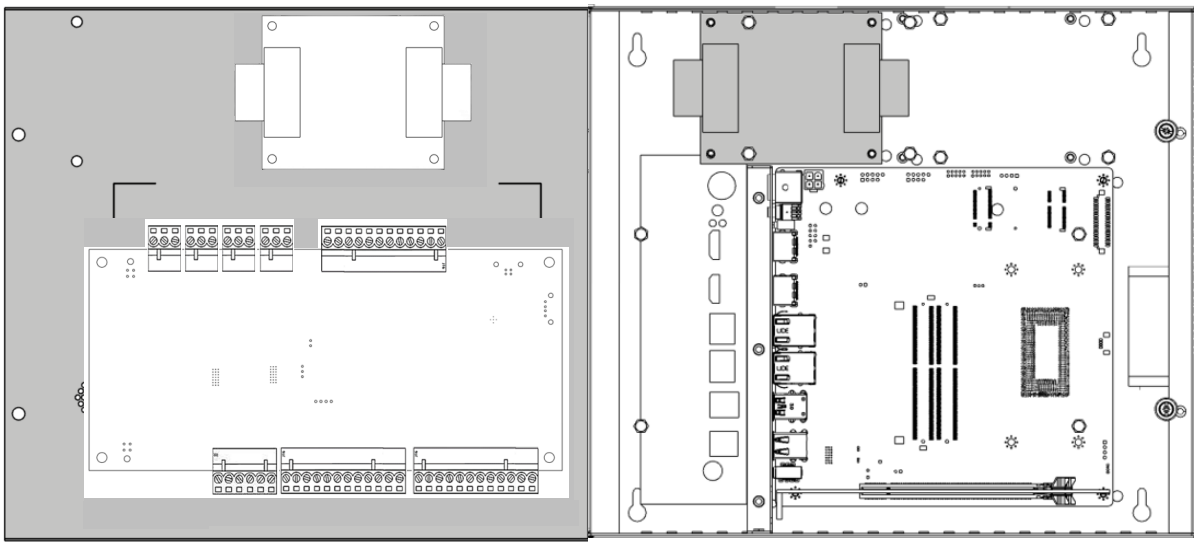
Required Tools and Materials

- Wire stripper (as needed)
- Phillips #2 and slotted #3 mm screw drivers
- Kit (included: 22 awg wires and #6-32 x 1/4 screws)

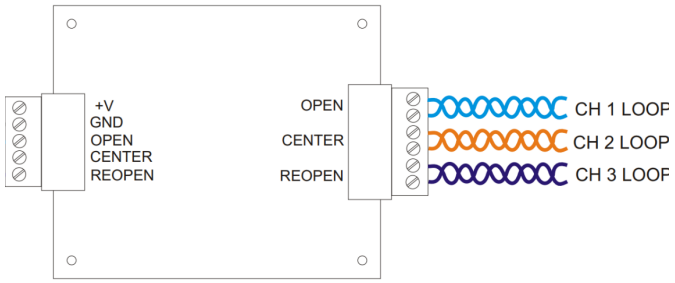
Installation

Important: Ensure the Basestation is *powered off* prior to installation.

1. Open the cover of the Basestation to install the VDB board(s).
    a. The PAR Clear system can accommodate up to two PAR Clear VDBs.
    b. The PAR Clear VDB can connect up to 3 loops each, totaling 6 loops as needed.
2. Mount the VDB to either location A or B (reference below) using the screws provided in the kit.



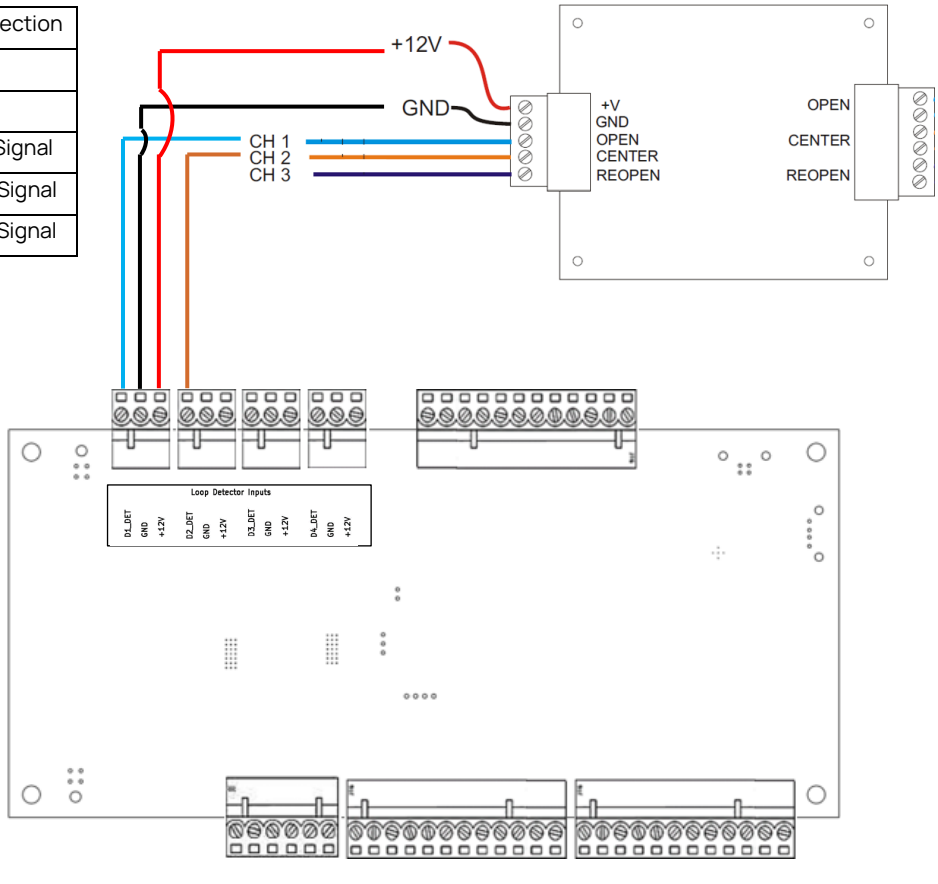
3. Install the loop wires to the 6-pin connector located on the right side of the VDB according to the table and diagram below:



Pin #	Name (generic)	Connection
1	OPEN	CH 1 LOOP
2	OPEN	CH 1 LOOP
3	CENTER	CH 2 LOOP
4	CENTER	CH 3 LOOP
5	REOPEN	CH 3 LOOP
6	REOPEN	CH 3 LOOP

4. Connect the 12v power, GND, and the loop channels that you will be using to the 5-pin connector located on the left side of the VDB to the PTIO Board. Please refer to the table and diagram below and only use the CH 2 if it is a dual lane drive-thru:

Pin #	Name (generic)	Connection
1	+ V	+ 12V
2	GND	GND
3	OPEN (CH 1)	CH 1 Signal
4	CENTER (CH 2)	CH 2 Signal
5	REOPEN (CH3)	CH 3 Signal



J701-Pin #	Name	Connection to VDB
1	D1_DET	OPEN (CH 1)
2	GND	GND
3	+ 12V	+ V

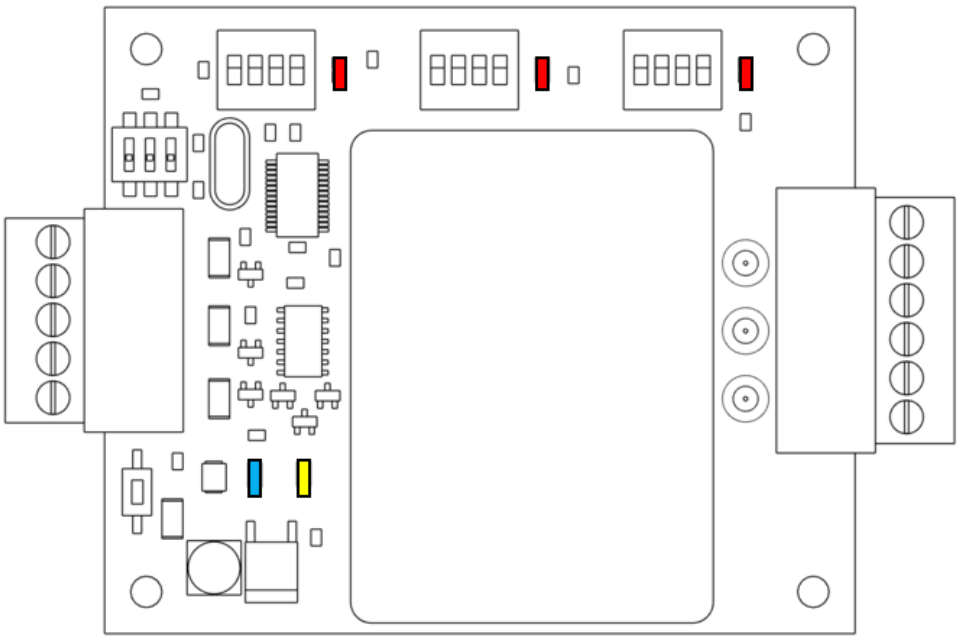
J702-Pin #	Name	Connection to VDB
1	D2_DET	CENTER (CH 2)
2	GND	NC
3	+ 12V	NC

Testing the Vehicle Loop Detector

1. Ensure all connections are correct, tight, and not loose.
2. Power on the Basestation.

Refer to the diagrams and tables below for testing:

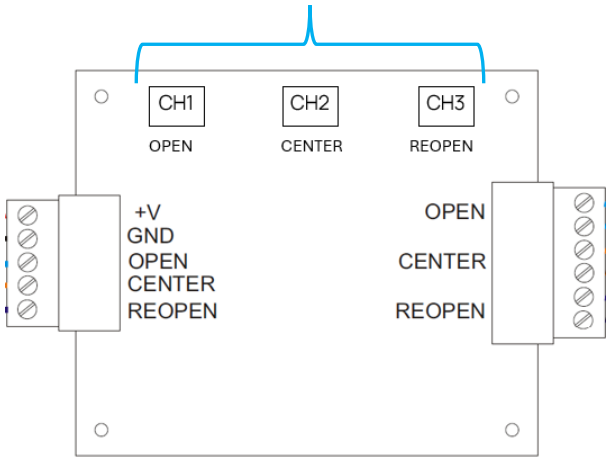
A. If all is working normal, the LEDs on the detector should have a constant **BLUE LED** for POWER.
B. The **RED LED** will be on when a car is present over the loop indicated. KEEP IN MIND THAT THE RED LEDs NEXT TO THE LOOP CHANNELS THAT ARE NOT BEING USED WILL CONTINUE TO FLASH RED
C. The YELLOW LED fault will be ON if any of the loops are not in use and will only be OFF when all 3 channel loops are being used.



Function	LED Color	Description
Power	BLUE	• Solid with correct power supplied
Detect	RED	• Solid- during detect • Single flash and pause= open circuit loop • Double flash and pause=shorted loop
Fault	YELLOW	• Solid-during a current fault

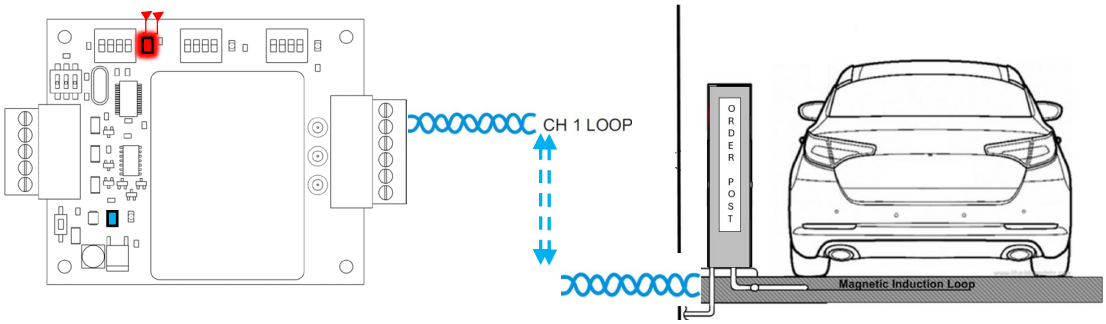
D. The default frequency is “high” and the default sensitivity is “medium”. These can be adjusted as needed. Each set of dip switches corresponds to each of the 3 loop channels.

(FO) SW1	(FO) SW2	FREQUENCY
ON	ON	LOW
OFF	ON	MEDIUM LOW
ON	OFF	MEDIUM HIGH
OFF	OFF	HIGH
(SO) SW3	**(SO) SW4**	**SENSITIVITY**
ON	ON	HIGH
OFF	ON	MEDIUM
ON	OFF	LOW
OFF	OFF	CHANNEL OFF



**all other dip switches that are not mentioned in the guide, please leave defaulted to OFF.

3. Proceed to have a vehicle drive up to the loop and ensure the correct loop channel LED turns RED and that it turns off when the vehicle leaves. Repeat this 3 times to demonstrate the loop and detector are working as expected. If enabled in your system, your headset will alert to indicate that a vehicle has arrived at the order point.



Closing Basestation Cover

Once the vehicle detection tests have been performed and verified, proceed to close the cover of the Basestation and tighten the thumb screws ensuring that all wires are neatly tucked away or zip tied inside the Basestation.

Vehicle Detection Board Specifications

Physical

Parameter	Specification or Requirement
Dimensions (l x w x d)	3" L x 3- 9/16" W x 3/8" D

Electrical

Parameter	Specification or Requirement
Input Power	10 to 30 VDC
Inductance Range	20uF to 1500uH
Output Rating	Solid State Detect 30mA maximum current sink. Outputs are protected from overvoltage or polarity reversal.

Functional

Parameter	Specification or Requirement
Indicator	Red, Yellow and Blue LED
Operating Temperature Range	-30 F to + 180 F

Command Console Installation

Required Tools and Materials

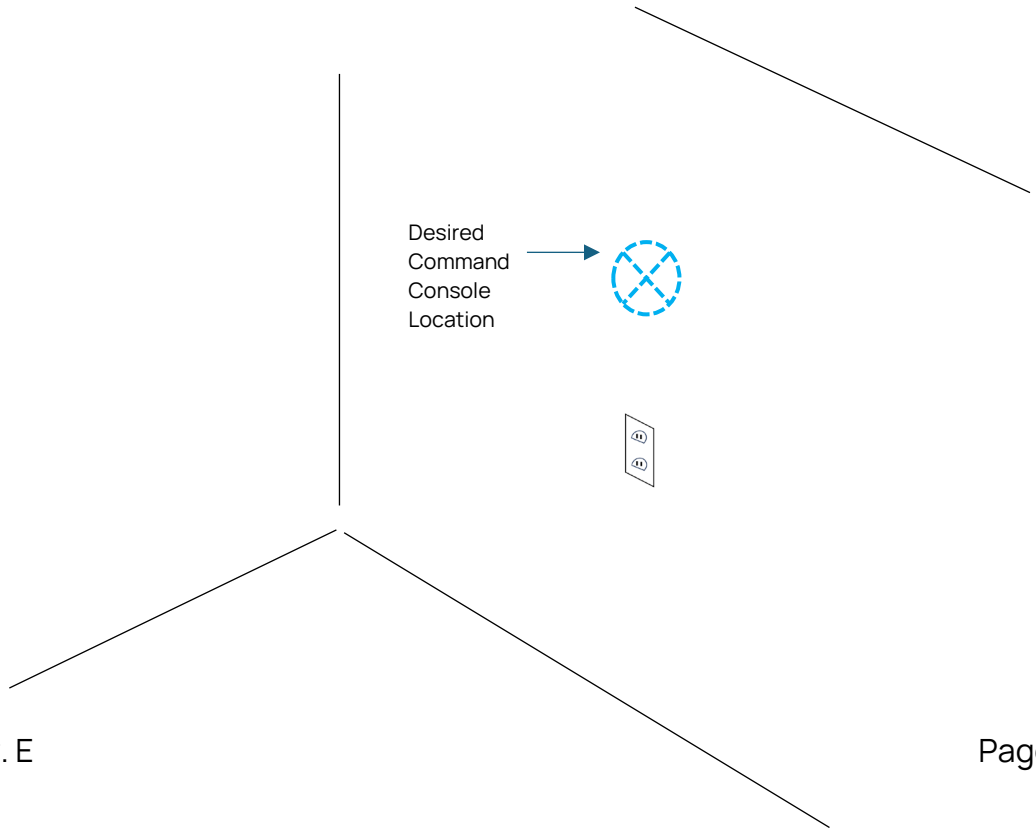
- Assortment of sheet metal screws and/or wall anchors and screws as required by site
- Basic tool kit- screwdrivers, hand drill, drill bits, etc.
- Conduit as needed

Designing the Installation

The Command Console should be placed in a location that is accessible to the operators at the site. Survey the site as needed and communicate with the site manager prior to finalizing the location.

Choose the desired location for the Command Console with the following in mind:

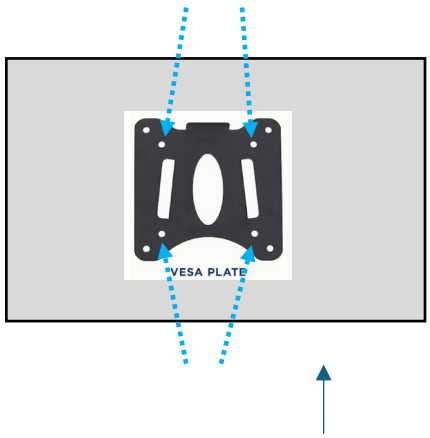
a. Ensure an outlet is accessible and nearby
b. Decide if console will be wall mounted or on a pedestal
c. Use conduit as needed, depending on site
d. Ensure network cable is accessible and available



Installing and Connecting the Command Console

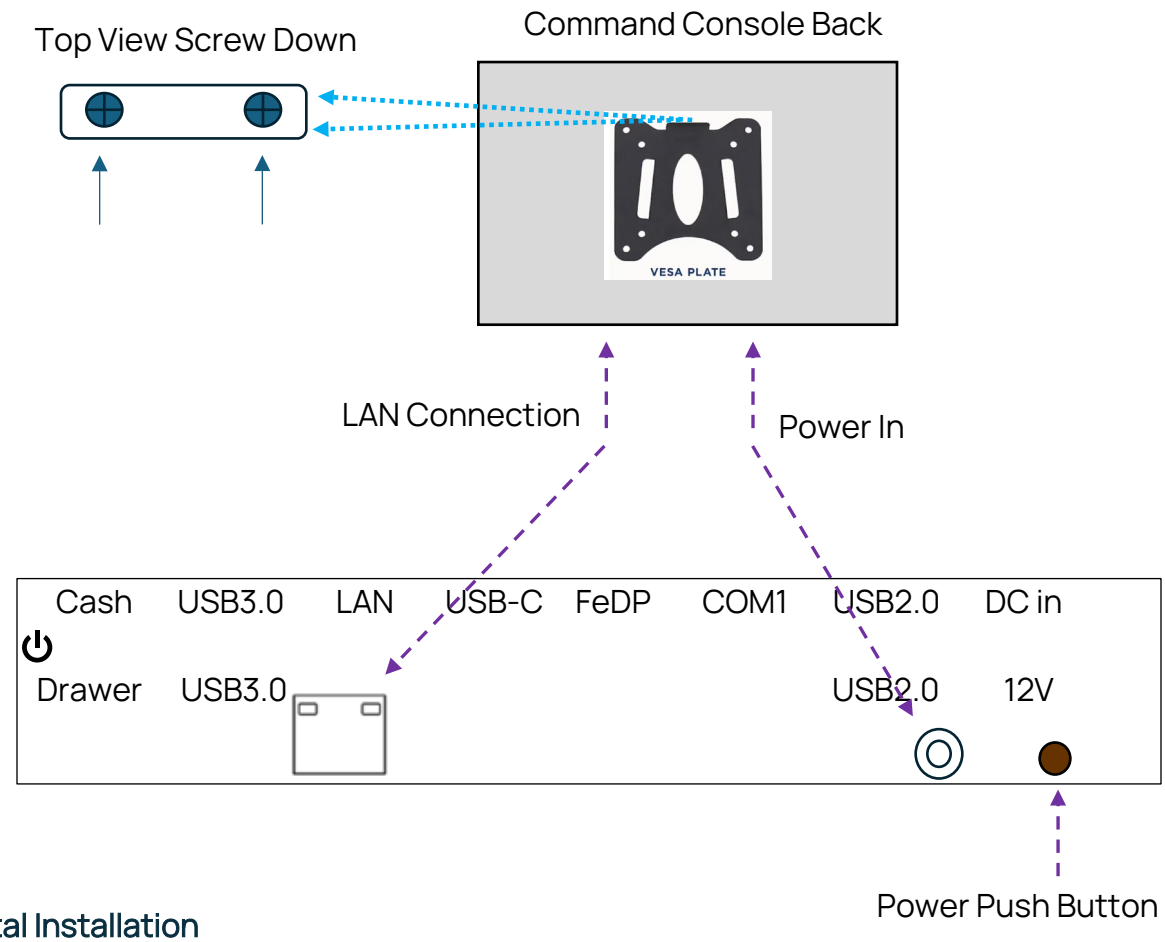
Wall Mount Installation

1. Remove the pedestal bracket from the back of the console.
2. Install the VESA plate onto the Command Console using the supplied 4 screws.
3. Mount the Wall Plate to the wall using the 2 supplied screws. Use the correct screw types and/or anchors as needed.
4. Slide the Command Console Vesa plate onto the Wall plate and tighten down the screws.
5. Plug in the network cable to the LAN connector.
6. Plug in the power jack and plug the adapter to the wall.
7. Power on the Command Console.



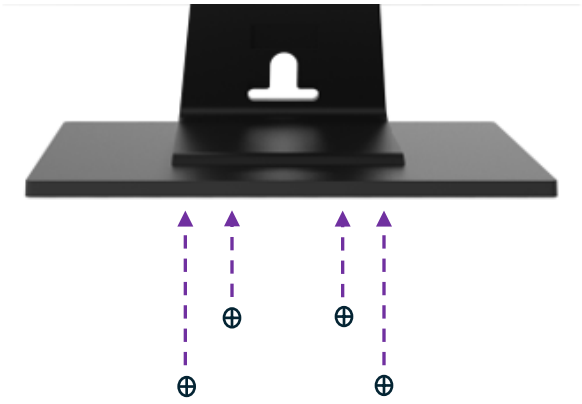
Command Console Back

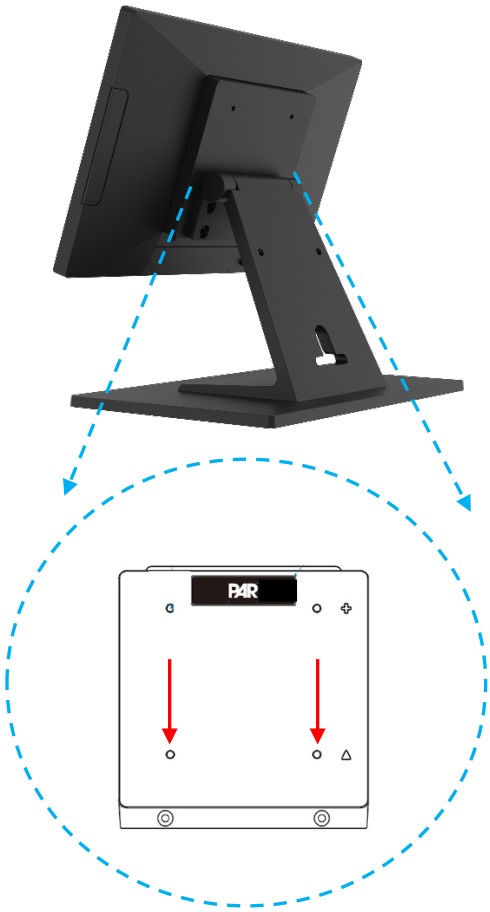
WALL



Pedestal Installation

1. Screw on the pedestal mount base.
2. Screw the pedestal onto the back of the Command Console.
3. Plug in the network cable to the LAN connector.
4. Plug in the power jack and plug the adapter to the wall.
5. Power on the Command Console.





Logging into Command Console

After powering on the Command Console, the screen should be available within a minute. To log into the Command Console:

1. Click the Login button and enter the default password of “12345”.
2. After login, you can reboot the transceiver/basestation/LAi, add headsets, and adjust the volumes for the headsets and order point as needed.

Command Console Specifications

Physical

Parameter	Specification or Requirement
Dimensions (W x H x D)	289 x 275 x 193 mm
Weight	2.69 kg / 5.94 lbs. with pedestal 0.95 kg/2.1 lbs. without pedestal

Electrical

Parameter	Specification or Requirement
Input Power	12V DC, 36W, 3A
LCD Size, Resolution	11.6" 16:9 HD, 1920 x 1080
Touchscreen Type, Surface, Durability	True-Flat PCAP multi-touch, Low Anti-Glare, 7H Hardness

Functional

Parameter	Specification or Requirement
Indicator	Network & Activity on RJ45 ethernet connector
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
Operating Temperature	0°C ~ 35°C (32°F ~ 95°F)

Battery Charger Installation

Tools and Materials Required

- Assortment of sheet metal screws or wall anchors and screws as required by site
- Basic tool kit- screwdrivers, hand drill, drill bits, etc.

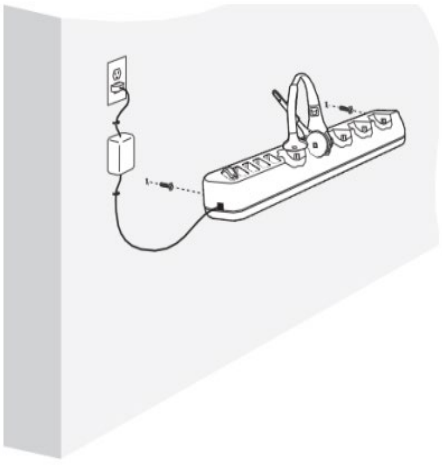
Designing the Installation

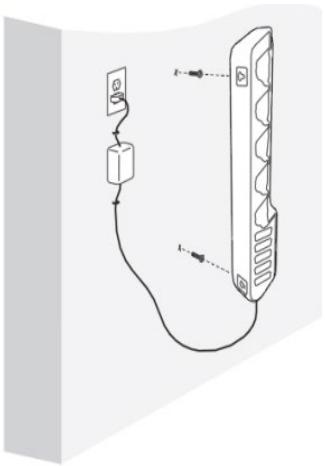
The battery chargers should be placed in a location that is:

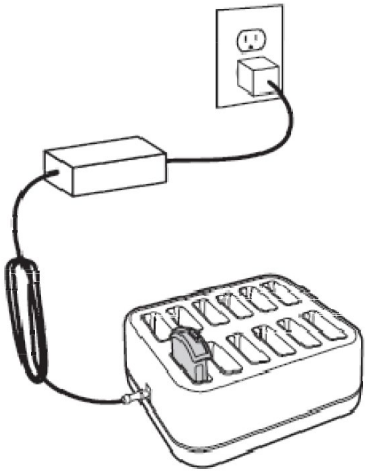
- A flat, dry surface such as a desktop or shelf.
- An easy-to-reach wall.
- The power outlet must be near the equipment and be accessible, and cord placed where it cannot be pinched or bent.

Installing the Battery Charger

- If wall mounting is to be used: Due to the many different wall types available, hardware is not included. Secure the product to the wall with 2 anchors suitable for the type of wall, and which can support a 1.3lb / 0.6kg minimum load for the 12-slot charger and a 2.9lb / 1.3kg minimum load for the headset charging station.
- Place the charger on a flat surface if not mounted.
- Connect the PAR supplied power adapter between the wall receptacle and the charger.







Battery Charger Specifications

Physical

Parameter	Specification
Weight	0.75 lbs (340.19 grams or 11.99 oz)
Dimensions	5-1/2”L x 6”W x 2”H

Electrical

Parameter	Specification
Power Source	Powe Supply – Output: 12VDC, 7 Amps Input – (100 to 240) VAC 50/60 Hz
Power Consumption	Less than 25 Watts
Charging Time	3-3.5 Hours

Functional

Parameter	Specification
Number of Charging Ports	12

Headset Charging Station Specifications

Physical

Parameter	Specification
Weight	1.35 lbs (612.34 grams or 21.6 oz)
Dimensions	17-1/2”L x 3”W x 2-3/4”H

Electrical

Parameter	Specification
Power Source	Powe Supply – Output: 12VDC, 7 Amps Input – (100 to 240) VAC 50/60 Hz
Power Consumption	Less than 25 Watts
Charging Time	3-3.5 Hours

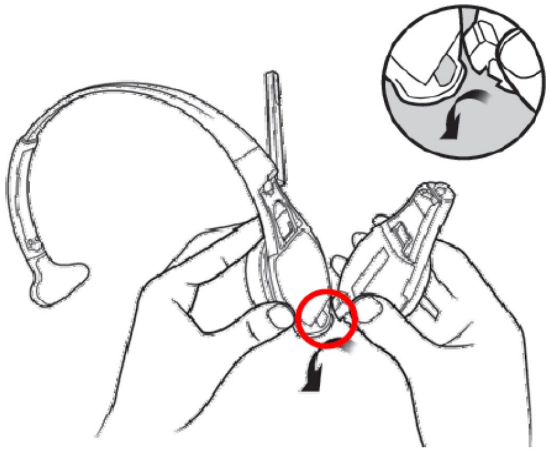
Functional

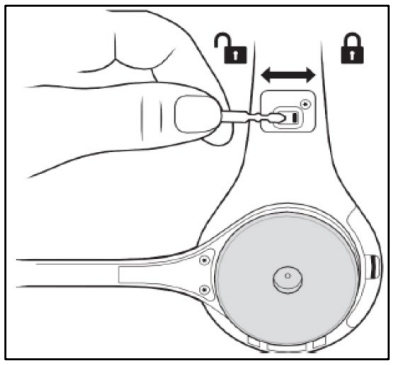
Parameter	Specification
Number of Charging Ports	5
Number of Charging Ports Storage Ports	5

Headset Installation/Setup

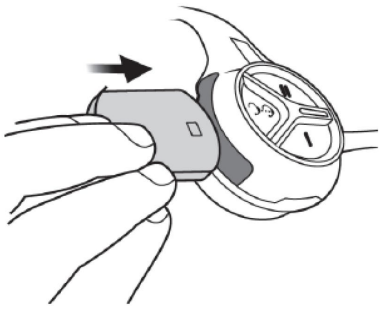
To insert the BATTERY into the HEADSET:

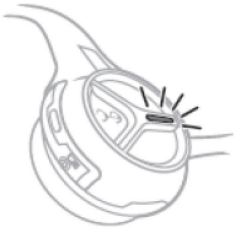
1. Insert the POD into the CARRIER and slide the lock switch on the Carrier to complete the HEADSET





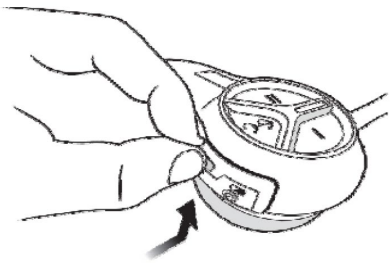
2. Slide a charged BATTERY into the POD as illustrated below:

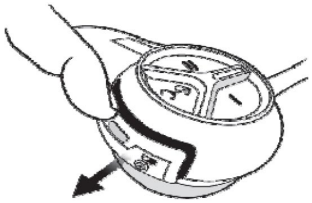




To remove the BATTERY from the HEADSET:

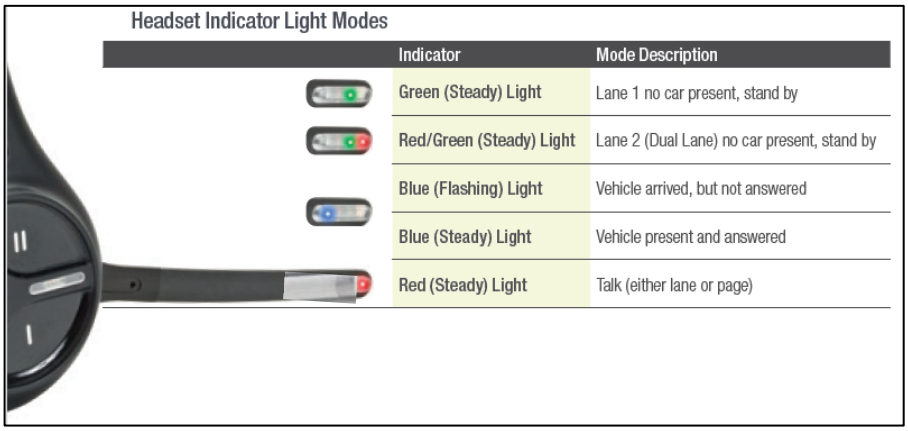
1. Using your finger, gently push up on the battery latch - this will release the battery.
2. Use another finger to pull the battery from the battery compartment.





Headset Registration

1. Once a charged BATTERY is inserted into the HEADSET, it should power on automatically.
2. Log into the webpage/portal with the provided link and credentials. Then go to '**Devices'** on the left panel and select your Basestation. Click on the '**Actions'** ellipsis and select '**Settings'**. Go to the '**Volume & Devices**' then to the '**Connected Devices**' section. Select the '**Headsets'** tab then click on '**+ Register Headset**'. A pop-up dialog will appear stating "Waiting for Headsets". Headset IDs also display in the dialog. Click the '**Close Registration Mode**' button when all headsets have been registered.
3. Once registered, the LED lights should be steady green on the POD and CARRIER along with an audible message stating, 'Lane 1', or the LED lights should be steady red/ green on the POD and CARRIER along with an audible message stating, 'Lane 2'.

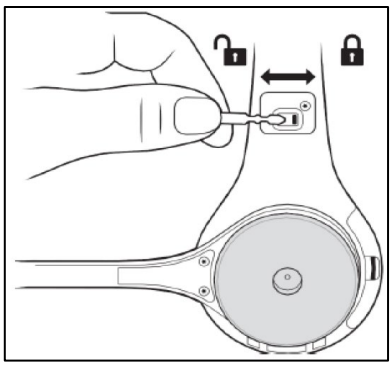


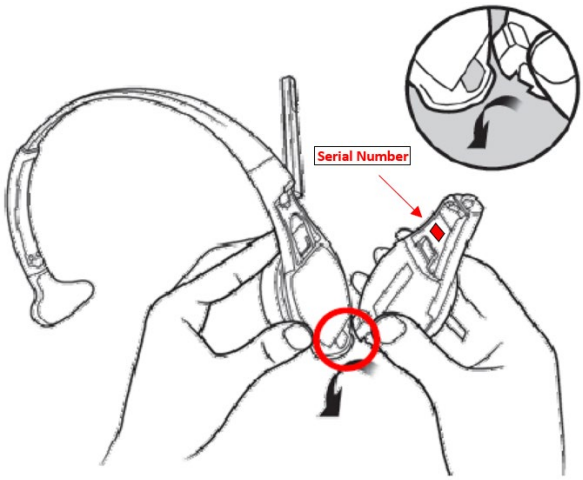
De-registering a Headset

1. Log into the webpage/portal with the provided link and credentials (or button sequence provided). Navigate to '**Devices**' on the left panel and select your Basestation. Click on the '**Actions'** ellipsis and select '**Settings'**. Go to the '**Volume & Devices**' then to the '**Connected Devices**' section. Select the '**Headsets**' tab then click on '**Actions**' ellipsis next to the headset you wish to de-register. Select '**De-Register**' (a message will appear asking for confirmation). Select '**Yes, De-register**'. Once the Headset is de-registered a message will appear in the top section indicating the action was successful.

Locating the Headset Serial Number

1. The headset serial number is located on the POD.
2. Disassemble the POD by sliding the un-lock switch on the Carrier.
3. Remove the POD and locate the white label with the serial number.





Headset Controls

PAR CLEAR Headset Controls

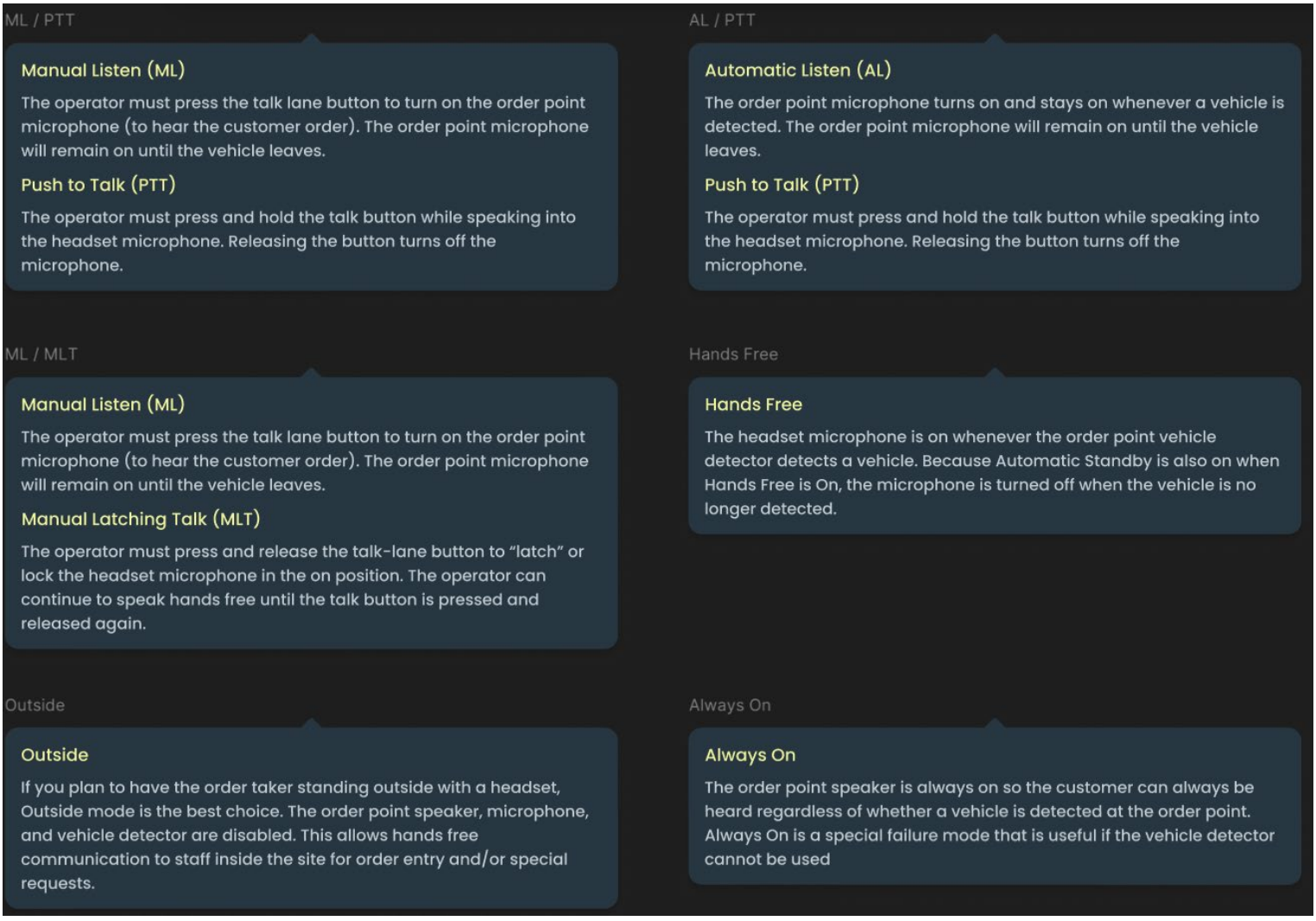
PAR CLEAR Headset Indicator Light Modes

Indicator	Mode Description
Green (Steady) Light	Lane 1 no car present, stand by
Red/Green (Steady) Light	Lane 2 (Dual Lane) no car present, stand by
Blue (Flashing) Light	Vehicle arrived, but not answered
Blue (Steady) Light	Vehicle present and answered
Red (Steady) Light	Talk (either lane or page)

Order Taking Setup

Refer to the Store Manager or Store Technical Team to confirm which Order Taking Mode the system will be using. To change the Order Taking Mode:

1. Log into the webpage/portal with the provided link and credentials.
2. Navigate to '**Devices**' on the left panel and select your Basestation.
3. Click on the '**Actions**' ellipsis and select 'Settings'.
4. Navigate to '**Order Taking**', then select the desired '**Headset Behavior**' for the correct lane and click on '**Apply Changes**' (refer to chart below for descriptions of modes).



Changing Volume Settings

Inbound Headset Volume

Changing the inbound headset volume affects the sound volume coming from the customer order point microphone to the HEADSET earphone speaker. To adjust the inbound volume:

1. Log into the webpage/portal with the provided link and credentials.
2. Navigate to '**Devices**' on the left panel and select your Basestation.
3. Click on the '**Actions**' ellipsis and select '**Settings**'.
4. Navigate to '**Volume & Devices**', select '**Volume Settings**', and '**Headset Volume**'.
5. Select '**Inbound Listen**' and adjust accordingly.
6. Then click '**Apply Changes**'.

Outbound Lane Volume

Changing the outbound lane volume affects the volume of the speaker at the customer order point. To change the outbound lane volume:

1. Log into the webpage/portal with the provided link and credentials.
2. Navigate to '**Devices**' on the left panel and select your Basestation.
3. Click on the '**Actions**' ellipsis and select '**Settings**'.
4. Navigate to '**Volume & Devices**', select '**Volume Settings**', and then select '**Lane Volume**'.
5. Select '**Outbound Talk**' and adjust accordingly.
6. Then click '**Apply Changes**'.

Headset Specifications

Physical

Parameter	Specification
Weight	3.98 oz. (112.9 grams) with battery

Electrical

Parameter	Specification
Input Power	3.7 VDC, Li-ion
Radio Frequency	DECT
Maximum Output Power	DECT per Region
Earphone	Dynamic with replaceable ear pad

Functional

Parameter	Specification
Switches	Capacitive touch key zones
Indicator	Red, Green and Blue LED
Operating Range	91m (300 ft) - subject to local environmental conditions
Operating Temperature	0 to 60 C

Battery Specifications

Physical

Parameter	Specification
Weight	2-1/4" Lx 1-3/4" W x 5/8" H
Dimensions	0.068 lb (31.18 grams or 1.1 oz)

Electrical

Parameter	Specification
Power Consumption	800mAh, 3.7 VDC, Li-ion

Functional

Parameter	Specification
Indicator	4 Green LEDs

Chemistry

Parameter	Specification
Cell Type	Rechargeable Li-ion battery with short circuit protection

General Network Cable Installation

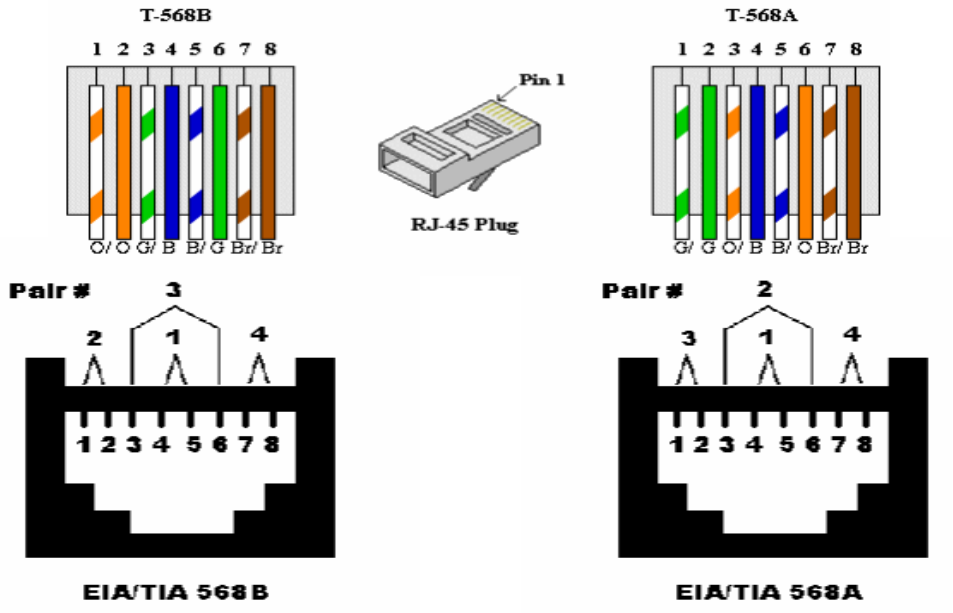
This section of the manual provides general installation information about the PAR Clear Headset Systems. The section covers 10/100/1000BaseT LAN cable installation, and peripheral cable connections.

Typical Twisted Pair Wiring Standards

The 10/100/1000BaseT home run cables used in the PAR Clear LAN scheme are made from CAT5e unshielded twisted pair (UTP) cable. The UTP cable has eight conductors that are made into four individual twisted pairs. Each twisted pair has a unique color scheme that consists of using a solid color wire twisted with a same color wire striped with white. The color pairs are:

- Orange and white/orange
- Green and white/green
- Blue and white/blue
- Brown and white/brown.

Currently, two wire standards exist for UTP LAN cables: T-568A and T-568B. The two standards differ only in pin assignments for pairs 2 and 3.



Network Cable Connections

Note: The wire connections shown above are specifically for an RJ-45 plug.

Loop and Cable Condition Testing

Measure loop inductance/resistance for each order point, recommend replacement in comments section if needed. You must conduct two separate tests on the Inductance Loop to determine its condition:

Lineal Conductor Resistance and Inductance Testing

This test measures the Resistance and the Inductance of the loop conductor or wire at the Basestation. To measure the inductance and resistance of the loop wire:

1. Use test equipment such as an LCR meter (Inductance [L], Capacitance [C], and Resistance [R]).
2. A reading of 1.2 for resistance and 100–120µH (or 20µH / wire turn) for inductance are acceptable measurements that reflect good wire condition.

Insulation Resistance Testing

In addition to the factors mentioned above, ice, water, frost, etc. can contribute to the change of the conductor's resistance. However, measuring the conductor's resistance alone may not provide a complete picture, as it does not account for insulation leakage to the ground/earth.

Insulation leakage can be checked by utilizing a Megohm meter (or a Megometer or Megger Meg Out, in industry parlance) capable of testing up to 500 megohms (500 million ohms).
In this test, a DC voltage is applied to the loop wire to check for insulation damage that may cause a short circuit when normal power is applied. The Meggers have settings capable of delivering anywhere from 500–1000 volts through the loop. DO NOT apply more than 500 volts for this test or you may damage the insulation. The cable's insulation is rated at 600 volts.

Procedure

1. Disconnect the loop wires from the loop detector so the loop is floating.
2. Place one of the meter leads to the loop wire and the other to the ground/earth.
3. Test results are as follows:
    a. Resistance above 20 megohms = Acceptable
    b. Resistance less than 20 megohms = Loop wire insulation has been damaged or loop integrity is questionable
    c. Resistance less than 10 megohms = Loop wire must be replaced

Saw – In Loop Specifications

Parameter	Specification or Requirement
PAR Detector Loop Sealant	2 each, 1 quart cartridges
Power Supply Type	14 AWG, 19 strands of bare copper, .015 polyvinyl chloride insulation with .004 nylon jacket, 600v U.L. listed as 90 degree Celsius MTW, gasoline and oil resistant, 100 feet long.

Prefab Loop Specifications

Parameter	Specification or Requirement
Loop Inductance	100 micro Henries
Loop Tubing	½" schedule 40 PVC
Loop Wire	5 turns of 18 AWG, 7 strands copper with poly vinyl chloride insulation
Lead-in Cable	20 feet of 2 conductor (plus shield) 16 AWG. 19 x 29 stranded copper, Mylar shield with 20 AWG Drain wire. Outer jacket to be of high density polyethylene, suitable for direct burial

Dual Lane Installation and Setup

To set up a dual lane:

1. Repeat the Digital Microphone and Speaker Installation and LAi Installation procedures for the 2nd speaker post.
2. Wire up the 2nd Loop and PTIO according to Vehicle Detector Board (VDB) Installation.
3. Connect the 2nd LAi POE ethernet cable to an available port on the POE switch.
4. Navigate to the **Devices** tab, select your basestation, click **Edit** and select "2" for number of lanes purchased.
5. Click **Apply** to save changes.

Network Specifications and Requirements

PAR Clear Network Requirements

Network	Type:	Requirements:
Site	Broadband with Stable Internet	Speed: >=10Mbps

Clear System Cloud	DHCP	If Static
Connection Method	Auto	Static IP:_____ Subnet Mask:_____ Default Gateway_____ DNS:_____

Rules	Domain	Ports
Clear Devices	• https://portal.drivethru.partech.com • http://a3wmgvyfiyzlr-ats.iot.us-east-1.amazonaws.com/ • http://s3.us-east-1.amazonaws.com/	Outbound: TCP, 443 Outbound: TCP, 8883 Outbound: TCP, 7800
NTP	• ntp.ubuntu.com	Outbound: UDP, 123

Troubleshooting

Category/Symptom	Symptom	Cause & Resolution
Install	What are the steps to initially connect my base station to the Drive-Thru Cloud for the first time?	**Cause**: Base has not been fleet claimed **Resolution**: Send the G-Portal Guide to the user. All support members should have access to all the Product guides. This should be done when installing the basestation by the installer.
Install	I cannot log into the Drive-Thru Cloud.	**Causes:** User not registered, or password expired **Resolution:** -If user is not registered, contact PAR Admin support to add the user, user will then get an email to log in and set their password. -If user is already registered they will need to click on the "Forgot password" link to reset it and check their email.
Install	I cannot find my site on the Drive-Thru Cloud	**Causes**: Site has not been created, or spelling/address is not matching **Resolution**: Log into the DT Cloud, go to 'Organizations', then go to 'Sites'. Type the site name or registered email address in the search box. If the site is still not found, click add new site, if found by email

Category/Symptom	Symptom	Cause & Resolution
		or name ensure all spellings match when finding the site or edit as needed by clicking **'Actions'** then **'Edit'**
Install	I cannot connect the G-Portal to my Base Station	**Causes**: -Wrong ethernet port -Not on DHCP network -Internet connection not stable or live -Bad ethernet cable **Resolution**: -G portal uses LAN 1 connector on base station to set up, ensure LAN cable is connected to LAN1 -Ensure you have an active live internet LAN cable and network is DHCP -Ensure you have typed in a browser the CORRECT address if connected the same store network directly. Type 'http://m7800-0810:7800/' to access the g portal -If you are using a laptop outside of the store network and bridging the connection, make sure you type in the CORRECT IP address of basestation:7800. Example: '192.168.1.33:7800' -REFER TO G-PORTAL GUIDE AS NEEDED

Category/Symptom	Symptom	Cause & Resolution
Install	The following URL does not work locally on the base station for configuration: localhost/cgi-bin/home.php	When accessing G-Portal to perform the initial configuration of the system, access locally from the base station on the ubuntu desktop by using the following: localhost:7800 You may also access G-Portal from a PC/laptop connected to the same LAN as the base station using the IP address of the base station: <IP address>:7800
Install	How do I change the LAi from Static to DHCP?	1. Open windows CMD. 2. Assuming it is still set to the default IP, enter the following. If not, press and hold the reset button for 10 seconds: *ssh debian@192.168.99.3* pw = PLEASE CALL PAR 3. Enter the following: *sudo /usr/bin/set_ip_address.sh -c eth0 -h* 4. The LAi should now be set to DHCP.
Install	No Inbound with Outbound	Check connection to the LAi microphone and ensure volumes are set correctly. Reboot LAi as the last resort.
Install	No Outbound with Inbound	Check connection to the LAi speaker and ensure volumes are set correctly. Reboot LAi as the last resort

Category/Symptom	Symptom	Cause & Resolution
Install	Wind noise in headset	Ensure windscreen is installed and noise reduction is set properly.
Install	No LEDs on LAi	Ensure Ethernet cable is plugged into the LAi all the way and into the POE switch. Ensure POE switch has power.
Install	“Out of range” in headsets message	Ensure transceiver is connected to Basestation and USB is plugged in all the way. Reboot WMT as a last resort if it has LEDs on.
Install	Command Console does not display a screen	Ensure power is plugged in. Ensure you push the brown push button located on the bottom of Command Console.
Vehicle Detect	Vehicle detect is not working on one of the lanes	Reset VDB Check wiring from the loop coming in Check wiring to the PTIO board from the VDB
Vehicle Detect	Vehicle detect is not working on all headsets	Check VDB wiring Reset VDB Reset Basestation and Transceiver

Revision History

Date	Revision	Description of Change
11/25/24	A	Initial Release
2/6/25	B	Added sections for LAi Configuration/Installation, Loop Detector Testing, Command Console, G-Portal Configuration, and Specifications
3/18/25	C	Revised Haul
3/26/25	D	Removed portal screen shots
4/25/25	E	Added to the PAR Speaker Specifications section