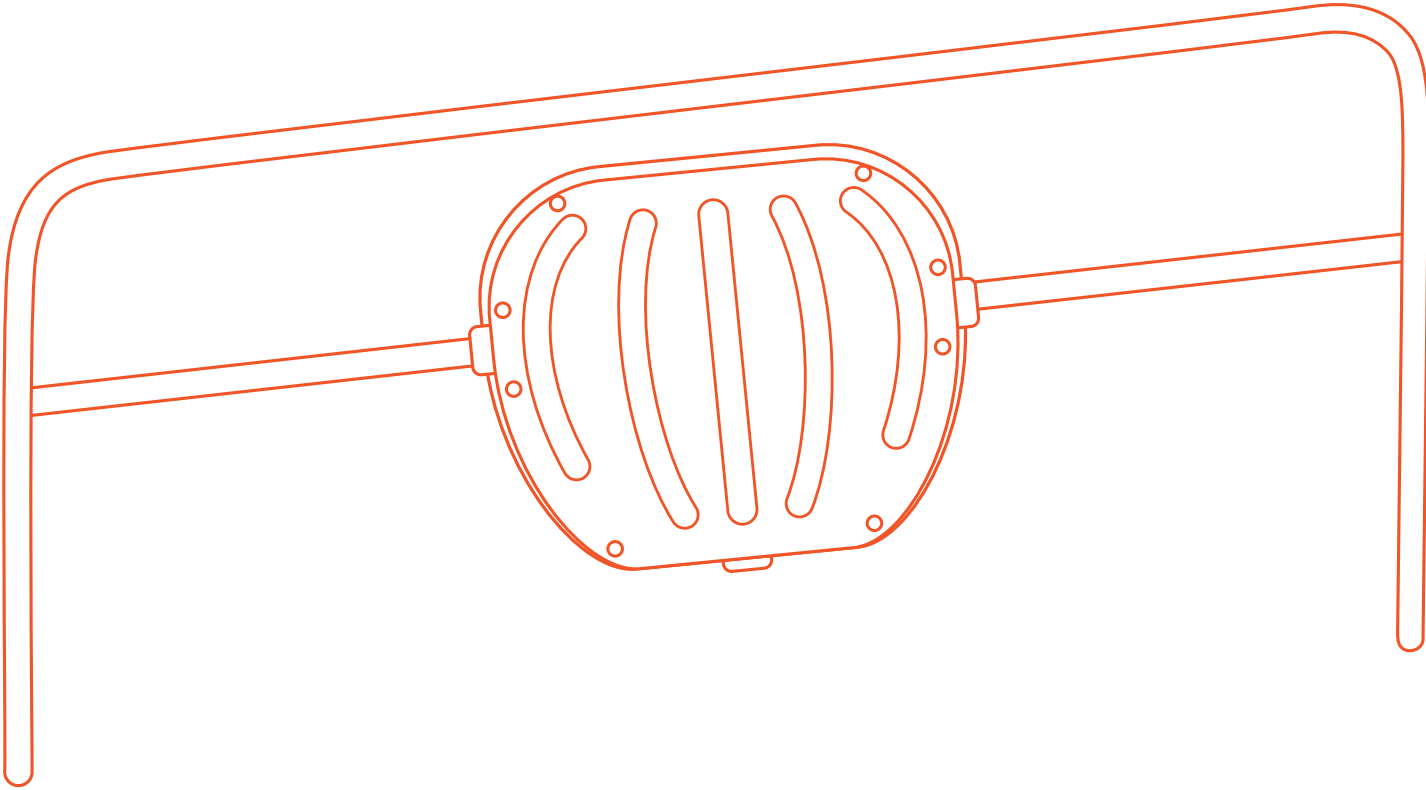


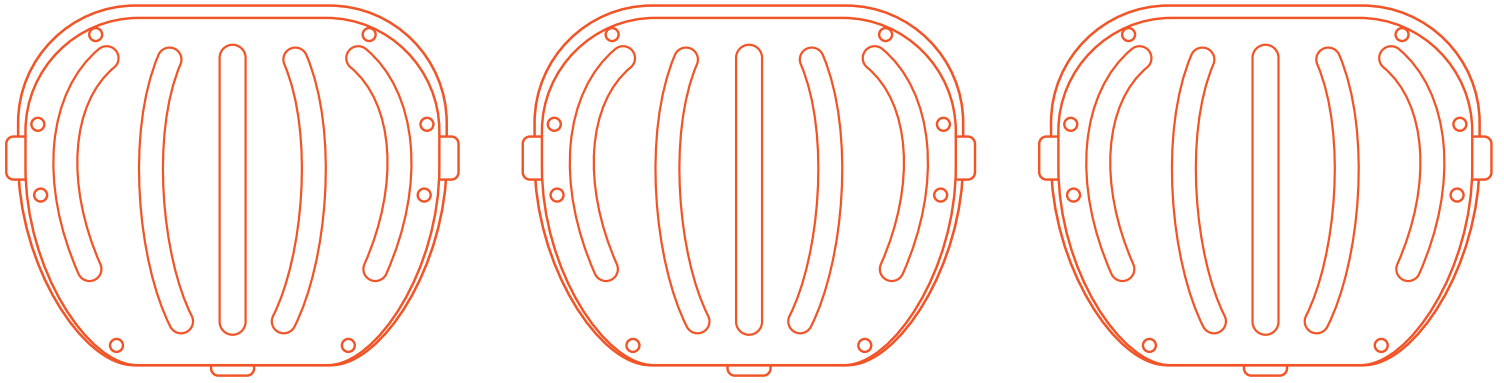
Installation Manual

Universal Stadium Handrail Enclosure



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1: Assembled Enclosure

The enclosure is shipped assembled. The metal support conduit that runs into the bottom of the enclosure is not supplied. Remove the two screws with washers from each plastic shell to expose the metal mounting frame. Save the screws with washers for final assembly (only two per side are installed for shipping).



FIGURE 1: Assembled Unit



FIGURE 2: Metal Mounting Plate

2: Cisco Access Point (AP) Installation

The Cisco AP with dart connector will handle eight RF leads with one AP. The AP mounting bracket must be removed from the frame by disconnecting the four screws to allow the AP to be positioned high enough for the AP feet to engage into the keyhole slots. Once the feet are engaged, slide the AP downward into the slots.



FIGURE 3: Metal Mounting Plate



FIGURE 4: Cisco 9130 with Dart

Cisco APs with RF Connectors

Two APs can be mounted side by side as shown. Fasten bracket with AP back onto frame.



FIGURE 5: Dual Cisco AP



FIGURE 6: AP Installed on Frame

3: Aruba AP Install

The new Aruba APs come with two screws on the back that are used to attach the AP to the AP mounting bracket. Remove the two screws supplied with the AP and align the back of the AP with the horizontal slot in the AP mounting bracket. Install the two small screws that come with the AP.



FIGURE 7: Aruba 5XX Series & Newer



FIGURE 8: Aruba 5XX Series or Newer Mounted to Bracket

Older Aruba APs have a key slot mounting system as show. Place the round pegs into the clearance half holes and slide the AP downwards. Secure by installing a supplied #10-32 screw into the center threaded insert.



FIGURE 9: Pre-5XX Series Aruba Access Point

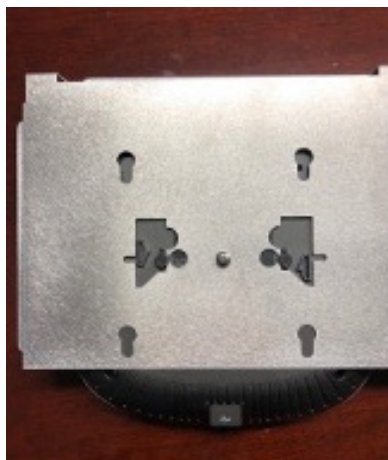


FIGURE 10: Pre-5XX Series Aruba Mounted to Bracket

4: Antenna Install

Install the antennas onto the top of the frame. Place the four supplied screws through one antenna, then the back plate, and then through the second antenna. Use supplied nuts to secure. The antennas mount back-to-back so they are pointing 180 degrees from each other. The steps up to this point can be done offsite to allow early prep work. Hole patterns exist for both Ventev and Cisco antennas. The hole patterns for each are identified in the image below.

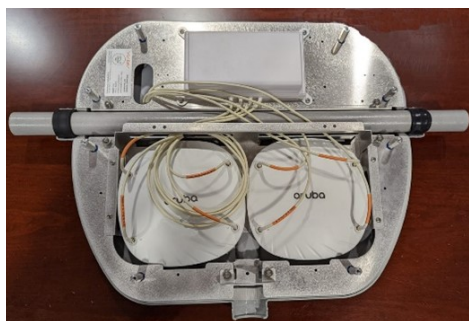


FIGURE 11: Antennas Installed

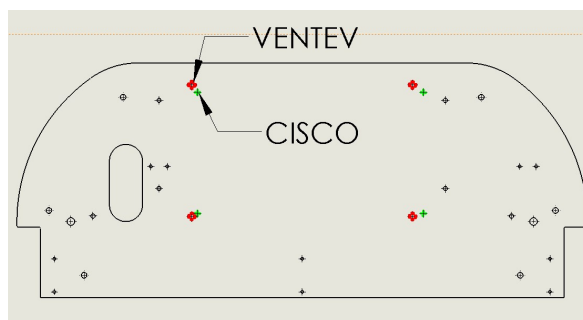


FIGURE 12: Hole Locations

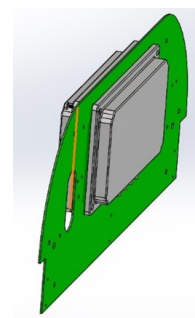


FIGURE 13: Antennas Back-to-Back

5: Remove Railing Brackets

Loosen the two screws that hold each of the three railing brackets to the metal frame and slide the brackets off. Screws do not have to be removed and will make assembly easier if left in.

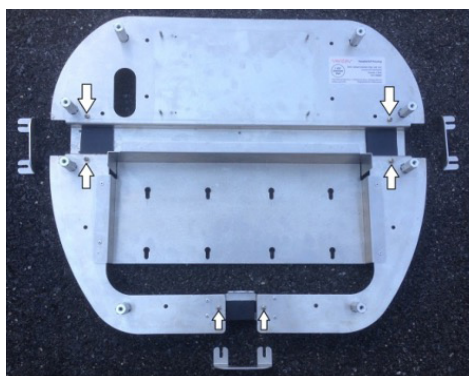


FIGURE 14: Railing Brackets Removed

6: Mount Metal Frame

Mount the metal mounting plate to the railing. Slide railing brackets into position and tighten screws. The metal conduit (not supplied) entering the bottom of the enclosure will need to be bent so it enters perpendicular to the handrail if the rails are not horizontal. The Ethernet cables are typically run through the conduit, if not, the conduit is still required to keep the enclosure from spinning on the rail and a pipe flange can be used to secure to the steps.

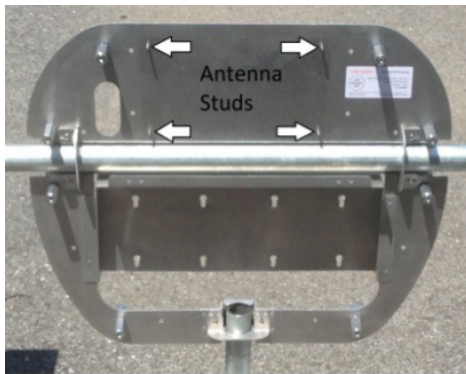


FIGURE 15: Metal Frame Mounted

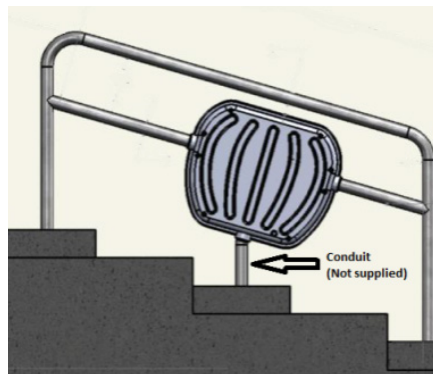


FIGURE 16: Conduit

7: Seal Location

With the frame mounted to the railing, mark the six positions where the seals will be installed as shown in the picture below. The flexible seal needs to be located between the outer lip of the enclosure shell and the metal frame and under the rail clamp. The enclosure can be installed on pipes up to 2 inches in outer diameter using the flexible strips.



FIGURE 17: Seal Location

8: Seal Install

The flexible seals are 18 inches long and have a ruler on them. Cut the rounded edge off with a pair of scissors at the zero mark. Cut the other end to the required length. The inner diameter of the enclosure shell is 2.25 inches and the flexible seal is about .08 inches thick. For a 2 inch outer diameter pipe, you need the flex band to go around once, so cut at 8.5 inches long. Then, wrap the seal with the provided weatherproof fusion black tape to hold the flex band in place and create a seal. Wrap the tape around the seal four times with the white stripe side facing the pipe.

- **2-inch OD Pipe:** Cut band 8.5 inches long for one complete wrap.
- **1.75-inch OD Pipe:** Cut band 12.5 inches long for two complete wraps.
- **1.5-inch OD Pipe:** Cut one band full 18 inches and second band at 5 inches for four complete wraps.



FIGURE 18: Flex Seal



FIGURE 19: Seal on Pipe



FIGURE 20: Tape Over Seal

9: Clamp Frame

With the six seals in place, clamp the frame to the handrail in three places.

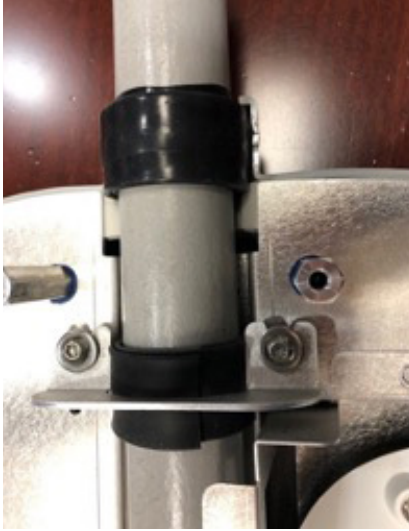


FIGURE 21: Pipe Clamps

10: Wire Routing

The RF cables need to be routed inside the large aluminum standoffs so there is no interference with the wide weather seal located on each plastic shell.

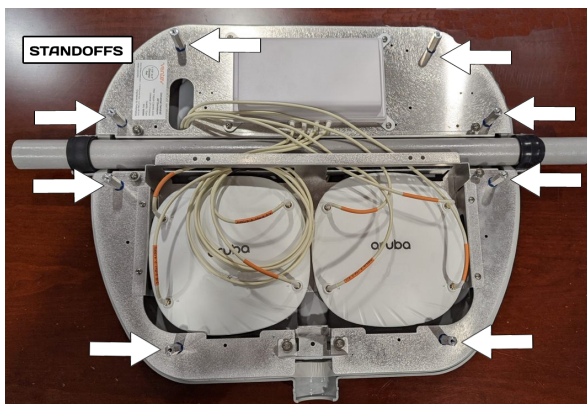


FIGURE 22: Wire Routing

11: Plastic Shell Install

Fasten both enclosure shells to the metal frame with eight bolts per side. Tighten to 8 FT-LBS.



FIGURE 23: Plastic Shell Install

12: Caulk Area

For best weather protection it is recommended to run a bead of caulk where the handrail enters the enclosure. The black area in the photo below.



FIGURE 24: Caulk Area

13: Service Label

A label is provided to mark the equipment (AP) side shell if desired to make maintenance easier.



FIGURE 25: Service Label



11126 McCormick Road,
Hunt Valley, MD 21031
800-851-4965
sales@ventev.com

ventevinfra.com

