Title: Endura 15X OCS 15” Speaker Post Installation Instructions	**Doc Number:** RDS-INS15XSSP **Revision:** C

Department: Sales **Area:** Training	Approved and released	**Effective Date:** 12/6/2019

Review Period: 365 days

Endura™ 15X
Order Confirmation System (OCS)
Speaker Post Installation Instructions

Delphi Display Systems, Inc.

PROPRIETARY INFORMATION

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1 Introduction

This document describes the installation procedure for the Delphi Order Confirmation System (OCS) Speaker Post and is used in conjunction with other installation manuals which vary based on specific customer or system requirements. This manual covers only preparation for and installation of the speaker post; which includes installing the microphone, speaker and OCS into the post.

1.1 Speaker Post Mounting Option

The Speaker Post has been designed as a free standing integrated mounting system for the 9330 Series displays and audio system speakers. The Speaker Post will accommodate a wide variety of speaker systems in either full or half duplex configurations. The Speaker Post is constructed of aircraft quality aluminum 6061 and has been designed to be aesthetically pleasing as well as durable and easy to install.

1.2 Technical Support

For technical assistance, please contact:

Delphi Display Systems, Inc.
3550 Hyland Avenue
Costa Mesa, CA 92626
Toll Free: (800) 456-0060
Email: techsupport@delphidisplay.com

2 Required Tools

The following is a list of required tools. Some tools may not be required for all installations.

- 3/8" drive ratchet
- 3/4" deep well socket
- 3/4" open end wrench
- 10" #2 Philips screwdriver
- 5/16" nut driver
- 3/8” nut driver
- Wire Strippers
- Portable soldering iron
- 200' fish tape
- Cordless Drill/Driver
- Hammer
- Multi-Meter
- Hammer Drill - for use when installing new bolts in an existing concrete pad.
- Level

3 Site Preparation

This section describes the steps necessary to properly prepare the site for installation of the Delphi OCS Speaker Post. Please read the entire section before beginning any work. The following items must be completed prior to installation of the OCS Speaker Post.

3.1 Select Location for the Speaker Post

The OCS Speaker Post has been designed so that the display is positioned at the optimum height for most vehicles when the bottom of the speaker post is level with the top of the curb near the vehicle. Refer to Appendix A when selecting a location for distance specs. The speaker post must be placed in a position where the customer can see both the OCS and the menu board clearly. If the speaker and microphone are to be installed in the speaker post, be sure to select a position where an optimal audio condition can be maintained. Consider the underground vehicle detector (loop) also. The center line position in front of the speaker post must be within 18" of the loop. If it is not, a new loop may be necessary.

3.2 Conduits

A minimum of three (3) conduits must be run to the OCS Speaker Post; one for a dedicated electrical circuit, one for audio cables and another for the data cables. Ensure that the conduits will be centered in the bolt pattern. Refer to Appendix A for detailed specifications.

3.3 Footing and Anchor Bolts

Before pouring the footing, make sure that all of the conduit has been run and is in the correct locations. Locate the anchor bolt mounting kit and verify the following contents shown in the figure below.

- Four (4) each ½" 'J' anchor bolts
- Eight (8) each ½" zinc plated hex nuts
- Eight (8) each ½" zinc plated flat washers
- One (1) each anchor bolt template

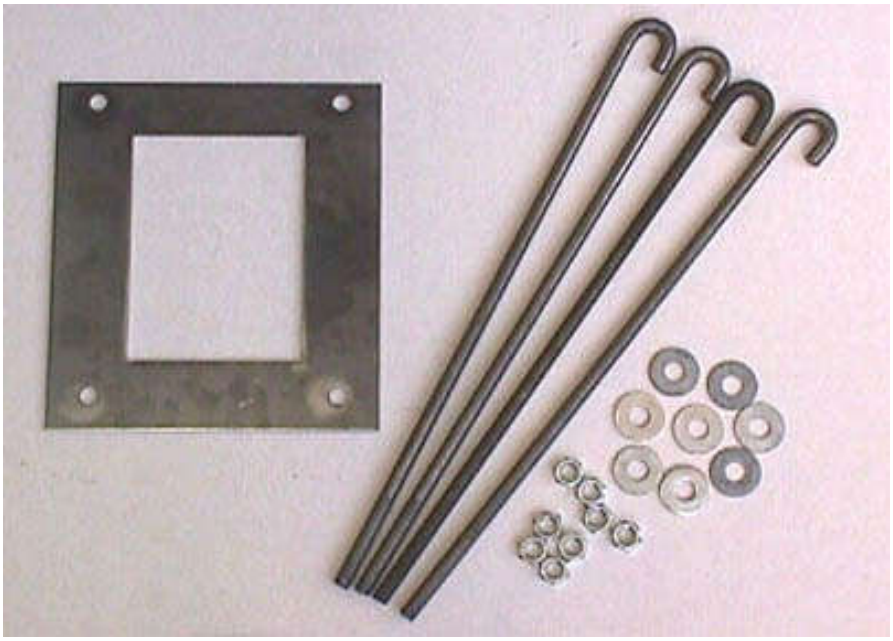


Figure 1 – Anchor Bolt Kit and Template

3.4 Anchor Bolt Installation – New Installation

Install the ½" anchor "J" bolts into the template and secure with the ½" nuts and washers. This will insure the alignment of the mounting bolts in the concrete. Pour the concrete footing and locate the anchor bolts in the correct position using the alignment tool. Make sure to keep the anchor bolt threads clean and finish the surface of the concrete as smooth and level as possible. A properly installed footing, anchor bolts, and conduits should resemble the one in the picture below.

Figure 2 - Completed Footing

3.4.1 Retrofit of an Existing OCS

In many retrofit installations, existing slabs may be used to mount the OCS Speaker Post. The footing must be at least 12" wide by 12" deep and of sufficient depth to support the OCS Speaker Post. It may be necessary to remove existing anchor bolts and install new ones to match up to the base plate mounting hole pattern. Verify that the existing conduits will be centered within the bolt pattern.

Some installations may have conduits that have been run outside the existing speaker post. In these cases, conduit can be run into the back of the speaker post utilizing the provided "knock outs". If the "knock outs" are not in the correct position to be used, you may cut your own "knock out" in the **bottom of the back** of the speaker post. **DO NOT PUNCH A HOLE AND EXTEND THE CONDUIT.** You must cut the bottom edge of the post out. If you do not, it will not be possible to remove the speaker post without first removing the conduit from the post.

3.5 Running the Electrical Wiring – New Installation

The OCS Speaker Post must be wired to a dedicated circuit on an isolated ground with the Point of Sale (POS) system. Pull the electrical wiring in accordance with NEC and local building codes. Terminate the electrical wiring with a standard single-gang junction box.

3.6 Running the Data and Audio Cables – New Installation

The data cable is provided by Delphi Display Systems and is pre-terminated on the OCS end with a weather proof connector. Pull the data cable through the appropriate conduit starting at the OCS end. Leave five (5) feet of cable protruding from the end of the conduit. This will allow enough cable to route up through the speaker post and connect to the back of the display module. **Do not under any circumstances leave any more than 5' of data cable inside of the speaker post.**

4 Mounting the Speaker Post

Remove the back panel of the Speaker Post by using the supplied key to unlock the back panel.

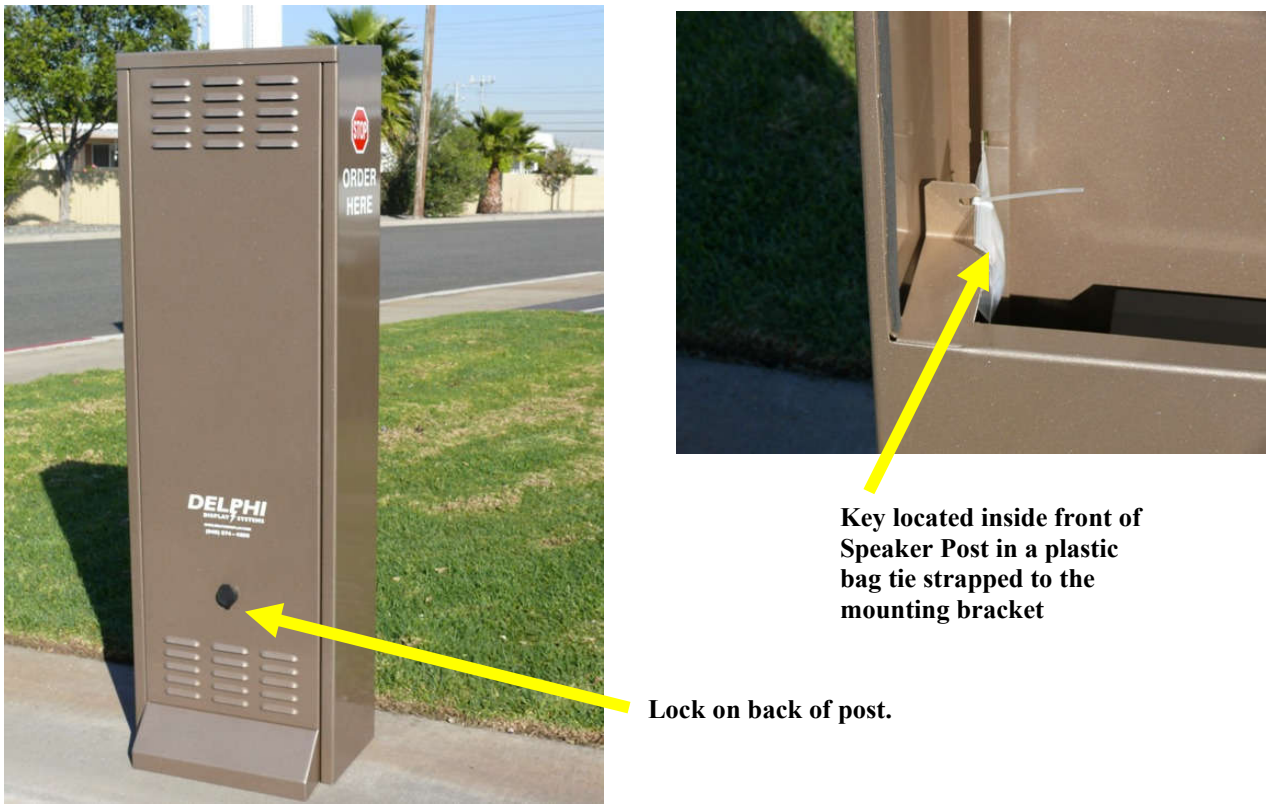


Figure 3 - Lock on Back of Speaker Post

Install the speaker post over the bolts and conduits. Level the base plate and fasten with four (4) ½" nuts. If the footing is not level, the base plate can be leveled using the supplied leveling shims around the bolts between the speaker post and footing. After the speaker post is level, secure the bolts with the nuts provided.

Figure 4 - Setting the Post

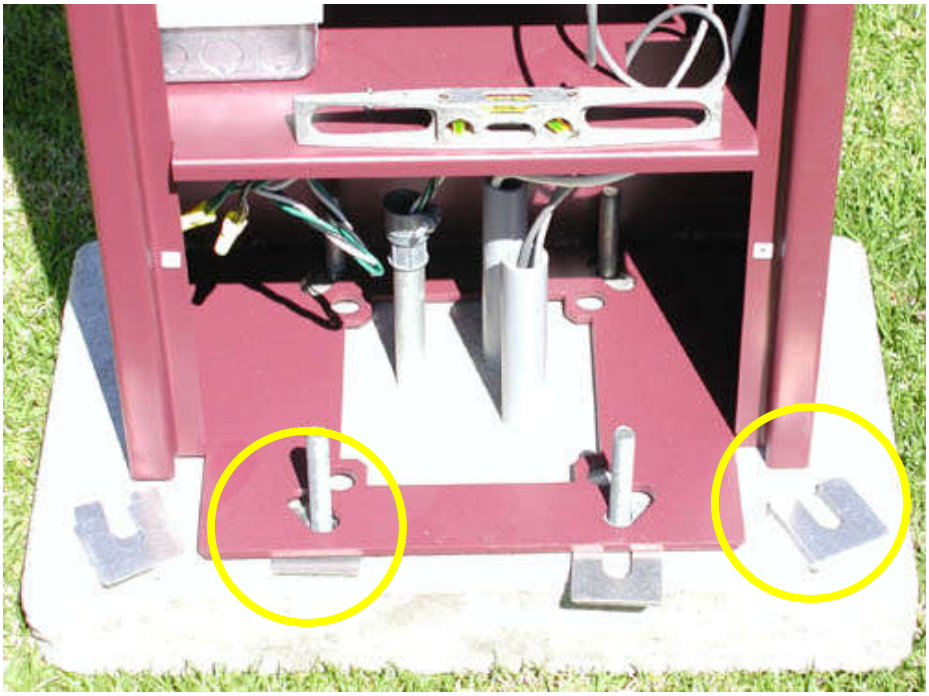


Figure 5 - Example of Using Shims

Figure 6 - Ensure Post is Level

4.1 Electrical Connections – Conduit Mounted Junction Box

Use this section only if the electrical junction box is mounted at the top of the conduit.

First and foremost, make sure that the circuit breaker for the electrical supply wires is turned off. The OCS power supply is already installed inside the post and has 2 pigtails hanging from it. This makes the electrical connection very easy. Guide the OCS power supply pigtails into the junction box through a knockout and seal it with TBD. Terminate the OCS power supply pigtails to the incoming electrical supply lines in accordance with NEC and local building codes.

Safety Warnings

1. ***Verify that the circuit breaker has been turned off. If uncertain about the wiring, contact an electrician.***
2. ***Follow all manufacturers' instructions for your tools.***
3. ***Make sure all wires are properly connected and covered.***
4. ***Observe all applicable codes and ordinances.***

4.2 Electrical Connections – Speaker Post Mounted Junction Box

Use this section only if the electrical junction box is mounted in the speaker post.

First and foremost, make sure that the circuit breaker for the electrical supply wires is turned off. The OCS power supply is already installed inside the post and is pre-wired to the junction box, already mounted in the speaker post. This makes the electrical connection very easy. Remove the two face screws and open the junction box. Remove the lower nipple for AC inlet power connection. Route the incoming electrical supply lines through the lower nipple and into the bottom of the junction box. Re-attach the lower nipple and tighten to form a water tight seal. Terminate the OCS power supply pigtails to the incoming electrical supply lines in accordance with NEC and local building codes as follows.

AC Power Connections

- **ACN (Blue) – Neutral**
- **ACL (Brown) - Line**

Figure 7 – OCS Power Supply

Safety Warnings

1. ***Verify that the circuit breaker has been turned off. If uncertain about the wiring, contact an electrician.***
2. ***Follow all manufacturers' instructions for your tools.***
3. ***Make sure all wires are properly connected and covered.***
4. ***Observe all applicable codes and ordinances.***

Finally, re-attach the waterproof cover to the junction box.

Figure 8 - Lower Nipple for AC Electrical Connection

Figure 9 - Incoming AC Electrical Routed Into Junction Box

Figure 10 - Connect Incoming AC Power per local code and NEC

Figure 11 - AC Connection Complete, Junction Box Sealed

4.3 Circuit Breaker Labeling

Delphi supplies a sticker with every new installation that is to be used to mark the correct circuit breaker that supplies power to the OCS. The sticker is affixed to the back of all new displays near the power connection. This sticker is to be placed directly on the correct circuit breaker, but not in a way that impedes the use of the breaker. If the sticker is not supplied, the installer is to mark the circuit breaker with a permanent marker. See figure below for examples of both.

Figure 12 - Examples of Properly Labeled Circuit Breaker

4.4 Speaker Installation Using New or Existing Elements

Locate the speaker housing which is the box in the bottom half of the speaker post. Remove the four nuts from the sides of the assembly using a 5/16" driver. This will allow you to remove the box. Use high density foam (display packing material) to partially fill the speaker box. Place the speaker element into the cavity facing out. Use more foam to pack around the speaker element filling the cavity. Place the speaker box back into position and replace all four nuts.

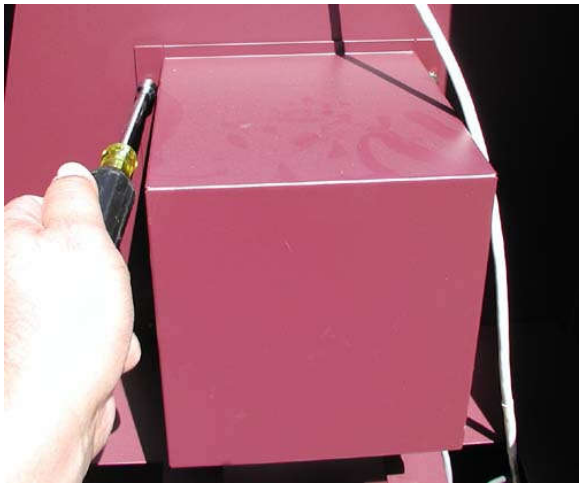


Figure 13 - Speaker Assembly Installation

4.5 Microphone Installation Using New or Existing Elements

Locate the microphone box which is located in the top half of the speaker post. The microphone element is installed in the same manner as the speaker was in the previous Section.

4.6 Connecting the Audio Cables

Connect the Speaker/Mic and/or Speaker cables per the audio system supplier specifications. Allow enough service loop to remove the speaker boxes if necessary.

5 OCS Display Module Installation

Carefully unpack the Display Module and inspect for any signs of damage. If any damage is visible, please contact Delphi Display Systems, Inc. immediately.

5.1 Installing the OCS Display Module in the Speaker Post

Remove the two nuts securing the tops of the mounting straps and set the mounting straps and nuts aside. Carefully insert the Display Module into the rear of the speaker post by angling it slightly. Set the Display Module on the internal shelf and gently slide it to the left until it is aligned with the angled stop on the internal shelf. Re-insert the mounting straps, and secure them with the two #10 nuts, taking care to tighten them with the 3/8" nut driver. Do not over-tighten the nuts.

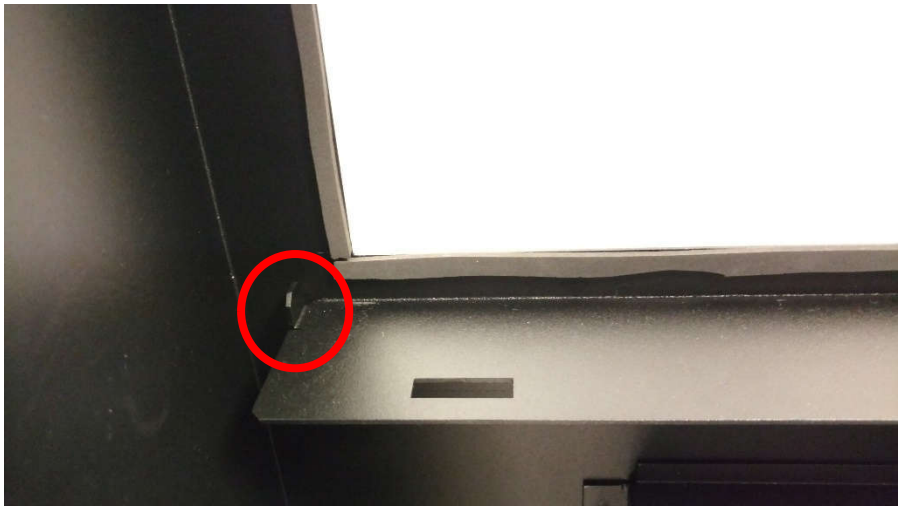


Figure 14 - Detail of Alignment Angle Stop

Figure 15 - Insert Endura 15X at an angle

Figure 16 - Endura 15X Inserted Onto Shelf

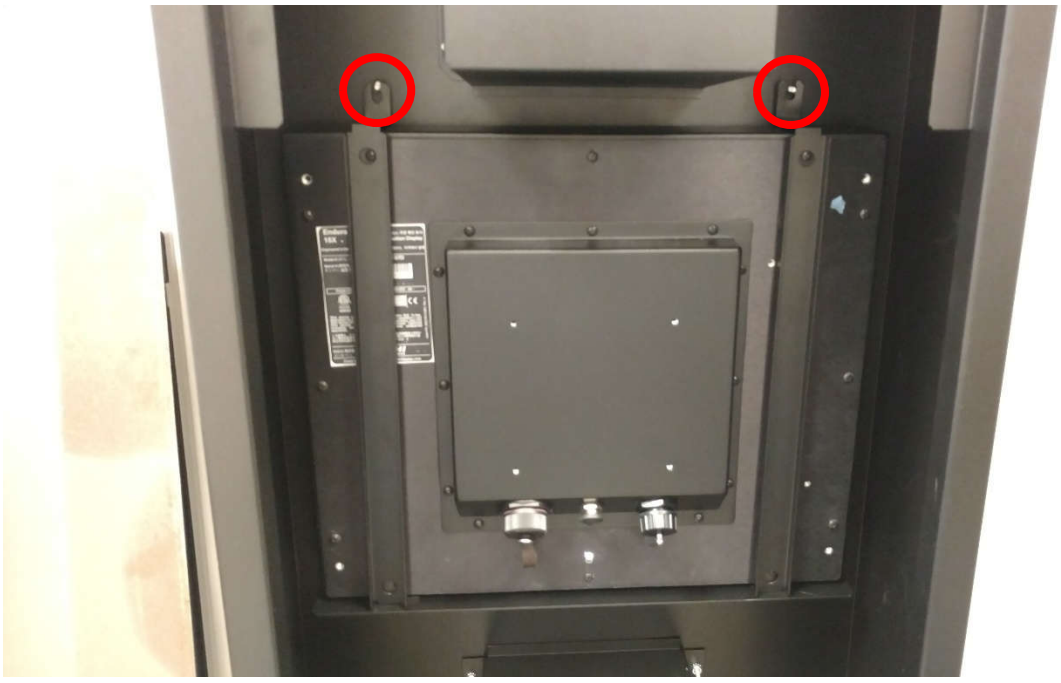


Figure 17 - Straps Inserted. Attach 2 Nuts to Secure

Figure 18 - Tighten #10 Nuts with 3/8" Driver

5.2 Connecting the Data Cable(s)

***The data cables are not to be connected to the back of the display until ALL of the cables have been terminated.

Be sure to install the watertight connector kit (see Endura 15X Installation Manual) before connecting to the leftmost connector on the back of the display. Be sure to turn the locking nut all the way to ensure a good watertight connection. See figure below.

Figure 19 - Watertight Connection

5.3 Connecting the Power Cable

The LOW VOLTAGE power supply is already installed into the speaker post.

Plug the proper end in the back of the display and BE SURE to screw it down so it can maintain a watertight connection.

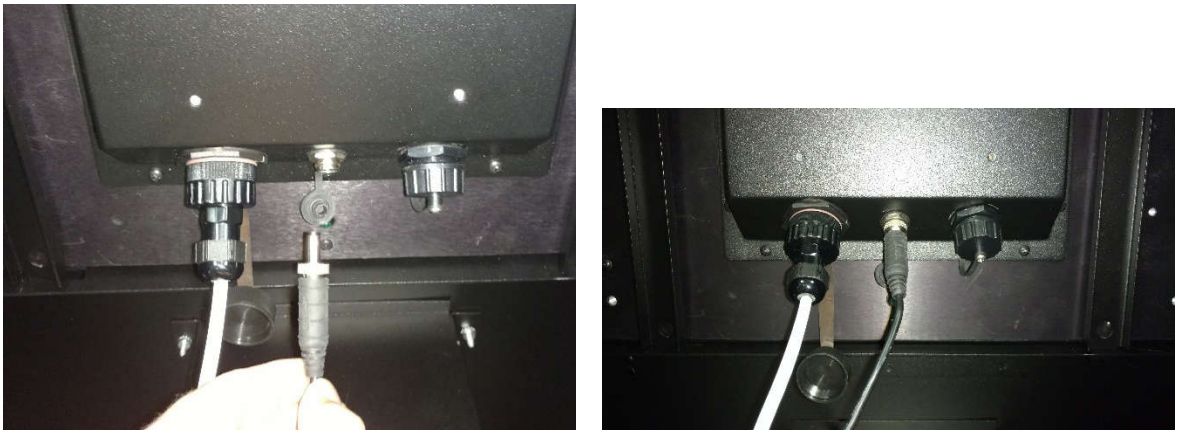


Figure 20 - Insert Power Connector

5.4 Securing the Back Panel

Check to make sure all cables are installed securely and routed properly.

Figure 21 - Back Panel

Install the rear Speaker Post cover plate and lock it in place. Clean up the area around the Speaker Post.

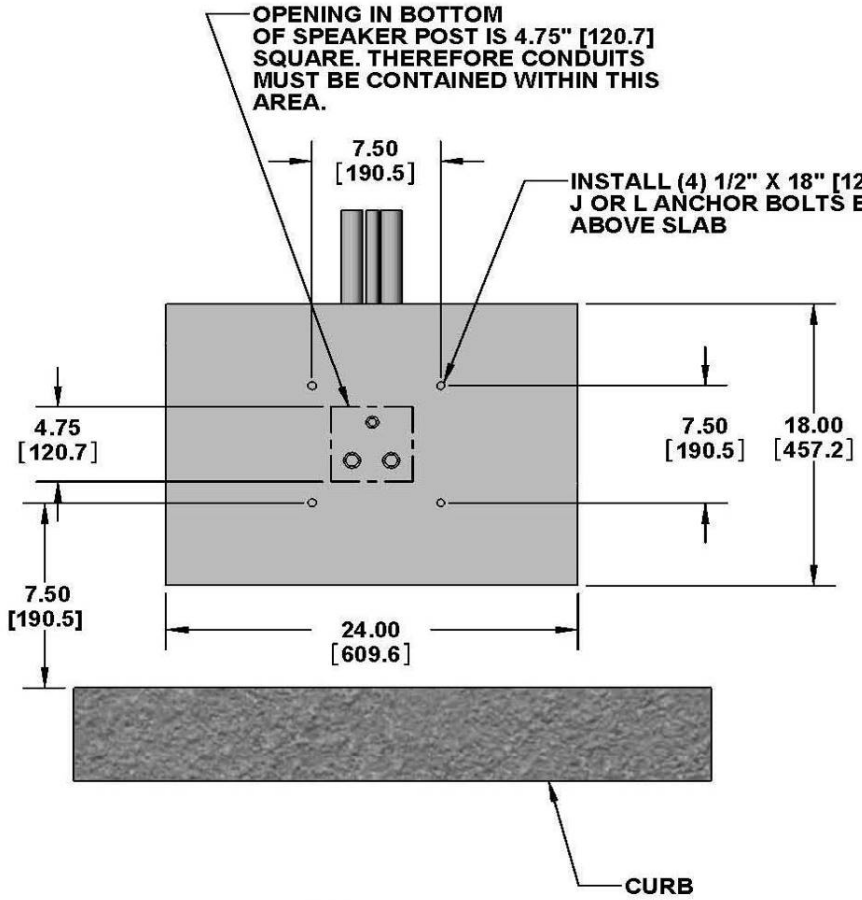
******Be sure to leave the key with the store so they may get into the Speaker Post as needed******

6 Cable Connections inside the Store

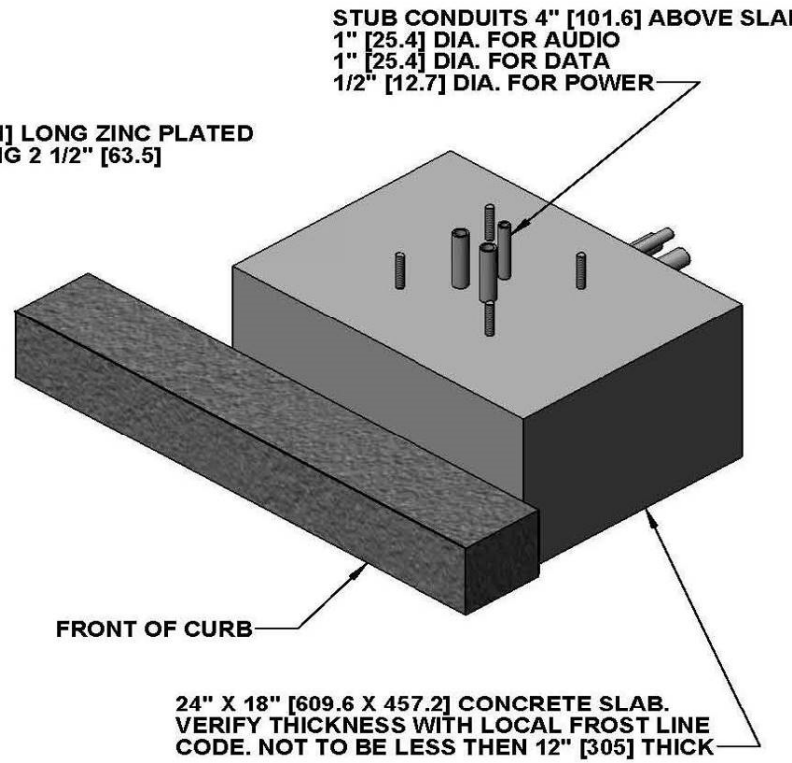
Please refer to the Display Module Installation Manual for instructions on how to do all cabling inside the store.

7 Change History

Change	Version	Date	Author
Initial Release	A	10/25/2016	
Minor updates.	B	11/15/19	KBN
Added power supply ac wiring call outs. Added speaker post dimensional drawing as Appendix B.	C	12/6/19	KBN



TOP VIEW



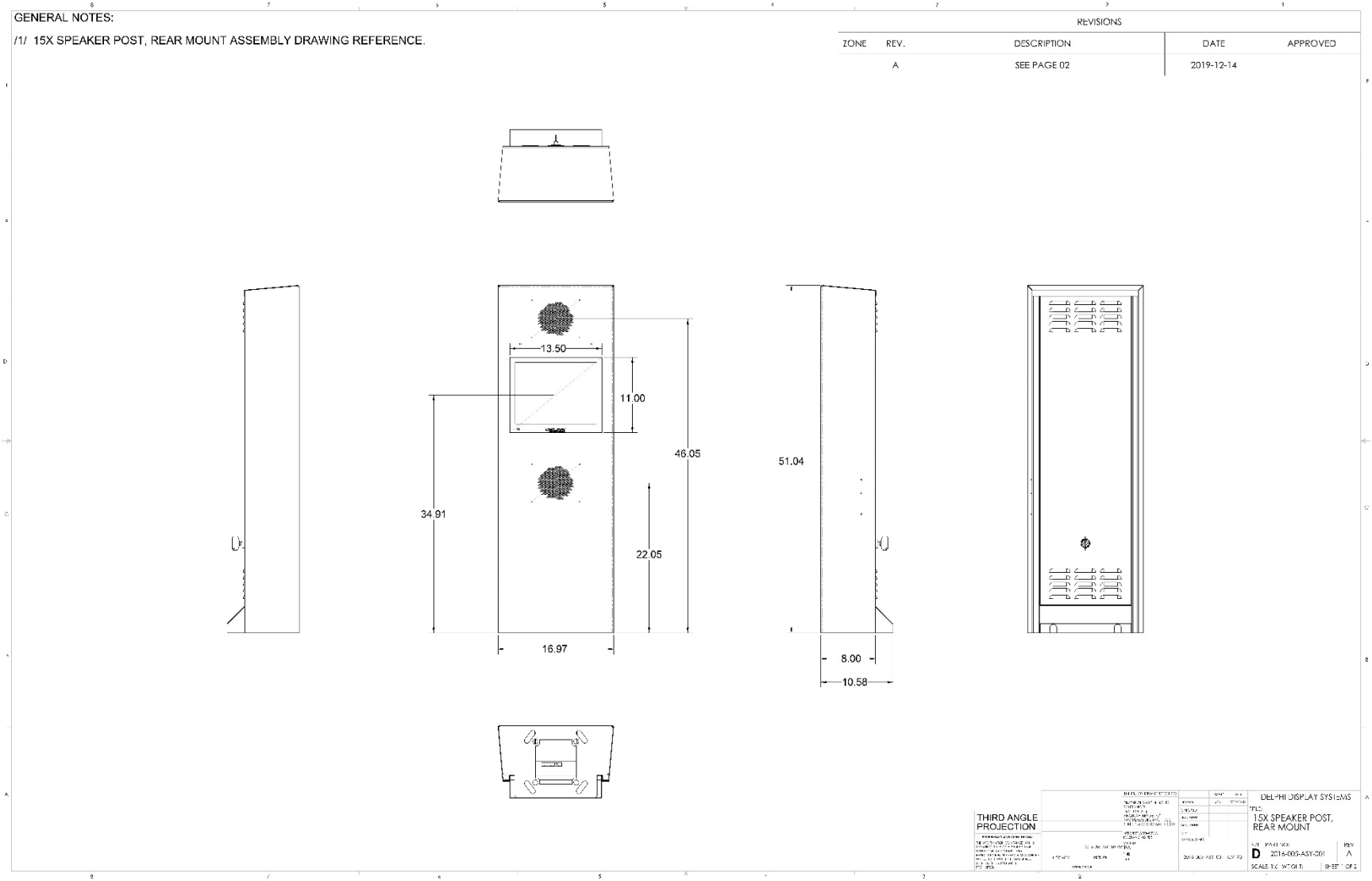
NOTE: DIMENSIONS ARE EXPRESSED IN INCHES.
DIMENSIONS INSIDE BRACKETS "[XXX.XX]"
ARE IN MILLIMETERS.

DELPHI DISPLAY SYSTEMS

INSTALLATION INSTRUCTION
SLAB DETAIL

DRAWING NO: 3302-0000-0000 REV: A

8 Appendix A - Footing and Conduit Specifications



9 Appendix B – Speaker Post Dimensional Drawing