ONE SYSTEMS®
DIRECT WEATHER LOUDSPEAKERS

May 2014

POLE MOUNT SYSTEM-3 INSTALLATION

The Pole Mount System-3 is an easy to install and flexible system designed to allow ONE SYSTEMS loudspeaker products to be mounted to pole structures. The only products approved for use with the Pole Mount System-3 are the 112IM, 212CIM and 118IM-Sub. The Pole Mount System-3 is available in either a standard, 304 grade stainless steel version or a “Marine” grade 316 grade stainless steel version. Note that the selection of banding hardware is specific to each version of the Pole Mount System-3. For details see the section on banding in this manual!

NO OTHER LOUDSPEAKERS SHOULD BE SUBSTITUTED!

The following actions MUST be performed PRIOR to beginning the installation of the Pole Mount System-3:

1. This installation guide must be completely read and understood.

2. The instruction manual “Rigging and Suspension of ONE SYSTEMS Products” must be read and understood. (This instruction manual is available at www.ONESYSTEMS.com in the “Education section of the web site.

3. The manufacturer of the pole MUST be consulted to verify the applicability of the Pole Mount System-3 and ONE SYSTEMS loudspeaker to the specific pole. The pole must be capable of supporting the weight of the Pole Mount System-3, the loudspeaker enclosure and all associated rigging and ALSO meet all required safety factors specified by local and national codes and safe rigging practices. The weight of the Pole Mount System-3 is 11.7kg (25.8 lbs)

4. The Pole Mount System-3 and loudspeaker should be installed only by one experienced in the overhead suspension of items and familiar with the applicable local and national codes governing installation of these products and also governing the attachment of these products to the specific pole structure.

NOTE: Caution should be exercised when connecting One Systems Marine grade products and Marine grade rigging to other metallic, non 316 grade stainless steel surfaces (dissimilar metals). The potential for galvanic corrosion is high in marine environments where the One Systems Marine grade enclosures and rigging are specified or required. Compatible metals and appropriate anode to cathode area ratios must be maintained. A structural engineer with galvanic corrosion experience should be consulted prior to installation of marine grade products, or ANY One Systems products in marine environments.

CAUTION: All structures outdoors are subjected to wind forces. These forces must be considered when suspending any product outdoors. It is necessary to know the "Effective Projected Area" (EPA) of the loudspeaker prior to installation of the loudspeaker and Pole Mount System-3. This data must be supplied to the pole manufacturer in order to determine safe operation conditions for the loudspeaker and Pole Mount System-3 when mounted to a specific pole. See Appendix 1 of this installation manual for effective projected areas for each enclosure rated for use with the Pole Mount System-3.

IMPORTANT NOTE: All products in direct weather installations can be subjected to high wind speeds. For wind speed exposure over 74 miles per hour (119.1 kilometers per hour, 64.3 knots) the loudspeaker enclosure, bracket, banding, and link assembly or safety must be inspected for signs of damage or fatigue!

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INSTALLATION

The Pole Mount System-3consists of three parts: the pole bracket, the loudspeaker bracket, and the Link. The bracket is designed for pole diameters of a minimum of 10 inches (254mm). Pole diameters smaller than 10 inches must not be used.

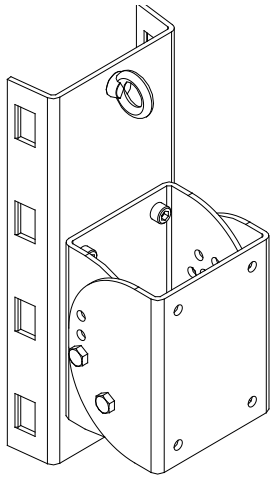


Figure 1

Figure 1 above represents the isometric and top views of the pole bracket, including the loudspeaker bracket section. The loudspeaker bracket is shown separately below in Figure 2.

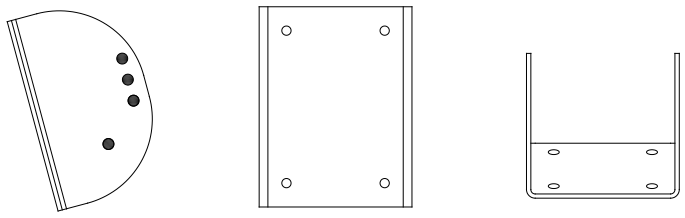


Figure 2

NOTE: The loudspeaker bracket should be removed from the main bracket section prior to mounting the pole bracket to the pole.

Figure 3 is a representation of the Link assembly. This assembly **MUST** be used whenever the Pole Mount System-3 is being used.

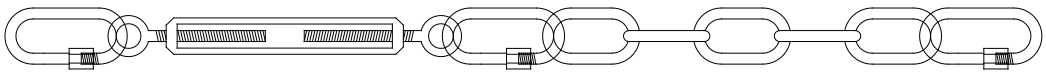


Figure 3

1. Mount the pole mount section (see Figure 1) of the bracket to the pole at the desired height on the pole. The loudspeaker bracket shown in Figure 2 should be removed prior to hanging the pole mount section. The bracket is mounted to the pole using BAND-IT stainless steel bands. **DO NOT SUSTITUTE** bands of other material or other widths! There are **FOUR** (4) locations on the pole bracket for bands. **ALL FOUR LOCATIONS MUST BE USED.** Figure 4 illustrates the locations for the stainless steel band clamps.

IMPORTANT: It is **REQUIRED** that each of the four bands be **DOUBLE** wrapped (**TWO** independent band assemblies per slot!). Double wrapping will insure a strong and secure mounting of the bracket to the pole. The stainless steel banding materials for use with the standard 304-grade Pole Mount System-3 should be as follows:

BAND-IT # C206R9 stainless steel bands
BAND-IT # C25699 buckles
BAND-IT # C00169 tensioning tool

The stainless steel band is Type 201SS 0.030 inches (0.762mm) thick and 0.750 inches (19mm) wide.

If the “Marine grade” 316 stainless steel version of the Pole Mount System-3 is being used, then the following banding material **MUST** be used. It is necessary to use 316 grade banding material when the “Marine grade” 316 Pole Mount System-3 is used!

BAND-IT	# C406R9 stainless steel bands (316-grade)
BAND-IT	# C45699 buckles (316-grade)
BAND-IT	# C00169 tensioning tool

See an important note on page 2 regarding marine-grade products!

WARNING: Do not substitute banding materials or banding dimensions.

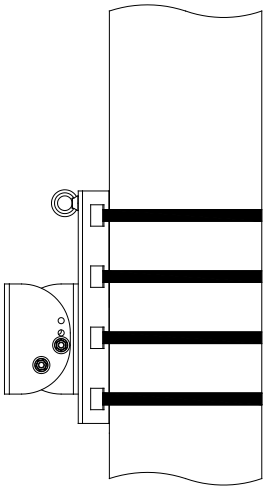


Figure 4

Installation instructions from BAND-IT should be followed exactly. Operating instructions are supplied with the tensioning tool. (All BAND-IT parts and tools purchased separately. These parts and tools are not supplied by ONE SYSTEMS.)

The stainless steel banding materials, buckles, and tensioning tools are available from the following locations (or though distributors recommended by these locations):

BAND-IT IDEX, Inc.
4799 Dahlia St.
Denver Colorado 80216
USA
1-800-525-0758

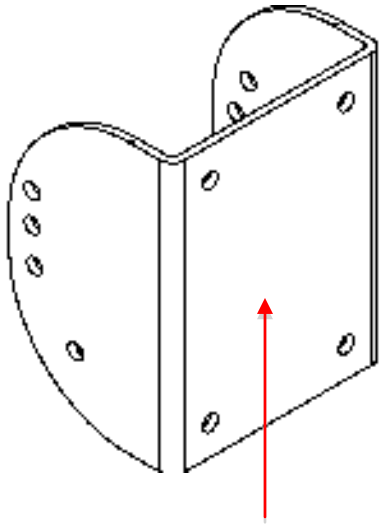
FELIX PONCE
Calle Ignacio Zaragonza No. 8
Colonia Ahuehuetes Atizapan 52953
Edo. de Mexico
(52) 555825 8502

BAND-IT Company Limited
Speedwell Industrial Estate
Stavely, Nr. Chesterfield
Derbyshire, S43 3PF England
Home Sales (44) 1246-479479
Export Sales (44) 1246 479480
BAND-IT Clamps (ASIA) Pte. Ltd.
11 Second Chin Bee Road
Singapore 618777
65-62658853

BAND-IT Shanghai Sales Office
207 room
Wanbao International Business Centre
660# Xinhua Road
Shanghai, China 200052
021-62826348-308

2. Next, the loudspeaker bracket should be mounted to the loudspeaker (ONE SYSTEMS models 112IM or 212CIM only) using the supplied M10 stainless steel bolts (See important note about washers below). **DO NOT SUBSTITUE ANY PARTS.**

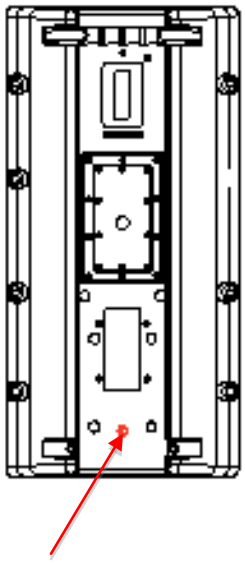
3. **NOTE:** There is a silicone rubber gasket supplied with the Pole Mount System-3. This gasket is used when either the 112IM or 212CIM is mounted using the Pole Mount System-3. Remove the pressure sensitive adhesive covering and attach the gasket to the mounting surface of the Pole Mount System-3 bracket where it joins to either the 112IM or 212CIM speakers as shown below.



Mount gasket to this surface before attaching plate to the back of the enclosure

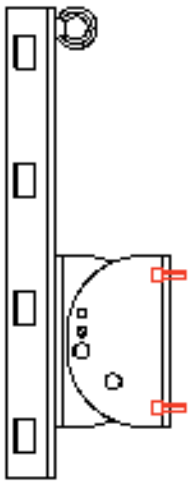
NOTE: Use the supplied M10 by 25mm long bolts (WITHOUT WASHERS) to attach the enclosure to the bracket plate.

NOTE: There are plastic covers over the M10 rigging points on the rear of the IM Series enclosures. When mounting the Pole Mount System-3 it is **IMPORTANT** to remove the 5th plastic cover that is located between the two lower M10 locations as shown below in red (found on older IM Series models)



Remove center plastic rigging cover as well as the 4 covers for the bracket assembly to the enclosure.(Found on older IM series models only)

NOTE: There are M10 flat washers in the Pole Mount System-3 kit. **DO NOT USE THESE WASHERS FOR MOUNTING THE 112IM OR 212CIM!**



The image above shows the M10 bolts **WITHOUT WASHERS** used to mount either a 112IM or 212CIM loudspeaker.

4. Now the M10 forged shoulder “eye” bolt should be installed in the top rear of the loudspeaker enclosure.

NOTE: There two (2) forged shoulder eye bolts included. One has a 17mm threaded section and the second has a 40mm threaded section. Use the 17mm threaded section eye bolt for the 112IM and 212CIM enclosures.

The shoulder of the eye bolt MUST be flush and in contact with the surface of the enclosure.

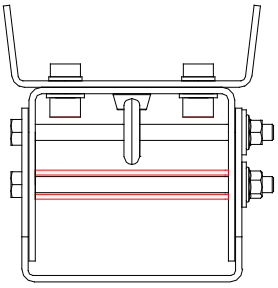
5. The loudspeaker may now be placed on the pole bracket (main bracket) (see figures 1 and 2).

USE EXTREME CAUTION! The loudspeaker is heavy and it is likely that the desired mounting location is high in the air. This process should never be attempted by a single person.

TWO OR MORE PEOPLE ARE REQUIRED TO MOUNT THE LOUDSPEAKER ENCLOSURE TO THE POLE AND POLE MOUNT ASSEMBLY! (Safety harnesses should always be worn when working from an elevated platform)

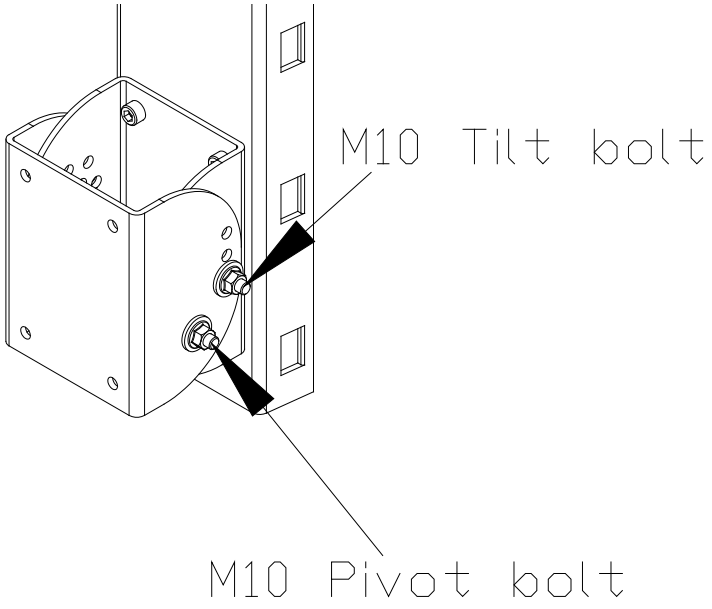
First insert the M10 bolt into the pivot point and secure but do not fully tighten using the supplied M10 nylon insert nut. (DO NOT DO THIS UNTIL THE NOTE BELOW IS READ AND UNDERSTOOD!)

NOTE: The 18mm diameter hollow tube must be used with the pivot bolt. Insert the M10 pivot bolt thru the 18mm diameter hollow tube in the position shown below in red.



The 18mm diameter hollow tube and pivot bolt

Now the enclosure may be set at its desired down tilt using the second M10 bolt ("Tilt" bolt). The Pole Mount System-3 allows the loudspeaker to be oriented from a 0 degree down tilt to a maximum down tilt of 35 degrees. Now both M10 bolts should be tightened.



UNDER NO CIRCUMSTANCES SHOULD THE LOUDSPEAKER DOWN TILT EXCEED 35 DEGREES FROM VERTICAL!

6. Now the Link must be installed.

INSTALLING THE POLE MOUNT SYSTEM-3 WITHOUT THE LINK IS NOT ALLOWED! The Link (see figure 3) consists of stainless steel quick links, a stainless steel turnbuckle, and several links of stainless steel chain.
DO NOT SUBSTITUTE ANY PART OF THIS LINK ASSEMBLY!

The Link should be tightened by rotating the turnbuckle until there is tension on the Link assembly. Do not over tighten. The purpose of the Link is to provide support for the main Pole Mount System-3 tilting bracket at the bottom of the assembly.

Make sure to use the appropriate combination of Link parts to insure proper connection between the Pole Mount System-3 and the specific One Systems enclosure. The required combination of Link parts is determined by the down tilt angle of the enclosure, but the turnbuckle must always be used.

The assembly may be configured with any combination of turnbuckle, chain link sections and quick link in order to achieve the proper tension on the system.

Warning: If the turnbuckle assembly is turned and the loudspeaker enclosure angle begins to change (if the down tilt angle begins to move toward 0 degrees vertical) then the turnbuckle has been **OVER TIGHTENED**. Turn the turnbuckle until the down tilt angle is set by the M10 thru bolt on the pole bracket but there is still slight tension on the turnbuckle.

Figure 5 below shows the loudspeaker assembly and Link in a 0 degrees vertical orientation.

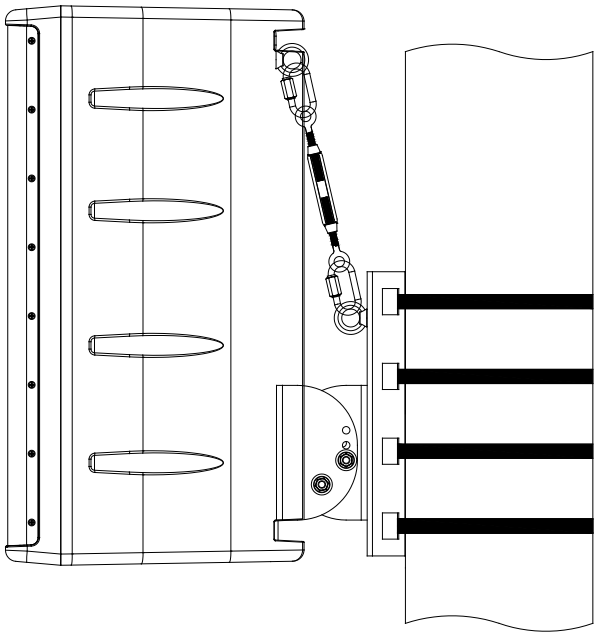


Figure 5

Angles other than 0 degrees from vertical require the turnbuckle to be adjusted. Certain enclosures may also require the addition of the chain depending on the distance between the two eyebolts.

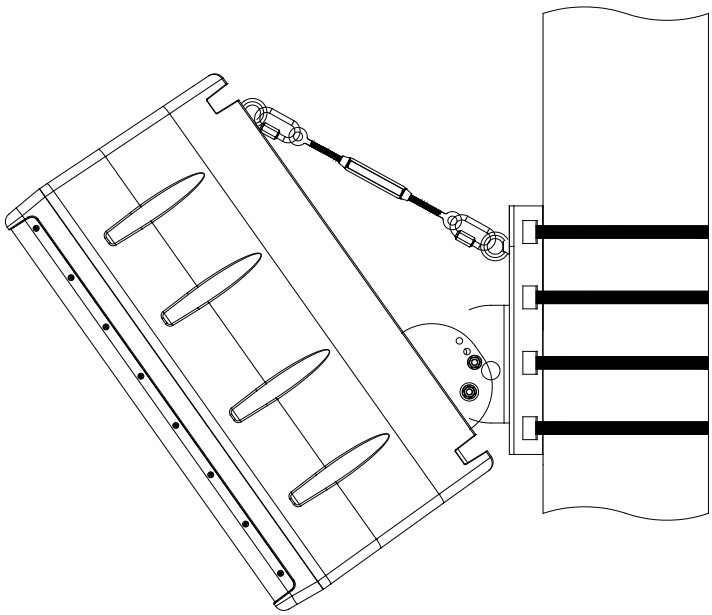


Figure 6

Figure 6 above represents the maximum down tilt angle of 35 degrees from vertical.

In any position, the turnbuckle must be adjusted to allow the proper amount of tension on the Link. The link should never pull the loudspeaker up towards vertical.

Secondary safety cables are **STRONGLY** recommended and should be secured to a structural point **NOT** associated with the PT bracket or loudspeaker!

APPENDIX 1

Projected Area Values

The values below should be supplied to the specific pole manufacturer for safety calculations. These values were determined by adding the projected areas of the high frequency horns, the woofer cones and ports to the cross sectional area of the front of each enclosure listed below. The EPA will vary based on wind direction. The values shown are for wind directions directly into the front of the enclosure and represent maximum values.

112IM ……..600 in^2 (387,096 mm^2)

212CIM…….600 in^2 (387,096mm^2)

118IM Sub…….. 531 in^2 (342,516mm^2)

The products referenced in this manual are in conformity with the following standards or other normative documents: Machinery Directive 2006/42/EC

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