



May 2014

POLE MOUNT SYSTEM EX-3 INSTALLATION

The Pole Mount System EX-3 is an easy to install and flexible system designed to allow ONE SYSTEMS loudspeaker systems to be mounted to pole structures. The only products approved for use with the Pole Mount System EX-3 are the 212IM, 312CIM, Cross Field Array (CFA) and CFA-2.

NO OTHER LOUDSPEAKERS SHOULD BE SUBSTITUTED!

The following actions **MUST** be performed **PRIOR** to beginning the installation of the Pole Mount System EX-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 EX-3 and ONE SYSTEMS loudspeaker to the specific pole. The pole must be capable of supporting the weight of the Pole Mount System EX-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 13.31kg (29.3 lbs)
4. The Pole Mount System EX-3 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: The Pole Mount System EX-3 is not designed for use with One Systems Marine Grade (316 Stainless Steel) products. **DO NOT USE 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 EX-3. This data must be supplied to the pole manufacturer in order to determine safe operation conditions for the loudspeaker and Pole Mount System EX-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 EX-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!

INSTALLATION

The Pole Mount System EX-3 consists 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.

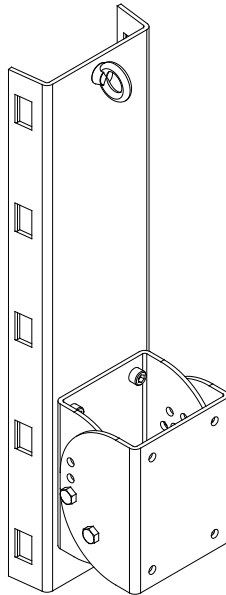


Figure 1

Figure 1 above represents the isometric and top views of the pole bracket, including the loudspeaker bracket section.

The loudspeaker bracket is shown separately in Figure 2 below.

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

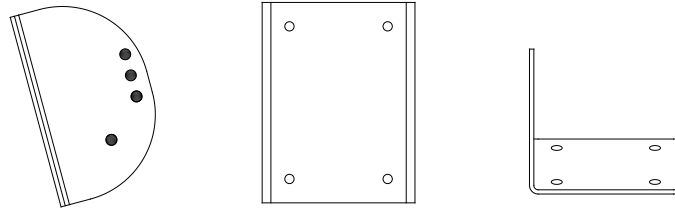


Figure 2

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

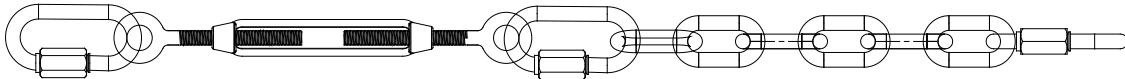


Figure 3

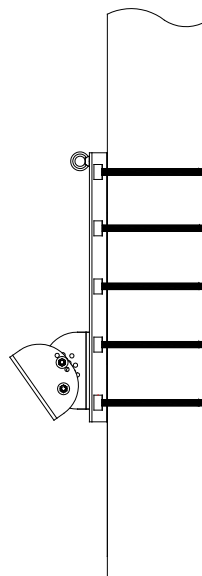
1. Mount the pole mount section (see figure 1) of the bracket to the pole at the desired height on the pole. The loudspeaker bracket shown in Figure 2 should be removed prior to hanging the pole mount section. The bracket is mounted to the pole using BAND-IT stainless steel bands. **DO NOT SUSTITUTE**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

IMPORTANT: It is **REQUIRED** that each of the five 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 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.

WARNING: Do NOT substitute banding materials or banding dimensions.



Band It Stainless Steel
band and clamp assembly
5 required
#C206R9 band
#C25699 buckle

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 must be purchased separately from BAND-IT or from their distributors. These parts and tools are not supplied by ONE SYSTEMS)

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

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

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

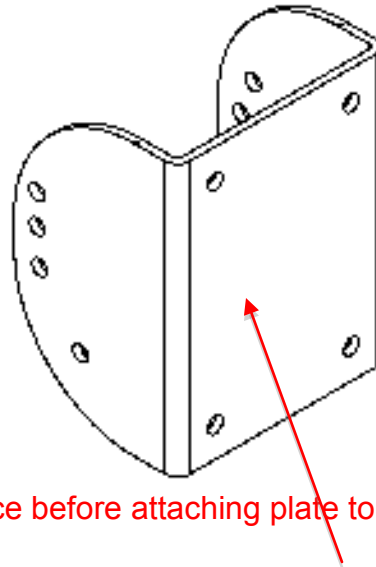
BAND-IT Company Limited
Speedwell Industrial Estate
Stavely, Nr. Chesterfield
Derbyshire, S43 3PF England
Home Sales (44) 1246-479479
Export Sales (44) 1246 479480

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 212IM, 312CIM, Cross Field Array (CFA) or CFA-2 only using the supplied M10 stainless steel bolts and washers (**See important note about washers below!**). **DO NOT SUBSTITUE ANY PARTPARTS.**

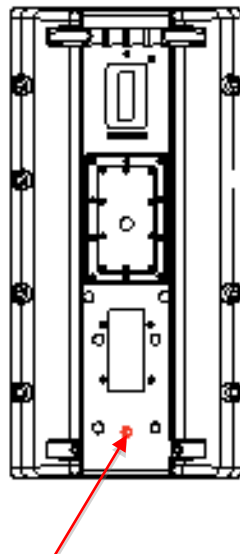
NOTE: There is a silicone rubber gasket supplied with the Pole Mount System EX-3. This gasket is used when the 212IM, 312CIM, 112IM or 212CIM is mounted using the Pole Mount System EX-3. (This gasket is **NOT REQUIRED** when mounting the CFA or CFA-2 enclosures.) Remove the pressure sensitive adhesive covering and attach the gasket to the mounting surface of the Pole Mount System EX-3 bracket where it joins to the 212IM, 312CIM, as shown below.



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

NOTE: There are 4 each hex head M10 bolts supplied in the mounting kit of the Pole Mount System EX-3. The 4 M10 bolts are used for the IM series injection molded enclosures and the Cross Field Array (CFA).

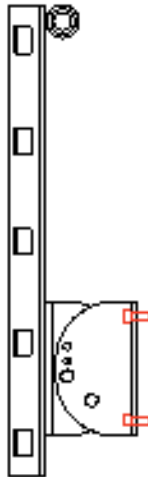
NOTE: There are plastic covers over the M10 rigging points on the rear of the IM Series enclosures. When mounting the Pole Mount System EX-3 it is **IMPORTANT** to remove the 5th plastic cover that is located between the two lower M10 locations as shown below in red (**IF PRESENT. THIS HOLE WILL NOT BE PRESENT IN NEWER IM SERIES ENCLOSURES!**)



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

NOTE: There are M10 flat washers in the Pole Mount System EX-3 kit. **DO NOT USE THESE WASHERS FOR MOUNTING THE 212IM, or 312CIM!**

The M10 flat washers are for use with the CFA and CFA-2 ONLY! (See the image below, DO NOT use flat washers under the M10 bolts used to mount the 212IM or 312CIM.)



The image above shows the M10 bolts **WITHOUT WASHERS** used to mount a 212IM, 312CIM, 112IM OR 212CIM. The M10 flat washers are used **ONLY** with the CFA or CFA-2 enclosure!

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

NOTE: There is one (1) forged shoulder eye bolts included. Use the 17mm threaded section eye bolt for the 212IM and 312CIM as well as the CFA and CFA-2enclosures.

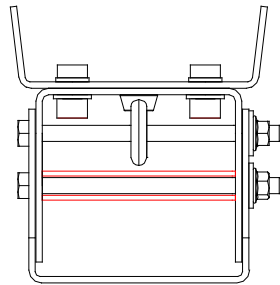
4. The loudspeaker may now be placed on the pole bracket. (main bracket see figures 1 and 2)

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 SYSTEM EX-3! (Safety harnesses should always be worn when working from an elevated platform)

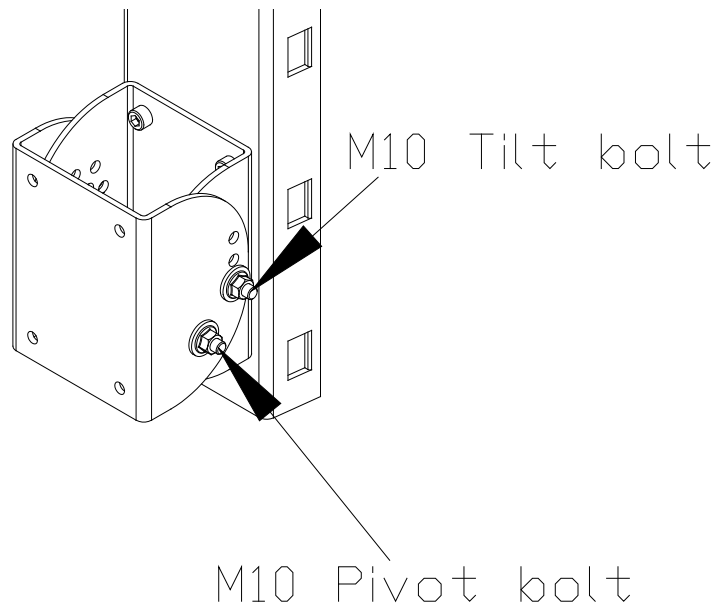
First insert the M10 bolt into the pivot point and secure but do not fully tighten using the supplied M10 nylon insert nut. **(DO NOT DO THIS UNTIL THE NOTE BELOW IS READ AND UNDERSTOOD!)**

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 EX-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!

5. Now the Link must be installed.

INSTALLING THE POLE MOUNT SYSTEM EX-3 WITHOUT THE LINK IS NOT ALLOWED!

The Link (see figure 3) consists of a 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 EX-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 EX-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. In certain situations only the turnbuckle will need to be used.

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 (212IM/312CIM) and Link in a 0 degree vertical orientation. 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. In the image below there is one turnbuckle (always required) and there are three quick links.

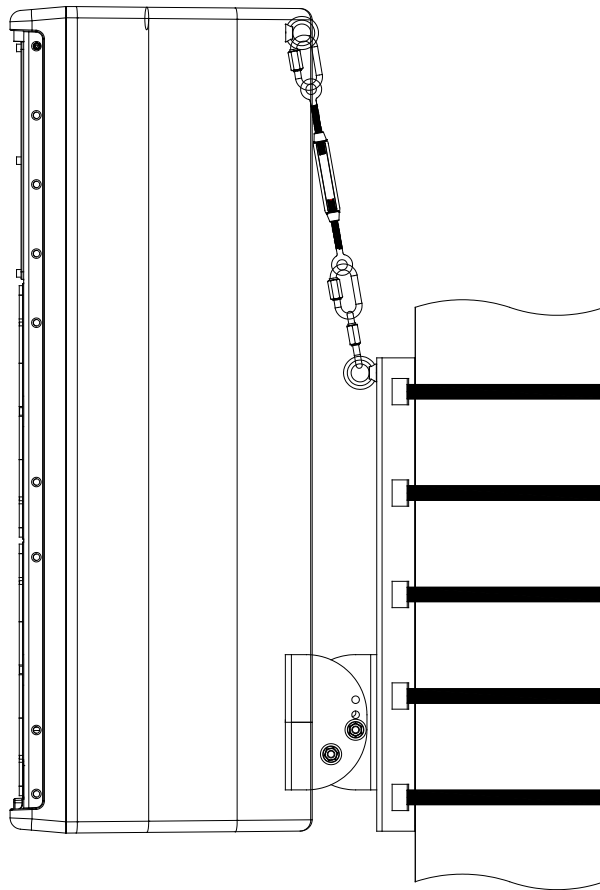


Figure 5

Angles other than 0 degrees from vertical require the stainless steel chain links to be inserted as shown in Figures 6 and 7 below.

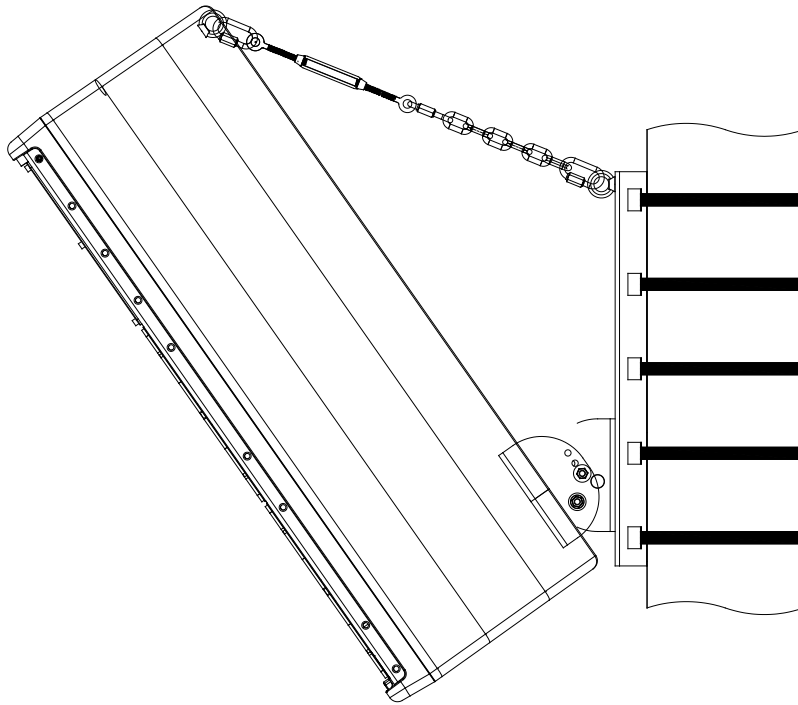


Figure 6

Figure 6 represents the maximum down tilt angle of 35 degrees from vertical and is shown with the chain section, three quick links and the turnbuckle.

Angles of less than 35 degrees may require that sections of the chain be dropped. This is shown in Figure 7. Note that one of the Links has been dropped to allow for an angle of less than the 35 degrees.

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 but should always have slight tension.

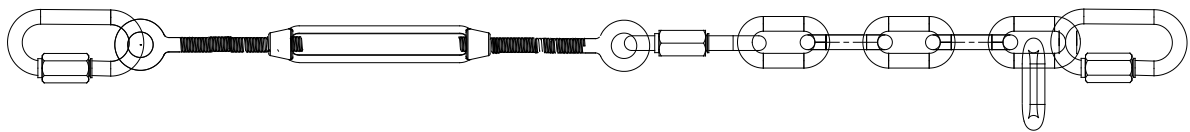


Figure 7

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.

212IM804 in² (550,000 mm²)

312CIM..... 804 in² (550,000mm²)

Cross Field Array.....2,708in² (1,750,000mm²)

Cross Field Array-2 (CFA-2)..... 855n² (552,100mm²)

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

