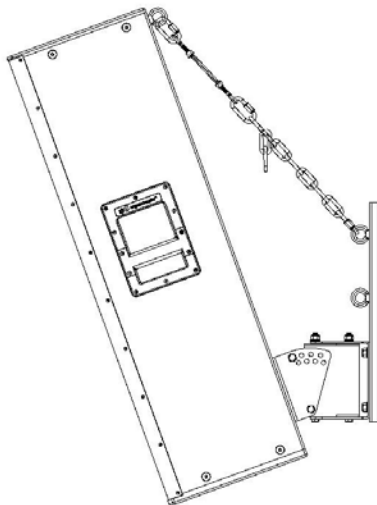




# Pan and Tilt Bracket Installation Guide OPA-PTB

January 2013



OPA-PTB with OPALine enclosure

The On Point Audio OPA-PTB is an easy to install and flexible system designed to allow the OPALine loudspeaker enclosure to be mounted to wall or other structural flat surfaces. The only product approved for use with the OPA-PTB is the OPALine enclosure. **NO** other products may be substituted!

**NOTE:** The OPA-PTB was designed to be mounted on walls or other structural flat surfaces **ONLY!** The OPALine enclosure and OPA-PTB are for **INDOOR** use only! **DO NOT USE IN OUTDOOR ENVIRONMENTS!**

**NO OTHER LOUDSPEAKERS SHOULD BE SUBSTITUTED!**

The following actions **MUST** be performed **PRIOR** to beginning the installation of the OPA-PTB and OPALine enclosure:

1. This installation guide must be completely read and understood.
2. The instruction manual “Rigging and Suspension of On Point Audio Products” must be read and understood. (This instruction manual is available along with other technical papers at [www.onpointaudio.com](http://www.onpointaudio.com))
3. The structure of the mating surface **MUST** be capable of supporting the combined weight of the OPA-PTB bracket, the OPALine loudspeaker and all associated rigging. It must satisfy the required safety factors specified by local and national codes, as well as safe rigging practices. The OPA-PTB weighs 9.7kg (21.4 lbs). The OPALine enclosure weighs 39kg (86 lbs)
4. The OPA-PTB pan and tilt bracket should be installed only by someone experienced in the overhead suspension of items. They should be familiar with applicable local/national codes governing the installation of these types of products and those governing the attachment of these types of products to specific structures.

**CAUTION:** The OPA-PTB and OPALine enclosure are designed for **INDOOR** use and installation **ONLY!** **DO NOT INSTALL IN OUTDOOR ENVIRONMENTS!**

# INSTALLATION

The OPA-PTB consists of three parts: the wall bracket; the loudspeaker bracket; and the Link. The OPA-PTB wall bracket and loudspeaker bracket are shown in Figure 1.

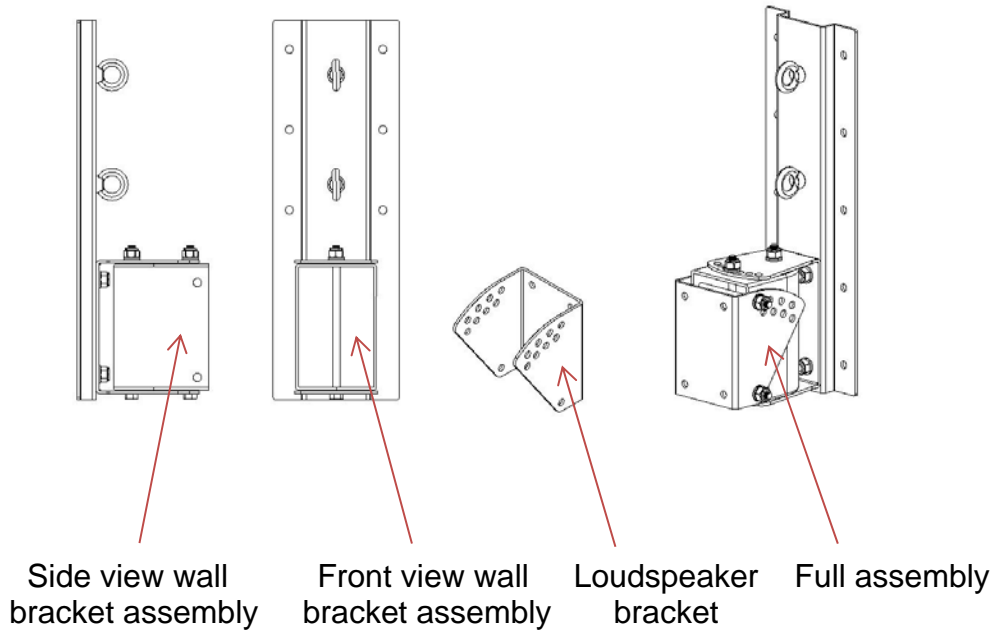
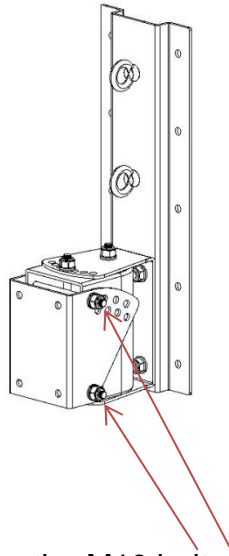


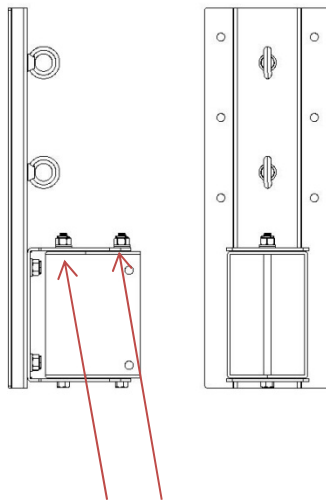
Figure 1

Prior to mounting the wall bracket to the wall or appropriate flat surface, the loudspeaker bracket section should be removed. The loudspeaker bracket is removed by taking out the two M10 bolts that hold the loudspeaker bracket to the wall bracket assembly. The M10 bolts are shown in figure 1a below.



Remove the M10 bolts shown above  
Figure 1a

**NOTE:** The M10 bolts associated with the “pan” axis should be left in place, as shown in Figure 2 below.



Leave the “pan axis” M10 bolts in place  
Figure 2

The wall bracket section should now be mounted to the wall surface. The OPA-PTB has 10 mounting holes for allowing fasteners to join the bracket and loudspeaker assembly to the mating surface.

**IT IS NECESSARY TO USE ALL MOUNTING HOLES TO ENSURE A SAFE AND SECURE MATE TO THE ASSOCIATED SURFACE!**

All fasteners associated with the mounting of the OPA-PTB bracket and loudspeaker assembly to the mating surface are the responsibility of others. The design and structural capacity of mating surfaces (such as walls) vary greatly and specific fasteners are designed for use with specific mating surfaces. On Point Audio does not recommend any mating fasteners and strongly urges the installer to consult with one experienced in suspension of products from the specific mating surfaces and the appropriate choice of fasteners for those specific surfaces.

The wall bracket section should be secured firmly to the mating surface using the appropriate fastening system. The fastening system should be determined by the structure of the mating surface.

**IT IS CRITICAL THAT THE MATING SURFACE BE CAPABLE OF SUPPORTING THE LOAD OF THE OPA-PTB BRACKET, THE OPALINE LOUDSPEAKER AND ALL SUSPENSION HARDWARE, AS WELL AS PROVIDING THE PROPER SAFETY FACTORS. DO NOT ATTEMPT TO SUSPEND THE BRACKET AND LOUDSPEAKER UNTIL THE STRUCTURAL CHARACTERISTICS OF THE MATING SURFACE ARE UNDERSTOOD. DO NOT INSTALL THE OPA-PTB BRACKET AND OPALINE LOUDSPEAKER IF THE MATING SURFACE IS NOT CAPABLE OF SUPPORTING THE ENTIRE ASSEMBLY WEIGHT, AS WELL AS PROVIDING THE REQUIRED SAFETY FACTORS!**

After the OPA-PTB wall section of the bracket is securely mounted to the mating surface, the loudspeaker section should be mounted to the OPALine loudspeaker using the fasteners supplied. (DO NOT SUBSTITUTE FASTENERS) The loudspeaker mount section of the bracket is shown in figures 3a and 3b.

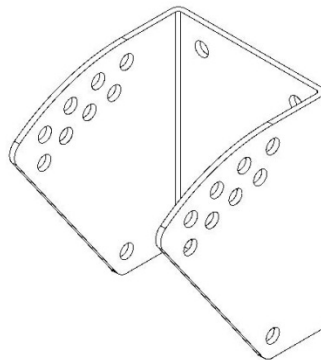


Figure 3a Loudspeaker bracket

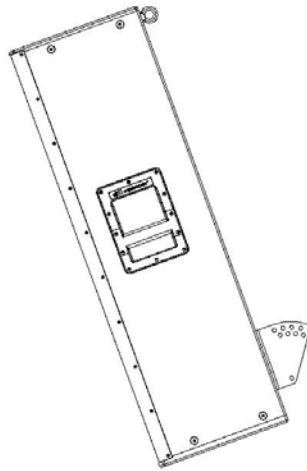


Figure 3b showing Loudspeaker bracket mounted to the OPALine enclosure

***DO NOT SUBSTITUTE MOUNTING LOCATIONS!***

**NOTE:** There are 4 each hex head M10 bolts supplied in the mounting kit of the OPA-PTB. When mounting the OPALine enclosure to the OPA-PTB use 4 each of the 35 mm M10 bolts. Additionally, there is a forged shoulder eyebolt supplied in the OPA-PTB kit. This eyebolt must be installed in the top, rear center portion of the OPALine enclosure. Make sure that the eyebolt is seated on the surface of the enclosure. The eyebolt is shown below in figure 4.

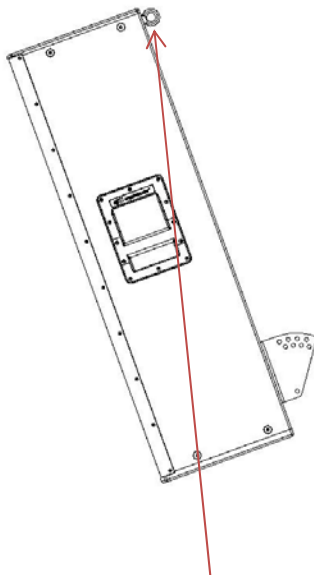


Figure 4 showing forged shoulder eyebolt installed

The loudspeaker and loudspeaker section of the bracket may now be joined to the wall section and the required pan and tilt angles selected. This is a two person job and extreme care should be exercised to avoid serious injury.

**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 OPA-PTB bracket.** Safety harnesses should always be worn when working from an elevated platform.

The OPALine enclosure, with loudspeaker bracket attached, should be mounted to the wall section of the OPA-PTB.

The M10 tilt pivot bolt should be inserted first and secured, but not completely tightened using the nylon insert M10 nuts that are supplied. The tilt pivot bolt is shown below in Figure 5. At this point the M10 tilt aiming bolt (Figure 5a) should be inserted into the desired angle and the nylon insert nuts applied. Then the tilt axis bolts should be tightened.

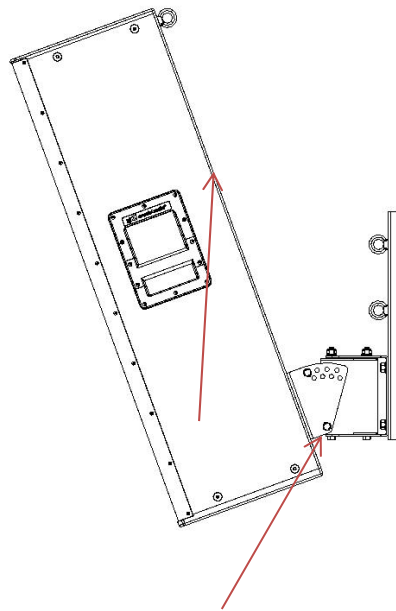


Figure 5 showing the tilt pivot bolt. This must be inserted first.

Figure 5a below shows the tilt aiming bolt. This can only be inserted **AFTER** the tile pivot bolt is installed!

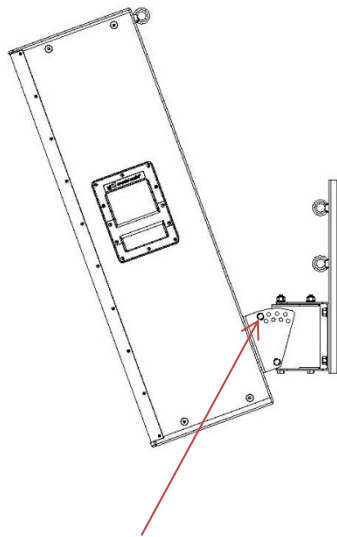
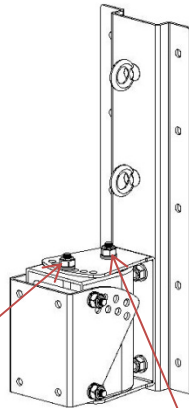


Figure 5a showing tilt aiming bolt

Now the pan aiming bolt can be adjusted if needed. NOTE: The pan pivot bolt should **NOT** be removed.

The pan angle can be adjusted by removing the pan angle aiming bolt as shown below.



Pan angle aiming bolt

Pan angle pivot bolt (DO NOT REMOVE)

Figure 5a

Once both the tilt and pan angles are set, make sure that all bolts are tight and secure.



## INSTALLING THE LINK

Figure 6 is a representation of the Link assembly. This assembly **MUST** be used whenever the OPA-PTB and the OPALine enclosure are being used together. Each pan and tilt bracket is supplied with a link assembly.

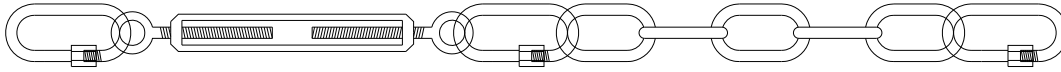


Figure 6

UNDER NO CIRCUMSTANCES SHOULD THE DOWNWARD TILT OF THE LOUDSPEAKER EXCEED 35 DEGREES FROM VERTICAL FOR THE OPA-PTB and OPALine enclosure.

### SECTION 5 LINK ASSEMBLY

Now the Link must be installed.

#### **INSTALLING the OPA-PTB Bracket WITHOUT THE LINK IS NOT ALLOWED!**

The Link (see figure 6) consists of quick links, a turnbuckle, and several links of steel chain. The use of the chain pieces and quick links with the turnbuckle is based on the tilt angle of the enclosure. The turnbuckle should always be used.

#### **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 OPA-PTB tilting bracket at the bottom of the assembly. **ONLY ROTATE THE TURNBUCKLE UNTIL THERE IS VERY SLIGHT TENSION. DO NOT TIGHTEN BEYOND THIS POINT!**

The back plate section of the OPA-PTB has eyebolts attached to it. There are two (2) eyebolts on the back plate section of the OPA-PTB.

Make certain to use the appropriate combination of Link parts to ensure proper connection between the OPA-PTB bracket assembly and the specific OPALine enclosure. The required combination of link parts is determined by the down tilt angle of the enclosure.

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, but the

turnbuckle must always be used. The selection of the correct eyebolt will be determined by the down tilt angle of the enclosure.

**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 still should be slight tension on the turnbuckle.

Figure 10 is a close up view of the Link assembly. Certain down tilt angles may require a link to be “dropped” from the chain as shown below. The lower quick link is positioned in various chain segments based on the desired degree of down tilt. The turnbuckle should be adjusted, as described in this section.

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. The Link may be configured with or without the chain section and quick link, depending on the down tilt angle of the enclosure.

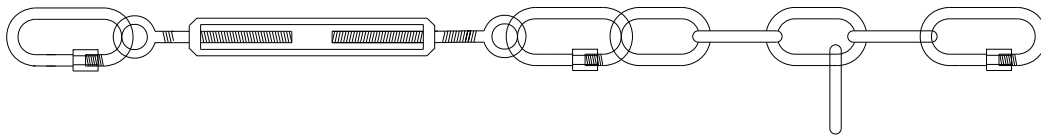


Figure 10

Secondary safety cables are **STRONGLY** recommended and should be secured to a structural point **NOT** associated with the PT bracket or loudspeaker. The Link assembly is **NOT** a secondary safety cable.