



## **CROSS FIELD ARRAY-2/HTH (CFA-2/HTH)**

### Long Throw/High Intelligibility All-Weather Loudspeaker System

The One Systems Cross Field Array-2/HTH™ (CFA-2/HTH) was designed to provide very high intelligibility and acoustic output where long throw requirements are specified. The CFA-2/HTH is a nominal 55 degree horizontal by 30-degree array that features a fully rotatable high frequency horn/waveguide. This allows the CFA-2/HTH to be used in either a vertical or horizontal orientation and still allows the desired coverage patterns. The CFA-2/HTH is designed to operate in 4-ohm mode only. **70Vrms or 100Vrms operation is not supported in this Hybrid generation of the CFA-2.** The high frequency configuration consists of two large format close-spaced compression drivers coupled to a 2" (50.8mm) constant directivity horn. The low frequency configuration consists of 4 bandwidth optimized 10" (254mm) diameter woofers in a 2 x 2 array. The CFA-2/HTH is ideal for both outdoor/direct weather long throw applications and indoor applications in high ambient noise environments. Typical applications are football and soccer fields, baseball fields and large theme park environments. Indoor environments such as basketball arenas are well suited due to the ultra-high system intelligibility.

In order to achieve maximum system performance, the CFA-2/HTH should be high pass filtered using a 4<sup>th</sup> order (24dB/octave) high pass filter set to 80Hz. This filter frequency can be set using any high-quality DSP based loudspeaker processor. High pass filter frequencies as low as 60Hz may be used but maximum system dynamics and headroom are achieved by using the recommended 80Hz filter corner frequency.

The CFA-2/HTH is a direct weather design that features a three-layer stainless steel grill assembly. The enclosure design is a laminated fiberglass construction with high safety factory structural rigging points molded in the enclosure shell. There are 9 M10 rigging points. There is an optional "U" bracket, the CFA-2-U/M that also includes a stainless steel strap kit that allows the desired tilt angle to be set and maintained regardless of wind loading. All rigging points on the CFA-2/HTH are 316 grade stainless steel. The grill and all associated rigging are 304 grade stainless steel that feature a newly developed marine grade coating system. The CFA-2/HTH may be used in ocean front and Marine applications as well as general inland direct weather installations.

The system is also compatible with the One Systems PM4/M pole mount system if vertical tilt requirements are specified in a pole mount application. The One Systems PT-76/M is also compatible with the CFA-2/HTH when pan and tilt are required. The PM4/M is compatible with pole mounting only, and the PT-76M is compatible with flat surface mounting only.

System input is a four-position barrier strip. The input section features a weather cover with an integral IP68 rated gland nut. The gland nut will accommodate cable outside diameters of 7mm to 12mm (0.236" to 0.472"). The maximum diameter will accept most 2 conductor AWG12 cable assemblies.

### **FEATURES AND BENEFITS:**

Very High Intelligibility

Long Throw/High Acoustic Output

Fully Rotatable High Frequency Waveguide

IP 56 Direct Weather Rated

Double Large Format High Frequency Drivers

2 x 2 10" (254mm) Low Frequency Long Throw Array

Multiple Fly Points and Rigging Accessories

All M10 rigging points are 316 grade stainless steel

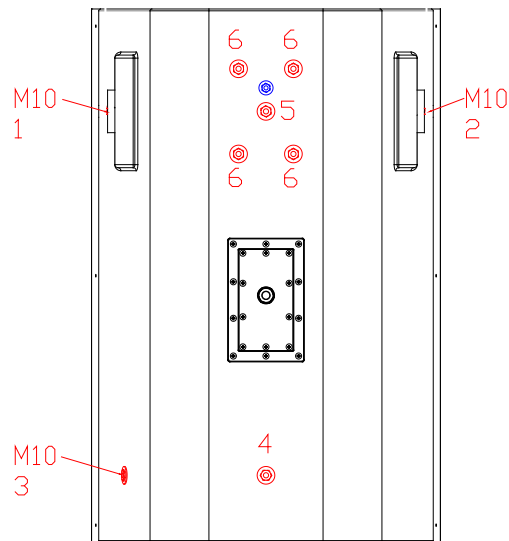
## SPECIFICATIONS:

Frequency Response:	60Hz – 16kHz
Coverage Pattern:	55 x 30 Fully Rotatable
Passive Crossover Frequency:	1500 Hz
Inputs:	4-position barrier strip
System Sensitivity: (1watt/1meter)	104dB
Maximum Calculated Output (Continuous) (Peak Power/Peak SPL)	134.8dB@ 1 meter* 140.8dB@ 1 meter*
*(Based on RMS sound pressure levels. +6dB may be added for peak sound pressure levels)	137.8dB@ 1 meter 143.8dB@ 1 meter
Power Handling:	1200 watts Continuous 2400 watts Program 4800 watts Peak*
* <b>NOTE:</b> all system power handling rating are amplifier headroom dependent	
Nominal Impedance	4 ohms
System Components:	
Low Frequency:	4 each 10" (254mm)
High Frequency:	2 each Large Format Titanium Compression Drivers
EASE 4.0 data	<a href="http://www.ONESYSTEMS.com">www.ONESYSTEMS.com</a>
Suspension/Mounting points:	9 each M10
Weather Performance:	IEC 529 IP 56 Mil Spec 810
Dimensions (H x W x D) mm:	876.5 x 572.6 x 446.3
Inches:	34.5 x 22.5 x 17.6
Net Weight:	60.6 kg (133.6 lb.)
Optional Accessories/Products	PM4/M pole mount bracket PT-76/M surface mount bracket CFA-2-U/M "U" mount bracket

## SUSPENDING THE CFA-2/HTH

The CFA-2/HTH may be suspended using either the CFA-2/HTH-U/M stainless steel “U” bracket, the PM4/M for pole applications or the PT-76M for flat surface or wall mounting. The CFA-2/HTH may be suspended horizontally using points 1 and 3 shown below via M10 eyebolts.

The CFA-2/HTH rigging points (M10 - 9 points) and mounting point for the “U” bracket hardware kit (M8 - 1 point (**NOT A SUSPENSION POINT**)) are shown below.



The points shown in red are all M10. The single blue colored point is M8. The points are numbered in this image to illustrate intended usage as follows:

Points 1 and 2.....”U” Bracket mount (the blue point, M8, is also used for the “U” bracket strap kit. The blue M8 point is NOT a structural point and is used for the “U” bracket strap ONLY!)

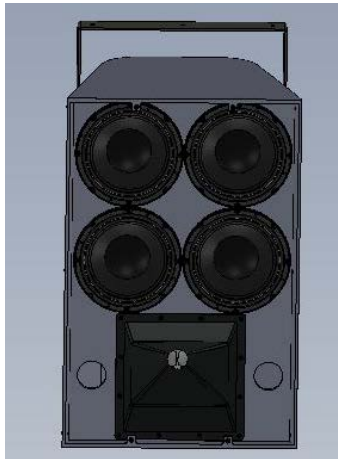
Points 1 and 3, 4 and 5.....**Horizontal enclosure mount. NOTE: All 4 points, (Points 1, 3, 4, and 5) must be used for horizontal mount configurations. Point 4 and 5 are for pull up and safety!** For horizontal mount the M10 Eyebolt Kit/316/SS may be used in INDOOR installations ONLY! DO NOT USE EYEBOLT KITS FOR OUTDOOR DIRECT WEATHER INSTALLATIONS!

Point 6.....Four points used for either the PT-76/M or the PM4/M (**NOTE:** Point 4 is used for the “link” portion of the PT-76M or the PM4-M mounts)

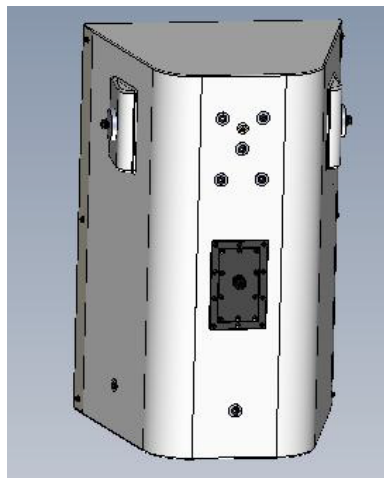
The optional “U” bracket requires the enclosure be suspended “upside down” with the high frequency section positioned near the bottom of the front baffle. The “U” bracket will allow adjustment in the vertical axis (tilt) only. See the image below. **NOTE: THE CENTER HOLE IN THE U BRACKET IS FOR THE PULL BACK STRAP ONLY! THIS HOLE MUST NOT BE USED FOR MOUNTING OR SUSPENSION!**

**NOTE:**

It is the responsibility of the installer to ensure that all associated surfaces are capable of supporting the load of the CFA-2/HTH, any rigging brackets, all associated rigging AND also provide all required safety factors.



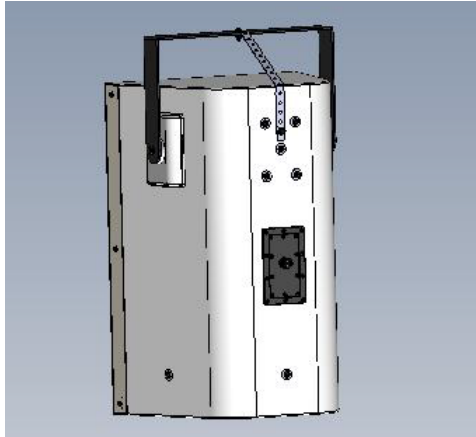
CFA-2/HTH orientation for external “U” bracket



The CFA-2-U/M is supplied with a hardware kit to allow the enclosure to be tilted back and locked into position. This kit prevents wind loading and “gravity sag” from altering the required down tilt angle of the enclosure

The kit consists of:

- 1 ea. Band-it AE4779 All Purpose Band 316SS (Black Coated) 475mm long
- 2ea. M8 316-grade stainless steel bolts
- 1ea. M8 316-grade stainless steel nylon insert nut
- 3 ea. flat washers
- 1 ea. Lock washer



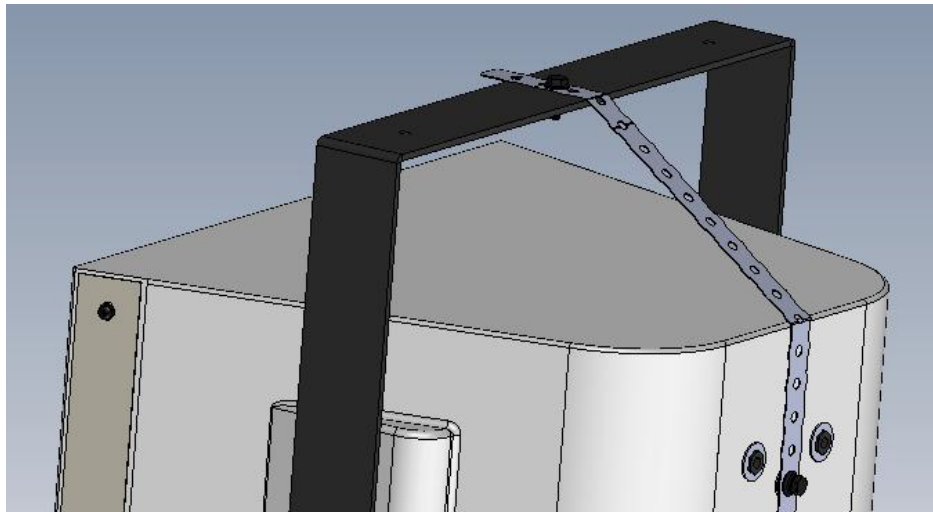
The M8 fitting is located between the M10 points.

**NOTE: The M8 point should NOT be used for rigging.**

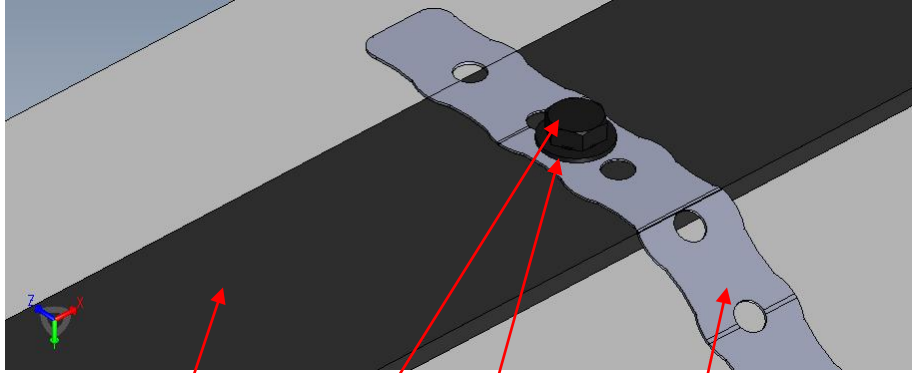
The M8 point is to be used to mount the hardware kit **ONLY!**

**THE CENTER HOLE IN THE U BRACKET IS FOR CONNECTING THE STRAP ONLY! DO NOT USE THE CENTER M8 HOLE IN THE U BRACKET FOR MOUNTING OR SUSPENDING THE ENCLOSURE!**

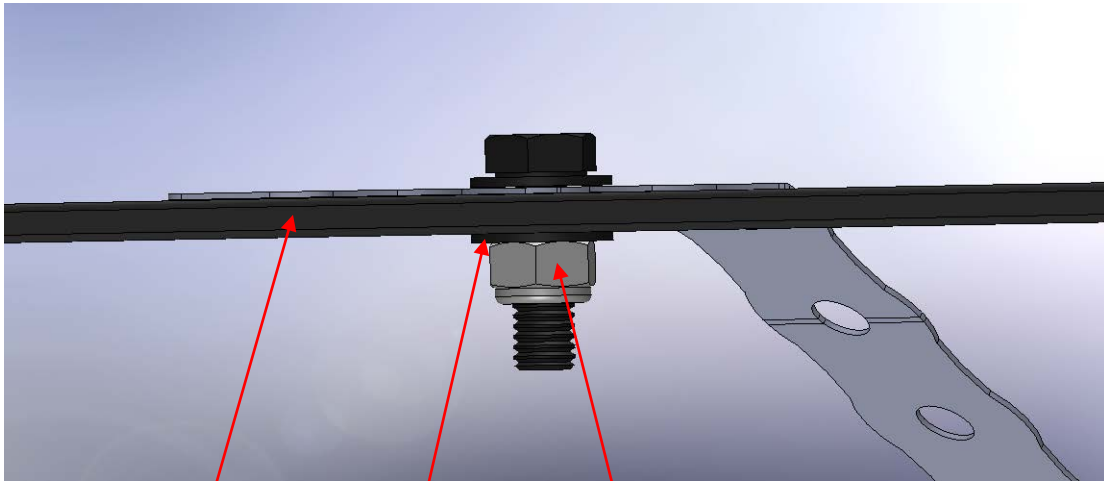
The “U” bracket kit is shown installed above and a close up below.



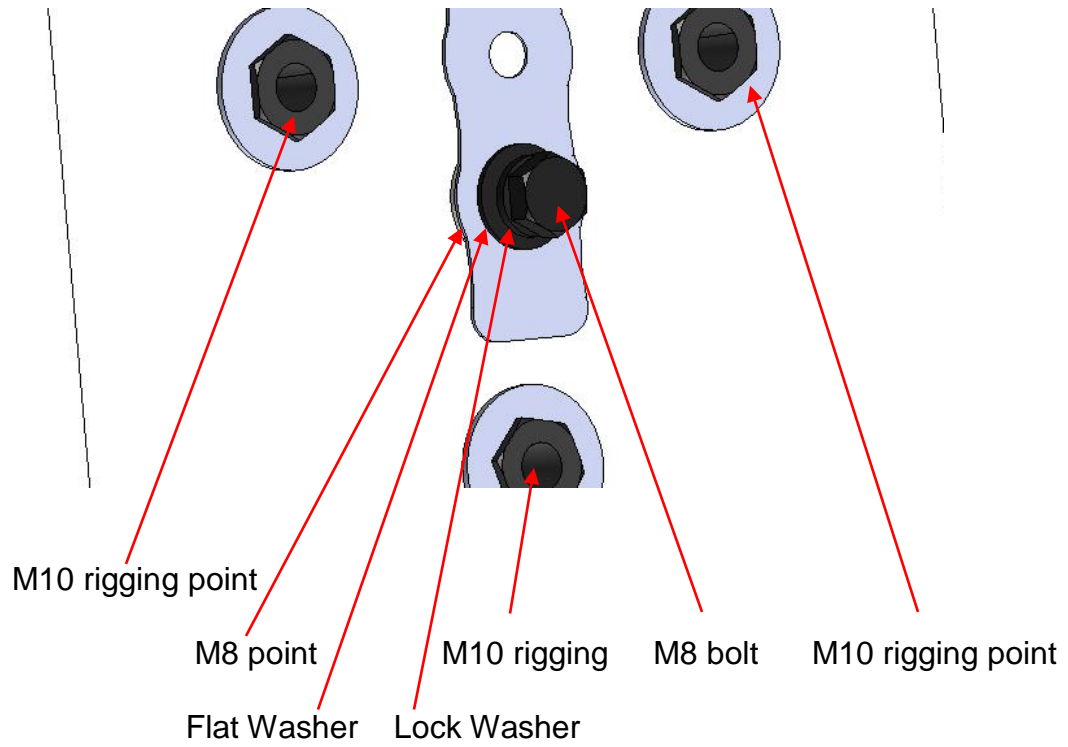
The stainless steel band is connected to the “U” bracket by using one M8 bolt and flat washer on the top as shown in the close up below. A second flat washer and the nylon insert nut are used below the “U” bracket to secure the stainless steel band to the top of the “U” bracket.



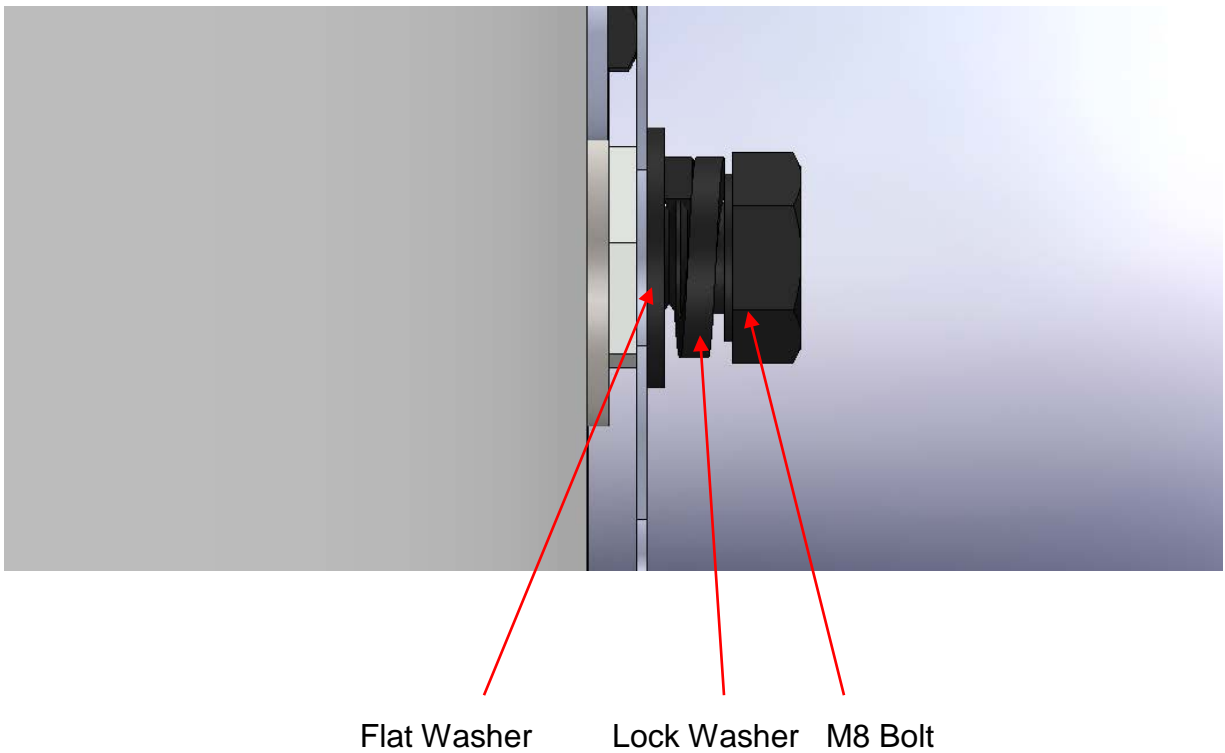
“U” bracket    M8 bolt    Flat Washer    Stainless Steel Band



“U” Bracket    Flat Washer    M8 Nylon Insert Nut



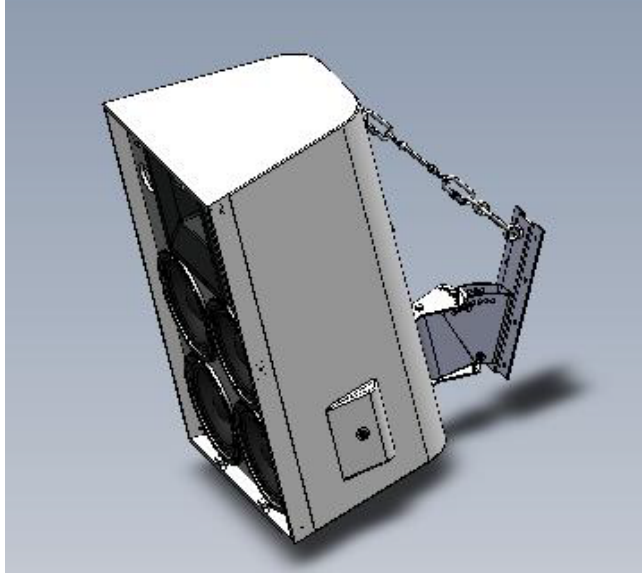
The band is secured on the back of the enclosure using the M8 point, a flat washer, a lock washer and the second M8 bolt as shown above.



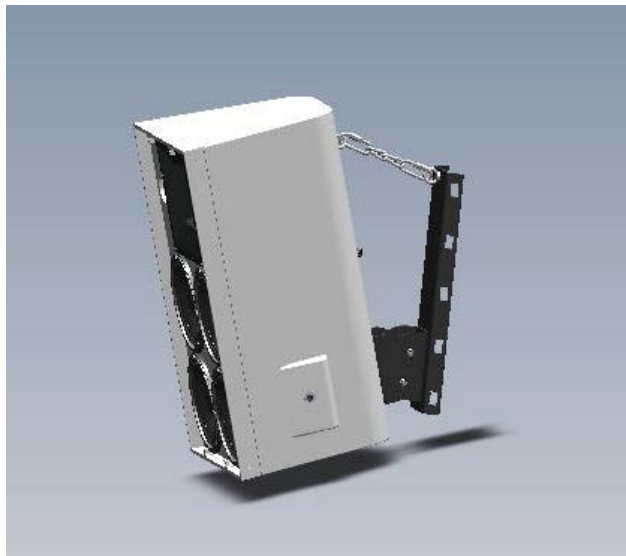
The above image shows the back of the CFA-2/HTH and the strap kit mounting.



The CFA-2/HTH is shown below with both the PT-76/M and the PM4/M. When the CFA-2/HTH is suspended using either the PM4/M or the PT-76/M the enclosure must be oriented with the woofers near the bottom of the mount.

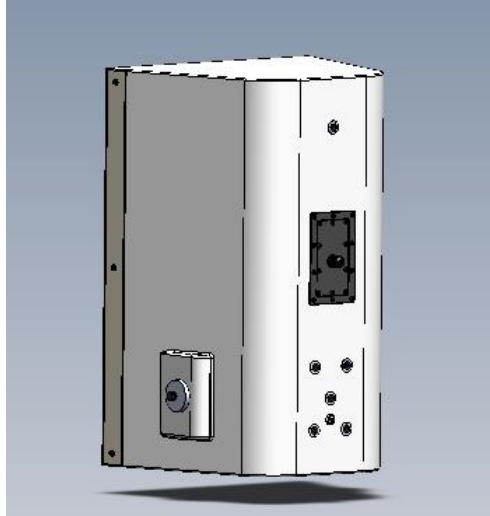


CFA-2/HTH with PT-76/M



CFA-2/HTH with PM4/M

**NOTE:** When the CFA-2/HTH is used with either the PT-76/M or the PM4/M the enclosure is rotated 180 degrees as shown above and below. The high frequency horn is located near the top for use with the PT-76/M or the PM4/M.



Enclosure orientation for PT/76M and PM4/M

Installation instructions for both the PM4/M and the PT-76/M may be found in the “Documentation” section of the One Systems web site. ([www.onesystems.com](http://www.onesystems.com))

The installation manuals for all associated mounting hardware (PM4/M and PT-76/M) MUST be read and understood prior to specifying the CFA-2/HTH for installation.