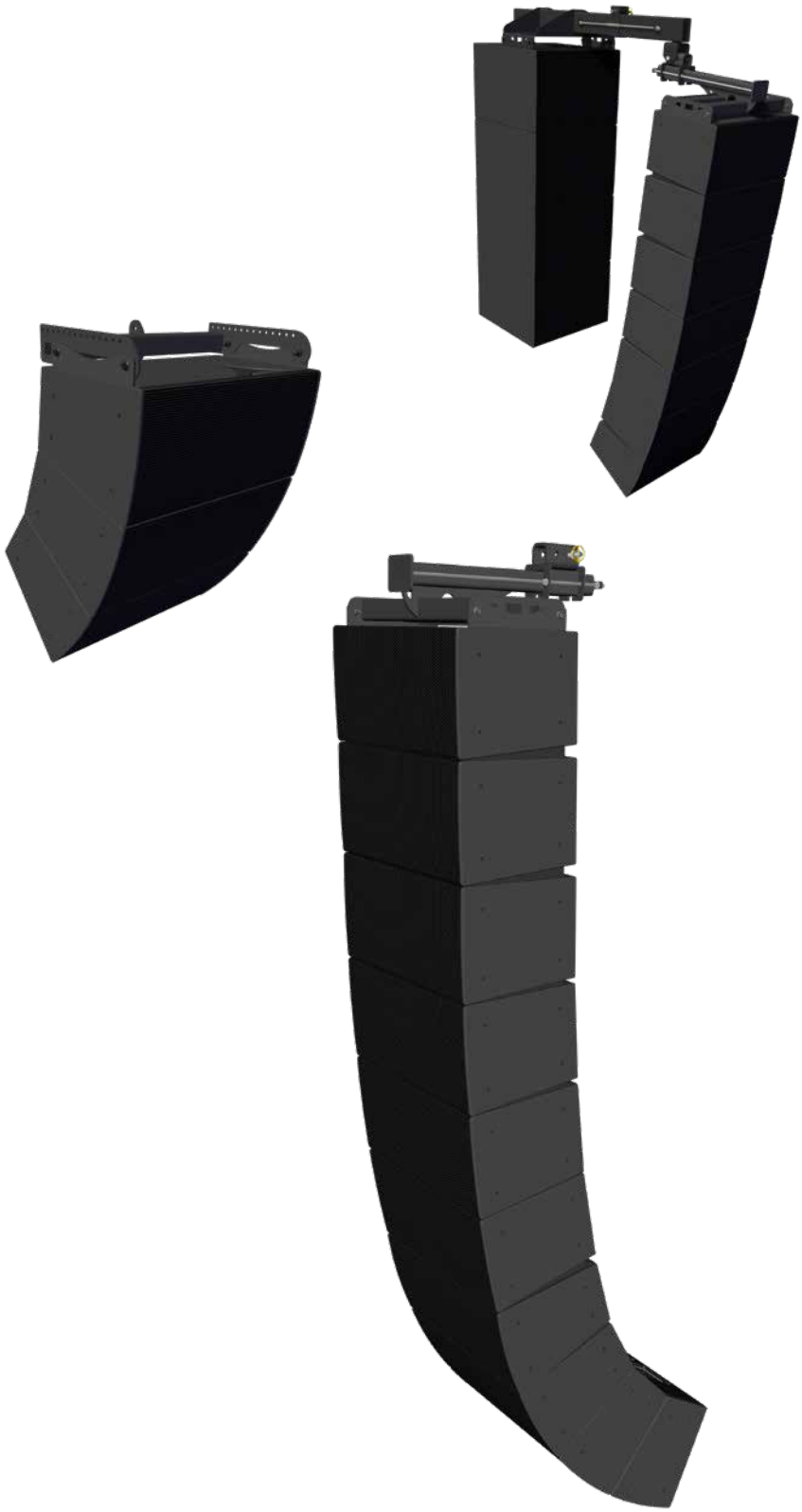
I SERIES

IV6 System Design and Installation Manual



Modular Vertical Array 600

Models

IV6-1122/05

IV6-1122/15

IV6-118S

Indoor & WR models

Community®

communitypro.com

IMPORTANT SAFETY INSTRUCTIONS

Always follow these basic safety precautions when using or installing I SERIES loudspeakers and accessories:

- Read these instructions prior to assembly, and keep for reference.
- Heed all warnings.
- Follow all instructions, particularly those pertaining to rigging, mounting, hanging and electrical connections.
- Do not use this apparatus near water (indoor models only).
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instruction.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Only use attachments and accessories that are specified and approved by the manufacturer.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, does not operate normally, or has been dropped.

The terms caution, warning, and danger may be used in this manual to alert the reader to important safety considerations. If you have any questions or do not understand the meaning of these terms, do not proceed with installation. Contact your local dealer, distributor, or call Community directly for assistance. These terms are defined as:

CAUTION: describes an operating condition or user action that may expose the equipment or user to potential damage or danger.

WARNING: describes an operating condition or user action that will likely cause damage to the equipment or injury to the user or to others in the vicinity.

DANGER: describes an operating condition or user action that will immediately damage the equipment and/or be extremely dangerous or life threatening to the user or to others in the vicinity.

These installation instructions are for use by qualified personnel only. To reduce the risk of fire or electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

UNPACKING / INSPECTION

Community I SERIES loudspeakers are engineered and manufactured to be rugged and they are carefully packed in sturdy cartons. However, it is recommended to thoroughly inspect each unit after it has been removed from the packaging, as damage could occur during shipping.

Please note that once the shipment has left your dealer or the Community factory, the responsibility for damage is always borne by the freight company. If damage has occurred during shipping, you must file a claim directly with the freight company. It's very important to contact the freight company as soon as possible after receiving your shipment, as most freight companies have a short time limit within which they will investigate claims. Make sure to save the carton and the packing material, as most claims will be denied if these materials are not retained. Your Community dealer and the factory will try to help in any way they can, but it is the responsibility of the party receiving the shipment to file the damage claim.

It is always a good idea to retain the carton and packing materials, if possible, in the event that the unit may need to be returned to your dealer or distributor for repair in the future.

WARNING: I SERIES IV6 rigging fittings are rated at Working Load Limits (WLL) with a 10:1 safety margin. All mounting provisions on the IV6 cabinets meet or exceed the 10:1 safety margin to support the cabinet when used with the specified mounting brackets, either from Community or designated 3rd party vendors.

Disregarding and/or exceeding the safe working load limits could result in injury or death!

RIGGING and ELECTRICAL SAFETY

IMPORTANT: The loudspeakers described in this manual are designed and intended to be mounted to differing building surfaces using a variety of rigging hardware, means and methods. Installation of loudspeakers should only be performed by trained and qualified personnel. All electrical connections must conform to applicable local, county, state, and national electrical codes.

DANGER: All rigging fittings must be fully tightened and secured. Any missing fasteners or parts will compromise the structural integrity of the enclosure and constitute a safety hazard. Do not suspend this loudspeaker unless all fasteners are securely in place!

DANGER: It is possible to experience severe electrical shock from a power amplifier. Always make sure that all power amplifiers are in the "OFF" position and unplugged from an AC Mains supply before performing electrical work.

IMPORTANT: Refer to the sections on installation and connections later in this manual for additional information on rigging and electrical safety.

IMPORTANT: Any open threaded inserts in the sides of each enclosure must have threaded fasteners inserted to seal the enclosure from air leaks. If the threaded fittings do not remain sealed, air leaks will occur in the enclosure that may compromise the low-frequency performance with distortion, reduced output, and premature driver failure.

CAUTION: Installation of I SERIES loudspeakers should only be performed by trained and qualified personnel. It is strongly recommended that a licensed and certified professional structural engineer approve the mounting. Severe injury and/or loss of life may occur if this product is improperly installed.

CONTENTS

IMPORTANT: *The accessory instructions in this manual are to be used with INDOOR IV6 cabinets/models only. The IV6-WR loudspeakers differ in width and mounting points and will NOT fit the indoor array frames. Contact Community for information regarding mounting options for WR (outdoor) IV6 loudspeakers.*

The array illustrations shown on the front cover are INDOOR models.

INTRODUCTION - IV6 MODULAR VERTICAL ARRAY

Community's IV6 is a "Modular Vertical Array" that enables a broad spectrum of modular and scalable systems from "true line arrays" to "constant curvature arrays" all with uniform front-to-back coverage, smooth frequency response, high maximum output and excellent sound quality. Its 5° and 15° cabinet models (array elements) and its versatile "Modular Splay Brackets" make it possible to configure a single array with a seamless transition from a straight, long-throw section to a curved near-throw section. Its 120° horizontal coverage easily fills wide angle front-of-house areas while providing beneficial early reflections to aid rear coverage and intelligibility.

Designed for installed systems, IV6 is passive, eliminating much of the installation and wiring complexity of self-powered line arrays. Its Modular Splay Brackets simplify installation while "Individual Element Controls" on each cabinet implement Community's unique Passive Acoustic Optimization (PAO), a process that's greatly simplified by an exclusive FIRmaker-inspired EASE® Focus 3 (EF3) plugin.

IV6 arrays bring line array advantages to a wide range of applications. Small to mid-sized IV6 arrays are versatile, cost-effective solutions for houses of worship, school auditoriums and gymnasiums, live theaters, nightclubs and corporate and municipal auditoriums. Larger IV6 arrays, which may consist of up to 20 cabinets, can meet the needs of many stadiums and arenas. IV6 offers a matching subwoofer that may be suspended or floor-stacked to add low-frequency support and warmth to an IV6 system. And, IV6 "PolyGlas™" versions bring line array advantages to outdoor facilities and amphitheaters.

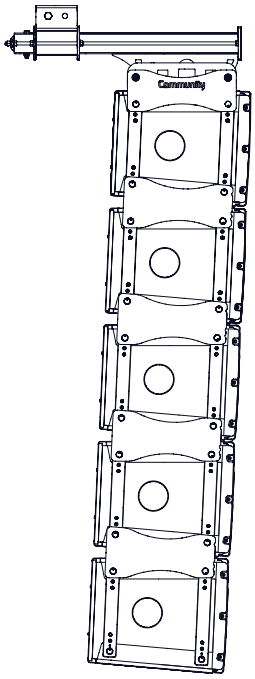
Community's I SERIES point source loudspeakers, which closely match the appearance and sound quality of an IV6 array, are the perfect compliment for front-fill, under-balcony and other special purposes and I SERIES brackets offer additional rigging options for IV6 arrays.

An IV6 array will please architects and interior designers with its elegant appearance, inconspicuous brackets, no-gap array design and choice of white or black finish. And, the total cost of an IV6 system can be dramatically lower than similar systems built from competing line arrays.

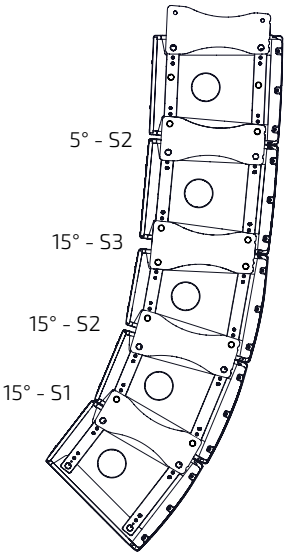
MEETING CHALLENGE #1: CREATE A BALANCED DESIGN

IV6 meets and surmounts four common challenges experienced by installed system designers. The first of these challenges comes about because most line arrays offer a single vertical coverage angle per cabinet forcing the designer to accept one of two compromises. A wide vertical angle forces the system designer to accept excessive overlap for long-throw coverage with its resulting audible smear and incoherency. But, a narrow vertical angle, which optimizes long-throw coverage, means additional cabinets with inter-cabinet gaps may be required to properly cover the near field.

Community's IV6 enables balanced system designs with a 5° model, the IV6-1122/05, optimized for long-throw and a 15° model, the IV6-1122/15 designed for near-field coverage. And, its modular splay brackets prevent overlap greater than 5° with either cabinet. This approach removes single-angle line array compromises, minimizes acoustic anomalies and eliminates unsightly inter-cabinet gaps.



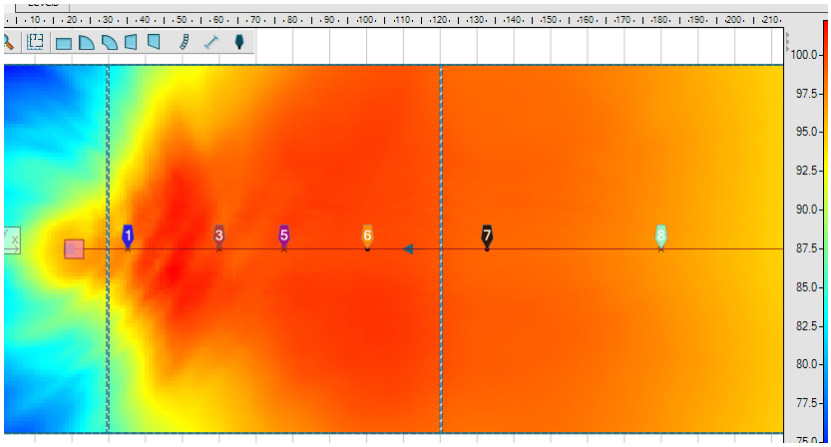
Straight Array
5° with S3 splay brackets



Gradual Curve
5° and 15° with splay brackets

MEETING CHALLENGE #2: PROVIDE EVEN SPL AND RESPONSE FROM FRONT TO BACK

The second challenge is meeting the goal of uniform front-to-back coverage and smooth frequency response. An ideal line array would meet these goals. However, to even approach this ideal, real-world line arrays need extensive DSP optimization in the form of "level shading", "frequency shading", "intensity shading", "phase tapering", "zone equalization", "end tapering" and so on. And, while these techniques are all useful, they commonly require individual cabinets, or groups of cabinets, to be placed on separate DSP and amplifier channels adding significant cost and complexity to the system. Even self-powered line arrays with internal DSP need computer network connections to each cabinet and complex software to calculate and implement these DSP settings.



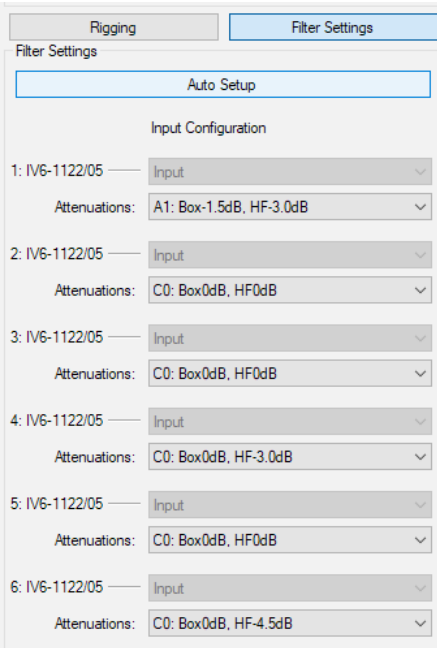
Even response front to back (modeled in EASE® Focus 3)

Community's IV6 offers a better way we call "Passive Acoustic Optimization" (PAO). To implement PAO, each IV6 cabinet has rear-panel "Individual Element Controls" that adjust overall cabinet attenuation and high frequency tapering for a total of 55 response profiles. With a mix of 5° and 15° cabinet models and Passive Acoustic Optimization, a system designer can customize an IV6 array for a specific venue while avoiding the cost and complexity of multiple DSP and amplifier channels.

MEETING CHALLENGE #3: MAKE IT EASY

With IV6, system designers can choose 5° or 15° cabinets (or a combination), install them with modular splay angle brackets and adjust the resulting array using Passive Acoustic Optimization with its 55 different response profiles for each cabinet. The design process is simple in concept but, due to a very large number of possible configurations, designs can be complex in implementation. In addition, by the very nature of line array science, adjusting a single cabinet affects the performance of the entire array further complicating its design and configuration.

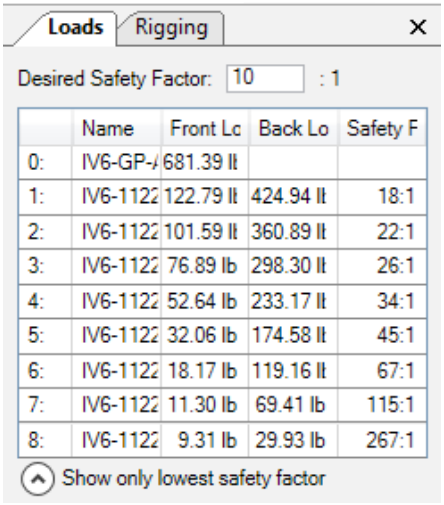
To meet this third challenge and simplify the IV6 system design and configuration process, Community has partnered with AFMG to develop a FIRmaker-inspired custom PAO module for EASE® Focus 3 (download here). Simply enter the combination of IV6 cabinets and splay angles for a given system, and Community's custom PAO module will calculate the precise combination of settings for each IV6 cabinet needed to optimize the array for the chosen audience areas. It's just as easy to fine-tune the performance of an IV6 array when desired. Designers can manually adjust individual cabinet PAO settings in EASE® Focus 3 with results shown in the coverage maps and response graphs.



Auto Setup calculates PAO settings for each cabinet

Community has also added a "Rigging Safety Calculator" (RiSC) plugin found under the "**Loads**" tab in EASE® Focus 3. As a designer creates an IV6 array in EASE® Focus 3, the RiSC plugin automatically populates and updates based on a specified "Safety Factor". An expanded view shows the safety margin achieved at each cabinet junction and displays a warning if the specified safety margin is not achieved. And, Community offers a separate impedance calculator tool (download here) that makes it easy to calculate the number of array elements for each amp channel.

Safety Note: *Community recommends a minimum of 10:1 safety margin. Community also recommends that every system design be reviewed by a licensed Professional Engineer (PE) in the USA or an appropriate certification body in other countries.*



Safety Factors on the "**Loads**" tab

MEETING CHALLENGE #4: MAKE IT COST-EFFECTIVE

An IV6 array can reduce overall system cost in several ways. First, the individual array elements are lower in cost than similar-performance cabinets from other manufacturers. Second, unlike a powered line array, a passive IV6 system doesn't need costly AC power and cabling for each cabinet. This may also be an advantage in meeting electric or fire safety codes in some localities. Third, IV6's Passive Acoustic Optimization system eliminates the need to string network cabling and signal cabling to each cabinet in the array. Finally, with their 16-ohm cabinets, many IV6 arrays can be powered by a single power amplifier channel and fed by a single loudspeaker cable daisy-chained from cabinet-to-cabinet cutting both electronics and cabling costs.

A UNIQUE SOLUTION

With its two array elements, Modular Splay Brackets and Passive Acoustic Optimization (PAO), designers can customize an IV6 array to meet the needs of almost any venue, indoors or out. Community's exclusive EASE® Focus 3 plugin simplifies the design process and makes it easy to fine-tune an IV6 array for a specific audience area. IV6 cabinets are attractive and discreet in appearance and available in PolyGlas™versions for use in outdoor systems. As a passive system, IV6 arrays offer the performance of self-powered line arrays without the wiring complexity and at a significantly reduced system cost.

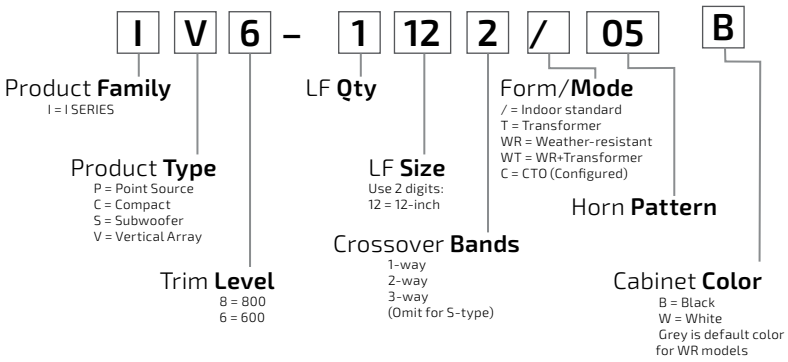
This manual provides detailed instructions for designing and configuring an IV6 system. We also invite you to contact Community's TAG Team for advice on product selection, EASE® and EASE® Focus 3 modeling and system design reviews. Email TAGteam@communitypro.com or call +1-610-876-3400.

CAUTION*: Installation of I SERIES loudspeakers should only be performed by trained and qualified personnel. It is strongly recommended that a licensed and certified professional structural engineer approve the mounting. Severe injury and/or loss of life may occur if this product is improperly installed.*

PRODUCT NAMING CONVENTION

I SERIES presents a logical way of easily deciphering each model's characteristics (family, type, level, number and size of woofer, crossover bands, and horn pattern). The diagram at right demonstrates the product naming convention behind each model.

IV6-1122/05B translates as:
I SERIES Modular Vertical Array 600
Single 12-inch Two-way, 120° x 05°, Black



The standard configuration is indoor construction with low impedance operation. All models also have a weather-resistant (WR) option.

CARTON CONTENTS

Each cabinet carton includes the following:

- (1) Loudspeaker with (2) Loudspeaker End Panels
- (1) M10 Splay Bracket Hardware Kit
- (1) M5 End Panel Hardware Kit
- (1) Information Packet

Weather-resistant (IV6-1122WR) models also have aluminum Input and attenuation panel covers, (2) gland nuts, (1) horn cover, and attachment hardware in bags.

The weather-resistant (IV6-118SWR) subwoofer also has an aluminum Input panel cover, (2) gland nuts, and attachment hardware in a bag.

SPLAY BRACKETS

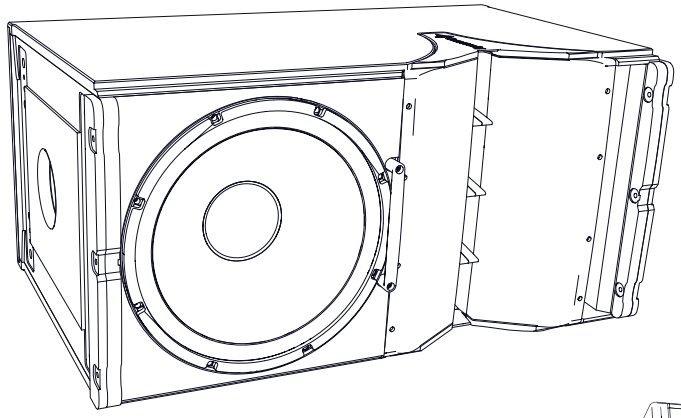
A pair of splay brackets is necessary for each cabinet-to-cabinet connection. They are sold separately and the type should be ordered based upon the report generated from EASE® Focus 3 after you model the system.

PRODUCT REPRESENTATION

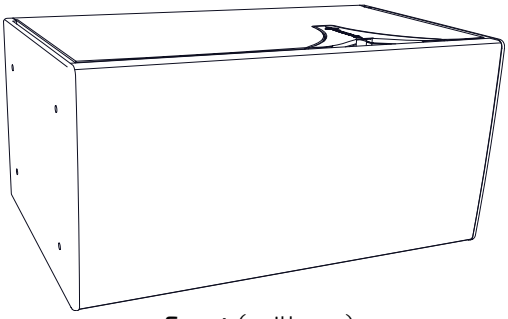
I SERIES MODULAR VERTICAL ARRAY LOUDSPEAKER (IV6-1122/05)

The IV6 loudspeaker with a 5° vertical cabinet angle and horn beamwidth, 120° nominal horizontal coverage. A pair of splay brackets ***must*** be used to make each cabinet-to-cabinet connection. There are three different splay bracket types (S1, S2, S3) used to configure the angle between adjacent cabinets (0°, 2.5°, 5°) to optimize the coverage to the audience area.

IMPORTANT: *The IV6-WR loudspeakers differ in width and mounting points and will NOT fit the indoor array frames. Contact Community for more information regarding mounting options for WR (outdoor) IV6 loudspeakers.*

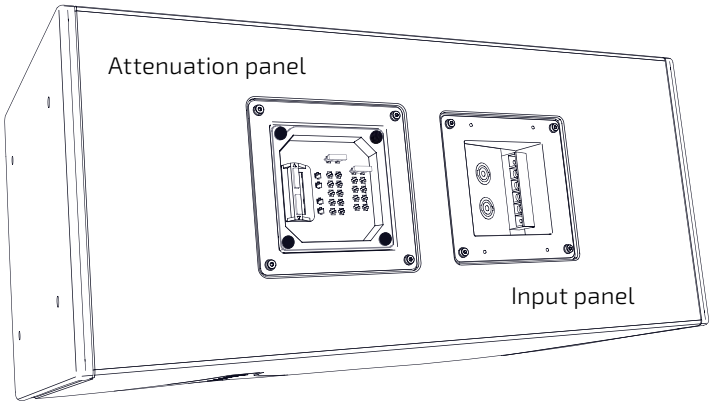


Front (without side panels and grille)

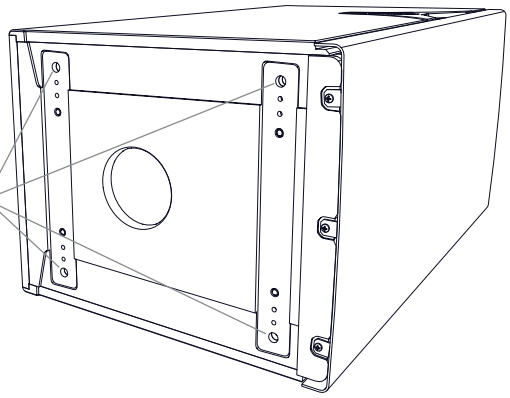


Front (grille on)

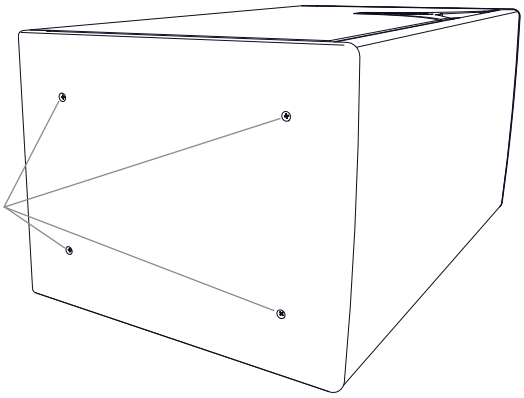
Models
IV6-1122/05 (B/W) *Indoor*
IV6-1122WR05 (Grey standard-B/W opt) *Outdoor*
IV6-1122C05 *Configured-to-Order*



Rear



Side (without side panel)
[typical]
WR models have additional center mounting points for use with exterior rigging (see pg 27***)***

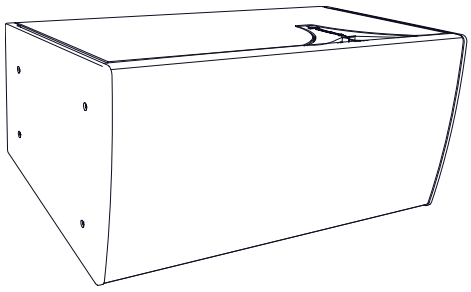


Side (side panel installed)
[typical]

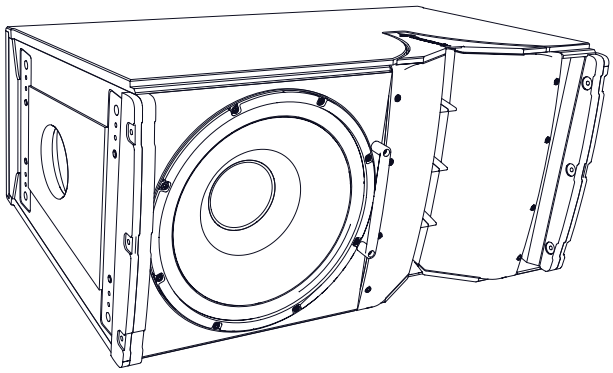
PRODUCT REPRESENTATION *(CONTINUED)*

I SERIES VERTICAL ARRAY LOUDSPEAKER (IV6-1122/15)

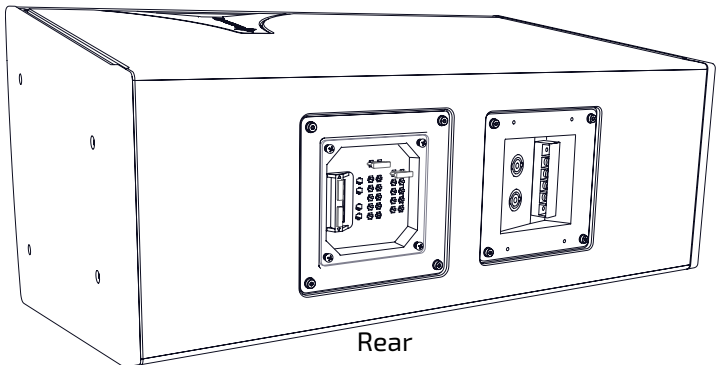
The IV6 loudspeaker with a 15° vertical cabinet angle and horn beamwidth, 120° nominal horizontal coverage. A pair of splay brackets ***must*** be used to make each cabinet-to-cabinet connection. There are three different splay bracket types (S1, S2, S3) used to configure the angle between adjacent cabinets (10°, 12.5°, 15°) to optimize the coverage to the audience area.



Front (grille on)



Front (without side panels and grille)

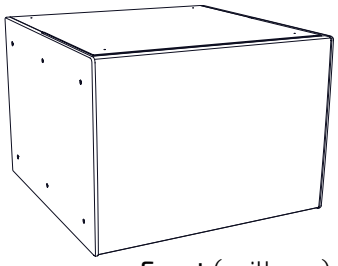


Rear

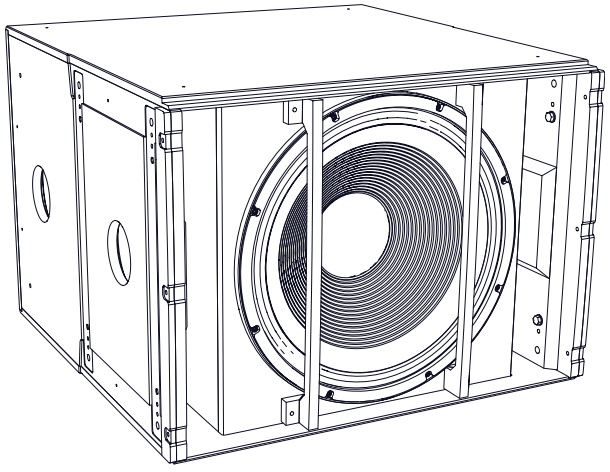
Models
IV6-1122/15 (B/W) *Indoor*
IV6-1122WR15 (Grey standard-B/W opt) *Outdoor*
IV6-1122C15 *Configured-to-Order*

I SERIES VERTICAL ARRAY SUBWOOFER (IV6-118S)

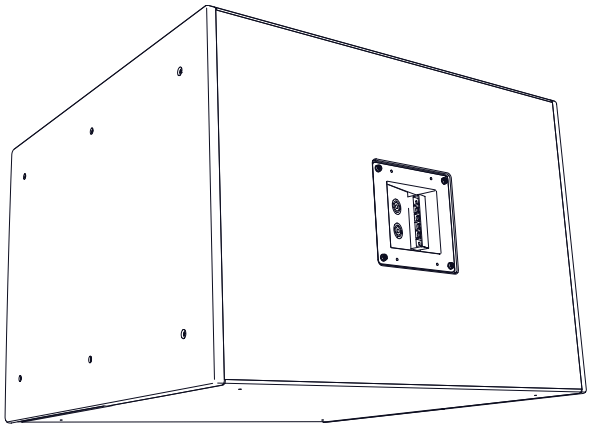
The subwoofer can be mounted above or behind a vertical array of IV6-1122 loudspeakers. It also includes user installable feet for ground stack applications. S1 splay brackets ***must*** be used to connect any arrayed or stacked subwoofers.



Front (grille on)



Front (without side panels and grille)



Rear

Models
IV6-118S

(B/W) - Indoor Black or White finish
(WR/WRB/WRW) - Weather-resistant Grey, Black or White
Custom colors available as CTO

RIGGING SAFETY

IMPORTANT: The loudspeakers described in this manual are designed and intended to be mounted to differing building surfaces using a variety of rigging hardware, means and methods. Installation of loudspeakers should only be performed by trained and qualified personnel. It is strongly recommended that a licensed and certified professional structural engineer approve the mounting plan. Severe injury and/or loss of life, and property damage may occur if these products are improperly installed.

DANGER: All rigging fittings must be fully tightened and secured. Any missing fasteners will compromise the structural integrity of the enclosure and constitute a safety hazard. Do not suspend any loudspeakers unless all fasteners are securely in place!

ACCEPTABLE MOUNTING POINT LOADING

Use the RiSC module in EASE® Focus 3 to assure mounting point system Safe Working Load (SWL) and required Safety Factor are not exceeded.

In addition, for sub-behind applications, use the IV6 Sub Behind Hang Point Calculator" to assure proper deployment of the IV6-SB-AF bracket. It is available from the IV6 "Downloads" section on the Community website.

INSTALLATION AND ASSEMBLY TIPS

- Test all cabinets before hanging
- Arrange cabinets in the order that they will hang, and loosely attach appropriate splay brackets to the top of each cabinet
- Set attenuation settings per the EASE® Focus 3 model on each cabinet
- If using the IV6-GP-AF, adjust the carriage on the array frame to the suggested pin setting before attaching the loudspeakers
- Orient cabinets so the horns align along the length of the array - this also aligns the input panels for easy wiring
- Ground-stacked subwoofers should be connected only with S1 splay brackets to prevent any vibration-based movement of the elements
- Leave splay bracket connections slightly loose until all cabinet connections are made, then tighten evenly

SAFETY CABLE

The safety cable and associated hardware are not included. Consult all applicable codes for your application. Confer with a structural engineer for the appropriate cable/hardware for the load, application and locale. If required, the safety cable must be secured to a suitable load-bearing point separate from the array mounting point, with as little slack as possible, so as not to develop undue kinetic force if the primary array mount were to fail.

Light Array Frame (IV6-LAF-PBB)
When required, a secondary safety cable can be attached to available rigging points on the LAF.

GlidePoint™ Array Frame (IV6-GP-AF)
A secondary safety cable mounting point is available from PolarFocus.
Part number: RLP-X2-1800

Sub Behind Array Frame (IV6-SB-AF)
Contact PolarFocus, for a quote for a custom secondary attachment point(s) required for your particular application.

Polar Focus manufactures the rigging frames and splay brackets that Community sells for use with IV6 Modular Vertical Array systems. Polar Focus also manufactures additional mounting accessories that can be used with IV6 systems. Refer to the table on page 37 or their website (www.linearrayframes.com) for additional information.

IMPORTANT: The hex head Grade 10.9 rigging bolts that are used to secure the splay brackets must also fill any unused holes (at the bottom of a flown array or at the top and bottom of a ground stack) to seal the enclosure from air leaks. If those threaded holes are not sealed, air leaks will occur in the enclosure that will compromise the low-frequency performance with distortion, reduced output, and premature driver failure.

WARNING: I SERIES IV6 rigging fittings are rated at Working Load Limits (WLL) with a 10:1 safety margin. All mounting provisions on the IV6 cabinets meet or exceed the 10:1 safety margin to support the cabinet when used with the specified mounting brackets, either from Community or designated 3rd party vendors.

Disregarding and/or exceeding the safe working load limits could result in injury or death!

ARRAY ASSEMBLY

ASSEMBLY TIPS & TRICKS:

There are many ways to build the array. If a lifting device is available, assemble the array by adding the cabinets one at a time from the top down. If the whole array is assembled on the ground, protect the grilles and finish with cardboard, packing blankets and the packaging materials. Wearing gloves will also help to preserve the grille and enclosure finish during installation.

- Line up cabinets in the order that they will go on the array (top down)
- Follow the splay bracket configuration (EASE® Focus 3 report) and loosely attach the appropriate splay bracket pair to the cabinet being moved into position (Figure 1).
- Splay brackets have notches in forward edge to identify type (S1 - one notch, S2 - two notches, S3 - 3 notches)
- All M10 bracket bolts (on both sides of the cabinet) should be loose until all bolts are started. To prevent cross-threading, always support the cabinets, so as to not place any load on the M10 bolts as they are being started.

  IMPORTANT: If threads or internal bracket mounting straps are compromised in any way, the cabinet must be replaced.
- Only after all 8 bolts holding each cabinet-to-cabinet connection are started, fully tighten the bolts.
- The last cabinet in the array should have bolts fully threaded into the bottom bracket mounting holes to prevent air leaks during operation.
- After the splay bracket bolts have been fully tightened, side panels can be installed.
- ***Installation should only be performed by qualified persons knowledgeable of safe rigging practices and applicable local codes / standards. They should also be competent with, and utilize, the proper tools and hardware for safe installation of the loudspeaker array.***

ARRAY ASSEMBLY

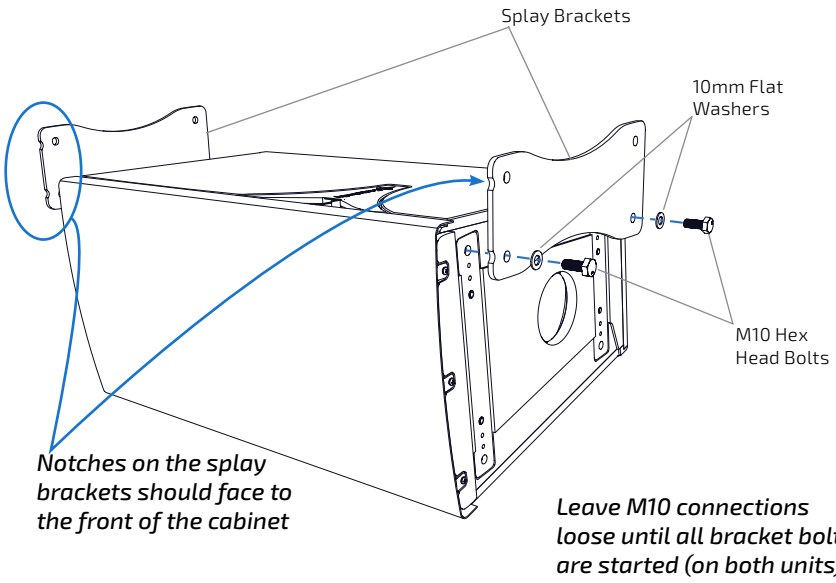


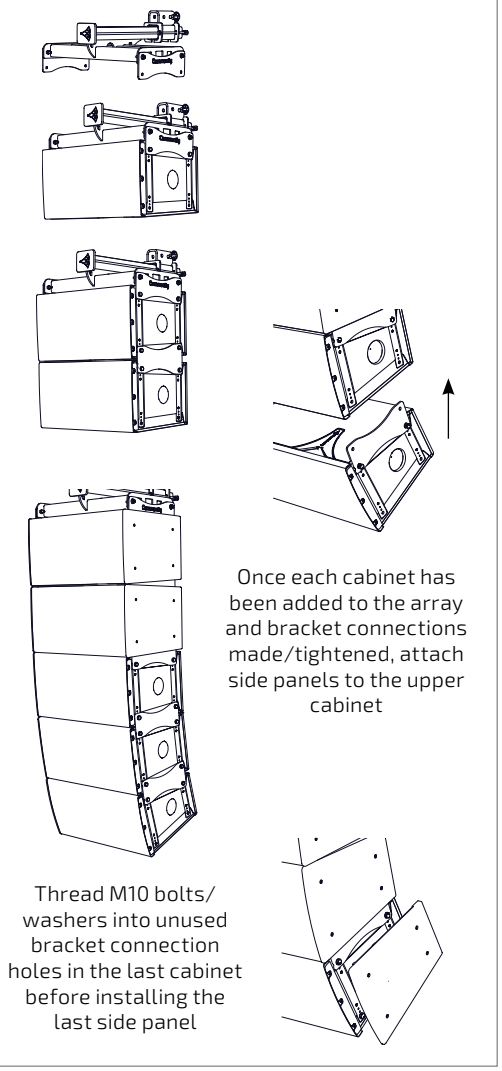
Figure 1. Typical splay bracket attachment to a cabinet

IMPORTANT: Use only the Grade 10.9 M10 hex head bolts* with pre-applied thread-locking compound provided with the IV6 cabinets for splay bracket connection. Use of any other bolt may compromise array integrity and reduce Safe Working Load (SWL) Limits. Use of any other bolts will void Community's Factory Warranty. Replacement Grade 10.9 M10 bolts are available from Community - Contact Community for replacement.

**WR models have 316 SS M10 bolts with pre-applied thread locking compound.*

IMPORTANT: Use EF3 and RiSC to determine if the array meets SWL and other required safety factors.

QUICK ASSEMBLY SUMMARY



ARRAY ASSEMBLY *(CONTINUED)*

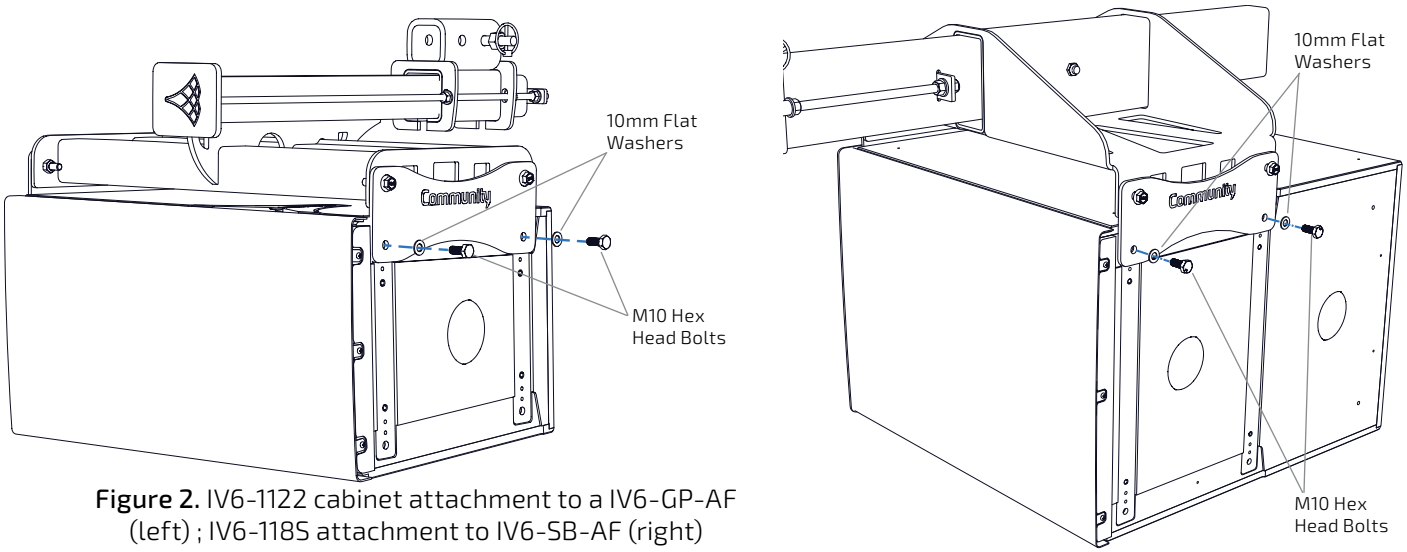
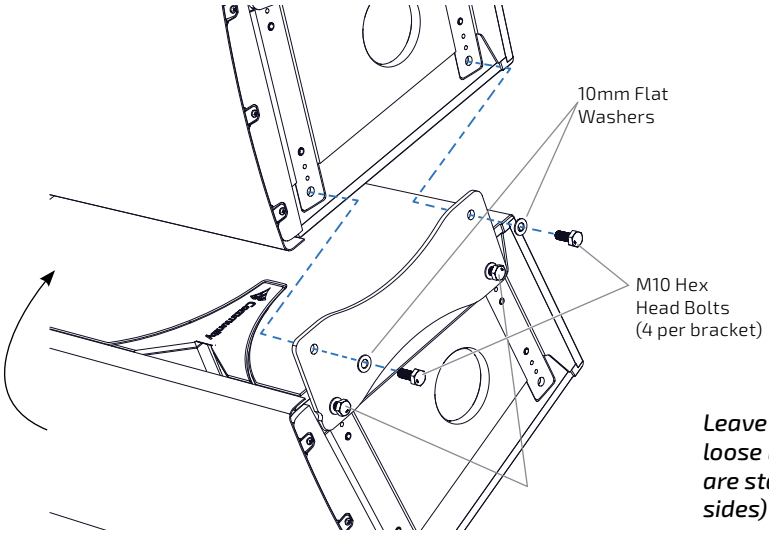


Figure 2. IV6-1122 cabinet attachment to a IV6-GP-AF (left) ; IV6-118S attachment to IV6-SB-AF (right)



Leave M10 connections loose until bracket bolts are started (on both sides)

Figure 3. Attach each cabinet to the array as noted per the EF3 system design

Once each cabinet has been added to the array (Figures 2, 3), and the bolts fully tightened, the side panels may be installed (Figure 4). Bolts must be threaded into any open bracket connection holes (on the lowest cabinet in the array) before the side panels can be installed.

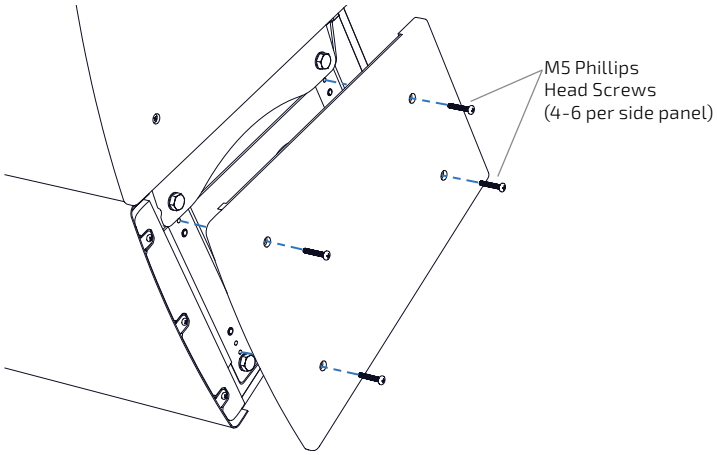


Figure 4. Attach side panels after all bracket connections / hardware has been installed

SUBWOOFER ASSEMBLY (GROUND-BASED)

FOOT ATTACHMENT *(optional)*

If the subwoofer is placed on the ground, four (4) rubber feet may be attached to the top or bottom of the cabinet; dimples indicate foot positions.

Turn the enclosure on its side to easily attach the feet.

(Indoor wood subs only) Predrill the cabinet to attach the feet at the dimple locations (Figures 5A, 5B). Using a 1/8" (3mm) drill bit, drill the dimple locations to a depth of 0.5" [13mm].

For WR (PolyGlas™) subs - just screw the feet/screws into the cabinet at the dimpled locations - *do NOT predrill*.

IMPORTANT: The subwoofer is heavy. Protect the finish by keeping the enclosure in plastic or on cardboard until the feet have been installed and it has been moved to the intended location.

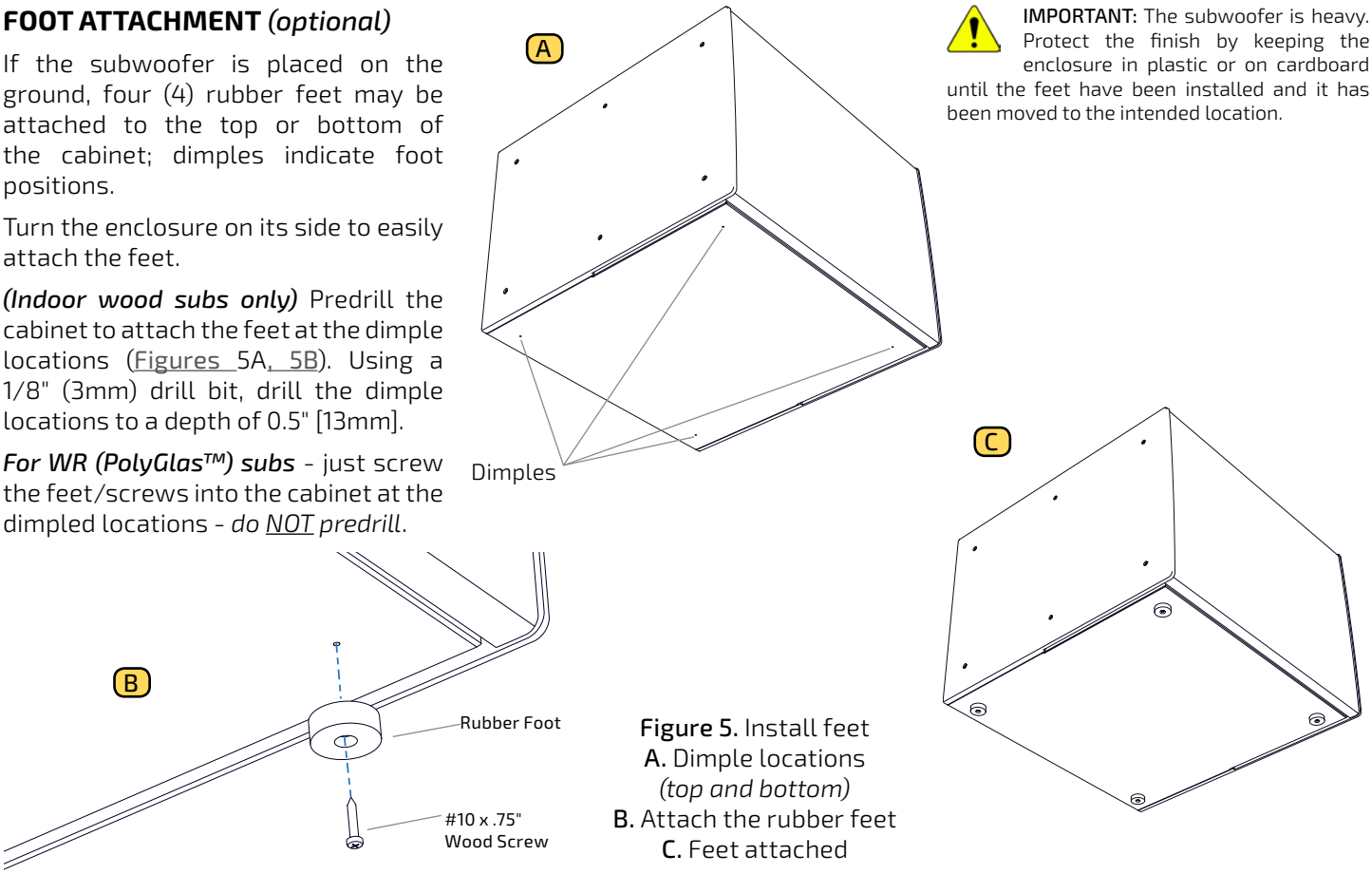


Figure 5. Install feet
A. Dimple locations *(top and bottom)*
B. Attach the rubber feet
C. Feet attached

GROUND-STACKED SUBWOOFERS

If subwoofers are stacked on the ground, they must be connected to prevent the upper cabinets from "walking" due to vibration **during use.**

Note: Rubber feet (if needed) should be attached to the lowest sub before stacking (see above).

Before the side panels are attached, move/stack subwoofers in their final location, and connect each cabinet with an S1 splay bracket on each side. Keep all connections slightly loose until all bolts are started (Figure 6A).

Fully tighten the bracket bolts, and fully thread bolts/washers in any unused bracket attachment holes (Figure 6B). Blue arrows show locations.

Attach the side panels (Figure 6C).

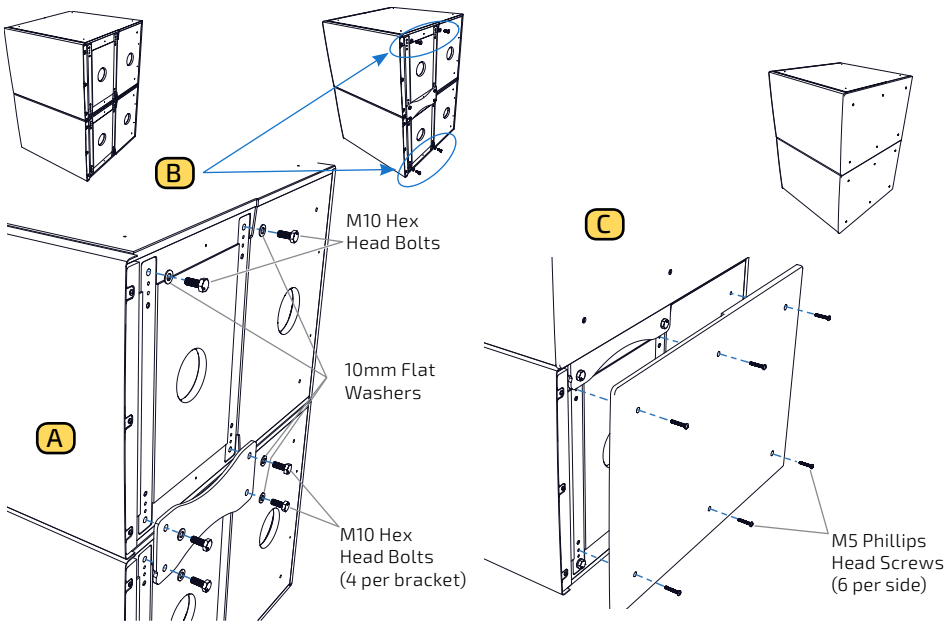


Figure 6
A. Attach an S1 splay bracket to each cabinet-cabinet juncture
B. Thread bolts into any remaining open cabinet connection holes
C. Attach sides after moving the stack to its final location

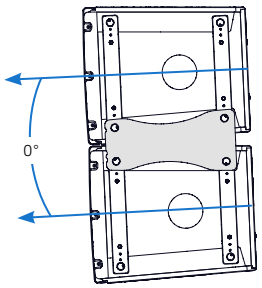
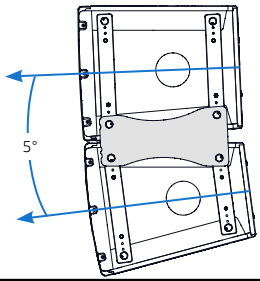
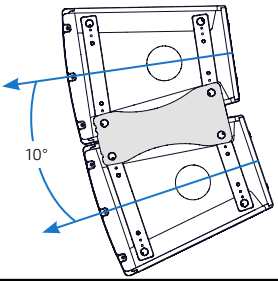
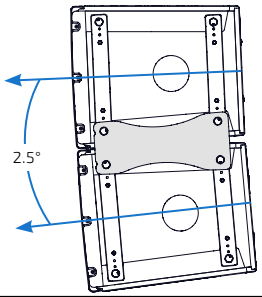
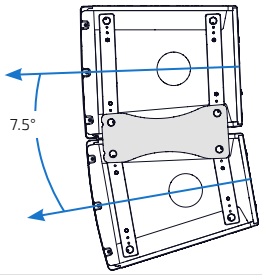
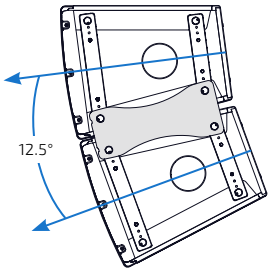
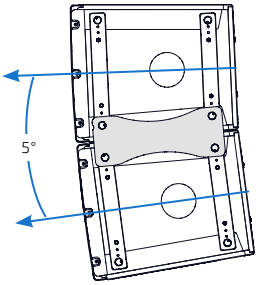
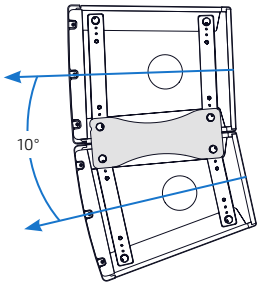
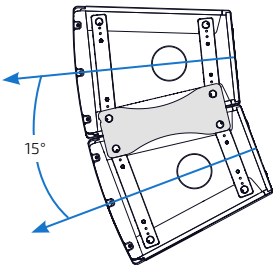
BUILDING ARRAYS

USING IV6 SPLAY BRACKETS

Each cabinet in an IV6 array will be connected to the next cabinet by a pair of splay brackets (one on each side of the cabinet). Three versions of the splay bracket kits are available:

- **IV6-S3** = Provides the minimum difference in the aiming angle, and straightens the array. (Available in black or white)
- **IV6-S2** = Moderate splay; use to transition between maximum and minimum splay. (Available in black or white)
- **IV6-S1** = Use to "tight pack" cabinets for maximum aiming angle and/or "Constant-Curve Array" applications. (Sold only in black since they are fully hidden by the side panels)

As shown in the chart, combining the S3, S2, and S1 splay brackets with two different vertical cabinet angles (5° and 15°), allows the design of arrays that progressively transition from 0° up to 15° of splay in 2.5° increments. Limiting the maximum amount of overlap between any two cabinets to 5° greatly increases the audible clarity and coherency of the array at all listening positions.

Upper Cabinet / Lower Cabinet	**IV6-1122/05 / IV6-1122/05**	**IV6-1122/05 / IV6-1122/15**	**IV6-1122/15 / IV6-1122/15**
Splay Bracket Types	Aiming angle values from EASE® Focus 3		
S3  Maximum splay between cabinets (maximum splay minus 5°)	Aiming Angle = 0° 	Aiming Angle = 5° 	Aiming Angle = 10° 
S2  Slight splay between cabinets (maximum splay minus 2.5°)	Aiming Angle = 2.5° 	Aiming Angle = 7.5° 	Aiming Angle = 12.5° 
S1  Standard - for tight pack or constant curve arrays	Aiming Angle = 5° 	Aiming Angle = 10° 	Aiming Angle = 15° 

BUILDING ARRAYS *(CONTINUED)*

IV6 SPLAY BRACKETS

IMPORTANT: Splay brackets are ordered separately from cabinets. When an array is created in EASE® Focus 3 (EF3) software, and the splay (aiming) angles are selected, EF3 will display the splay bracket type (S1, S2, or S3) next to the selected splay angle on screen (Figure 7). We recommend printing (and saving) a pdf report from the EF3 project. This report indicates the splay bracket types needed to build each array (Figure 8). We suggest sending the "Sound Source" section of the EF3 report along with purchase orders to ensure that the correct splay brackets are ordered to properly build each array.

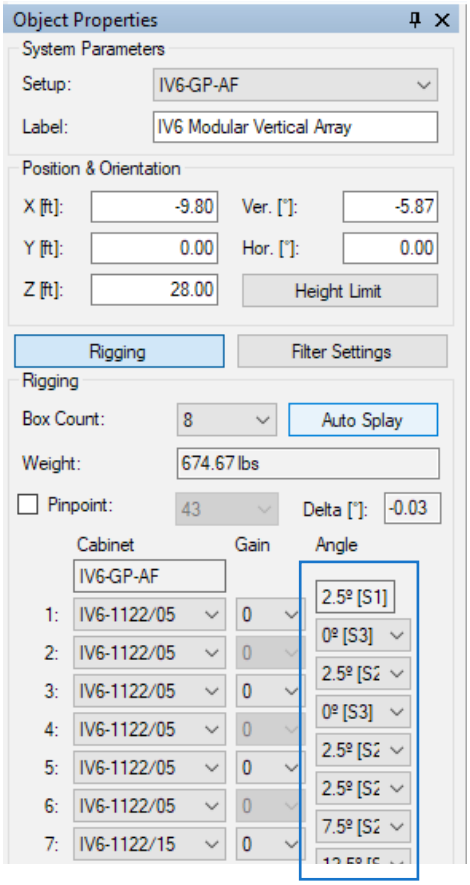


Figure 7. Splay bracket type and angle at each cabinet connection "**Object Properties Rigging**" tab in EF3

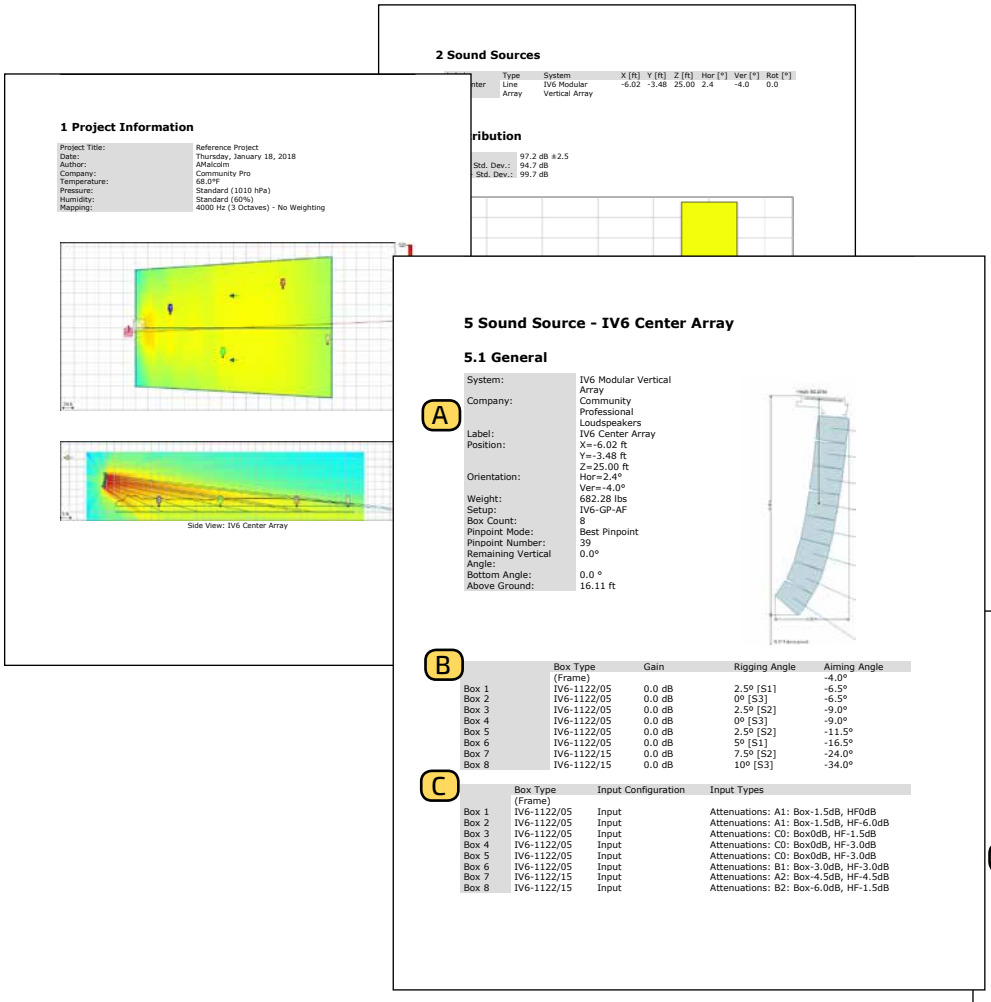


Figure 8. Example pages from an EF3 project report
A. Position / weight / rigging information
B. Array - models and splay brackets
C. Attenuation panel settings
D. Desired safety factor and loads

SYSTEM DESIGN

IV6 AND EASE FOCUS 3 SOFTWARE

The IV6 Modular Vertical Array loudspeaker systems were developed in parallel with groundbreaking, Community-exclusive custom modules within the industry-standard EASE® Focus 3 (EF3) sound system modeling software. To utilize the full acoustic potential of IV6, greatly reduce system design time, and ensure that arrays can be deployed safely, system designers must use EASE® Focus 3 (ver. 3.1.3 or later).

Download the EF3 software from the Community website (link at right). If a previous version of EF3 is installed on your computer, it will be necessary to uninstall it from your device before installing new versions. You will not lose any previously imported loudspeaker definitions or EF3 project data during the uninstall process if you select the "Remove" option during the Uninstall Wizard. DO NOT check “Delete all databases content from disk” or else existing EF3 loudspeaker definitions will be deleted. EASE® Focus 3 [v. 3.1.3], or later, provides the necessary authorizations that provide access to Community's exclusive "Passive Acoustic Optimization" (PAO) module and Rigging Safety Check (RiSC) module. If you load the version of EF3 (from the Community download page), the IV6 "system definition file" (GLL file) will automatically be imported to your EF3 loudspeaker library and will be immediately ready to use upon launching the software.

The next few pages explain how to use the Community-exclusive PAO and RiSC modules within EF3, with a few general tips for designing IV6 Modular Vertical Array systems. A complete EASE® Focus 3 User Guide is included in the software that explains all of the standard capabilities and tools available in EF3. To access the User Guide in EF3, click "Help" and then "User's Guide" to open the PDF. If you need additional help using EF3 software or want to arrange for training, please contact Community's Technical Applications Group (TAG Team): TAG@communitypro.com

BASIC IV6 ARRAY DESIGN

Unlike many other "line array" or "constant curvature array" systems, IV6 offers system designers the choice and flexibility to design systems using 5° elements, 15° elements, or a combination of both (Figure 9). The first question most people ask is, "how do I choose which box, or combination of boxes, is the best choice for my application?" EF3 can automatically suggest appropriate splay angles between cabinets, and the overall array tilt angle, but only after the cabinet types have been selected. Fortunately, there are a few simple "rules of thumb" that can be followed to help you choose when to use 5° and/or 15° elements and determine the appropriate size for the array. Some of the "rules" are actually system design questions that must be answered, helping guide you to tailor the array to the needs of your application.

Download link to EASE® Focus 3 with Community specific GLLs and functionality included

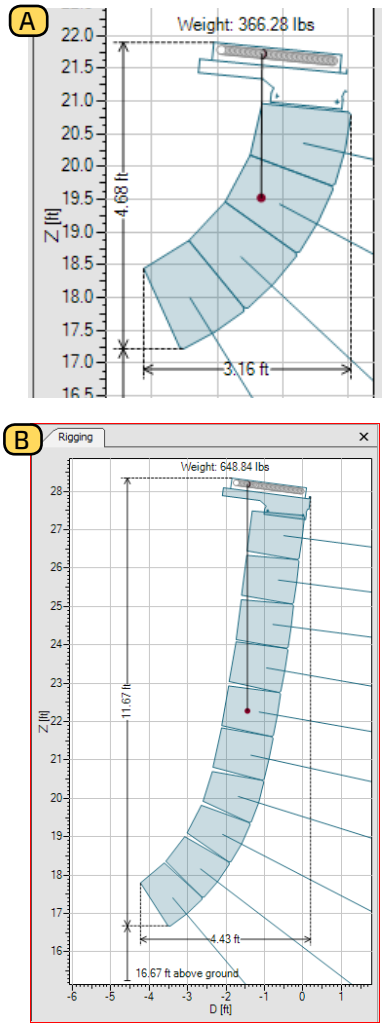


Figure 9. IV6 Array Variations
A. Constant-curve short array with 4x 15° cabinets
B. 10 cabinet array with 5° and 15° cabinets splayed for best coverage

SYSTEM DESIGN *(CONTINUED)*

IV6 ARRAY DESIGN RULES AND SUGGESTIONS

1. MAKE EACH ARRAY AS LONG AS POSSIBLE

As the manufacturer, we would like you to purchase as many IV6 array elements as possible, but that is not the reason this is the #1 design rule. The fact is, long vertical arrays simply work better than short ones. Short arrays will project high frequencies a long way, but the midrange and low frequency will drop in level much more rapidly over distance. The longer the array, the greater its ability to project midrange and high frequencies evenly throughout a listening space.

For IV6 this rule is important for a second reason. The Passive Acoustic Optimization (PAO) algorithm's ability to influence the SPL and frequency response evenness over distance increases directly in proportion to the number of elements that can be adjusted within the array.

More cabinets ⇒ more control ⇒ most even coverage

With short arrays, PAO can make only coarse adjustments. The longer the array, the more PAO can fine-tune the results.

For the advanced reader, a simple guideline for total array length is that the array should be at least 1 meter tall for every second of reverberation time in the room.

2. START BUILDING EACH ARRAY USING ONLY THE IV6-1122/05

After defining your audience area in EF3, define your array using the maximum number of IV6-1122/05 elements that will fit within the hang height, sight lines, budget parameters, and structural support limits of your application. Then, use EF3's "Auto Splay" function to determine suggested splay angles between each cabinet.

Ask yourself: *Using only 5° elements, does the array have enough curvature to cover the last row and front row of the audience equally well?*

The Auto Splay function will automatically point the top cabinet in the array toward the farthest listening position of the audience area. If the array does not quite cover the front row, try converting the lowest array element at the bottom of the array to a 15° model (IV6-1122/15) to provide additional curvature to the array. Use Auto Splay to configure the revised array. If the revised array still does not cover the audience area, change the next cabinet up in the array to a 15° element and repeat the Auto Splay (Figure 10). Continue this process until the front row and back row of the audience are covered by the array to your satisfaction.

For short arrays (less than 4 cabinets) with low hang heights and short projection distances, it is very likely the process above will result in an array using exclusively 15° elements, and that is fine. Following this iterative process will still eliminate the "guesswork" for determining the proper cabinet or combination of cabinets that is best for your application.

After following this process, if the audience area is not covered evenly from front to back, it means that your array is simply not long enough to adequately cover the room. Add an additional cabinet to the array and start the process from the beginning. Once the array is curved, you may find that an additional cabinet in the array will still fit within the dimensional restrictions of the venue.

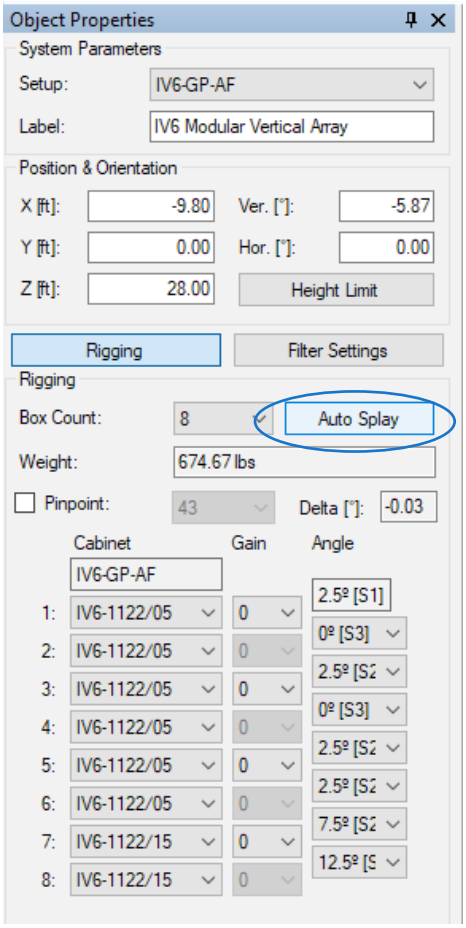


Figure 10. Object Properties Auto Splay button

In some cases, delay or fill loudspeakers may be needed. I SERIES point source and compact loudspeakers complement the IV6 modular line arrays with similar voicing and style.

IMPORTANT: The Auto Splay function calculates splay angles between elements based on the audience area directly in front of the center aiming line of the array. If the center aiming line of the array is not pointed directly at an audience area (for example, if the array is pointed directly down an aisle between two seating sections), the Auto Splay function will appear greyed-out on the screen and will not work (Figure 11A).

If the array center aiming line intersects a small part of an audience area, the Auto Splay will be available, but the results from this arrangement will be sub-optimal. For the best results, ensure that the array aiming center line for each array is pointed directly at an audience area, intersecting the full length of the audience area (Figure 11B).

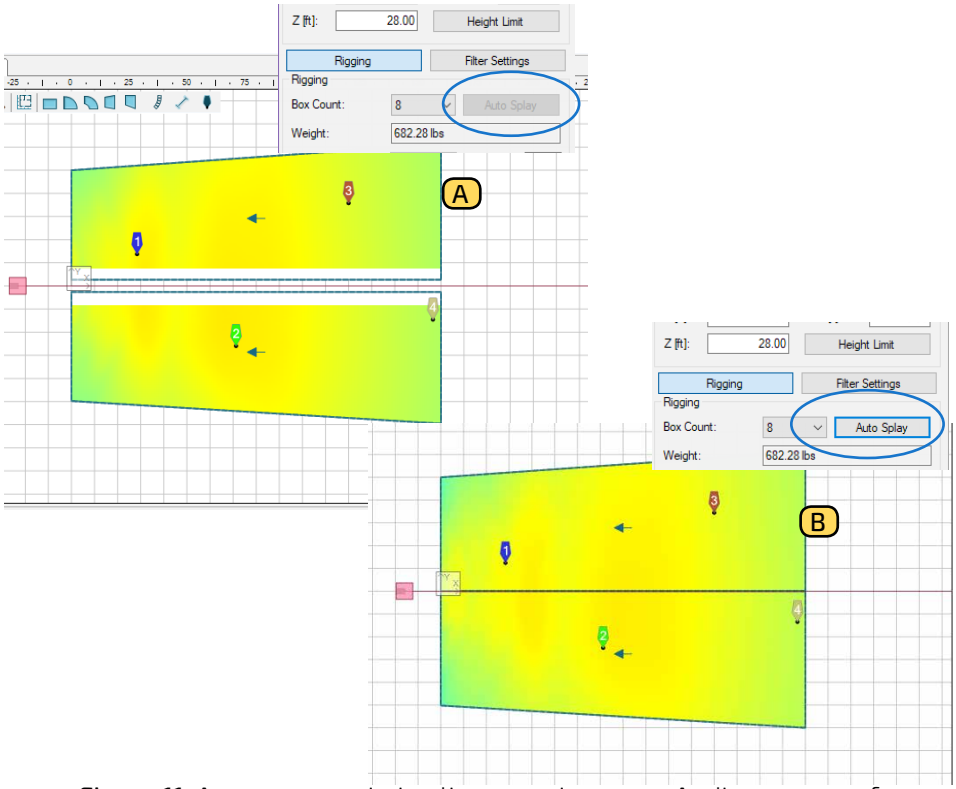


Figure 11. Array center aiming line must intersect Audience zones for "Auto Splay" to work

3. COVERAGE EVENNESS MAY BE IMPROVED BY AIMING SLIGHTLY BEYOND THE AUDIENCE

Making use of Auto Splay is a fast and easy way to determine the number of elements needed and reasonable aiming angles. However, sometimes you may achieve improved results by manually aiming the top element of the array to reach slightly beyond the farthest listener and the bottom element to reach slightly in front of the nearest listener. In a vertical array, the sound energy begins to taper off and behave a little differently at the ends of the array. The output and frequency response at the ends of the array may be different from what one might expect. Extending the array coverage to cover an area slightly larger than the audience area helps ensure that all of the audience remains within the "consistent" coverage lobe of the array (Figure 12).

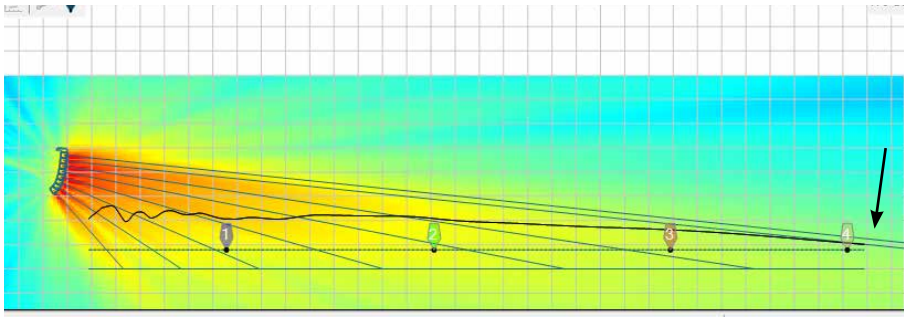


Figure 12. Side view of the top cabinet in the array aimed past the audience zone end (arrow)

If increasing the total coverage angle of the array results in pointing energy at a highly reflective or concave surface (like an inwardly curved rear wall), extending the array coverage may be counter-productive. Also, note that nearby boundary reflections will often improve clarity slightly so long as that sound arrives and integrates for listeners near that boundary. Just keep in mind that aiming slightly past the furthest listeners or directly at them will be influenced by nearby walls and windows not shown in EF3 since EF3 does not show the reflected sound in the array coverage. The system designer must account for the venue materials and geometry when making a decision about whether extending the coverage is appropriate for the application.

4. ADJUST THE HANG HEIGHT OF THE ARRAY

Sometimes, adjusting the hang height of the array by as little as 1 to 2 feet (0.3m to 0.6m) can result in remarkable changes to the array coverage. This is because small angular changes at the array are magnified with increasing distance from the array, modifying the resultant coverage for increasingly large areas of the audience plane as the distance from the array increases. Put simply, small angular changes at the array result in substantial coverage differences throughout the audience area. Moving the array up and down (refreshing Auto Splay with each move) will result in changes to the overall tilt of the array and splay angles between elements (Figure 13). Try moving the array up and down within the physical limitations of your venue to find the optimal trim height for the array to produce the most even coverage. This tip can be especially helpful for arrays that are shorter than optimal for the application. Be sure to leave sufficient space for the mounting system.

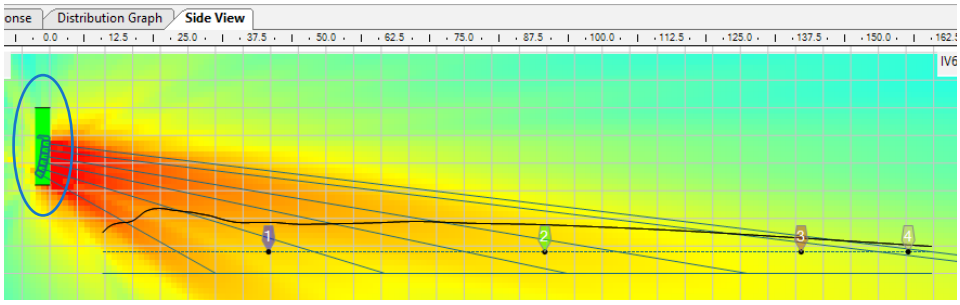


Figure 13. With defined height limits showing (green column), move the array up/down (+ Auto Splay each time) to find best coverage

SYSTEM DESIGN - RIGGING SAFETY CALCULATOR

RIGGING SAFETY CALCULATOR (RiSC)

After your initial array has been designed, and before proceeding to fine tuning and optimizing, it is critical to ensure that the array as designed is safe to deploy. As changes are made to the array during the design process, it is important to continuously check that the array remains within desired safety conditions. To help you and your qualified structural engineering team make decisions about the safety of the array, we have worked with AFMG to develop a Community-exclusive custom module for EASE® Focus 3 (EF3) that we call the Rigging Safety Calculator (RiSC).

RiSC calculates the static loads and resultant safety factor for each array cabinet connection point to adjacent cabinets (including loads through the IV6-S1, IV6-S2, and IV6-S3 splay plates) and the top cabinet's attachment to the Array Frame.

IMPORTANT: *RiSC should NOT be used to determine the safety factor for arrays deployed outdoors or in any other conditions where additional forces (like wind or vibration) may act upon the array.*

To view the RiSC display in EF3, click on the "**Loads**" tab (Figure 14). By default, it is located just to the left of the "**Rigging**" tab. At the top of the "**Loads**" tab is box for the user to enter the "**Desired Safety Factor**" for the array.

Community recommends using a 10:1 Safety Factor whenever possible. The RiSC module is set to a 10:1 Safety Factor by default. Consult all applicable codes to determine the required safety factor for your application.

In the lower left corner of the EF3 window, a "**Status**" notice shows whether or not the Desired Safety Factor conditions have been fulfilled (Figure 15). If the status displays "condition failed" warning, the array must be re-configured until the status displays "condition fulfilled".

Note: In EASE® Focus 3 the "**Desired Safety Factor**" on the "**Loads**" tab is equivalent to the "**Global Safety Factor**" in the status notifications. "Global" only refers to the selected array. It does NOT mean that the warning refers to all of the arrays in the project. The "**Global Safety Factor**" status for each array in the project must be checked independently.

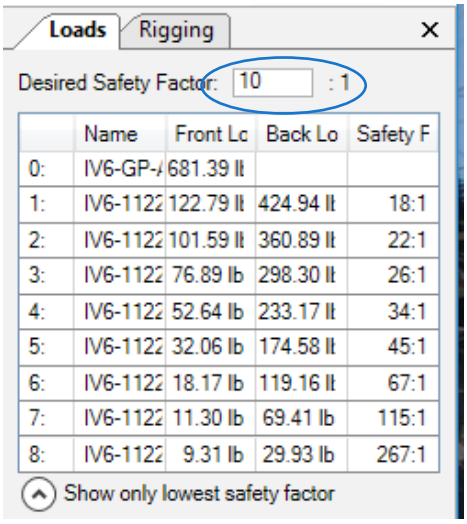


Figure 14. Loads tab
Enter Desired Safety Factor (circle)

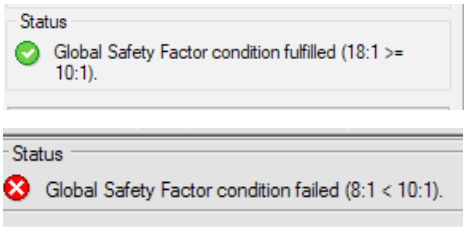


Figure 15. Safety Factor Pass / Fail

Designer's Hint: A number of factors contribute to whether an array fulfills the Desired Safety Factor criteria, including overall array weight, array shape (curvature), and overall array tilt angle. Each array must be checked individually even if constructed identically to another one that passes.

Designer's Hint: It is worth checking the "**Status**" window before proceeding to calculating the Passive Acoustic Optimization settings so that you do not spend time optimizing an array that, ultimately, is not safe to deploy.

RiSC does NOT calculate the safety factor for the array frame lift point(s), where the array frames are connected to the supporting structure. That feature is natively built into EF3 and is hard-coded with a Desired Safety Factor of 10:1. If the weight limit of an array frame, with a 10:1 safety factor, is exceeded a secondary "**Status**" warning (circled) will appear (Figure 16) stating that the array frame lift point(s) maximum weight has been exceeded. Each array frame has a different maximum allowable load. If this warning appears, change to a higher rated array frame, or remove cabinets from the array until within allowable limits. Due to the complex forces acting on arrays, consult a qualified structural engineer to determine if using the IV6-LAF-PBB as a pullback bar at the bottom of the array. In some cases, it can be used to help distribute array loads rather than just as an assistive aiming device. Currently, EF3 (and the RiSC module) does not offer the option of using the IV6-LAF-PBB as a pullback bar.

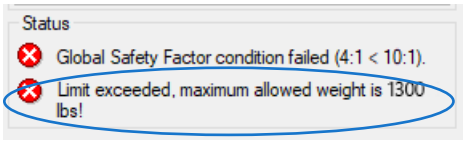


Figure 16. Safety Factor and weight limit failures

By default, the "**Loads**" tab shows a simplified RiSC summary for the array, displaying only the connection point in the array with the LOWEST Safety Factor (Figure 17A). To view the loads and safety factors for all connection points in an array, expand the loads table by clicking on the arrow next to "Show all cabinets" (Figure 17B, 17C)

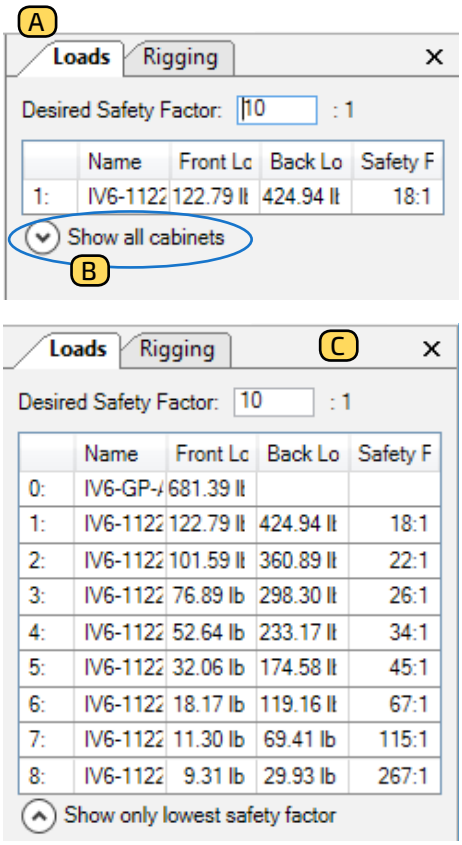


Figure 17.
A. Loads tab
B. Toggle to show all cabinets
C. All cabinets shown

The loads and safety factor values will update automatically, in real time, as changes are made to the array size, curvature, aiming angle, cabinet type, array frame, etc.

THE PROJECT REPORT

The expanded loads and safety factor values, along with the "**Status**" confirmation messages are included in section 5.1 and 5.2 of the EASE® Focus 3 Project Report. In EF3 click on "File", then "Create Report". This PDF report includes all of the important information about the array, including cabinet types, aiming angles, array frame types, acoustic simulation results, etc. (Figure 18). This makes it easy to inform customers, engineers, installers, AHJ's (Authorities Having Jurisdiction) or any other stakeholders of the array design status and critical design parameters.

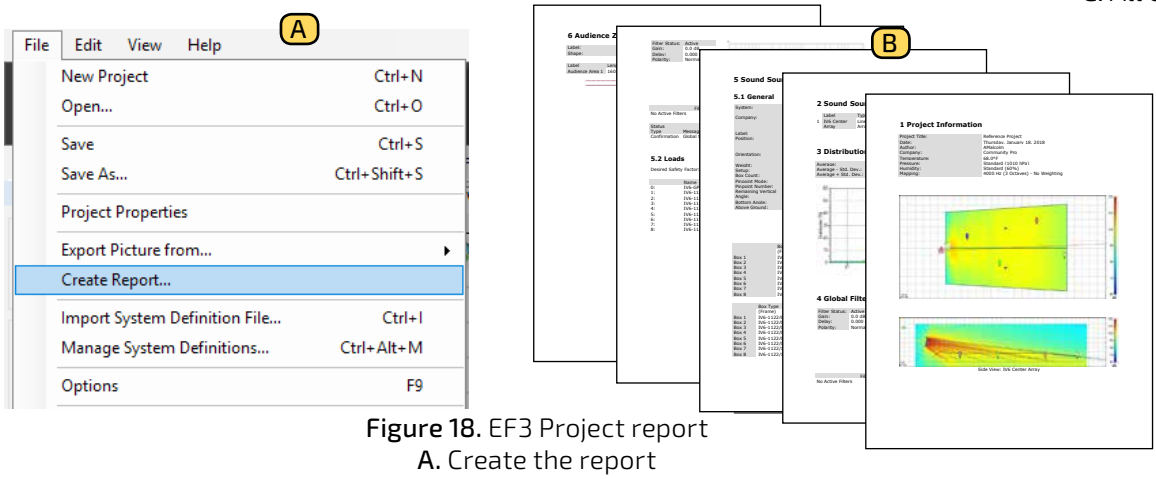


Figure 18. EF3 Project report
A. Create the report
B. Pages from a sample report

SYSTEM DESIGN - PASSIVE ACOUSTIC OPTIMIZATION

INTRODUCTION TO PASSIVE ACOUSTIC OPTIMIZATION

Passive Acoustic Optimization (PAO) is a process developed exclusively by Community, in cooperation with Ahnert-Feistel Media Group (AFMG), PAO helps system designers quickly and easily tailor the output of individual loudspeaker "elements" within a vertical array to optimize the entire array for uniform SPL and frequency response from the front to back of a listening space, without requiring any additional DSP or amplifier channels.

PAO combines fine-tuned passive loudspeaker controls (55 passive frequency response profiles per element) with a FIRmaker-inspired, custom acoustic optimization module integrated into AFMG's industry-standard EASE® Focus 3 (EF3) sound system modeling software. After using the "Auto Splay" feature, the designer uses the "PAO Module" within EF3 to calculate the optimal attenuation for each element in the array based upon the selected audience zones. It applies those values to the acoustic model, and displays the respective settings required for each element. When installing the array at the venue, the installer must simply set the jumpers on each loudspeaker's rear panel to match the values determined by the EF3 PAO module and listed in the EF3 project report to achieve the modeled results (Figure 18B).

Each IV6 element is 16 Ohms nominal, has an internal passive crossover and operates from a single amplifier channel; IV6 cannot be biamped. On the rear panel, each element has two controls; one to adjust the overall (full-range) output level of the element ("Cabinet Attenuation"), and a second to independently adjust the shape of the high frequency response ("HF Attenuation").

Cabinet Attenuation is adjustable from 0dB to -15dB in 1.5dB increments (11 positions). HF Attenuation is adjustable from 0dB to -6dB in 1.5dB increments (5 positions). The controls are discreet and do not interact with each other, resulting in a total of 55 frequency response profiles accessible on each element in an array.

> **NOTE:** The HF Attenuation control does not simply reduce the overall level of the high frequency driver equally at all frequencies . The HF Attenuator was carefully designed to produce a useful frequency-dependent taper from 1kHz to 20kHz, changing the shape of the HF response gradually in a manner that offsets the natural LF variations that result from changes in array length.

Using the PAO module in EF3 is easy, requiring no special training or theoretical knowledge of line array "shading" techniques. Calculating and applying PAO settings to the EF3 model simply requires a few on-screen button clicks.

> **NOTE:** Each EF3 project may include multiple IV6 Arrays. Passive Acoustic Optimization settings are calculated independently for each array. The following instructions assume that you have selected a single array to optimize. To optimize additional arrays, simply repeat the process for those arrays, or copy a PAO-configured IV6 array and paste it into additional locations in the project which have the same loudspeaker coverage needs.

USING PAO IN EF3 SOFTWARE

After completing your basic array design (and applying auto splay), click the "**Filter Settings**" button (Figure 19A) in EF3 "**Object Properties**". The "**Object Properties**" view will change from displaying the individual aiming angles to displaying the "Attenuation" setting for each loudspeaker element (Figure 19B).

> **NOTE:** In the "**Filter Settings**" view, the PAO settings for each box are labeled as "ATTENUATIONS". This follows the labeling on the Attenuation Panel used to apply the PAO settings on each array element. The two controls are labeled "Cabinet Attenuation" and "HF Attenuation", respectively. See the "ATTENUATION PANEL" section of this manual for additional details.

To automatically calculate PAO settings for the array, press the "**Auto Setup**" button (Figure 19C). A dialogue window called "**Filter Auto Setup**" will open on top of the EF3 window. In this window, select the audience zone(s) that should be included by the algorithm to determine PAO settings.

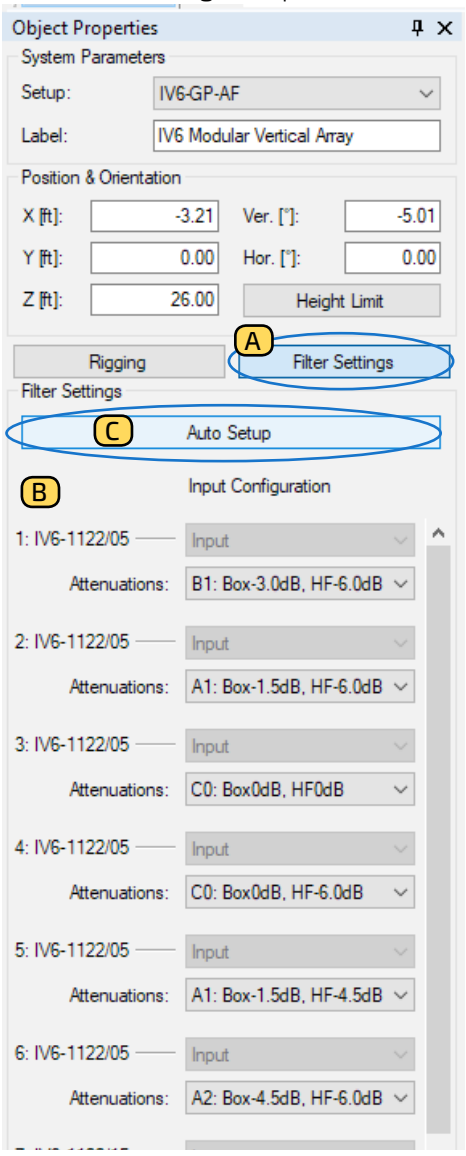


Figure 19. Run PAO
A. Filter Settings
B. Attenuations shown individually
C. Run Auto Setup

Designer's Hint: The PAO algorithm calculates settings directly in front of the center of the array, along the array center aiming line. In Filter Auto Setup, EF3 will not include Audience Zones that do not intersect the selected array's center aiming line.

Additionally, similar to the "Auto Splay" function described in the "BASIC ARRAY DESIGN, Section 2, note", the array center line must be pointed directly at an audience zone or the "**Auto Setup**" function will be greyed-out and unavailable (Figure 11).

The best PAO (Filter Auto Setup) results will be realized when the array aiming center line for each array is pointed directly at an audience zone intersecting the full length of the audience zone.

After ensuring the array is aimed properly and the correct audience zones have been selected, simply press the "Start" button at the bottom right corner of the "**Filter Auto Setup**" window (Figure 20A). The "**Status**" notice will change from "Calculation not running" to "Calculating Filter Settings" and a green status bar will appear in the lower right corner (Figure 20B). Depending upon the length of the array, size of the audience zone(s) and processing power of the computer being used, this calculation may take a just few seconds up to about one minute to complete. After calculation, the calculated PAO settings will automatically show in the "Attenuation" display for each array element (Figure 19B).

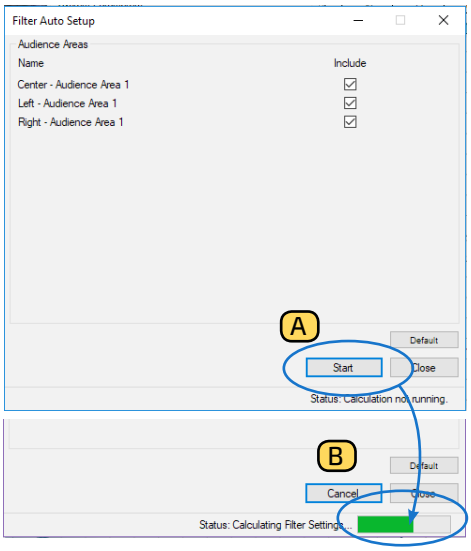


Figure 20. EF3 Project report
A. Create the report
B. pages from a sample report

Designer's Hint: Before running "**Filter Auto Setup**", turn off "**Show Mapping**" in the main EF3 window (Figure 21). This will prevent EF3 from attempting to calculate PAO settings and the color coverage map at the same time, greatly increasing the PAO calculation speed. The array aiming center line for each array must be pointed directly at an audience area, intersecting the full length of the audience area.

After the PAO settings have been calculated, the "**Filter Auto Setup**" window will automatically close. At that point, click the "**Show Mapping**" button to turn the color mapping back on to review the effects of the PAO settings on the array coverage.

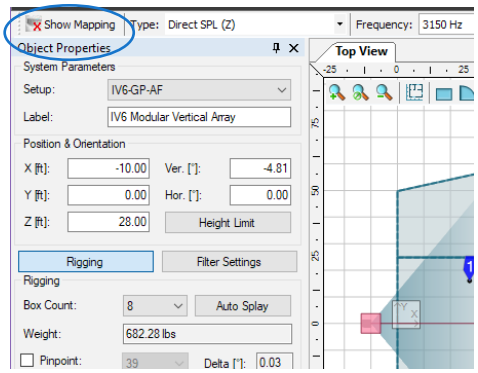


Figure 21. Show mapping turned off

MANUALLY ADJUST PAO SETTINGS

While we recommend using "**Filter Auto Setup**" to generate the Passive Acoustic Optimization attenuation settings for each element in the array, the system designer may also manually adjust each element's settings to further fine-tune or optimize the array, if desired. Click on the element's "Attenuation" drop down box and a complete list of the available acoustic profiles will appear (Figure 22). Click on the desired combination of "Box" Attenuation (same meaning as "Cabinet Attenuation", but abbreviated to "Box" for space limitations) and HF attenuation. The selected value will be immediately applied to the acoustic model and the results shown on the EF3 graphic displays.

NOTE: The "C0", "A1", "B1" ,etc. designations to the left of the "Box" attenuation value correspond to the physical placement of jumpers , and their labels, on the loudspeaker rear panel . Full descriptions of these designations and how to properly set jumpers in the correct positions on each loudspeaker will be discussed in detail in the next section of this manual (Attenuation Panel).

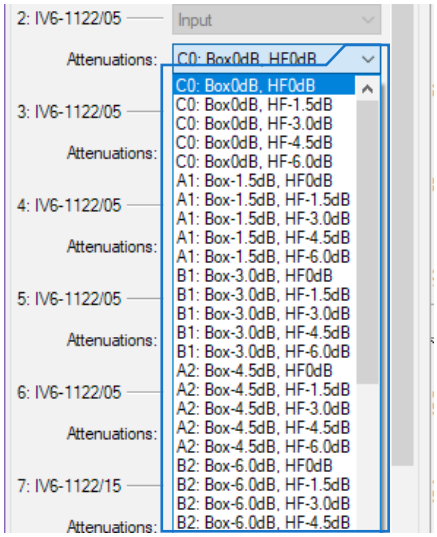


Figure 22. Attenuation options

SYSTEM DESIGN *(PAO CONTINUED)*

SUMMARY

So, what's going on under the hood? It's important to understand that the PAO Auto Setup is biased toward "uniform coverage" rather than other (legitimate) design strategies. The PAO process provides the system designer with intelligently informed design suggestions from its complex algorithm. The results generated by PAO may sometimes actually infer which elements in an array need more attention and which elements do not. It provides a good starting place for the designer to further fine-tune the array using the IV6 attenuation settings.

At the same time, the designer must also remember that the PAO algorithm can only try to improve upon the "basic array design" that it was given to work with. Before attempting to adjust each element's attenuation settings manually, the designer should first reconsider whether or not changes can be made to the array length, trim height, curvature, tilt angle, etc. Small adjustments to the physical array properties often result in improved PAO results as well. It is the job of the system designer to try multiple physical array configurations, applying the PAO process after each reconfiguration.

> **Designer's Hint:** It is always a good idea to check both SPL and +/-3 dB output at various frequency centers and bandwidths to determine whether you need to manually fine-tune an element.

Design tools like EF3 and PAO make it easier for a designer to predict or approximate the combination of physical and acoustic settings that will work best with an IV6 modular vertical array system. EF3 and PAO will not "magically" produce perfect results the first time, every time. Follow the "basic array design" recommendations from the previous section, try a number of different configurations, apply PAO to each configuration and decide which starting point that you are comfortable with, to the design the best system for the application.

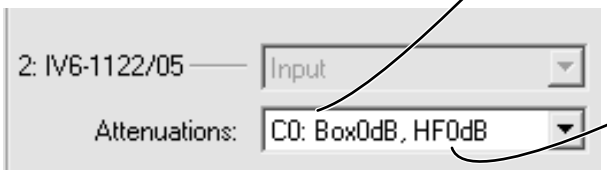
ATTENUATION PANEL

ATTENUATION PANEL - SETTINGS

Initial modeling of your audience areas and optimizing the coverage with EASE® Focus 3 (EF3) will generate a report that you can use to set the cabinet and HF attenuation as each cabinet is added to the array. Move the jumpers on each cabinet to match the settings generated in EF3.

Note: The amount of attenuation will affect the impedance of each cabinet. Use the Impedance calculation tool (IV6 downloads) to calculate the array's impedance load.

EF3 Array Filter Settings
(after running Auto Setup)



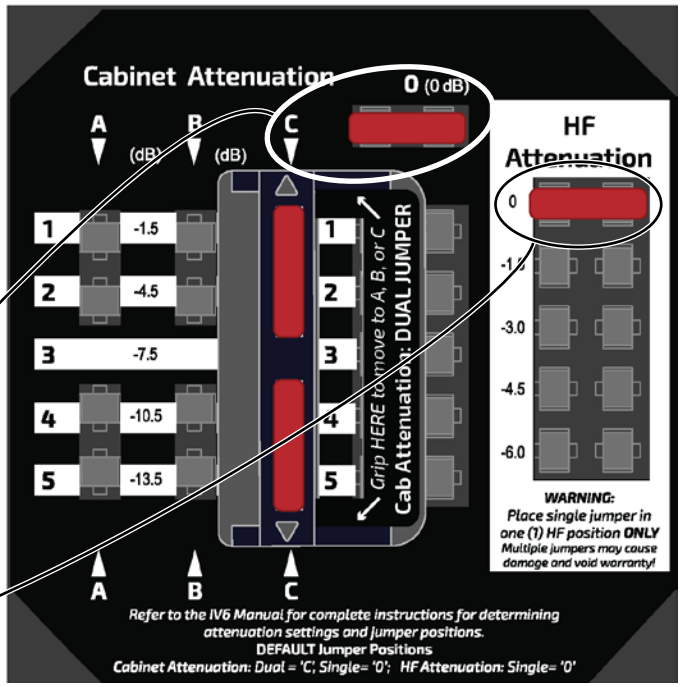
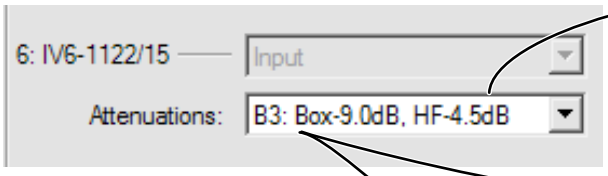


Figure 23. Attenuation panel with jumpers set to match EF3 cabinet filter setting (Factory default setting)

Cabinet Attenuation: Move the dual jumper to the column matching letter (A,B,C) and the single jumper to #0-5 matching the Box dB value. (Figures 23, 24)

Note: With the dual jumper in the "C" position the single jumper must be in the 0 dB slot.



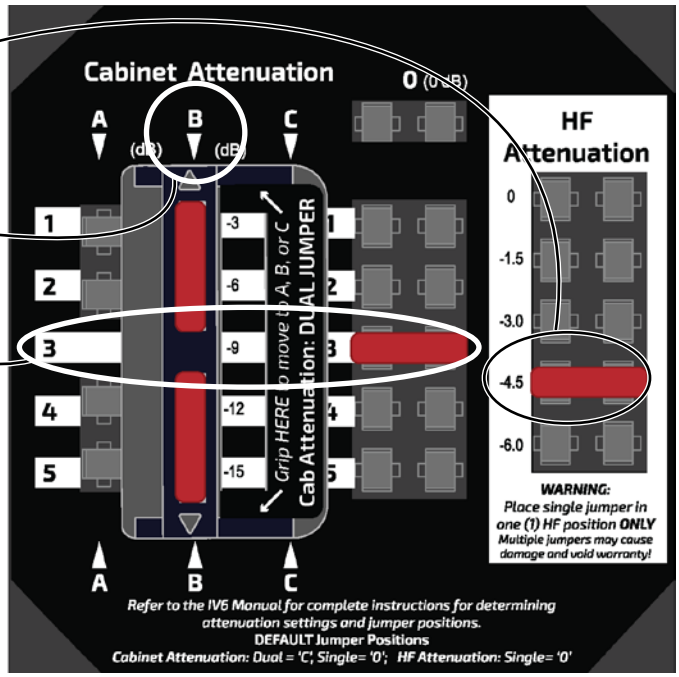


Figure 24. Attenuation panel with jumpers set to match EF3 cabinet filter setting

HF Attenuation: Move single jumper to designated -dB value (0 to -6.0).

CABINET ATTENUATION VALUES

Rows	Columns A	B	C
0	-	-	0
1	-1.5	-3	-
2	-4.5	-6	-
3	-7.5	-9	-
4	-10.5	-12	-
5	-13.5	-15	-

HF Attenuation Values
0
-1.5
-3.0
-4.5
-6.0

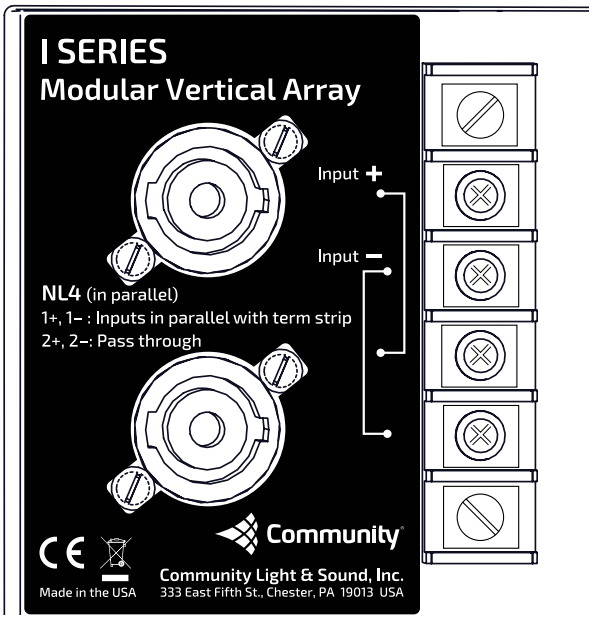
INPUT / ATTENUATION PANEL CONNECTIONS

WIRING - INPUT PANEL

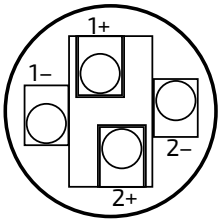
INDOOR MODELS

Each cabinet can be linked to another, or wired directly to the amplifier using either NL4-type connections or terminal strip (Figure 25).

NOTE: NL4 +/-2 inputs pass through the connectors without any connection to the internal components. When used with a 4-conductor cable, the +/-2 terminals ma be used to carry the signal from a second amp channel to additional cabinets in the array. A +/-2 to +/-1 terminal crossover cable must be used to send the secondary channel to the desired loudspeaker(s).



IV6 Input panel



NL4-Type Connector

IMPORTANT: Input cable connections on IV6-WR (outdoor) cabinets must utilize the terminal strip through gland nuts and be secured with the input panel cover. *NL4 connections can only be used for indoor or testing applications.*

Figure 25. Input panel wiring for I SERIES IV6 models

IMPORTANT: All electrical installation connections for loudspeaker lines are subject to all applicable governmental building and fire codes. The selection of appropriate electrical hardware to interface with the I SERIES loudspeaker lies solely with the installation professional. Community recommends that an appropriately licensed engineer, electrician, or other qualified professional identify and select the appropriate conduit, fittings, wire, etc. for the installation.

USE THE CORRECT WIRE OR CABLE

All I SERIES loudspeakers are fitted with captive-clamp terminal blocks on the input panel to connect to the amplifier. Terminating the wires with a spade or ring connector (Figure 26) is recommended for secure connections. The maximum width of the ring or spade lug should be 0.375" (9.5mm), or less. The terminal screws are #8 (M4). The maximum wire size that can be accommodated for bare wire connections is 10 AWG (5.26 mm^2).

Follow manufacturer's instructions for wiring NL4-type connectors.

Note: Wire insulation colors may vary depending upon region or manufacturer. Be consistent with conductor color use throughout the system.

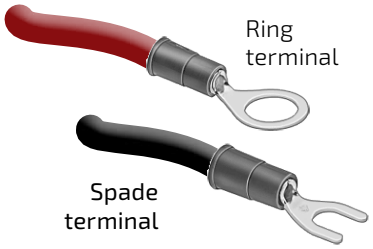


Figure 26. Wire connectors

INPUT / ATTENUATION PANEL COVERS

ATTENUATION PANEL- COVER

INDOOR MODELS

All indoor IV6 models have a clear cover preinstalled on the attenuation panel that must be in place to prevent the risk of electric shock during loudspeaker operation. It can be swung open to move the jumpers, but will then need to be secured on all 4 corners before the installation is finalized (Figure 27). (Two thumbscrews are pre-installed as shown. The remaining two thumbscrews will be taped to the cover).

WARNING: The cover must be installed on the attenuation panel to prevent risk of electric shock!

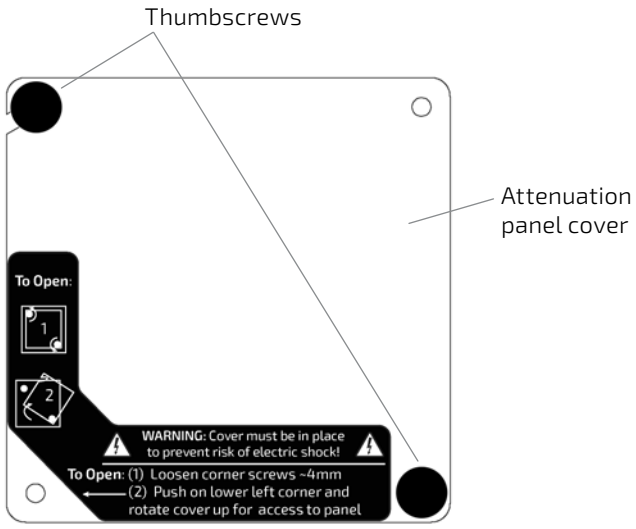


Figure 27. Attenuation panel cover (indoor IV6-1122 models)

INPUT / ATTENUATION PANEL COVERS

OUTDOOR (WR) MODELS

An aluminum cover (with gland nuts) is included and ***must*** be secured to protect the input panel from moisture and/or shorts caused by weather conditions. All connections must be made using the terminal strip. The NL4 connection inputs cannot be used with the cover. The gland nuts will accept cable of 0.2-0.39" (5-10mm) diameter.

IV6-1122-WR models also have a cover for the attenuation panel that must be secured after the jumpers have been placed.

Each cover is attached to the corresponding panel by threading in (4) screws with flat washers. The screws/washers attaching the covers must be tight, compressing the gasket material in order to maintain a weatherproof seal and prevent any potential shorts (Figure 28).

Both covers must be secured to maintain weather resistance and comply with the warranty.

Note: Subwoofers do not have an Attenuation Panel.

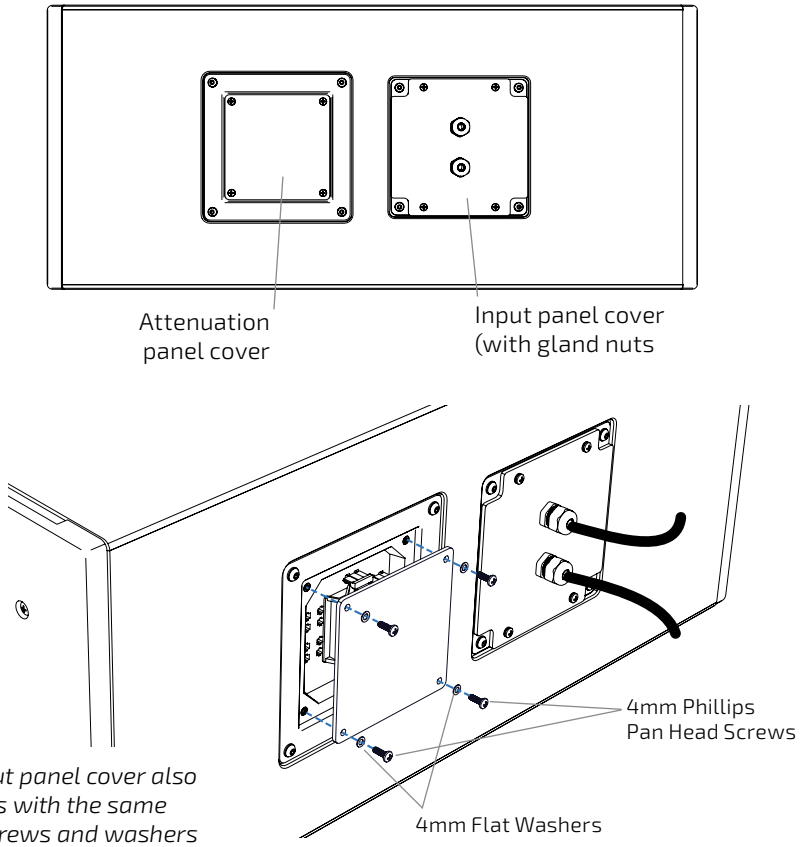


Figure 28. Panel covers installation

ARRAY HORN COVER

OUTDOOR (WR) MODELS (ONLY)

To prevent animals or insects from nesting in the in the horns a cover is included with all IV6-1122WR models. A cover only needs to be installed on the top unit and the bottom unit to "seal" the opening.

Using the dimples in the cabinet as guides (Figure 29-A), attach the cover as shown (Figure 29-B).

IMPORTANT: Do not use powered drill or screwdriver - manual tools only.

IMPORTANT: *The IV6-WR loudspeakers differ in width and mounting points and will NOT fit the indoor array frames. Contact Community for more information regarding mounting options for WR (outdoor) IV6 loudspeakers.*

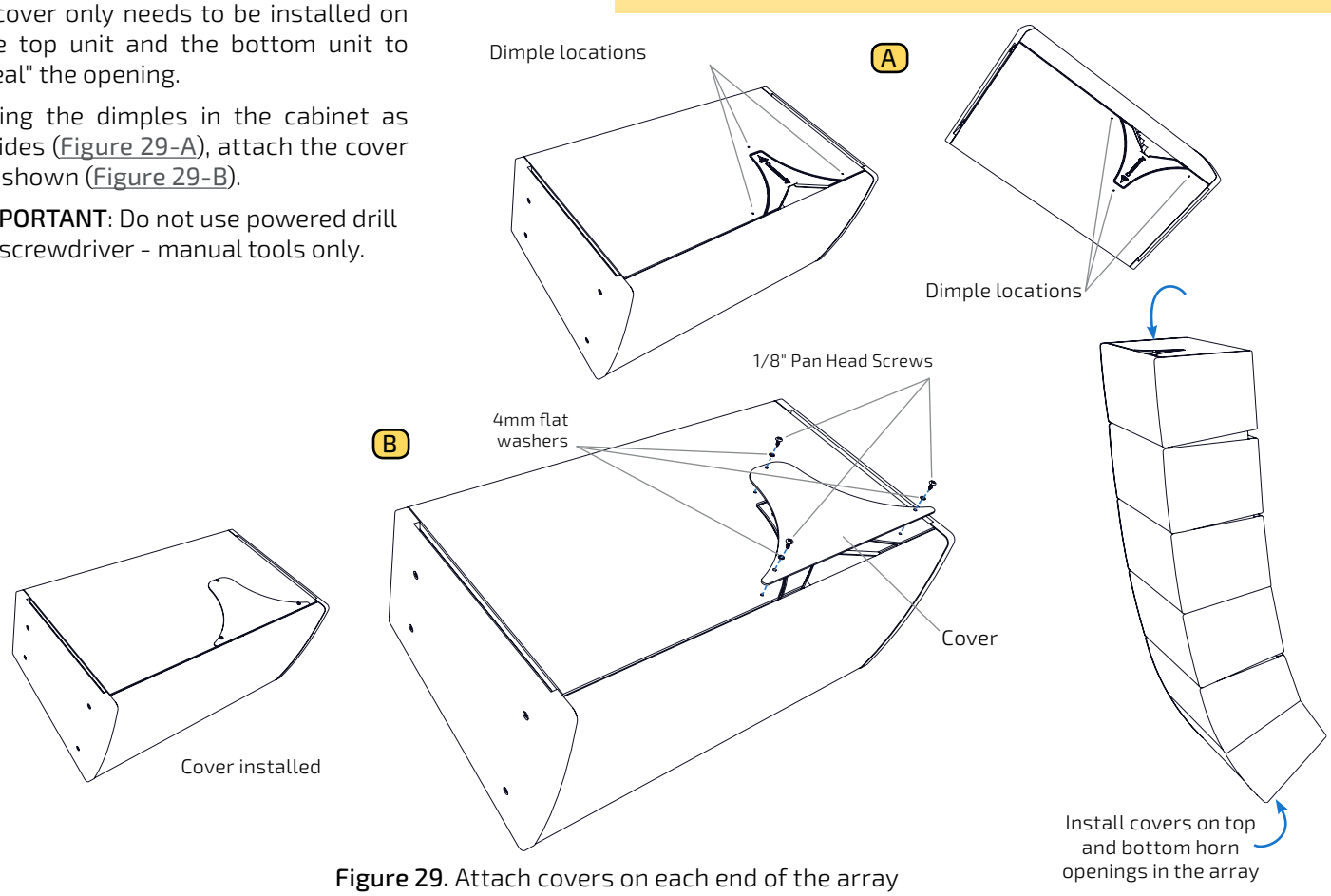


Figure 29. Attach covers on each end of the array
A. Dimple locations **B.** Cover attachment

EXTERIOR MOUNTING POINTS (WR MODELS)

OUTDOOR (WR) MODELS (ONLY)

Two center mounting points are provided to allow rigid cabinet attachment to customized 3rd party external outdoor rigging systems (Figure 30). Contact Community's Technical Applications Group (TAG) at tagteam@communitypro.com for more information about appropriate outdoor rigging methods and recommendations for qualified custom outdoor rigging designers and manufacturers.

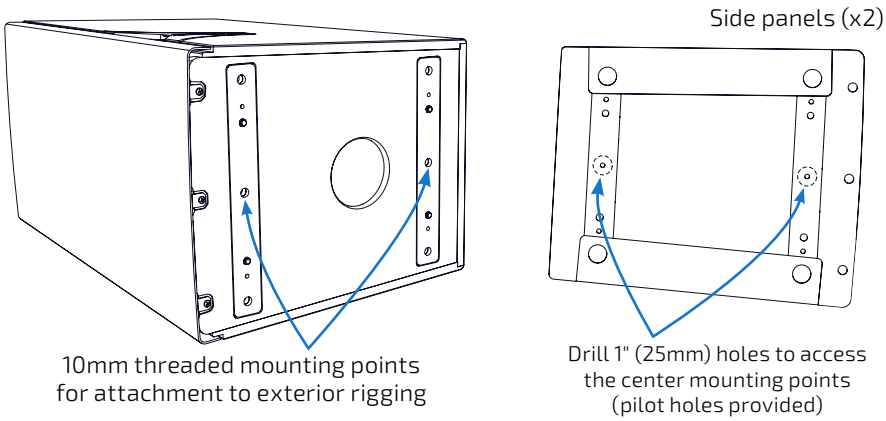


Figure 30. The side panels must be drilled at each center mounting point on IV6-WR cabinets for attachment to customized external rigging.

ARRAY IMPEDANCE CALCULATION TOOL

The IV6 Array Impedance Calculator (AIC) is a simple tool that allows system designers and installers to determine the maximum number of IV6-1122 array elements that can operate within the minimum impedance requirements of any given amplifier channel. The results can be printed and given to the installers in the field, showing which group, or groups, of cabinets should be wired in parallel to each amp channel.

WHY IS THIS TOOL NEEDED?

IV6's Passive Acoustic Optimization (PAO) feature helps to achieve even frequency response coverage throughout the listening space, but that is not its only benefit. As the "Cabinet Attenuation" is increased, the impedance of each cabinet being attenuated increases proportionally. For every 3dB of Cabinet Attenuation, the impedance of the loudspeaker doubles!

As a result of using PAO, many of the array elements will have a resultant impedance much higher than the "nominal" 16 Ohms. As a result of the higher impedance, many more IV6-1122 elements may be connected to a single amp channel, sometime twice as many cabinets as would be allowable in a DSP-attenuated array.

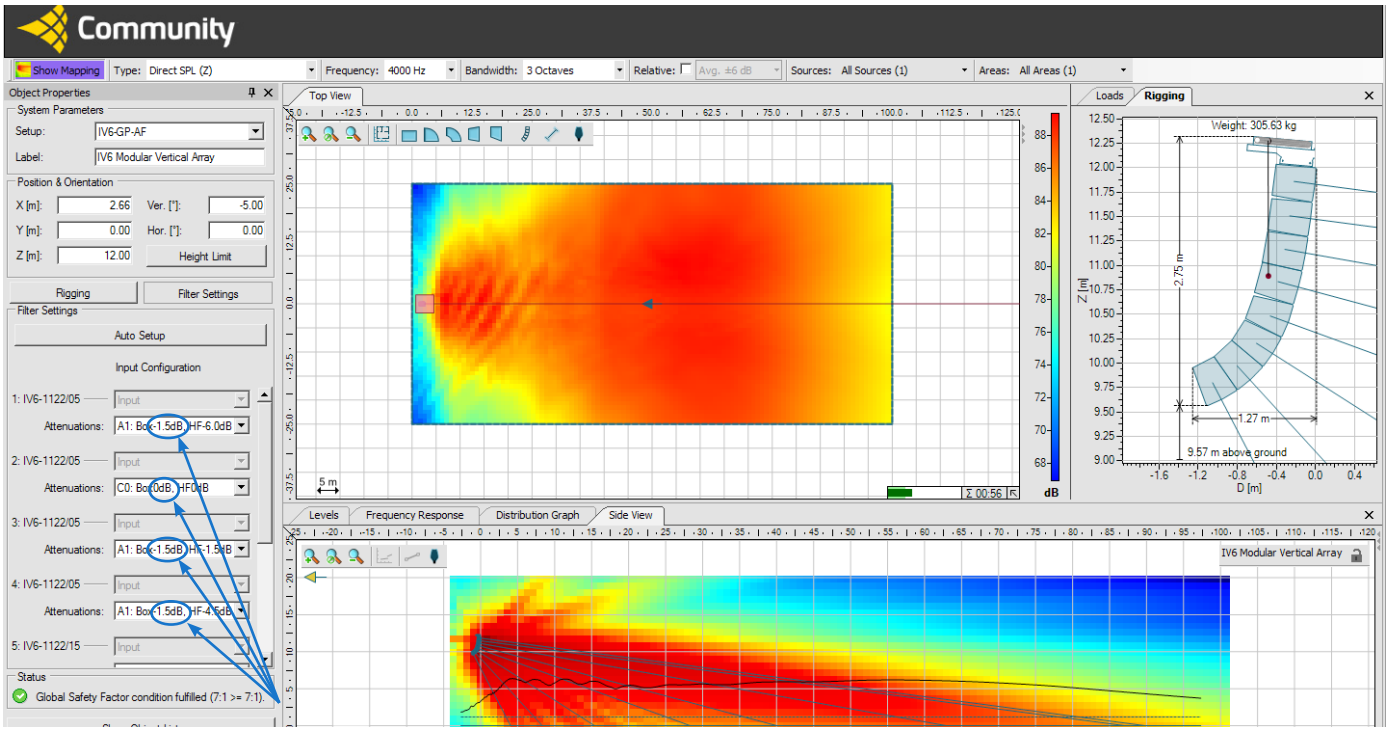
It is usually easy to calculate the number of loudspeakers that can be connected to a single amp channel when all of the speakers are the same impedance. For example, Ohm's Law tells us that four 16 Ohm loudspeakers wired in parallel results in a 4 Ohm load to the amplifier (16Ω / 4 = 4Ω). That equation is simple, but how do you calculate the resultant equivalent impedance of six to eight loudspeakers in parallel when they each have a different impedance? That gets a little more complicated.

The Ohm's Law formula is: $I_{EQ} = 1 / (1/I_1 + 1/I_2 + 1/I_3 + ... + 1/I_N)$

The IV6 Impedance Calculator Tool does this math for you and allows any loudspeaker to be assigned to any amp channel to quickly determine which loudspeakers should be wired to which amp channels to keep the equivalent loudspeaker impedance above the minimum recommended impedance load for each amp channel. Additionally, it will help you to determine the minimum number of amplifier channels needed to operate any given array. Fewer amplifier channels means less cost and less system complexity.

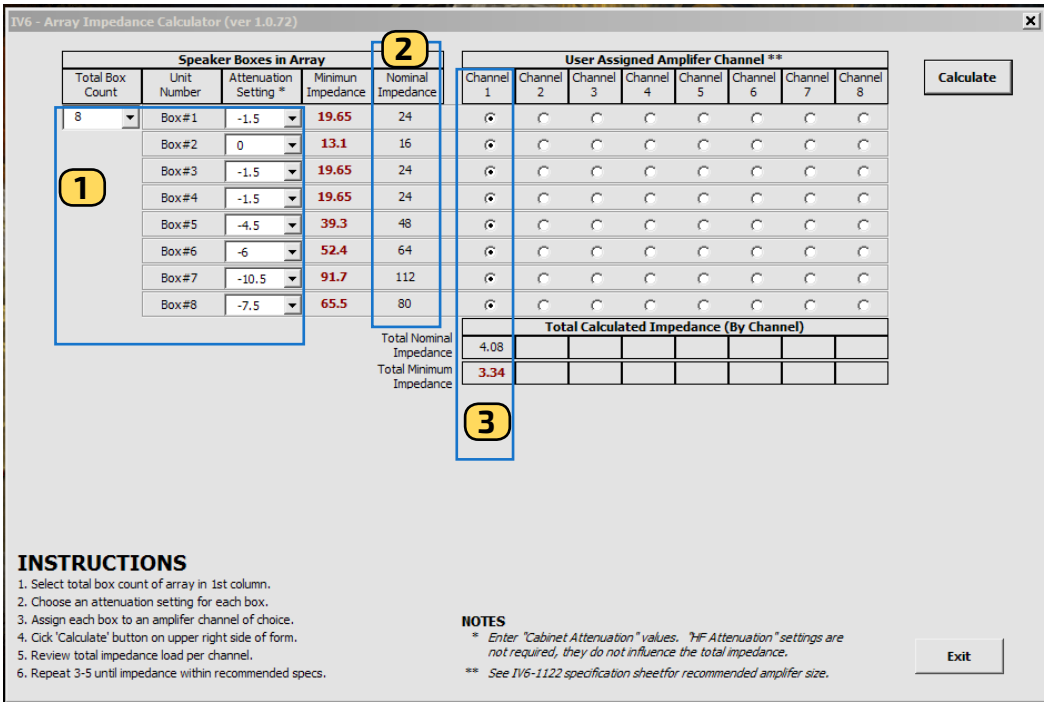
EXAMPLE

The eight element IV6 array shown below has had optimal Passive Acoustic Optimization settings calculated in EASE® Focus 3 and the resultant "Cabinet Attenuation" dB settings entered into the IV6 Impedance Calculation Tool.



PAO Attenuation Settings - The first "dB" number is the "Cabinet Attenuation" setting (-1.5dB for the first element in this array)

ARRAY IMPEDANCE CALCULATION TOOL *(CONTINUED)*



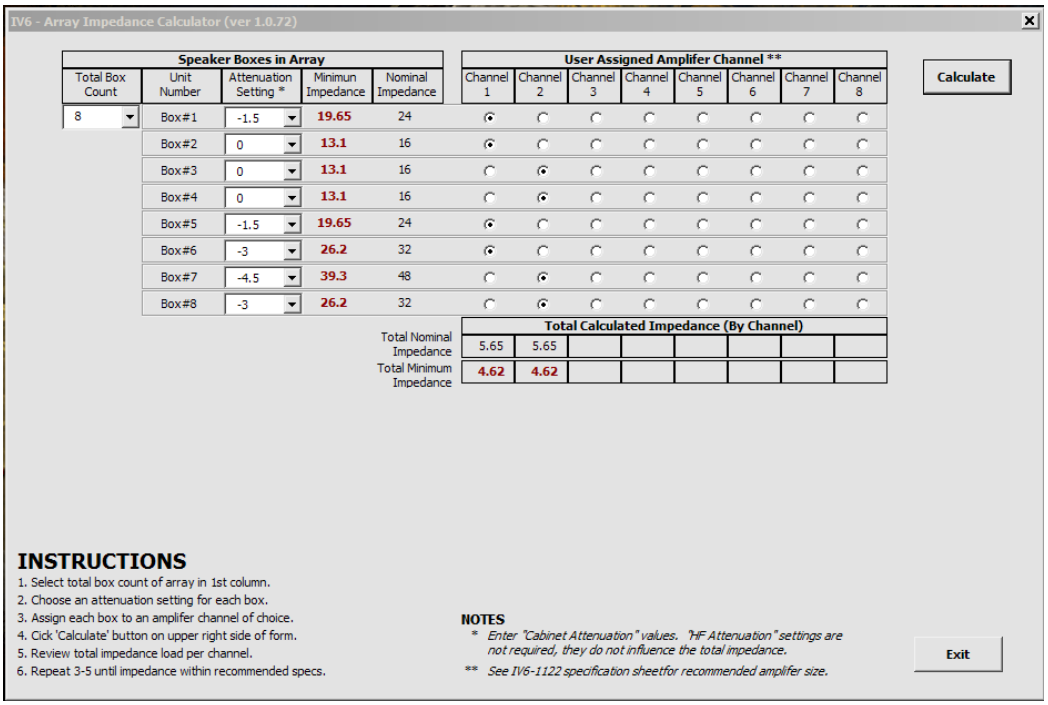
1. Attenuation Settings for all eight boxes have been entered into AIC Tool

2.Resulting Impedance for each Box after PAO is applied

3. Calculated Total Nominal Equivalent Impedance is 4Ω. All eight boxes can operate on a single 4Ω amp channel

If this array was used in a different application where less attenuation is applied via PAO, then it may be necessary to use more than one amplifier channel.

In the example below, the boxes are wired using two amp channels and grouped in such a way as to provide an equal load to each amp channel:



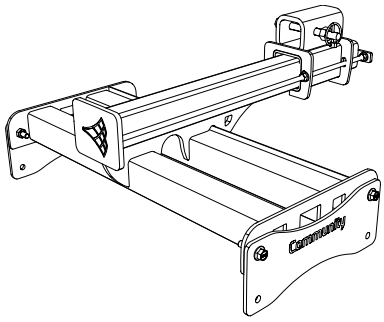
ACCESSORIES - GLIDEPOINT™ ARRAY FRAME

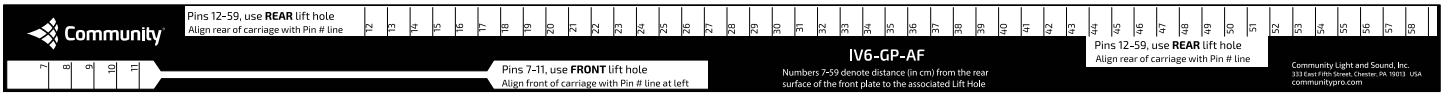
Designed to suspend a maximum of sixteen (16) IV6 -1122 or nine (9) subwoofers in a single ***INDOOR*** array with a 10:1 safety factor.

APPLICATION: Suspend and aim a loudspeaker array from a single adjustable point.

Before assembly: Retrieve rigging and Pin# (pinpoint) information from the system design / model in EASE® Focus 3 (EF3).

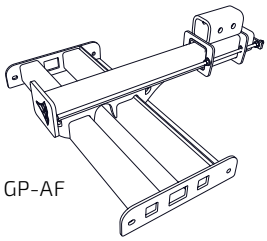
The Pin# information from the rigging section of EF3 represents the distance (cm) from the back of the front logo plate to the designated lifting point. Pins 1-6 do not exist due to the offset of the front lift point on the carriage.





IV6-GP-AF carriage placement label

Parts:



GP-AF

S1 with Logo

IV6-GP-AF

GP-AF: GlidePoint™ Array Frame (1)
S1 with Logo: Splay brackets w/logo (2)

Hardware:

Qty	Code	Description
4	HHB-F	Grade 10.9 Flanged Hex Head Bolts
4	HN-F	Flanged Nuts
1	C-HB	Carriage Hex Bolt
1	C-HN	Carriage Hex Nut
1	LR	Locking Ring

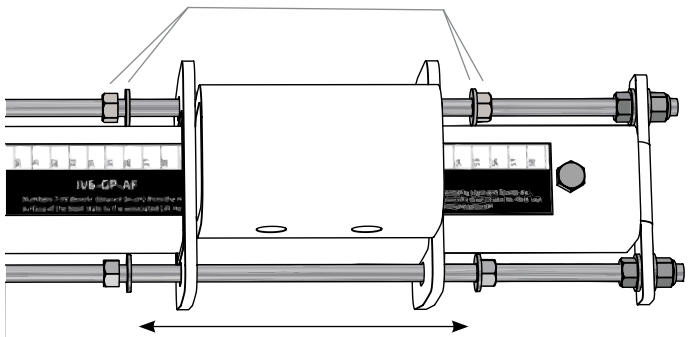
Kit Weight: 76 lbs (34.5 kg)

Working Load Limit: 1300 lbs (589.7 kg) (10:1 safety factor)

Full Rigging assembly instructions and technical drawings are available in the IV6 Rigging Frames, Accessories, and Safety Guide (Community website - IV6 Downloads).

Additional rigging accessories are available from Polar Focus - See table on Page 36 of this manual.

1 Hardware (hex nuts, flat washers)



Step GP-1. Loosen carriage hardware, move the carriage to suggested pin# position, and re-secure hardware

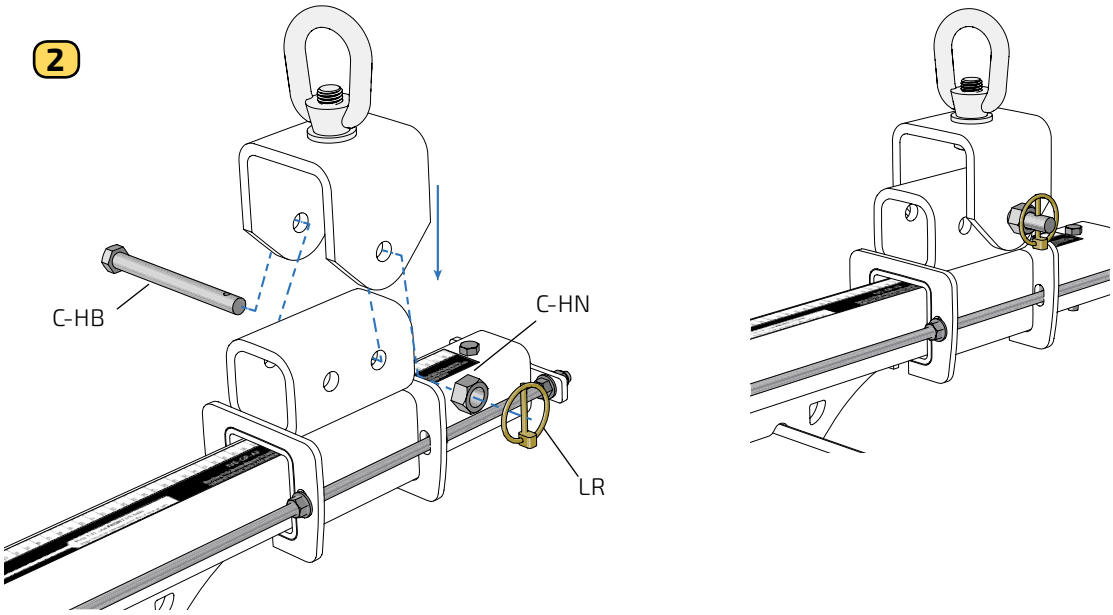
ASSEMBLY

1. Move the carriage to the pin setting suggested by the Rigging panel following the system design in EF3. Loosen the nuts on the rods enough to slide the carriage to the pin# line and then tighten the nuts on both sides to secure it. Follow instructions on the frame label regarding carriage alignment and which lift hole to use:

- ***Pin# 7-11 align front of carriage with pin # line, and use front lift hole***
- ***Pin# 12-59, align rear of carriage with the pin# line and use rear lift hole***

INSTALLER'S HINT: With most small to medium-size arrays, the carriage location can be changed while under load (with the array attached and in the air). This is helpful, when the recommended pinpoint is farther back on the frame. The carriage can be started toward the front to keep the array relatively level as it is being built, and then moved back as the array gets longer.

- Loosen the nuts on the side of the carriage in the direction it should be moved.
- The carriage can be moved by hand if there isn't too much weight on the frame, or "tighten" the nuts (with a wrench) on the other side of the carriage to move it along the threaded rods.
- After the carriage is in its final position (and the system is aimed), one at a time, loosen each nut a few threads, apply a drop of red thread-locking compound, and re-tighten the nut. This will help prevent movement of the carriage over time.



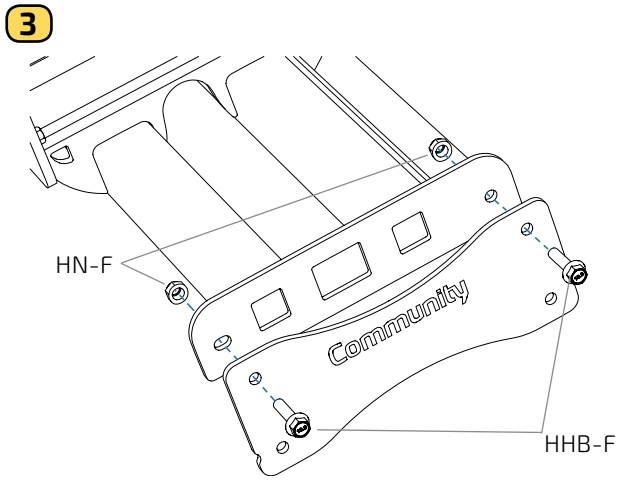
Step GP-2. Attach the lift point to the carriage using the designated lift hole *(PY1-EN750-1550 shown)*

ASSEMBLY *(CONTINUED)*

2. Attach the lift point to the appropriate hole in the carriage with the included carriage hex bolt and secure with a hex nut and locking ring.

3. Using the flanged 10.9 bolts and nuts, loosely attach the S1 brackets to the array frame with the Community name facing out.

IMPORTANT: Leave bracket hardware slightly loose until the cabinet is attached to the brackets. This allows cabinet to fit between the brackets easily. Then fully tighten all bolts. Do not place under load until connections are tight!

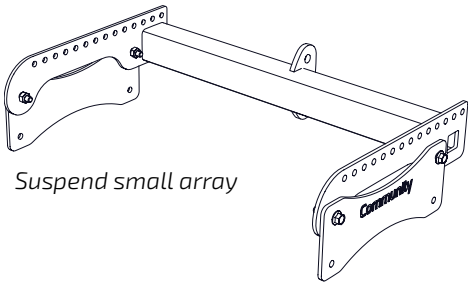


Step GP-3. Using the 10.9 hardware, loosely connect the splay brackets to the array frame with "Community" facing out

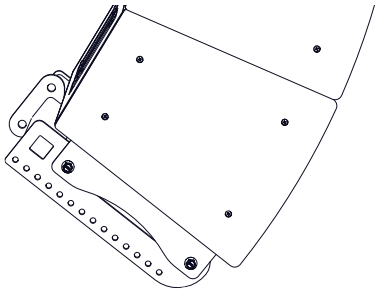
ACCESSORIES - LIGHT ARRAY FRAME / PULLBACK BAR

APPLICATION: Suspend a small ***INDOOR*** loudspeaker array of up to ten (10) IV6-1122 elements or provide pullback point for a larger curved array.

Before Assembly: Record the Pin# from EASE® Focus 3 (EF3) to define the lift points for the array. Refer to the "Pin" Point Reference below.



Suspend small array



Use as pullback bar at the bottom of a curved array

ASSEMBLY

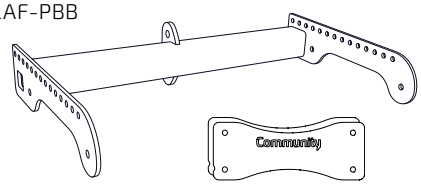
1. If the frame will be at the top of an array, position the S1 splay brackets against the array frame with the Community name facing out. Loosely attach the brackets with the flanged 10.9 bolts and nuts.

Note: If the frame is being used as a pullback bar at the bottom of the array, reverse the plates, turning the Community art inward.

2. Attach the splay bracket to the IV6 cabinet as shown in the array assembly instructions. Leave all connections slightly loose until all frame-to-cabinet bolts are started, then tighten the hardware.

Parts:

LAF-PBB



S1 with Logo

IV6-LAF-PBB

LAF-PBB: Light Array Frame (1)

S1 w/ Logo: Splay brackets w/wordmark (2)

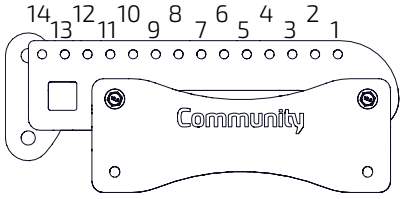
Hardware:

Qty	Code	Description
4	HHB-F	Grade 10.9 Flanged Hex Head Bolts
4	HN-F	Flanged Nuts

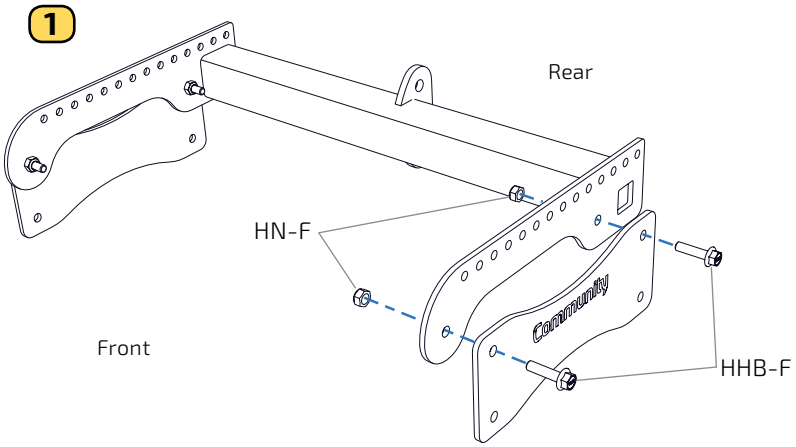
Kit Weight: 23 lbs (10.4 kg)

Working Load Limit: (10:1 safety factor)

As a **Light Array Frame:** 850 lbs (385.6 kg)
As a **Pullback Bar:** 1600 lbs (725.7 kg) at the cable attachment tab

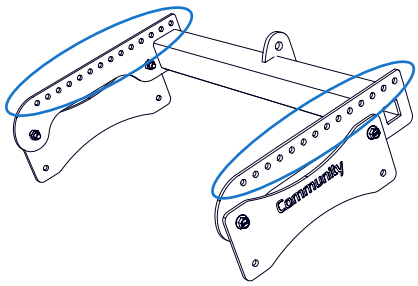


"Pin" point reference for suspension
(Pin Number from EF3)



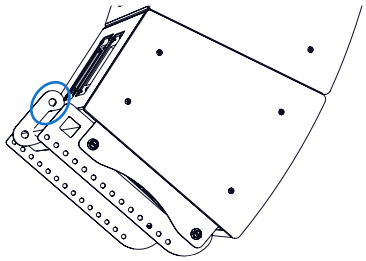
Step LAF-1. When used at the top of an array, use the Grade 10.9 hardware, loosely connect the splay brackets to the array frame with "Community" facing out

USED AS LIGHT ARRAY FRAME



Connect suspension hardware to upper holes along the side rails (circled)
Use defined Pin# from EF3

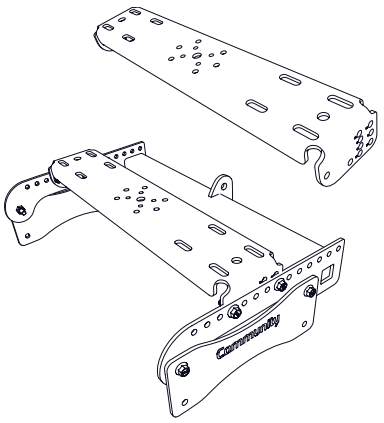
USED AS PULLBACK BAR



Connect pullback cable hardware to the upper hole of the center tab (circled) welded to the square tube

ACCESSORIES - LIGHT ARRAY FRAME ADAPTER U-BRACKET

The IV6-LAU **must** be used with the IV6-LAF-PBB Array Frame. It is designed to support a variety of ancillary array mounting configurations and as a tool to integrate IV6 arrays with I SERIES BalancePoint™ Flyware and other 3rd party mounting systems.

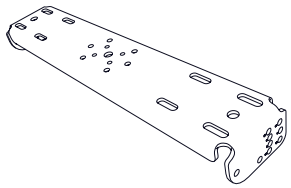


Before assembly: The IV6-LAU U-Bracket must be used with the IV6-LAF-PBB to integrate with an IV6 ***INDOOR*** array. Determine tilt angle and approximate center of balance of the array for placement on the light array frame.

1. Attach the U-Bracket to the IV6-LAF as shown (LAU-1). Insert bolts in the "pivot" position first (see below) and then secure desired angle with the other bolt.

Note: In close surface mount applications, it is easier to mount the U-Bracket to the surface before adding the IV6-LAF-PBB frame and loudspeakers.

Parts:



IV6-LAU

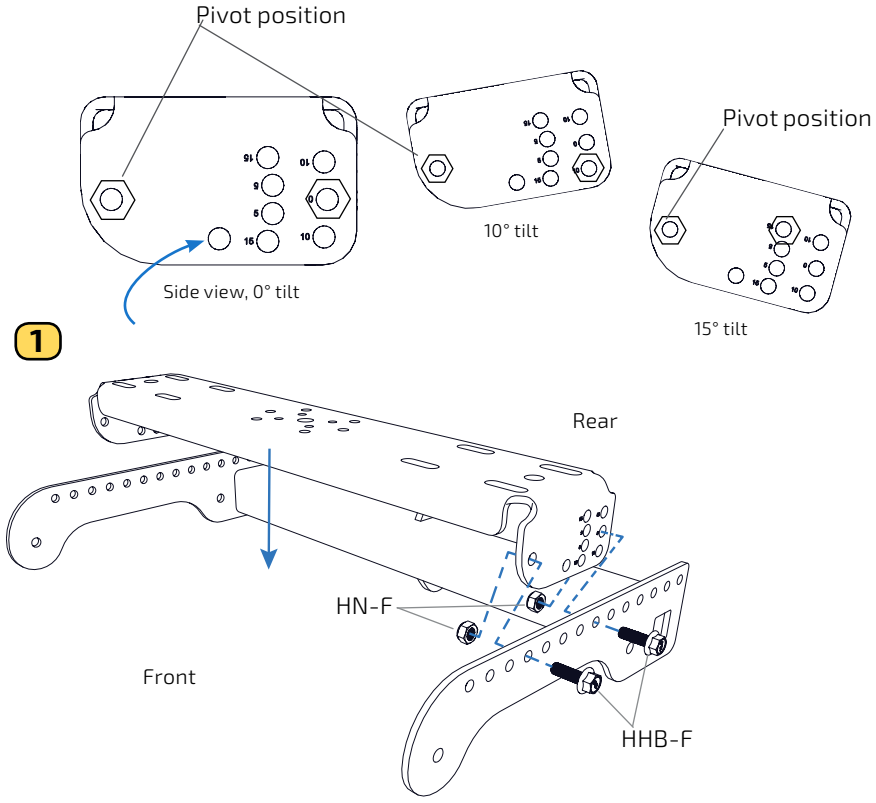
LAU: Light Array U-Bracket (1)

Hardware:

Qty	Code	Description
4	HHB-F	Grade 10.9 Flanged Hex Head Bolts
4	HN-F	Flanged Nuts

Kit Weight: 13.5 lbs (6.1 kg)

Working Load Limit: 500 lbs (226.8 kg) (10:1 safety factor)



Step LAU-1. Attach the U-bracket to the frame at the desired angle, centered around the specified pin point# from EASE® Focus 3

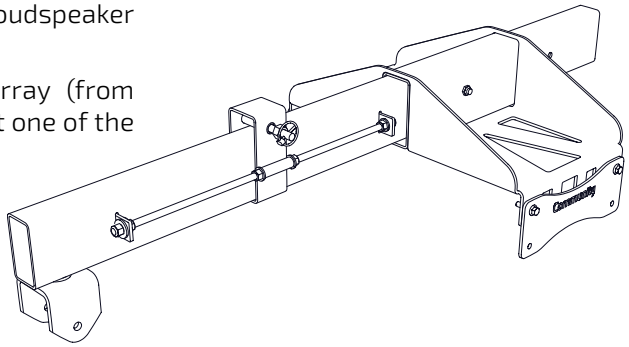
Applications: (**Refer to IV6 Accessory Guide for limitations and instructions)

- Under-balcony mount for 2-3 element IV6 array as a rigid mount to an overhead surface
- Suspend an array of up to six IV6-1122 or up to three IV6-118S elements (not to exceed WLL) from a single 5/8" (or16mm) eyebolt or other similar sized load-rated lifting hardware
- Use with a SBR54 to suspend a small array in front of IS600 /IS800 subs
- Suspend an array of up to six IV6-1122 elements using the BalancePoint™ Flyware IAF55
- Attach an I SERIES Compact (IC6) loudspeaker to the bottom of an IV6 array for downfill applications.

WARNING: For safety reasons, the center of mass of the array **must** be located directly beneath the IV6-LAF-PBB Frame. If the center of mass is located behind the array frame, it may result in an unsafe rigging condition. Always have rigging safety conditions verified by a certified engineer before installation. Failure to do so can lead to severe injury or even death!

ACCESSORIES - SUB BEHIND ARRAY FRAME

Hang up to eight (8) IV6 subwoofers behind the main ***INDOOR*** array



APPLICATION: Connect to and suspend subwoofers behind a loudspeaker array.

Before assembly: Have available the weight of the main array (from modeling the system in EF3). Connect S1 splay brackets to all but one of the subwoofers - that one will be mounted to the IV6-SB-AF.

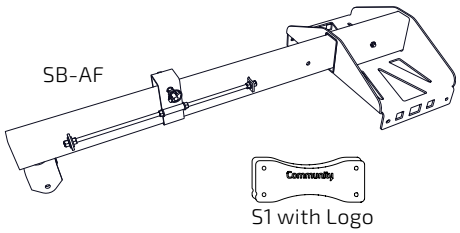
Tips:

- The mounting frame is preinstalled at the rear position
- Using the rear position will better counterbalance the weight of a larger main array
- IMPORTANT: ***The IV6-SB-AF must always hang level.*** Use the Sub-behind Hang Point Calculator to help determine both the mounting frame position and the carriage location.
- If you are building the main array along with the sub-behind array, the main array can be rotated (up to 90°) to prevent the cabinets from potentially hitting as you lift the assembly and add to the length of the array.

Full Rigging assembly instructions and technical drawings are available in the IV6 Rigging Manual (Community website - IV6 Downloads).

Additional rigging accessories are available from Polar Focus - See table on Page 36 of this manual.

Parts:



IV6-SB-AF

SB-AF: Sub Behind Array Frame (1)
S1 w/ Logo: Splay brackets w/wordmark (2)

Hardware:

Qty	Code	Description
4	HHB-F	Grade 10.9 Flanged Hex Head Bolts
4	HN-F	Flanged Nuts
1	C-HB	Carriage Hex Bolt
1	C-HN	Carriage Hex Nut
1	LR	Locking Ring

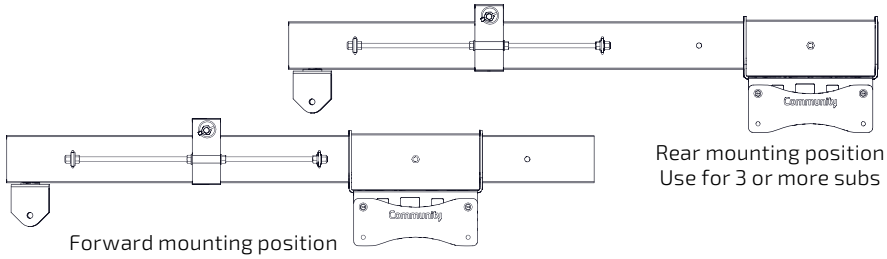
Kit Weight: 108.0 lbs (49.0 kg)

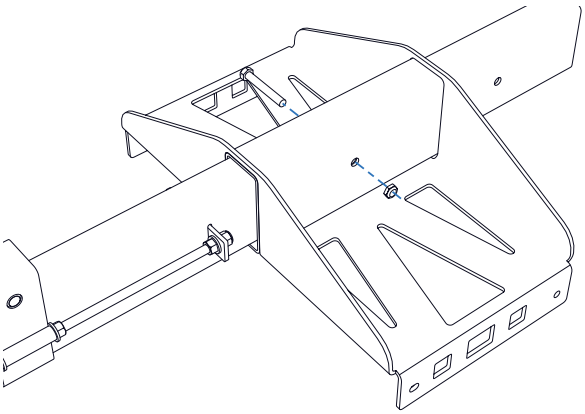
Working Load Limit: 2000 lbs (907.2 kg) (10:1 safety factor)

ASSEMBLY

1. Move the sub mounting frame to the forward position if only 1-2 subwoofers are being mounted.

1





Step SB-1. Determine sub mounting position
(Reposition frame forward if needed, using installed bolt/nut)

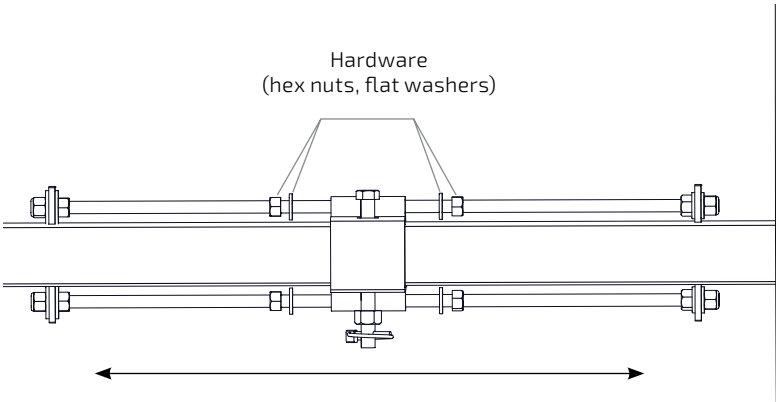
ACCESSORIES - SUB BEHIND ARRAY FRAME *(CONTINUED)*

ASSEMBLY (CONTINUED)

2. Move the carriage to the suggested hang point distance so that the frame will hang level under load. Refer to the Sub Behind Hang Point Calculator instructions on the next page. The hang point distance is measured from the front of the frame to the lift hole in the carriage.

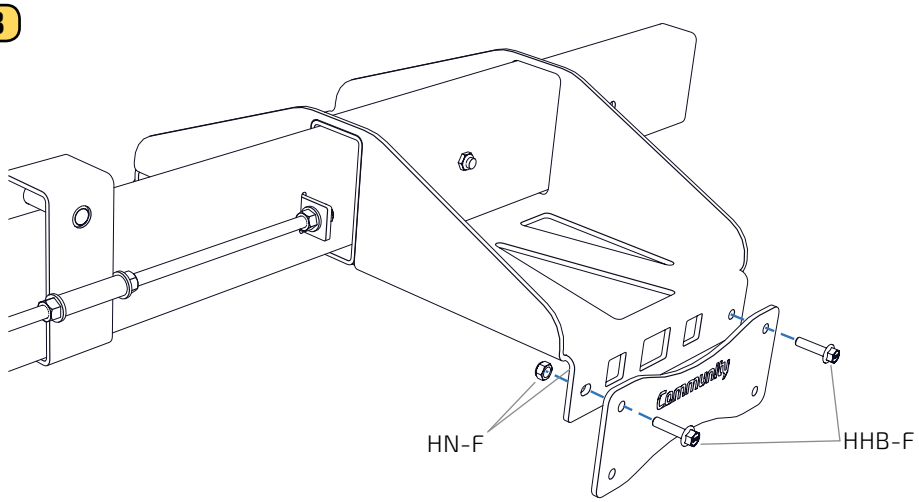
3. Using the 10.9 flanged bolts and nuts, loosely attach the S1 brackets to the array frame with the Community name facing out.

2



Step SB-2. Loosen nuts in the direction the carriage has to go, move carriage to designated position, and tighten hardware

3

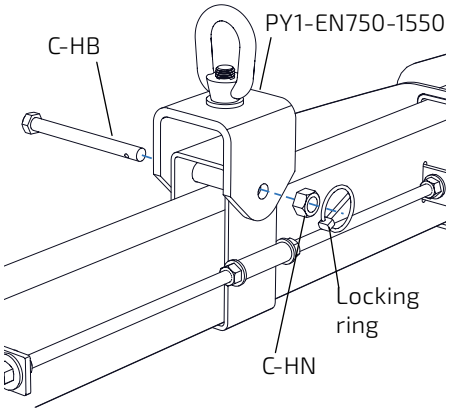


Step SB-3. Loosely connect the splay brackets to the array frame

4. If using the PY1-EN750-1550 lift point, attach it to the carriage with the included carriage hex bolt and secure with the hex nut and locking ring.

Final Step. After the carriage is in its final position (and the system is aimed), **one at a time**, loosen each hex nut securing the carriage a few threads, apply a drop of red thread-locking compound, and re-tighten the nut. Repeat for each of the 4 hex nuts securing the carriage on the threaded rods. This will help prevent movement of the carriage over time.

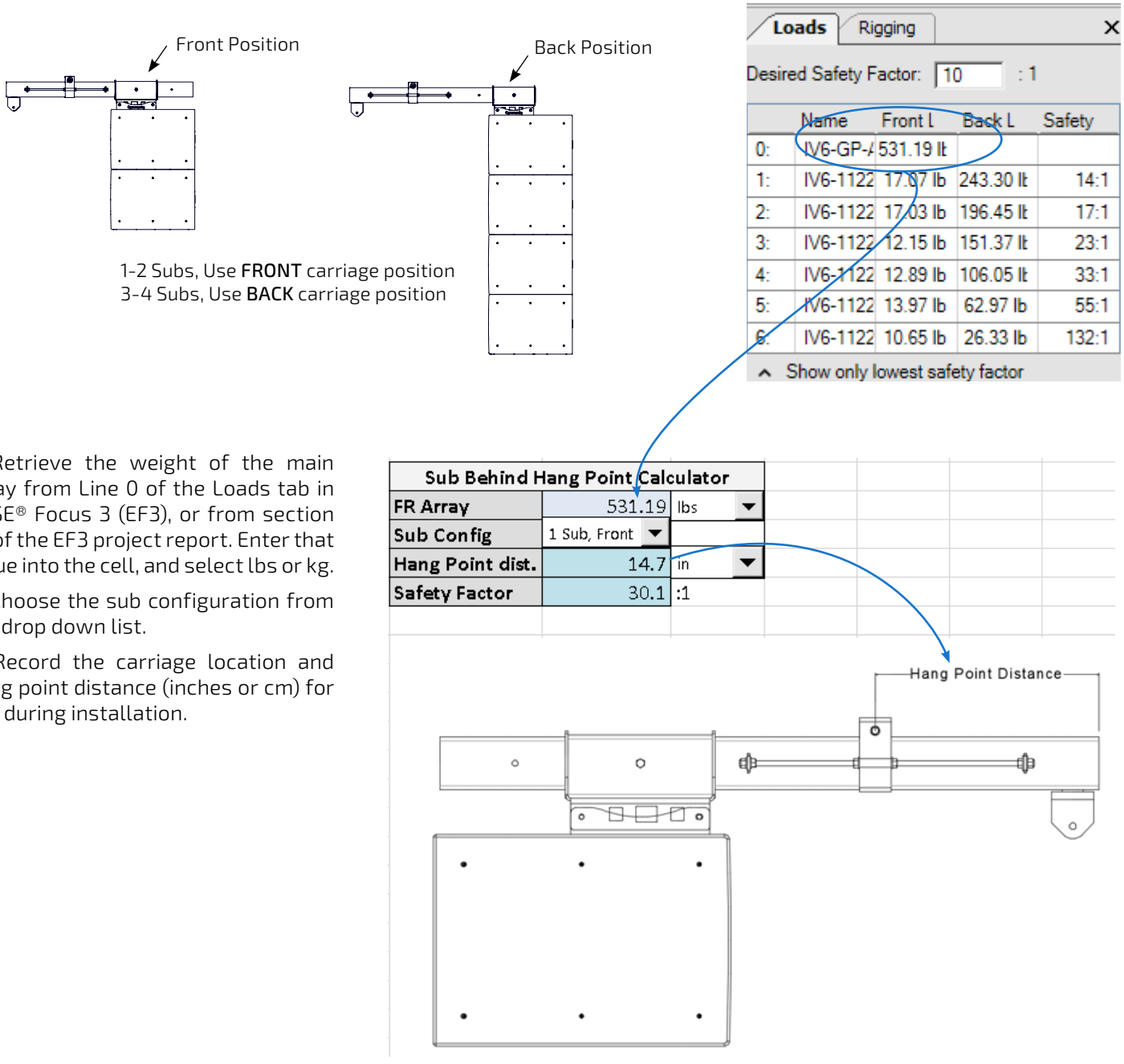
4



Step SB-4. Attach Lift Point to carriage hang point

SUB BEHIND HANG POINT CALCULATOR

Community provides an easy calculation tool to determine where the hang point should be located based upon the full weight of the main array when attached to the Sub Behind Array frame so that the SB-AF stays level. This tool calculates the distance for 1-4 subwoofers. The tool is available under the downloads tab here: http://www.communitypro.com/products/i-series/IV6-1122 and is also included in the "IV6 Manuals and Tools" zip file.



1. Retrieve the weight of the main array from Line 0 of the Loads tab in EASE® Focus 3 (EF3), or from section 5.1 of the EF3 project report. Enter that value into the cell, and select lbs or kg.

2. Choose the sub configuration from the drop down list.

3. Record the carriage location and hang point distance (inches or cm) for use during installation.

Figure SB. Sub Behind Hang Point Calculator

ACCESSORIES - LIFT POINT FOR ARRAY FRAMES

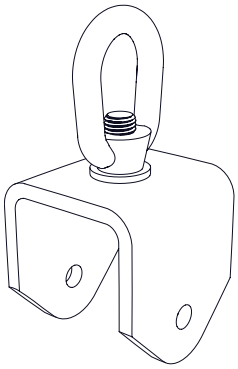
Available from Community

Determine the lift point, and attach to the carriage on either the IV6-GP-AF or IV6-SB-AF with the carriage hex bolt, nut and locking ring included with the array frame. See illustrations in IV6-GP-AF and IV6-SB-AF assembly instructions.

PY1-EN750-1550

Kit Weight: 6 lbs (2.7 kg)

Working Load Limit: 1550 lbs (703.1 kg)
(10:1 safety factor)



Full Rigging assembly instructions and technical drawings are available in the IV6 Rigging Manual (Community website - IV6 Downloads).

ACCESSORY BRACKET REFERENCE

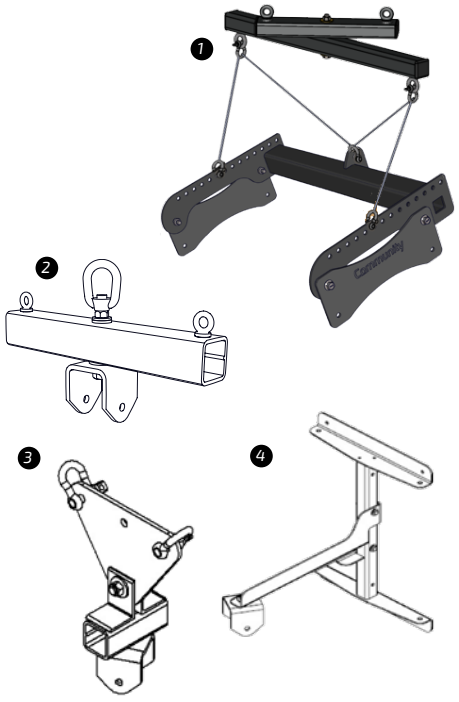
Available from Polar Focus

Many of these can be used in conjunction with the ***INDOOR*** GlidePoint or Light Array Frames sold by Community. PolarFocus offers additional brackets for other mounting applications.

Below is a quick reference table to choose from. The model numbers are also hyperlinks to the associated pages on Polar Focus's website noted below.

Some of the accessories are shown at right. Contact Polar Focus (linearrayframes.com) for additional information.

	OFF THE SHELF	
1	IV6-ZB-TCK	Z-Beam and Tilt Cable Kit (for use with IV6-LAF-PBB - shown)
	IV6-ZB-DHB	Z-Beam "Dead Hang" Bracket (for use with IV6-LAF-PBB)
2	PY1-ZBH-1550	Two Point Permanent Install Mount with Center Service Pick Point
	PY1-ZBR-1550	Self-Leveling Dual Hoist Mount
3	PY1-SLH	Self-Leveling Two Point Bridle Mount (1200lbs. WLL)
	PY1-RBC-1-1100	Level, Steel I-Beam Mount
	PY1-BTO1212-1550	12" x 12" Box Truss Plate Mount
	RLP-X2-1800	Redundant Load Point
4	PY0-WMV-2226-250	Wall Mount (250lbs. WLL)
	PY0-STEM	Hidden Two Point Permanent Install Through-Ceiling Mount (300lbs. WLL)
	PY0-ZBH-300	Two Point Permanent Install Mount with Center Service Pick Point (300lbs. WLL)
	SEMI-CUSTOM	***User-defined dimensions required***
	PY1-UJEXT-POST	Custom Length Ceiling Extension Post (available from 2ft. to 16ft.)
	PY1-CBA-3	Custom Sized Mount for Level or Sloped Wood-Based Beams (500lbs. WLL)
	PY1-CBA-4	Custom Sized Mount for Rolled Wood-Based Beams (450lbs. WLL)



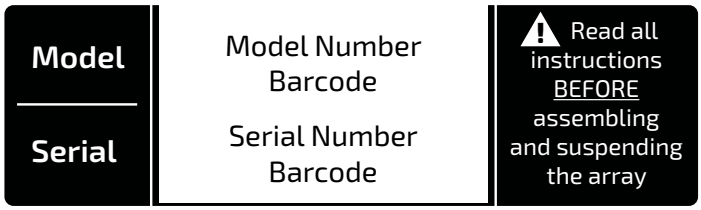
APPENDIX

WEIGHTS

LOUDSPEAKERS (includes 1 pair splay brackets)	*Indoor [lbs (kg)]*	*Outdoor / WR [lbs (kg)]*
IV6-1122/05	77.3 (35.1)	62.5 (28.3)
IV6-1122/15	73.5 (33.3)	59.1 (26.8)
IV6-118S	132.9 (60.3)	99.3 (45.0)
ACCESSORIES (INDOOR ONLY) (available from Community)	*Weight Indoor [lbs (kg)]*	*Working Load Limit [lbs (kg)]*
IV6-GP-AF	76 lbs (34.5kg)	1300 lbs (589.7 kg)
IV6-LAF-PBB	23 lbs (10.4kg)	850 lbs (385.6 kg)
IV6-SB-AF	108.0 (49.0)	2000 lbs (907.2 kg)
IV6-LAU	13.5 lbs (6.1 kg)	500 lbs (226.8 kg)
PY1-EN750-1550	6 lbs (2.7 kg)	1550 lbs (703.1 kg)

⚠ **IMPORTANT:** *The IV6-WR loudspeakers differ in width and mounting points and will NOT fit the indoor array frames. Contact Community for more information regarding mounting options for WR (outdoor) IV6 loudspeakers.*

TYPICAL PRODUCT LABELS



ID / Warning Labels on Input panel

⚠ **CAUTION:** Loudspeaker installation should only be performed by trained and qualified personnel in compliance with all regulations regarding overhead suspension of objects. It is strongly recommended that a licensed and certified professional structural engineer approve the mounting. Severe injury and/or loss of life may occur if this product is improperly installed.

Typical product identification, warning and WLL labels on accessories *(IV6-GP-AF SHOWN)*

APPENDIX *(CONTINUED)*

LOUDSPEAKER CABINET PAINTING PROCEDURE

Both indoor and weather-resistant I SERIES cabinets are available in standard colors of Black, White or Grey; custom colors may be ordered as Configured-to-Order (CTO) items for both types of models, alleviating the need to paint your own.

INDOOR MODELS

The cabinet finish is a resilient water-based paint that makes an excellent substrate to accept most types of paints, allowing custom colors to be applied in the field. If you are considering painting the cabinet, we recommend ordering the White version of the cabinet for the most predictable results when color-matching existing colors. The side panels are included in the shipping carton and should be painted at the same time as the cabinet. Remove the grille and reserve hardware for reattachment (Figure 31). Plug or mask any threaded inserts to prevent clogged threads.

Warning: The grille edges may be sharp! Use care when handling the unprotected edges of the grille to prevent injury.

CABINET

Mask off the input panels and front face, including all drivers, threaded inserts and ports (Figure 32). Paint the cabinet and side panels. Allow the paint to fully cure. Take care to paint the side panel edges.

GRILLE

The grille must be removed and painted separately. The grille cloth can not be removed (due to a new attachment process). Use spray paint that is compatible with powder coating, and paint the outside (including the attachment tabs) of the grille and allow the paint to fully cure before reassembling. Several light coats on the grille face are advised. We suggest blowing compressed air through the back side of the grille to keep the paint from adhering to and blocking the foam/mesh cloth on the indoor model grilles. The grille mesh on the WR models has been treated with a hydrophobic coating, so paint is less likely to adhere to it.

OUTDOOR (WR) MODELS

The weather-resistant models are finished with an exterior-grade UV-resistant grey, black or white finish, and can be repainted with a similar spray paint. The grille paint must be compatible with a powder-coated surface.

Several light coats on the grille face are advised. The grille mesh on the WR models has been treated with a hydrophobic coating, so paint is less likely to adhere to it.

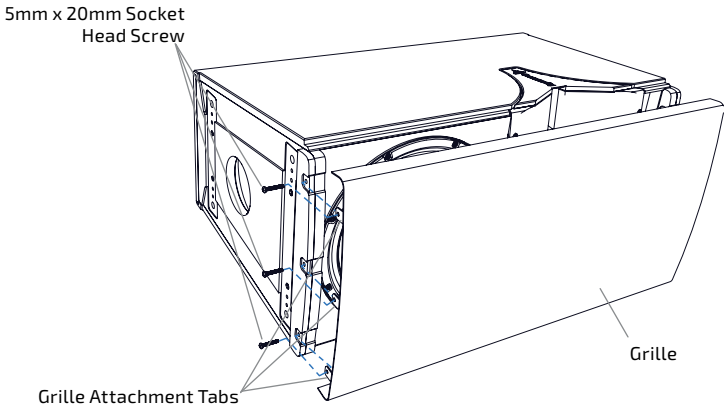


Figure 31. Remove the grille (side panels must be off).

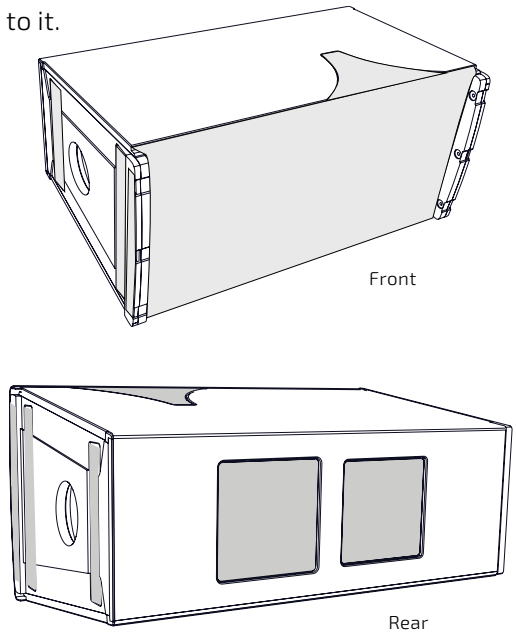


Figure 32. Mask off the internal components, threaded inserts, the horn exterior and rear panels

PERFORMANCE AND SPECIFICATIONS

USE A DIGITAL SIGNAL PROCESSOR

For best performance, loudspeaker protection and system longevity, an FIR-enabled digital signal processor (DSP) must be used with the I SERIES IV6 loudspeakers. Community's dSPEC226 processor(s) and Resyn® software contain all of the information (high pass filters, limiters, factory tunings) and DSP settings to fully optimize your system. For more information on installing and operating your I SERIES loudspeaker, please refer to Community's website at communitypro.com, or contact our Technical Applications Group (TAG) at tagteam@communitypro.com, or by phone at 610-876-3400 or toll-free (within the US and Canada) at 800-523-4934.

SPECIFICATIONS AND INFORMATION

Full product specifications and current documentation (manuals, sales literature) is available at communitypro.com. Additional technical information to assist you in operating and optimizing your system or understanding more about loudspeaker operation is also available on the website or by contacting the Technical Applications Group (TAG).

Note: *Every effort has been made to insure that the information contained in this manual was complete and accurate at the time of printing. However, due to ongoing technical advances, changes or modifications may have occurred that are not covered in this manual. The latest version is available at communitypro.com.*

WARRANTY INFORMATION

TRANSFERABLE WARRANTY "(LIMITED)" VALID IN THE USA ONLY

The I SERIES loudspeakers are designed and backed by Community Professional Loudspeakers. For complete warranty information within the USA please refer to www.communitypro.com/warranty. Please call 610-876-3400 or visit the website to locate your nearest Authorized Field Service Station. For Factory Service call 610-876-3400. You must obtain a Return Authorization (R/A) number prior to the return of your product for factory service.

WARRANTY INFORMATION AND SERVICE FOR COUNTRIES OUTSIDE THE USA

To obtain specific warranty information and available service locations for countries other than the United States of America, contact the authorized Community Distributor for your specific country or region.

CUSTOMER SUPPORT

FOR MORE INFORMATION AND APPLICATION ASSISTANCE

For more information on installing and operating your I SERIES loudspeaker, please refer to Community's website at www.communitypro.com.

For application support, service or warranty information, refer to Community's website or contact Community at 610-876-3400 or toll-free (within the US and Canada) at 800-523-4934.

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Community®