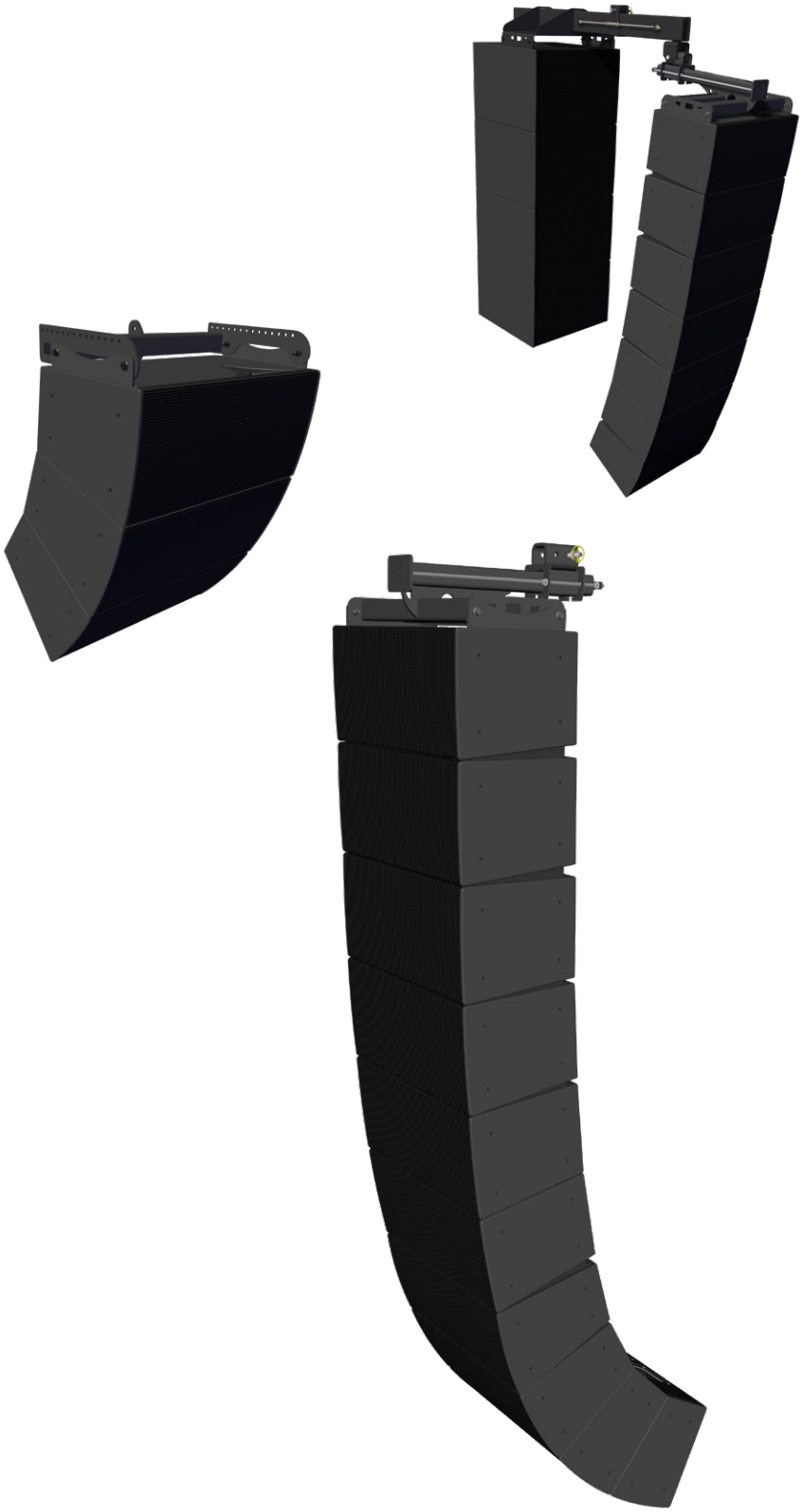
COMMUNITY

I SERIES

IV6 Installation Guide



Modular Vertical Array 600

Models

IV6-1122/05

IV6-1122/15

IV6-118S

Indoor & WR models

biamp.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 Biamp 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 Biamp 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 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 Biamp 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 rigging 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 Biamp 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

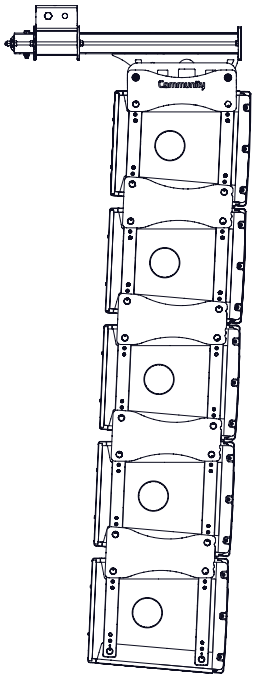
The IV6 is a “Modular Vertical Array” that enables a broad spectrum of modular and scalable systems from “true line arrays” to “constant curvature arrays” all with uniform front-to-back coverage, smooth frequency response, high maximum output and excellent sound quality. Its 5° and 15° cabinet models (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 Biamp's unique Passive Acoustic Optimization (PAO), a process that’s greatly simplified by our proprietary EASE® Focus 3 (EF3) VenuePolar™ plug-in.

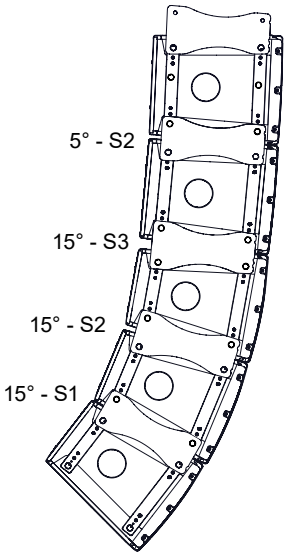
IV6 arrays bring line array advantages to a wide range of applications. Small to mid-sized IV6 arrays are versatile, cost-effective solutions for houses of worship, school auditoriums and gymnasiums, live theaters, nightclubs and corporate and municipal auditoriums. Larger IV6 arrays, which may consist of up to 16 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.

The 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.



Straight Array
5° with S3 splay brackets



Gradual Curve
5° and 15° with splay brackets

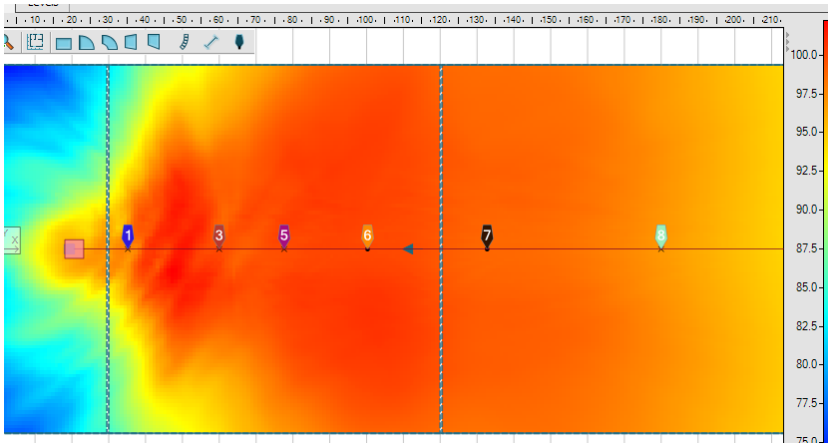
MEETING CHALLENGE #1: CREATE A BALANCED DESIGN

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.

The 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.

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.



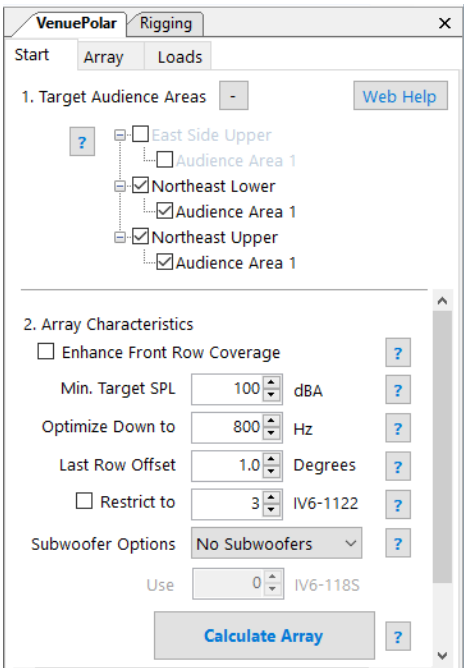
Even response front to back (modeled in EASE® Focus 3)

Biamp’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 (or box) 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

To simplify the IV6 system design and configuration process, we have developed a custom VenuePolar™ plugin for EASE® Focus 3. The VenuePolar plugin is included within the IV6 GLL (v 3.20 or later) (download here). With VenuePolar, IV6 system designers no longer have to choose cabinet types, number of cabinets, and then adjust the splay, filters and box attenuation to optimize the coverage for audience areas, Instead they can bring in an array, position it and aim it to cover the designated audience areas. The designer simply has to enter the acoustic goals they need to achieve for that audience area and VenuePolar will then automatically calculate the number of cabinets required, cabinet types (5°/15°), splay angles between each cabinet, aiming angle for the entire array and, finally, will automatically select optimal PAO settings for each cabinet to provide the most uniform response possible throughout the seating area. Additionally, VenuePolar will suggest an appropriate number of IV6 subwoofers to pair with the array for a balanced, extended low frequency response. For advanced users, it is also easy to fine tune the performance of an IV6 array by manually adjusting individual cabinet PAO settings within the VenuePolar plugin and transferring them to EF3 to show the changes in the coverage maps and response graphs.

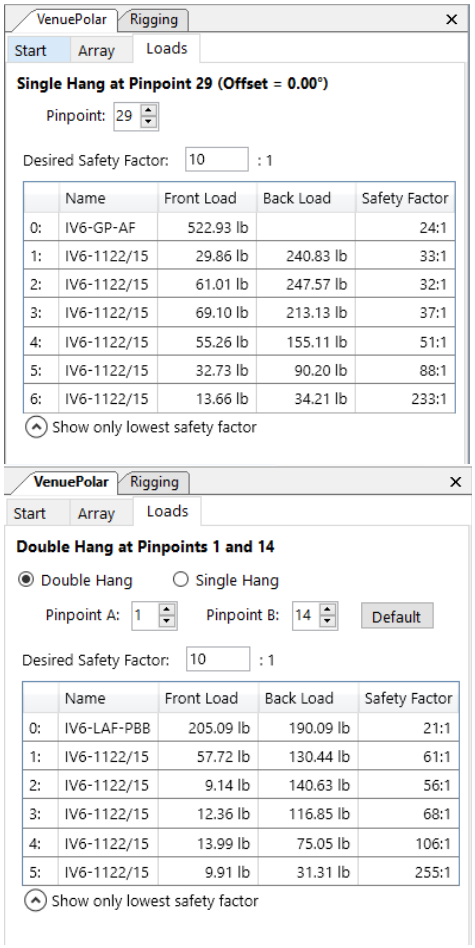
Note: The IV6 GLLs with VenuePolar must be used in EASE® Focus3 v 3.1.14 or later.



Venue Polar calculates and optimizes coverage based on your selected characteristics

We have a “Rigging Safety Calculator” (RiSC) plugin found under the "Loads" tab in the VenuePolar tab. As a designer creates an IV6 array in EF3, the RiSC function 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. A pull back bar will be suggested as needed for longer and/or curved arrays. We offer a separate impedance calculator tool (download here) that makes it easy to calculate the number of array elements for each amp channel.

Safety Note: *Biamp recommends a minimum of 10:1 safety margin. Biamp 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 using the IV6-GP-AF (top) and the IV6-LAF-PBB (bottom) in a double point hang

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 PAO 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 PAO, designers can customize an IV6 array to meet the needs of almost any venue, indoors or out. Biamp’s exclusive EF3 VenuePolar module 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.

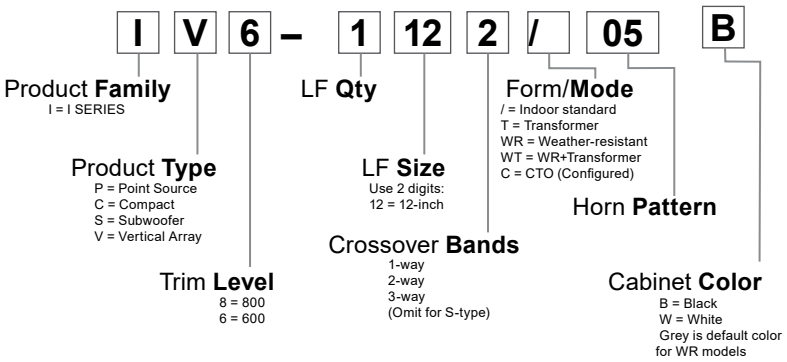
This manual provides detailed instructions for designing and configuring an IV6 system. We also invite you to contact Biamp's Large Venue Support team for advice on product selection, EASE® and EASE® Focus 3 modeling and system design reviews. Email Biampsupport@biamp.com.

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

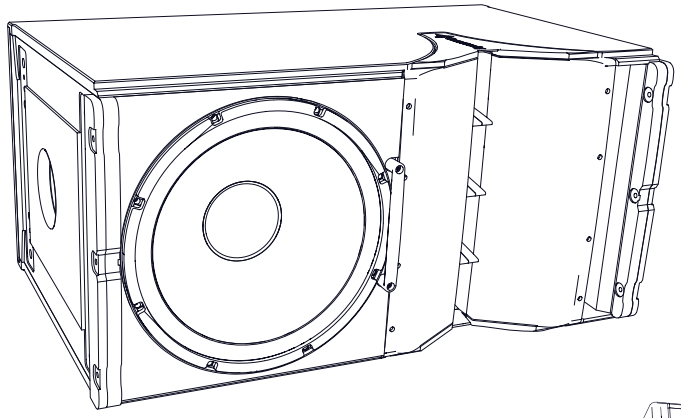
A pair of splay brackets is necessary for each cabinet-to-cabinet connection. They are sold separately and the type should be ordered based upon the report generated from EASE® Focus 3 after you model the system.

PRODUCT REPRESENTATION

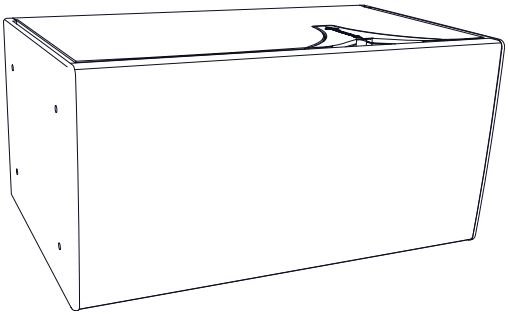
I SERIES MODULAR VERTICAL ARRAY LOUDSPEAKER (IV6-1122/05)

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 Biamp for more information regarding mounting options for WR (outdoor) IV6 loudspeakers.*

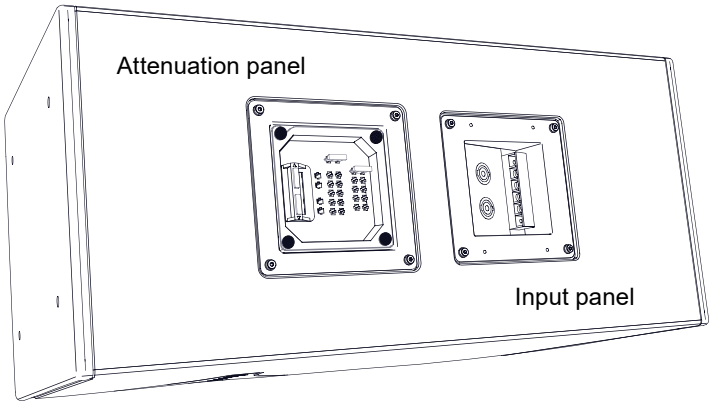


Front (without side panels and grille)

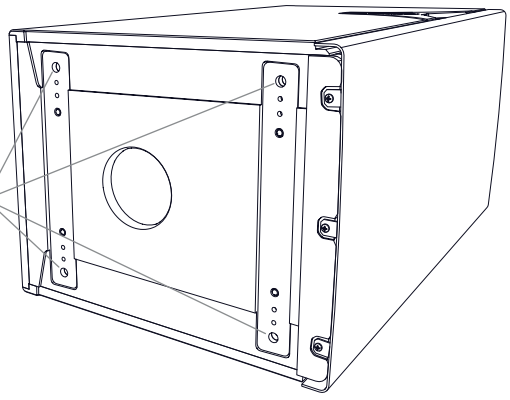


Front (grille on)

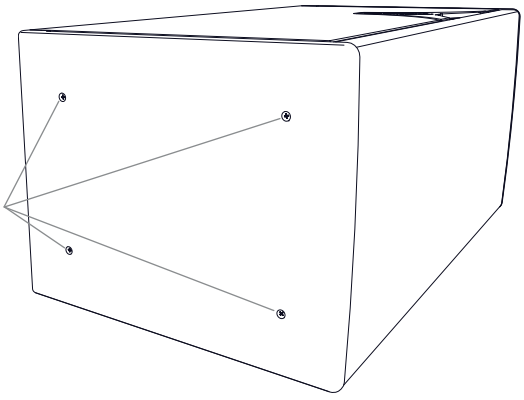
Models
IV6-1122/05 (B/W) *Indoor*
IV6-1122WR05 (Grey standard-B/W opt) *Outdoor*
IV6-1122C05 *Configured-to-Order*



Rear



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

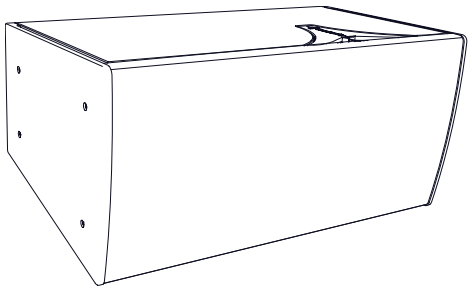


Side (side panel installed) [typical]

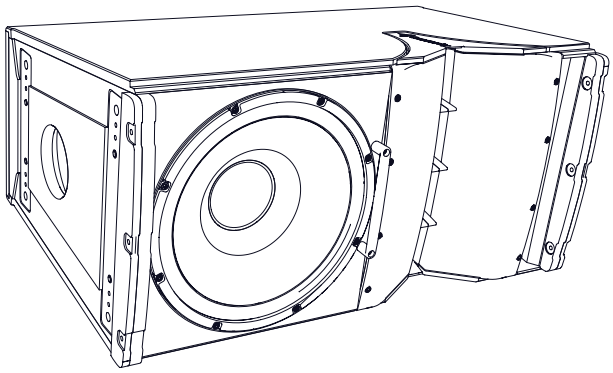
PRODUCT REPRESENTATION *(CONTINUED)*

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

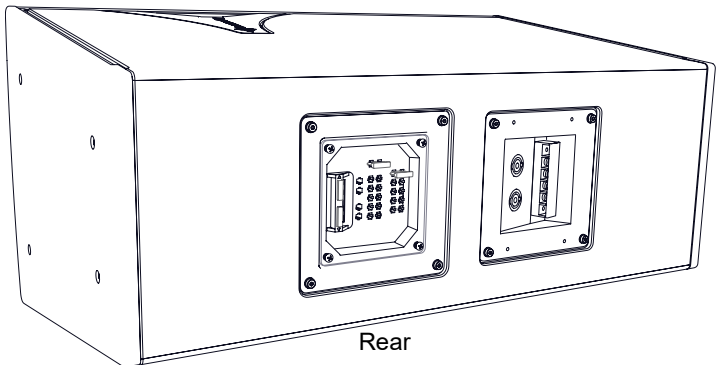
The IV6 loudspeaker with a 15° vertical cabinet angle and horn beamwidth, 120° nominal horizontal coverage. A pair of splay brackets ***must*** be used to make each cabinet-to-cabinet connection. There are three different splay bracket types (S1, S2, S3) used to configure the angle between adjacent cabinets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



Front (grille on)



Front (without side panels and grille)

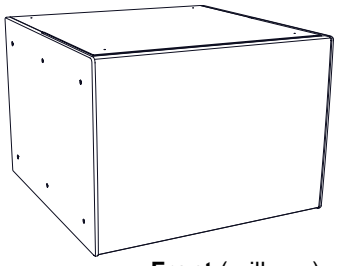


Rear

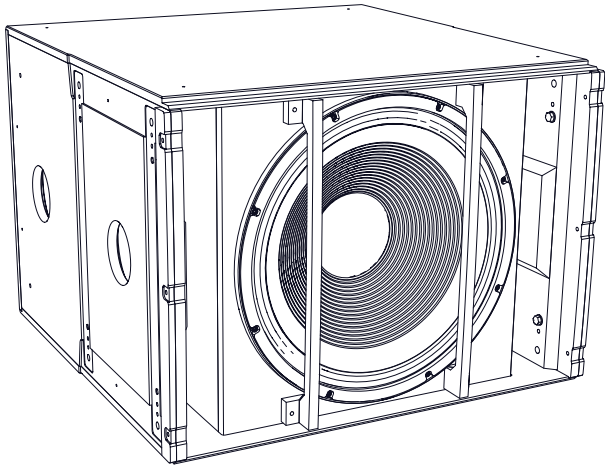
Models
IV6-1122/15 (B/W) *Indoor*
IV6-1122WR15 (Grey standard-B/W opt) *Outdoor*
IV6-1122C15 *Configured-to-Order*

I SERIES VERTICAL ARRAY SUBWOOFER (IV6-118S)

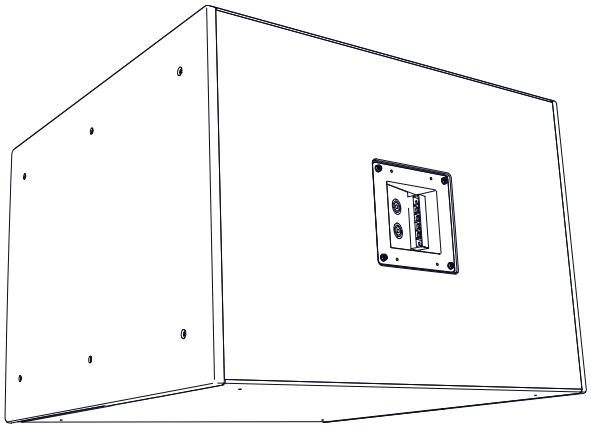
The subwoofer can be mounted above or behind a vertical array of IV6-1122 loudspeakers. It also includes user installable feet for ground stack applications. S1 splay brackets ***must*** be used to connect any arrayed or stacked subwoofers.



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 Biamp 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

Polar Focus manufactures the rigging frames and splay brackets that Biamp 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.

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.

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 Biamp 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.*

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 Biamp's Factory Warranty. Replacement Grade 10.9 M10 bolts are available from Biamp - Contact Biamp 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.

ARRAY ASSEMBLY

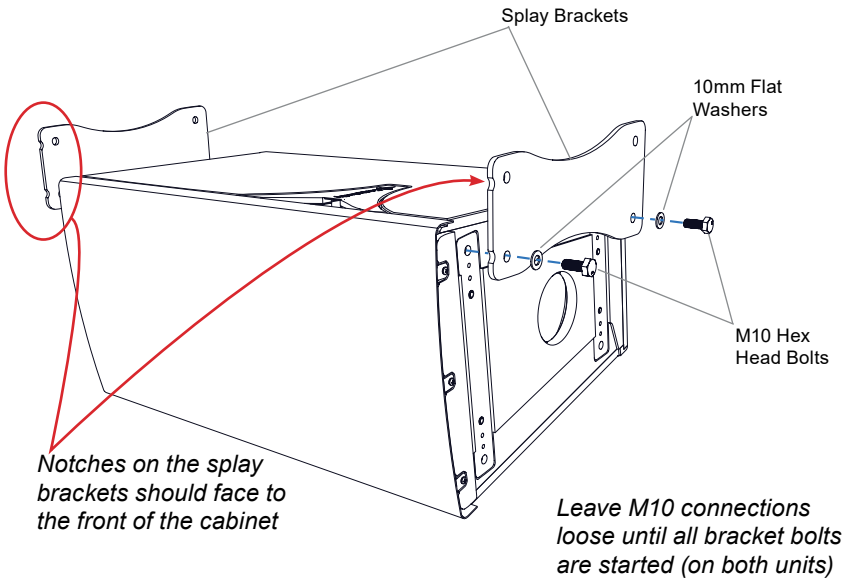
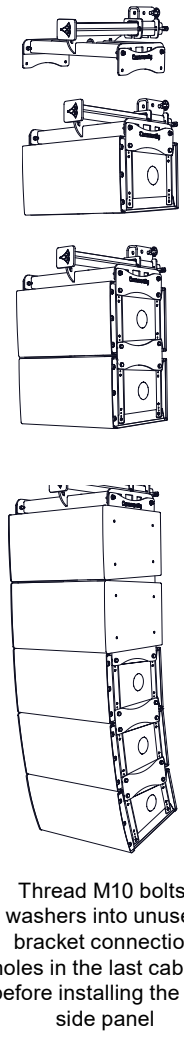


Figure 1. Typical splay bracket attachment to a cabinet

QUICK ASSEMBLY SUMMARY



Once each cabinet has been added to the array and bracket connections made/tightened, attach side panels to the upper cabinet

Thread M10 bolts/ washers into unused bracket connection holes in the last cabinet before installing the last side panel

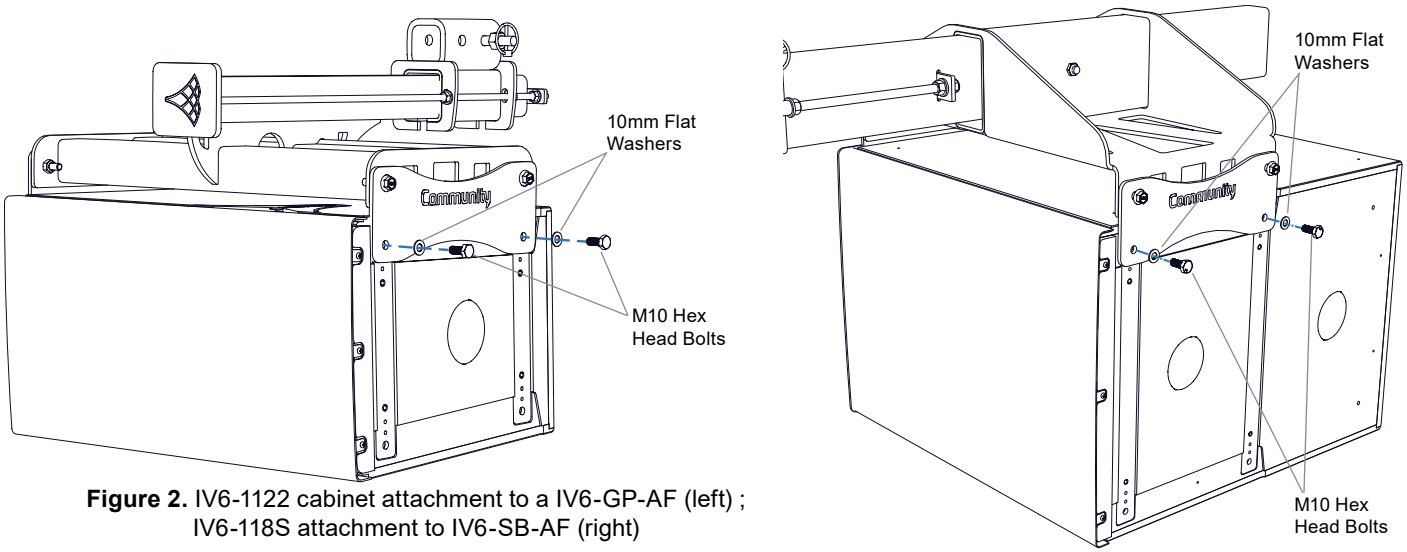


Figure 2. IV6-1122 cabinet attachment to a IV6-GP-AF (left) ; IV6-118S attachment to IV6-SB-AF (right)

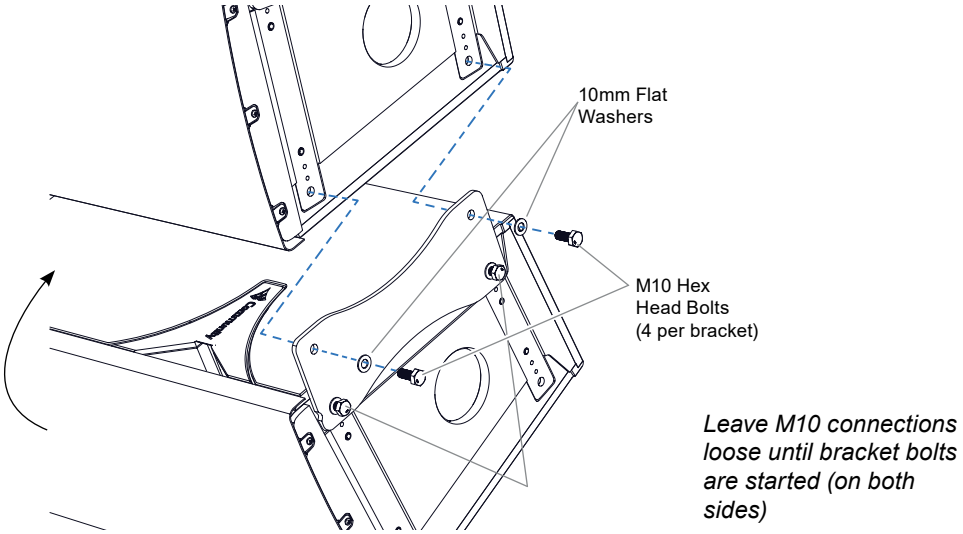


Figure 3. Attach each cabinet to the array as noted per the EF3 system design

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.

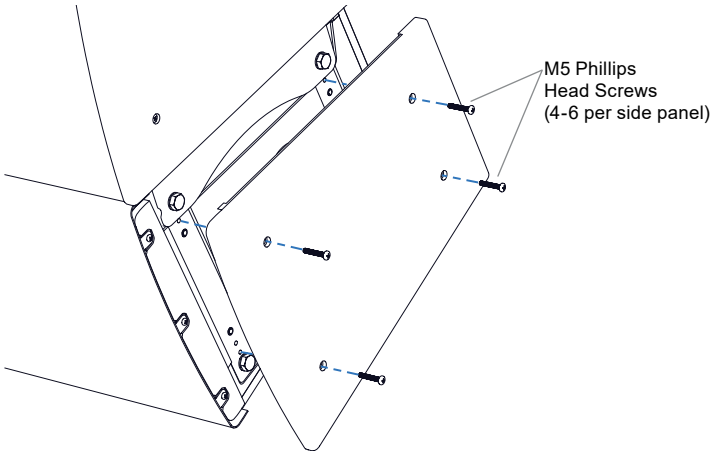


Figure 4. Attach side panels after all bracket connections / hardware has been installed

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.

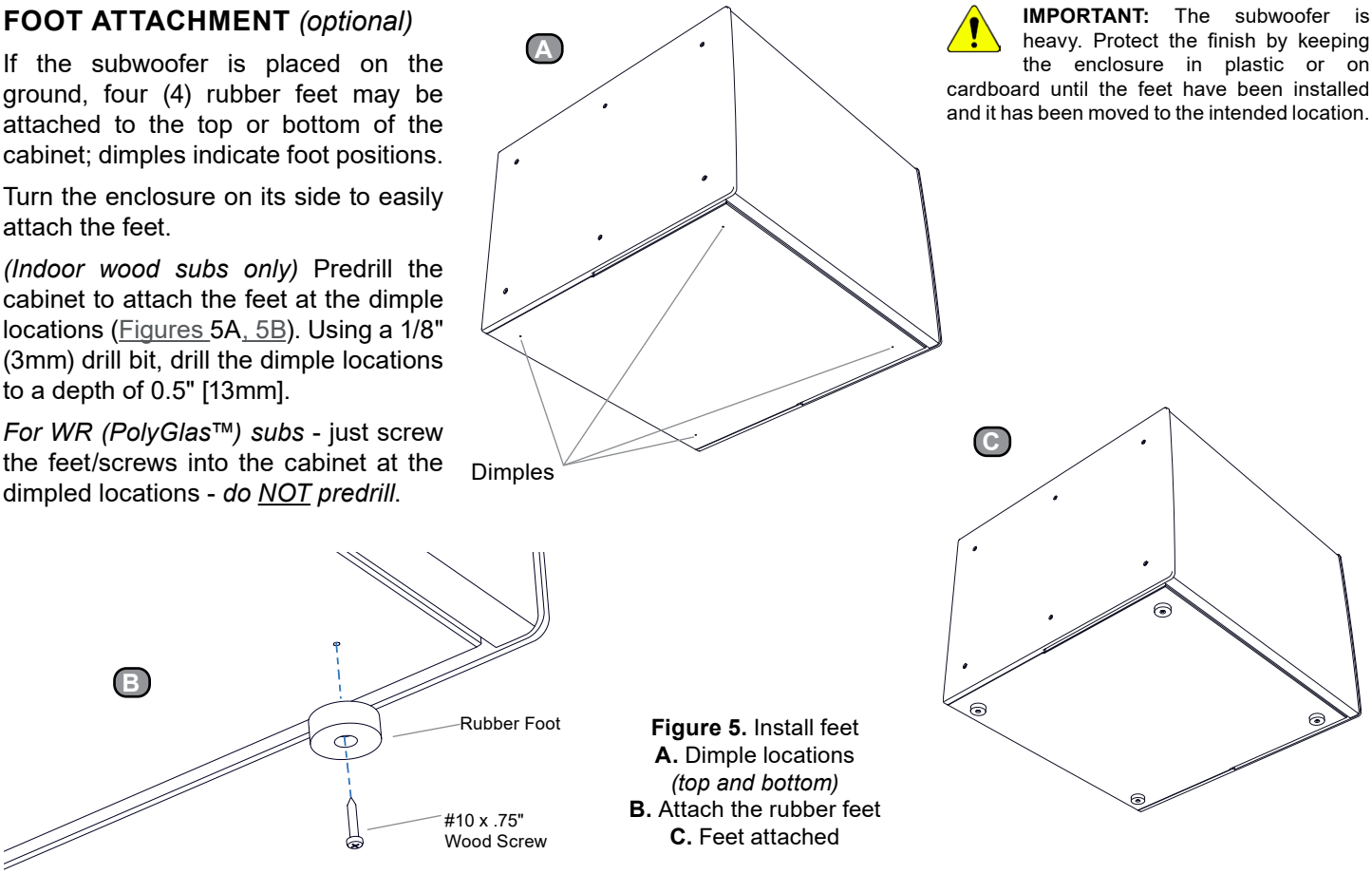


Figure 5. Install feet
A. Dimple locations *(top and bottom)*
B. Attach the rubber feet
C. Feet attached

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).

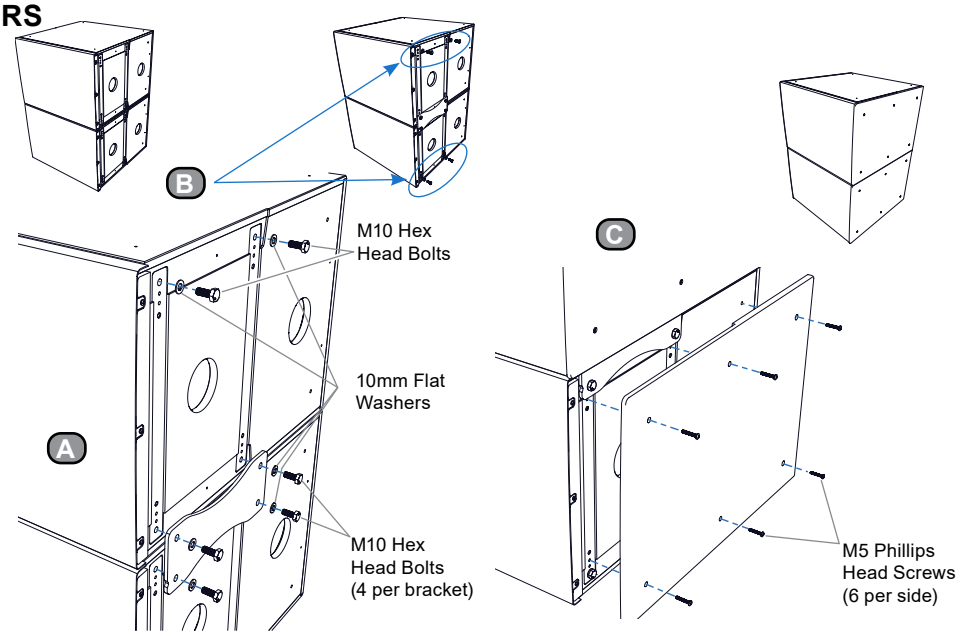


Figure 6
A. Attach an S1 splay bracket to each cabinet-cabinet juncture
B. Thread bolts into any remaining open cabinet connection holes
C. Attach sides after moving the stack to its final location

BUILDING ARRAYS

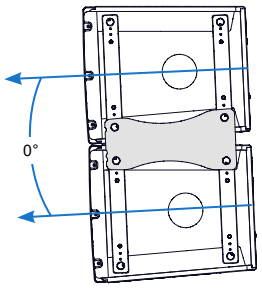
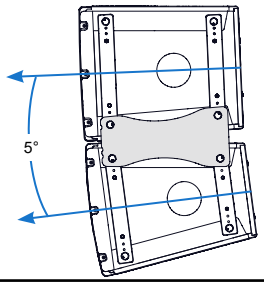
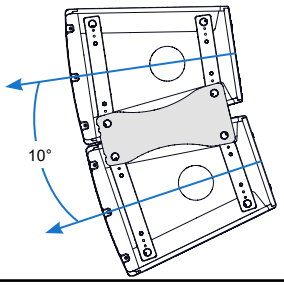
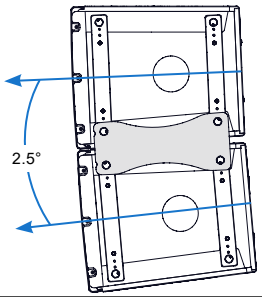
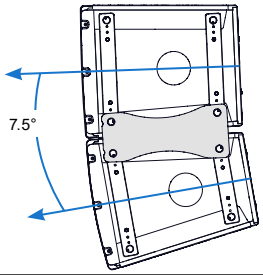
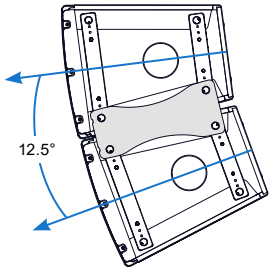
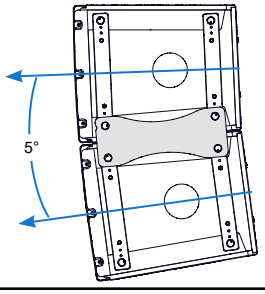
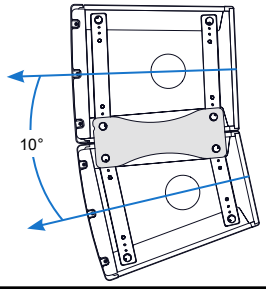
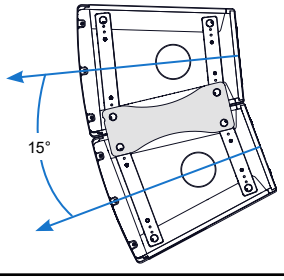
USING IV6 SPLAY BRACKETS

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.

Access the latest IV6 GLL here:
biamp.com/iv6-gll

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 using the VenuePolar workflow in EF3, and the calculated array is sent to the object properties panel, 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(s) of the EF3 report along with purchase orders to ensure that the correct splay brackets are ordered to properly build each array.

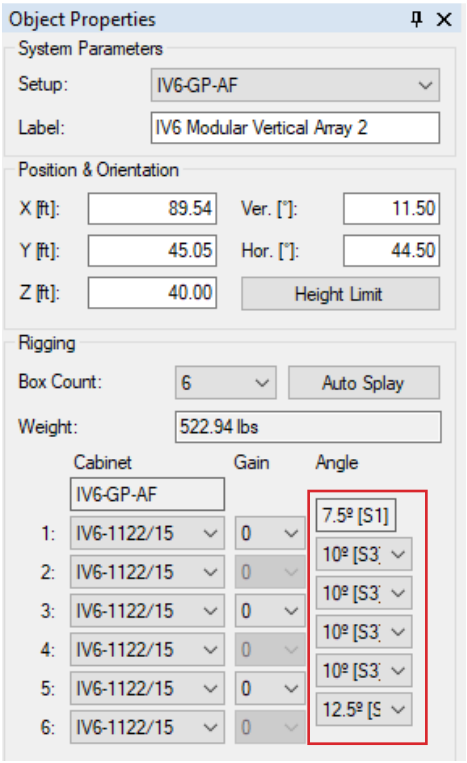


Figure 7. Splay bracket type and angle at each cabinet connection
"Object Properties Rigging" tab in EF3

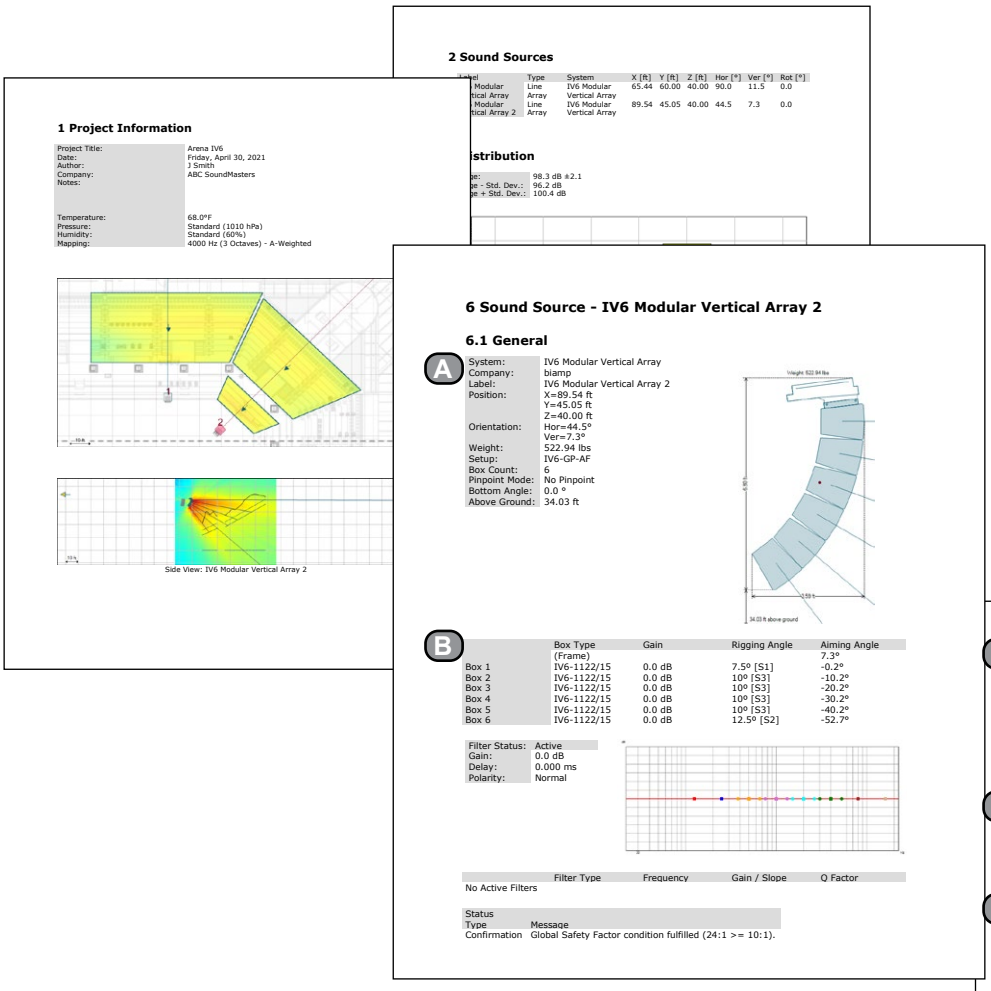


Figure 8. Example pages from an EF3 project report
A. Position / weight / rigging information
B. Array - models and splay brackets
C. Attenuation panel settings
D. Desired safety factor and loads
E. Single array bill of materials
F. Total bill of materials for all VenuePolar arrays

ATTENUATION PANEL

ATTENUATION PANEL - SETTINGS

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

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.

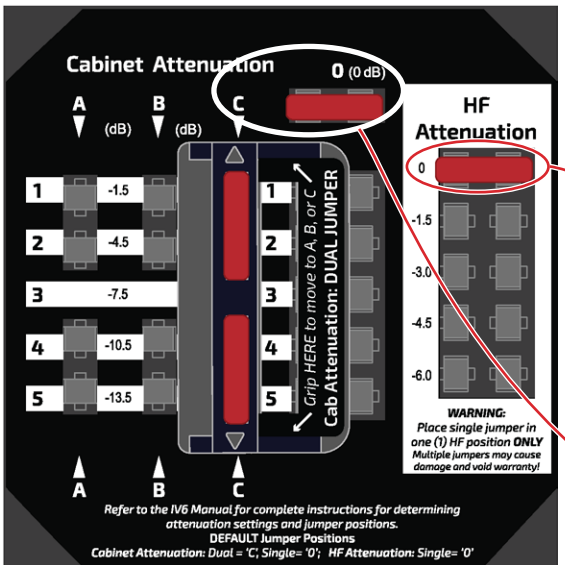


Figure 23. Attenuation panel with jumpers set to match EF3 box attenuation setting (Factory default setting)

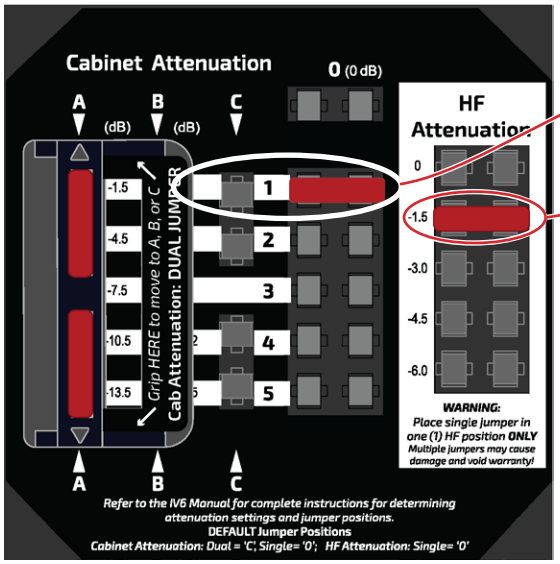
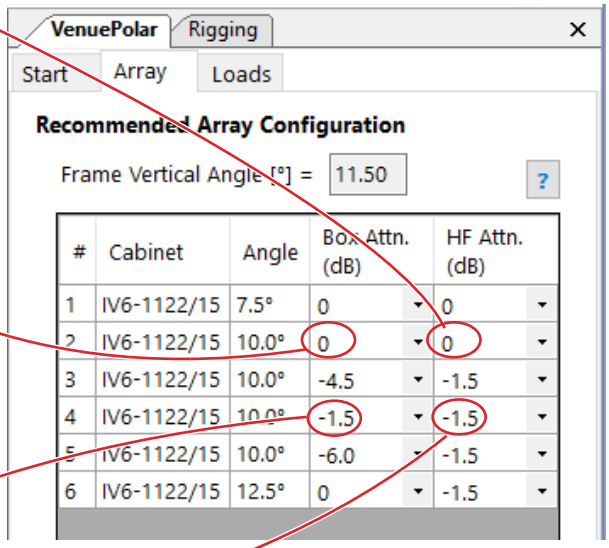


Figure 24. Attenuation panel with jumpers set to match VenuePolar cabinet filter setting

Cabinet (Box) 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.

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



VenuePolar Filter Settings
(after calculating and syncing the array)

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

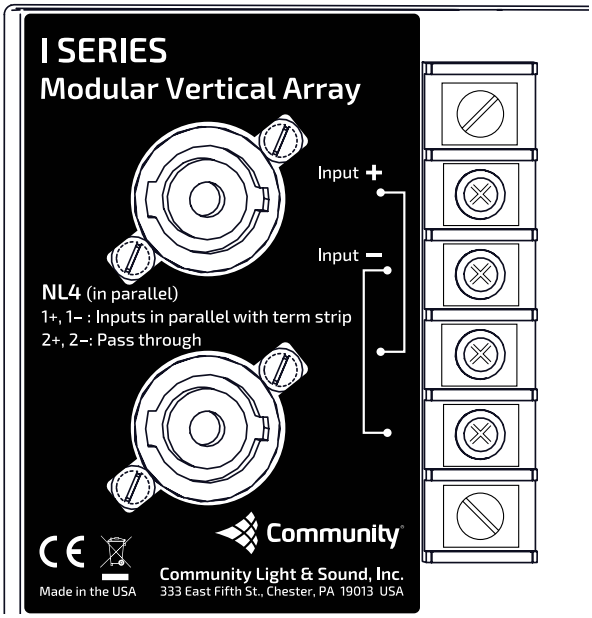
INPUT / ATTENUATION PANEL CONNECTIONS

WIRING - INPUT PANEL

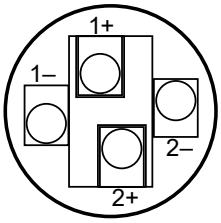
INDOOR MODELS

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. Biamp 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.

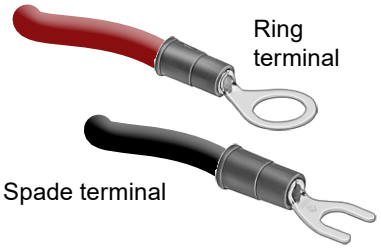


Figure 26. Wire connectors

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!

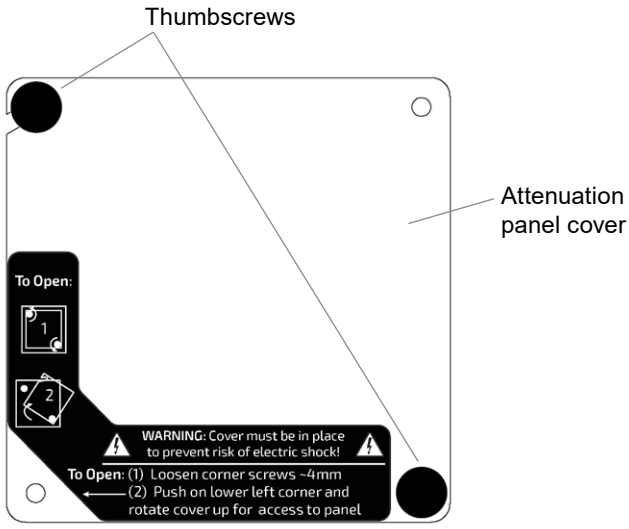


Figure 27. Attenuation panel cover (indoor IV6-1122 models)

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.

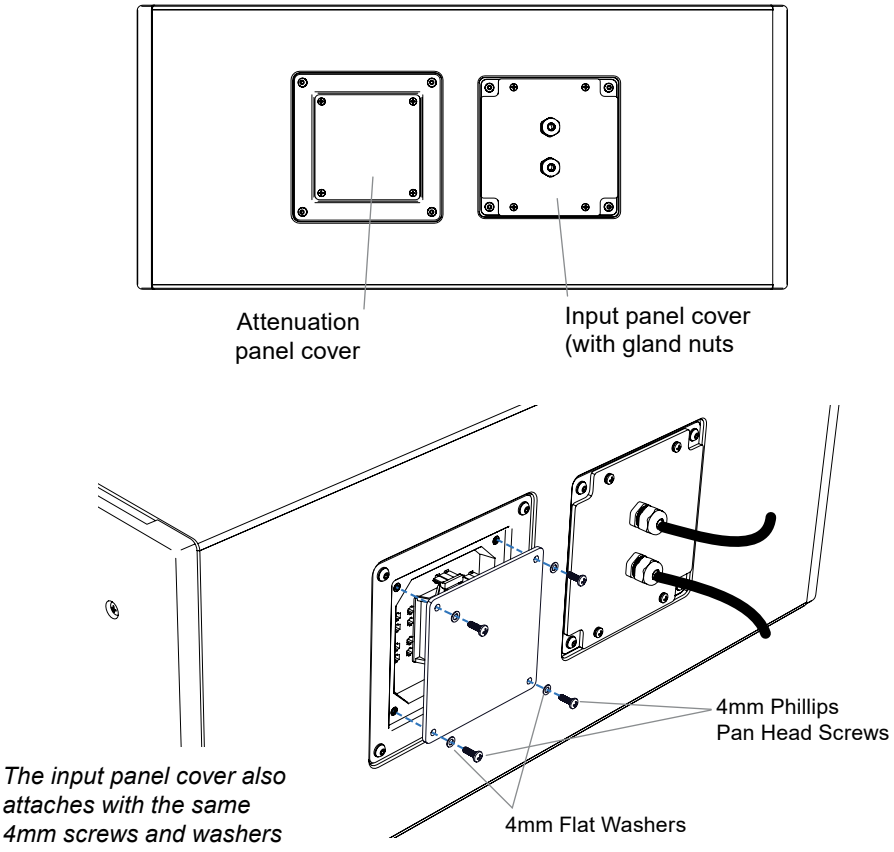


Figure 28. Panel covers installation

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 Biamp for more information regarding mounting options for WR (outdoor) IV6 loudspeakers.*

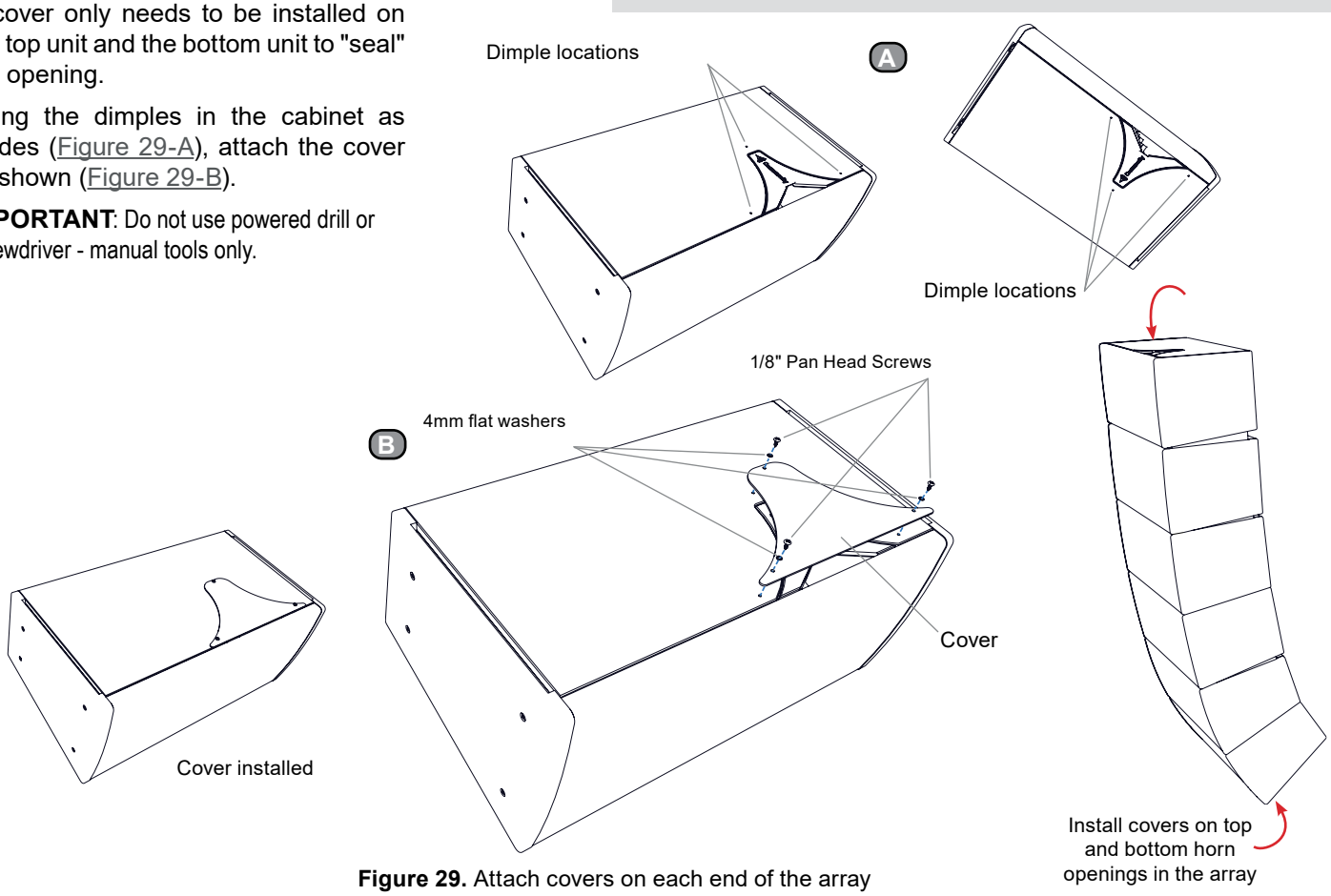


Figure 29. Attach covers on each end of the array
A. Dimple locations **B.** Cover attachment

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 Biamp's Large Venue Support team at CommunitySupport@biamp.com for more information about appropriate outdoor rigging methods and recommendations for qualified custom outdoor rigging designers and manufacturers.

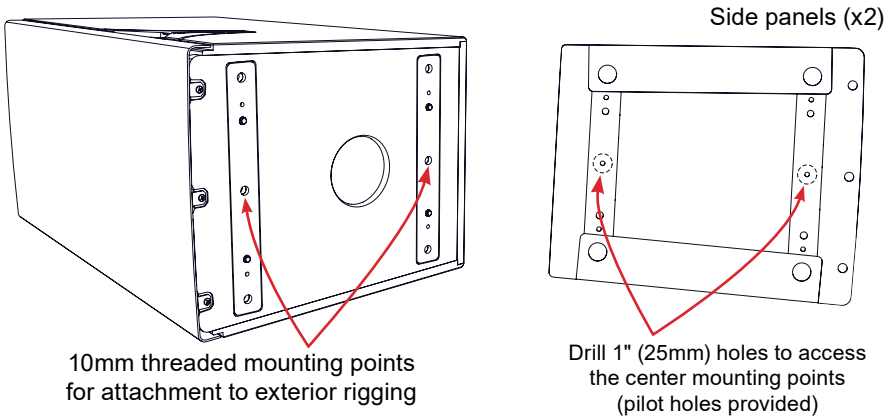


Figure 30. The side panels must be drilled at each center mounting point on IV6-WR cabinets for attachment to customized external rigging.

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.

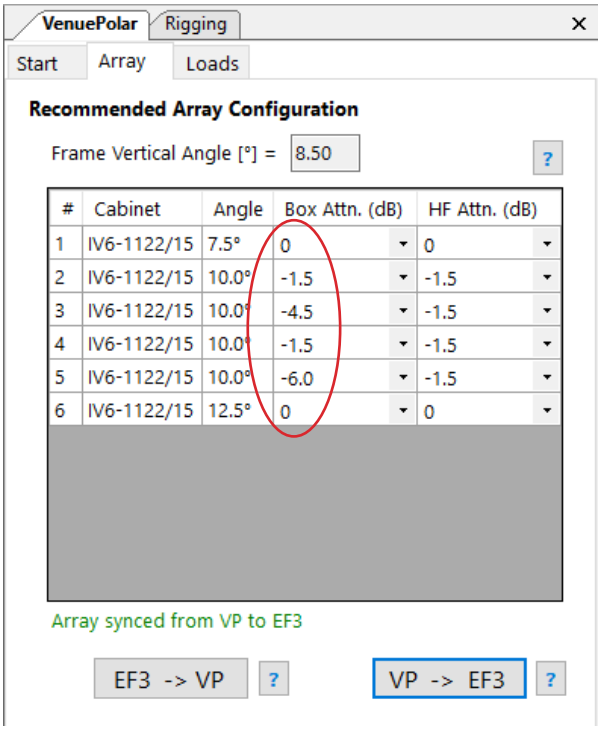
It is usually easy to calculate the number of loudspeakers that can be connected to a single amp channel when all of the speakers are the same impedance. For example, Ohm's Law tells us that four 16 Ohm loudspeakers wired in parallel results in a 4 Ohm load to the amplifier (16Ω / 4 = 4Ω). That equation 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 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.

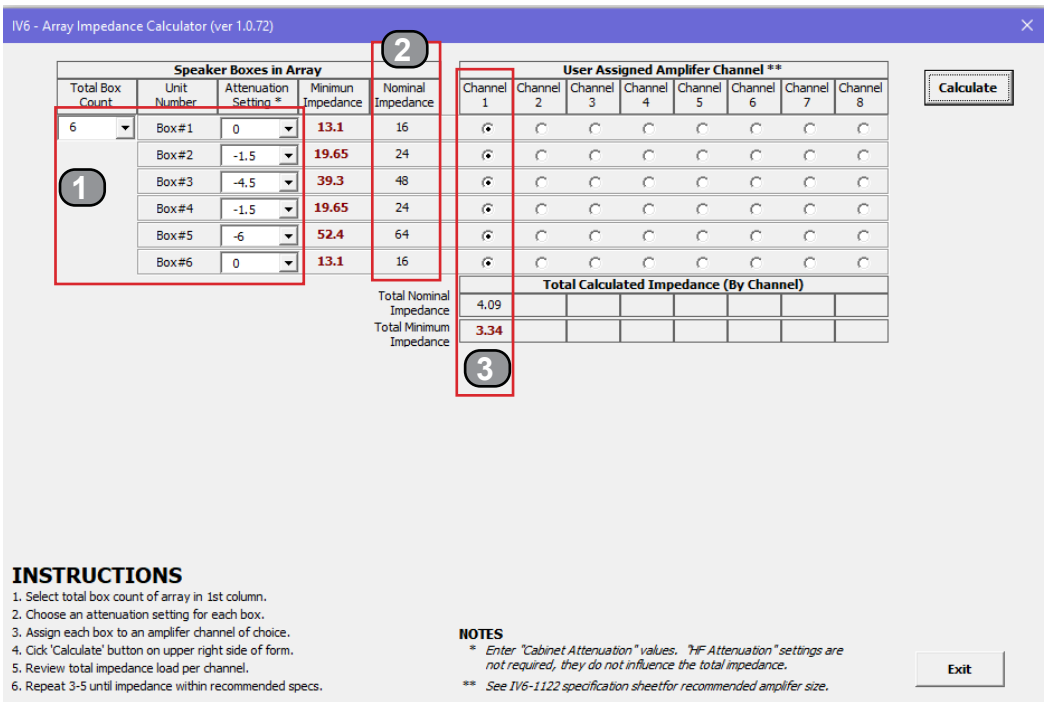
EXAMPLE

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



VenuePolar Attenuation Settings - Cabinet or "Box Attenuation" setting

ARRAY IMPEDANCE CALCULATION TOOL *(CONTINUED)*

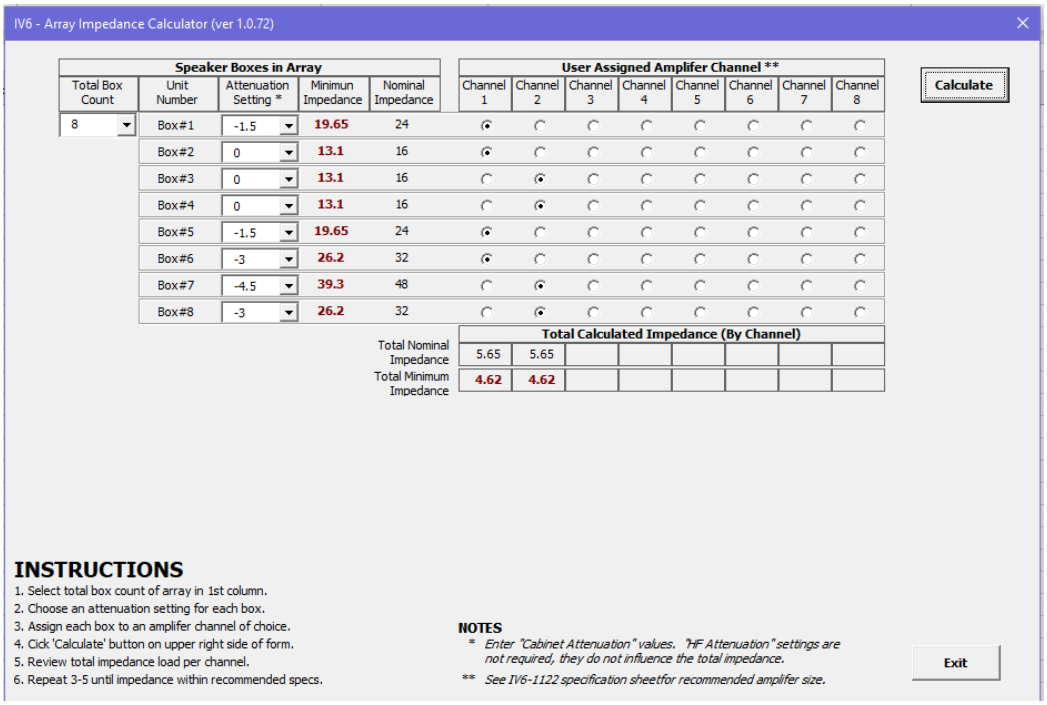


1. Attenuation Settings for all six boxes have been entered into AIC Tool

2. Resulting Impedance for each Box after PAO is applied

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

A different 8 cabinet array is shown here where less attenuation is applied via PAO. In this example, the boxes are wired using two amp channels and grouped in such a way as to provide an equal load to each amp channel:



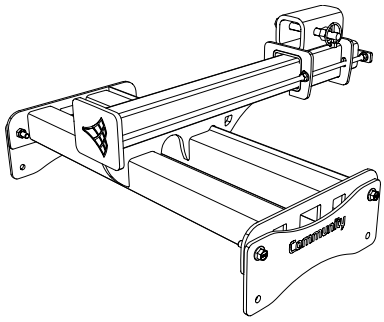
ACCESSORIES - GLIDEPOINT™ ARRAY FRAME

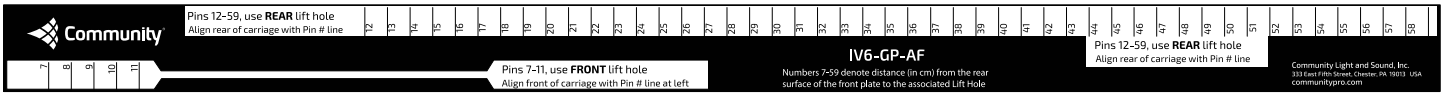
Designed to suspend a maximum of sixteen (16) IV6 -1122 or nine (9) subwoofers in a single *INDOOR* array with a 10:1 safety factor.

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).

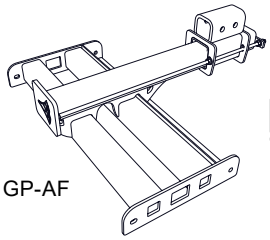
The Pin# information from the rigging section of EF3 represents the distance (cm) from the back of the front logo plate to the designated lifting point. Pins 1-6 do not exist due to the offset of the front lift point on the carriage.





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:

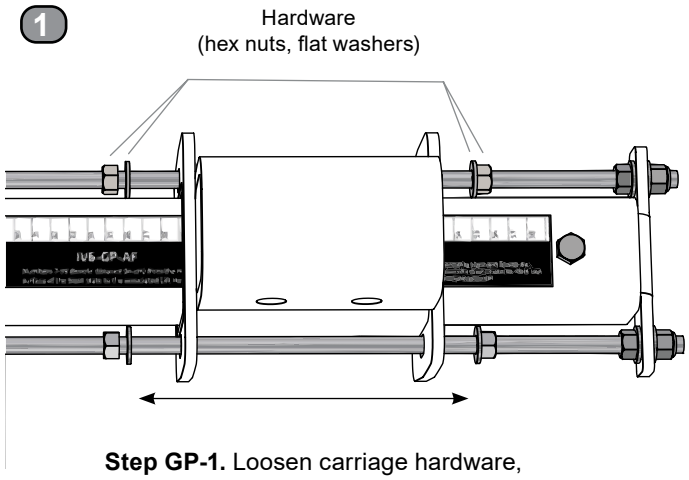
Qty	Code	Description
4	HHB-F	Grade 10.9 Flanged Hex Head Bolts
4	HN-F	Flanged Nuts
1	C-HB	Carriage Hex Bolt
1	C-HN	Carriage Hex Nut
1	LR	Locking Ring

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 (Biamp website - IV6 Downloads).

Additional rigging accessories are available from Polar Focus - See table on page 29 of this manual.



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

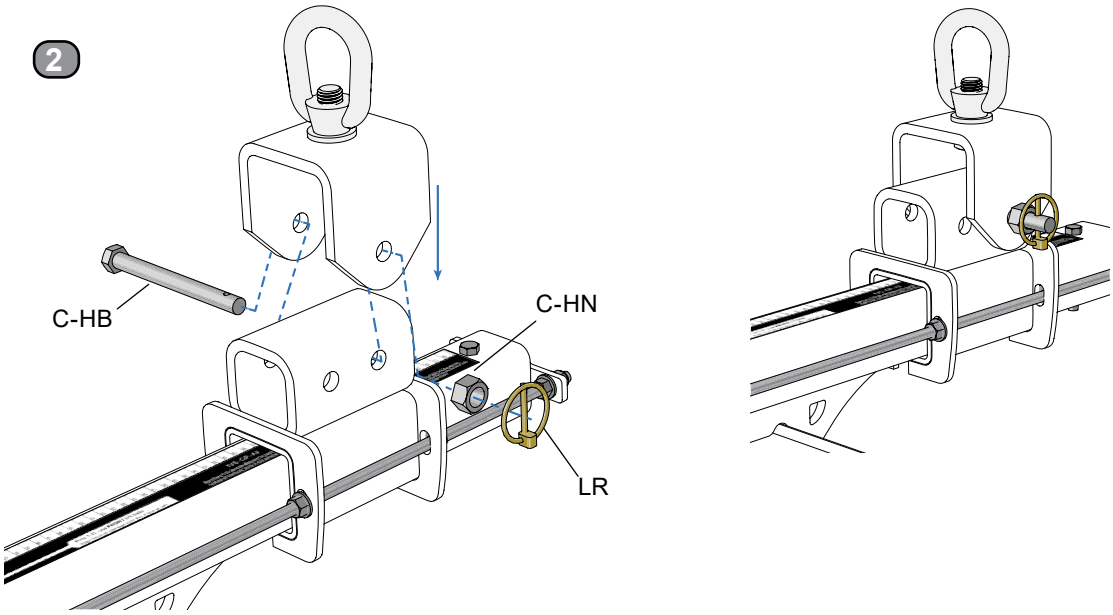
ASSEMBLY

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.



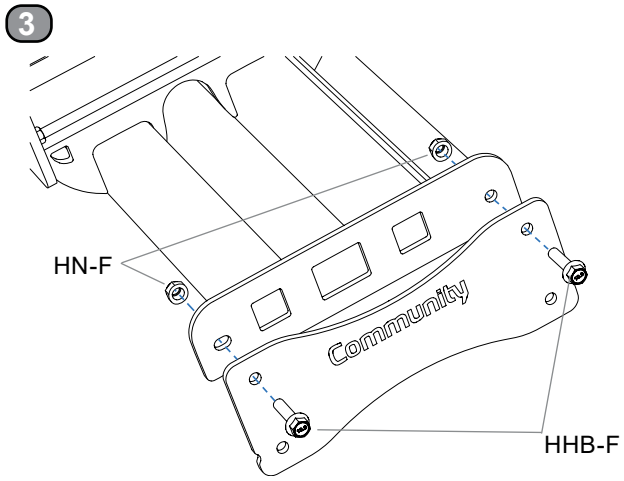
Step GP-2. Attach the lift point to the carriage using the designated lift hole
(PY1-EN750-1550 shown)

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!

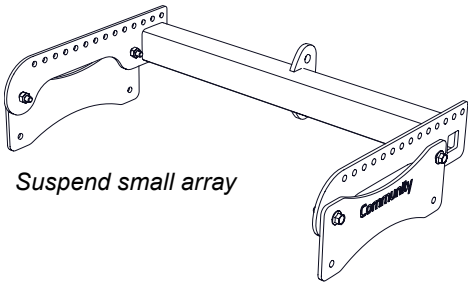


Step GP-3. Using the 10.9 hardware, loosely connect the splay brackets to the array frame with "Community" facing out

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.



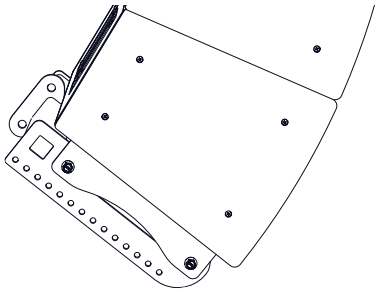
Suspend small array

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.

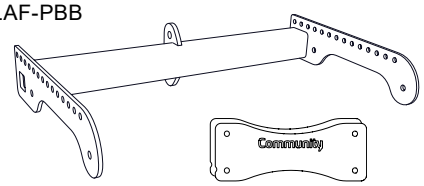
2. Attach the splay bracket to the IV6 cabinet as shown in the array assembly instructions. Leave all connections slightly loose until all frame-to-cabinet bolts are started, then tighten the hardware.



Use as pullback bar at the bottom of a curved array

Parts:

LAF-PBB



S1 with Logo

IV6-LAF-PBB

LAF-PBB: Light Array Frame (1)

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

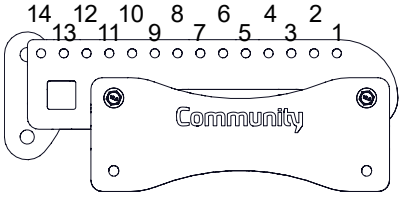
Hardware:

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

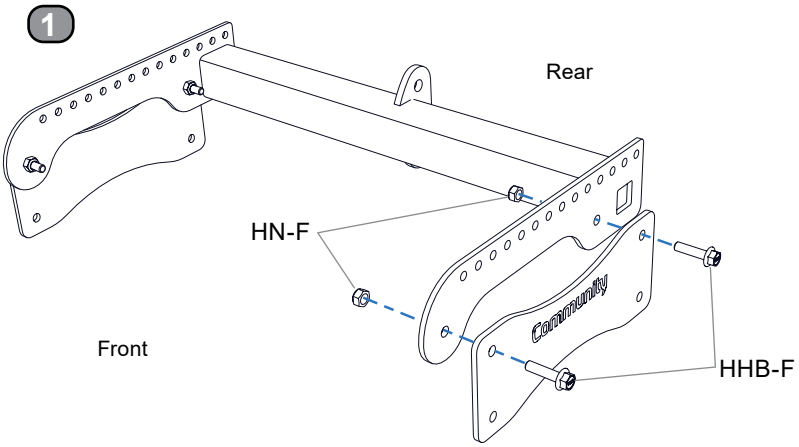
Kit Weight: 23 lbs (10.4 kg)

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

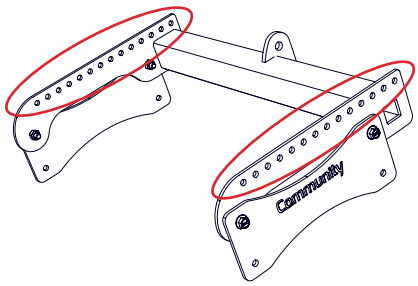


"Pin" point reference for suspension
(Pin Number from EF3)



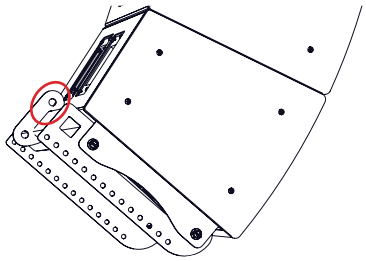
Step LAF-1. When used at the top of an array, use the Grade 10.9 hardware, loosely connect the splay brackets to the array frame with "Community" facing out

USED AS LIGHT ARRAY FRAME



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

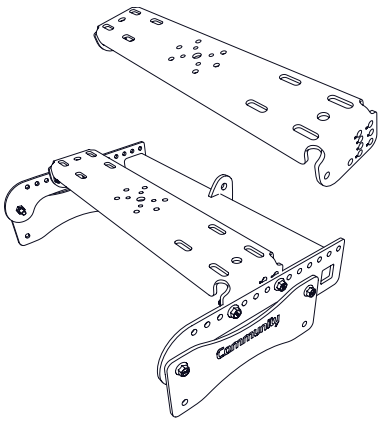
USED AS PULLBACK BAR



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.

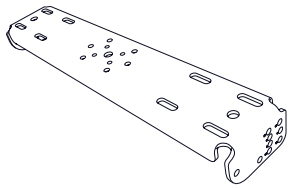


Before assembly: The IV6-LAU U-Bracket must be used with the IV6-LAF-PBB to integrate with an IV6 *INDOOR* array. Determine tilt angle and approximate center of balance of the array for placement on the light array frame.

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:



LAU

IV6-LAU

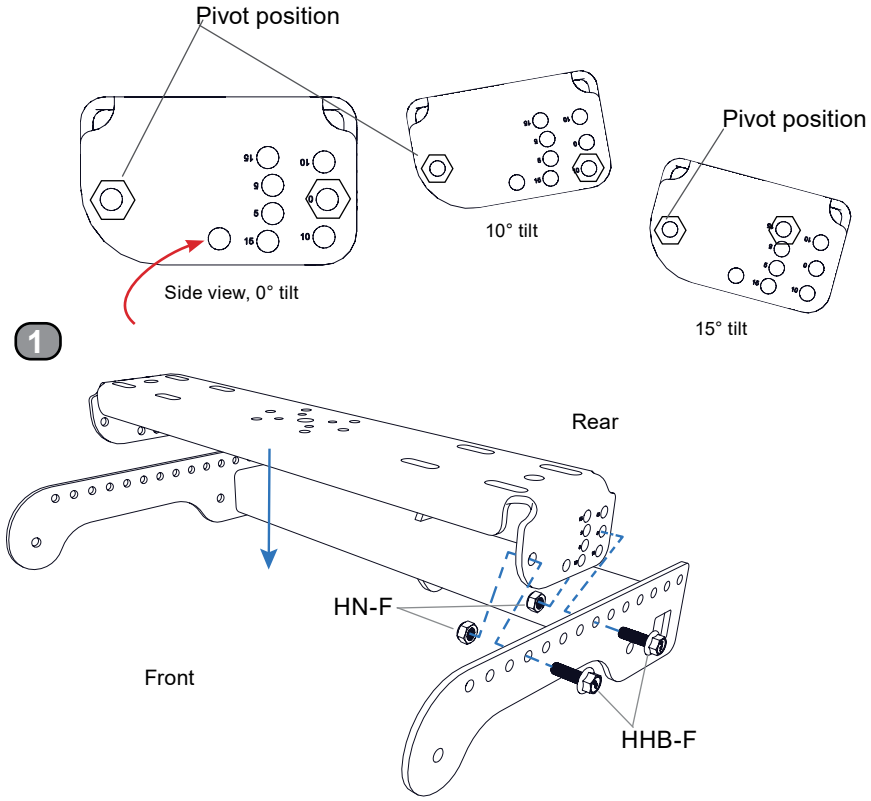
LAU: Light Array U-Bracket (1)

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

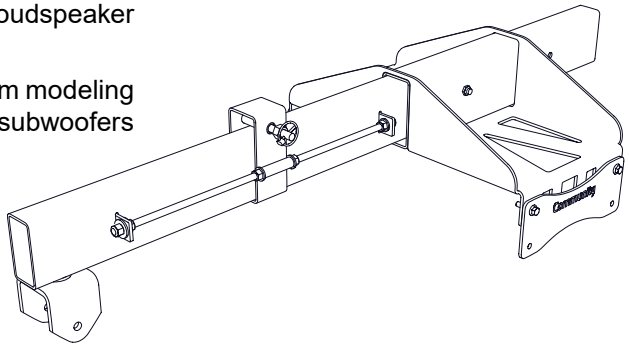
Hang up to eight (8) IV6 subwoofers behind the main *INDOOR* array

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:

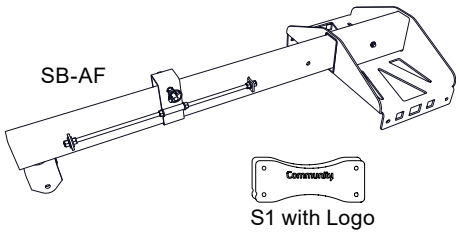
- The mounting frame is pre-installed at the rear position
- Using the rear position will better counterbalance the weight of a larger main array
- **IMPORTANT:** *The IV6-SB-AF must always hang level.* Use the Sub-behind Hang Point Calculator to help determine both the mounting frame position and the 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 Frames, Accessories, and Safety Guide (Biamp website - IV6 Downloads).

Additional rigging accessories are available from Polar Focus - See table on page 29 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

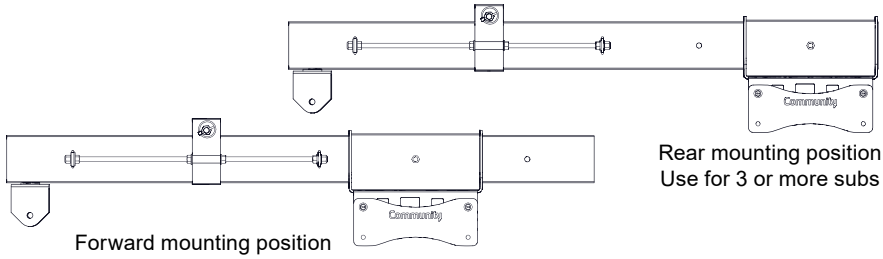
Kit Weight: 108.0 lbs (49.0 kg)

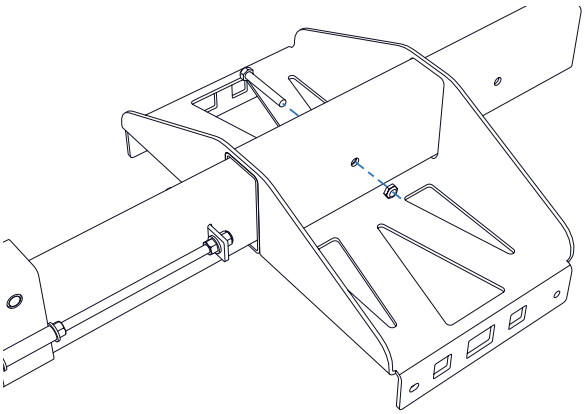
Working Load Limit: 2000 lbs (907.2 kg) (10:1 safety factor)

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)

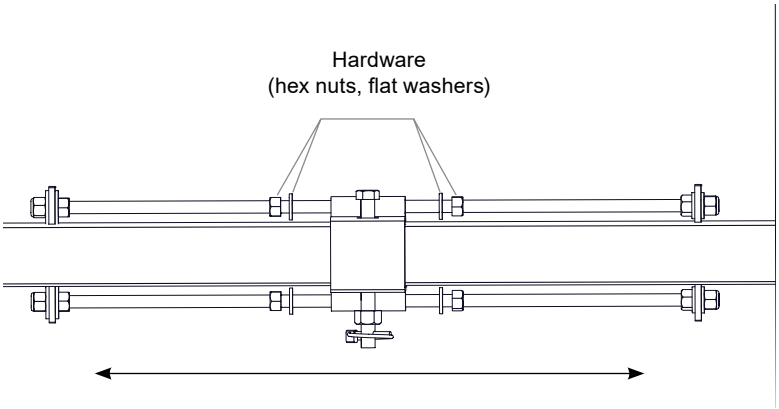
ACCESSORIES - SUB BEHIND ARRAY FRAME *(CONTINUED)*

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.

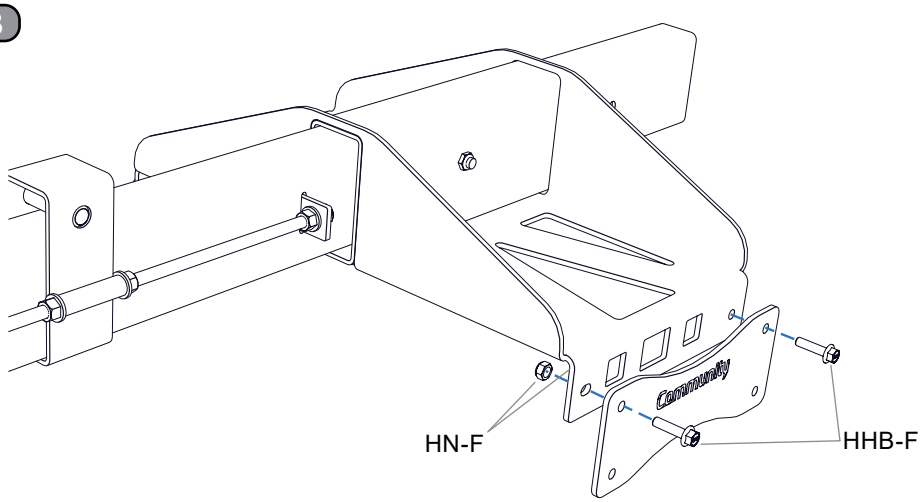
3. Using the 10.9 flanged bolts and nuts, loosely attach the S1 brackets to the array frame with the Community name facing out.

2



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

3

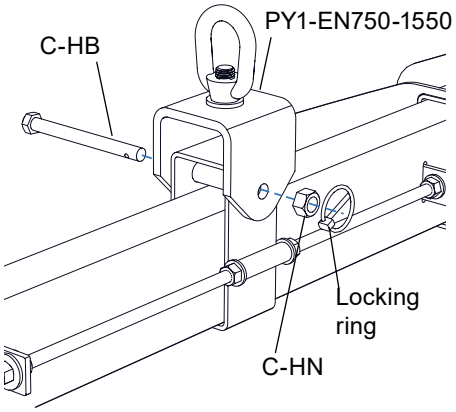


Step SB-3. Loosely connect the splay brackets to the array frame

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.

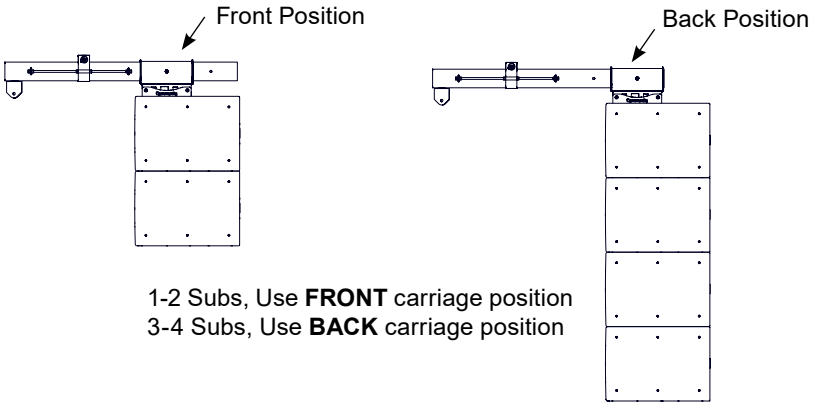
4

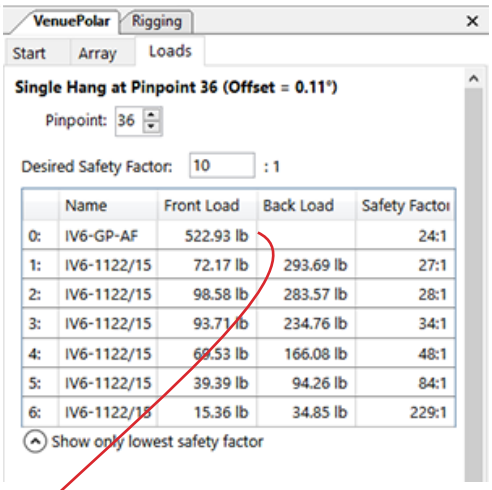


Step SB-4. Attach Lift Point to carriage hang point

SUB BEHIND HANG POINT CALCULATOR

Biamp 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 included in the "IV6 Manuals and Tools (All)" zip file, and is available here in the manuals section of the IV6 product page on the Biamp website.





1. Retrieve the weight of the main array from Line 0 of the "Loads" tab in EASE® Focus 3 (EF3), or from the Loads section of the EF3 project report for that array. 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.

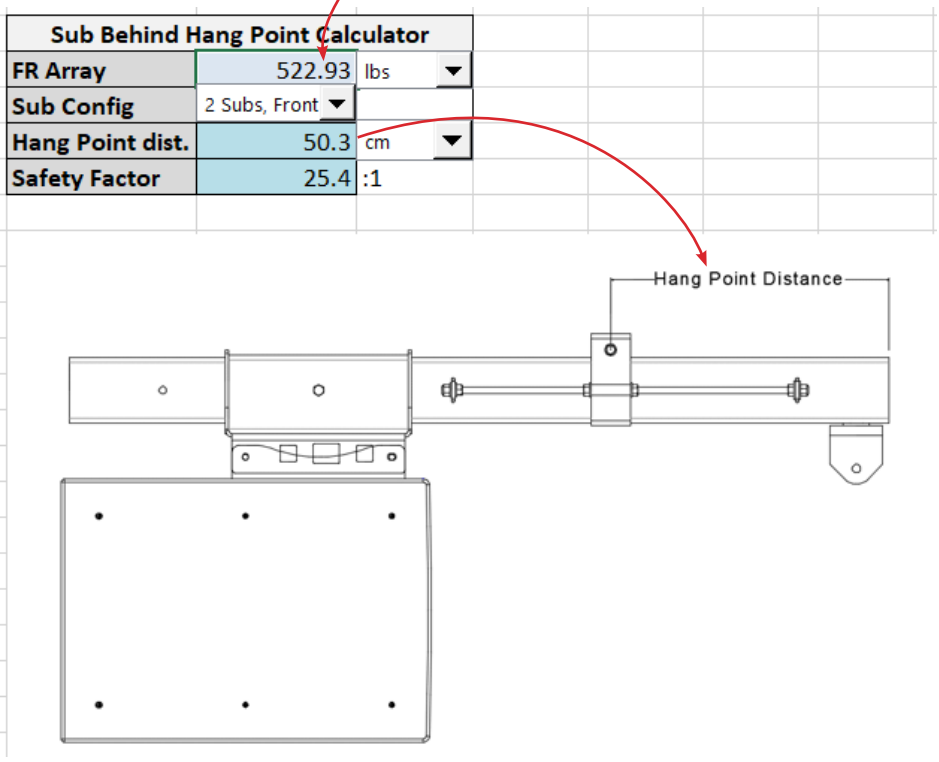


Figure SB-5. Sub Behind Hang Point Calculator

WARNING: The Sub-Behind Hang Point Calculator should not be used with arrays that include a Pull Back bar (IV6-LAF-PBB) at the bottom of the array. The calculator will not produce accurate results when a pull back bar is in use.

NOTE: If you require assistance designing an IV6 Array, please contact our Loudspeaker Applications Group: communitysupport@biamp.com

ACCESSORIES - LIFT POINT FOR ARRAY FRAMES

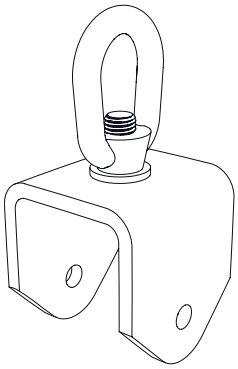
Available from Biamp

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 Frames, Accessories, and Safety Guide (Biamp website - IV6 Downloads).

Additional rigging accessories are available from Polar Focus - See table below.

ACCESSORY BRACKET REFERENCE

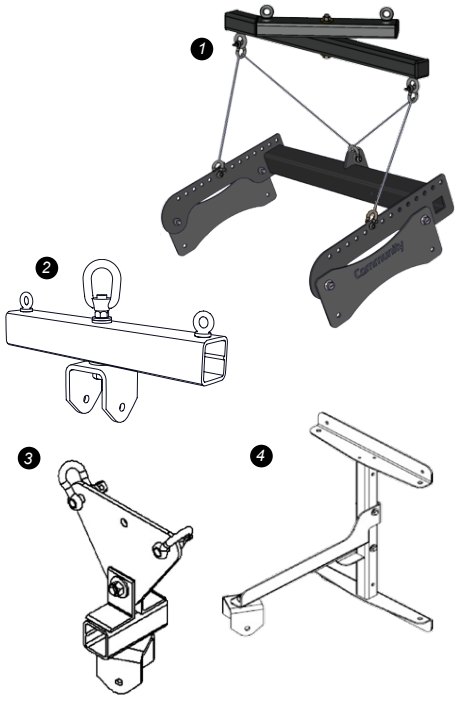
Available from Polar Focus

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

Below is a quick reference table to choose from. Please visit Polar Focus's website noted below for information.

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)



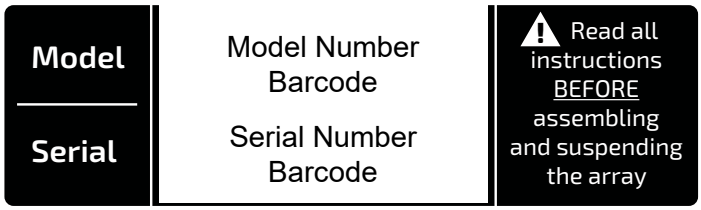
APPENDIX

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 Biamp)	*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 Biamp 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.

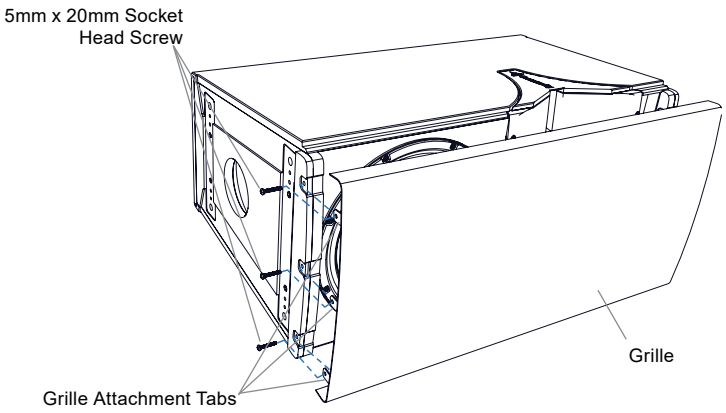


Figure 31. Remove the grille (side panels must be off).

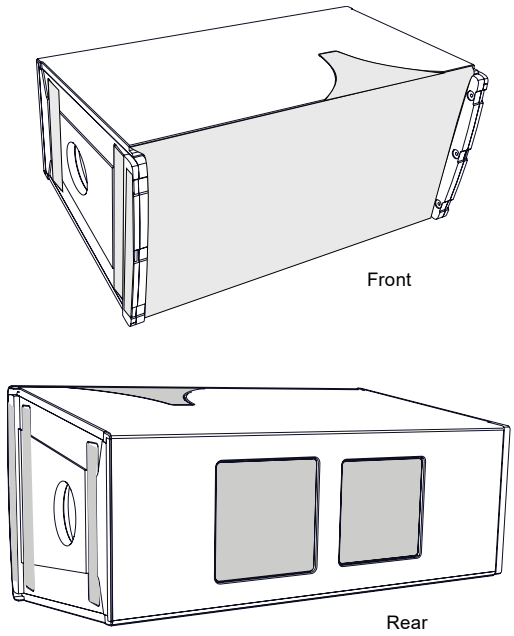


Figure 32. Mask off the internal components, threaded inserts, the horn exterior and rear panels

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. The ALC amplified controllers 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 the Biamp website, or contact our Customer Experience Support team at support.biamp.com or by email: CommunitySupport@biamp.com

SPECIFICATIONS AND INFORMATION

Full product specifications and current documentation (manuals, sales literature) are available at biamp.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 Customer Experience Loudspeaker Support Group.

CONTACT US

Email: support@biamp.com or CommunitySupport@biamp.com

Web: support.biamp.com

Warranty: biamp.com/legal/warranty-information

Note: Every effort has been made to insure that the information contained in this manual was complete and accurate when printed. 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 support.biamp.com.