VRX900
SERIES

User's Guide

VRX932LA-1

VRX932LA-1WH

VRX918S

VRX918S-WH

VRX915M

VRX928LA

VRX928LA-WH

VRX915S

VRX915S-WH

VRX-AF

VRX932LA-AF

VRX-SMAF

JBL
PROFESSIONAL

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IMPORTANT SAFETY INSTRUCTIONS

The VRX Series loudspeakers covered by this manual are not intended for fixed installation in outdoor or high moisture environments. Moisture can damage the speaker cone and surround and cause corrosion of electrical contacts and metal parts. Avoid exposing the speakers to direct moisture. Keep speakers out of extended or intense direct sunlight. The driver suspension will prematurely dry out and finished surfaces may be degraded by long-term exposure to intense ultra-violet (UV) light.

The VRX Series speakers can generate considerable energy. When placed on a slippery surface such as polished wood or linoleum, the speaker may move due to its acoustical energy output. Precautions should be taken to assure that the speaker does not fall off a stage or table on which it is placed.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
9. Only use attachments / accessories specified by the manufacturer.
10. Use only with a cart, stand, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart / apparatus combination to avoid injury from tip-over.
11. Refer all servicing to qualified service personnel. Servicing is required when an apparatus has been damaged in any way, such as power-cord or plug is damaged, liquid has been spilled, or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

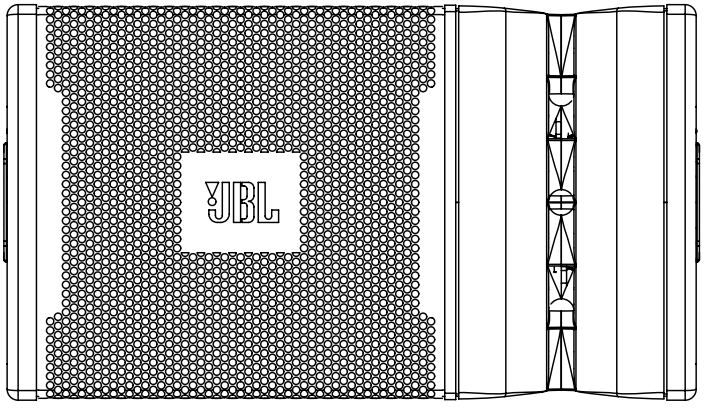


12. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
13. Hearing damage, prolonged exposure to excessive SPL, the loudspeaker is easily capable of generating sound pressure levels (SPL) sufficient to cause permanent hearing damage to performers, production crew and audience members. Caution should be taken to avoid prolonged exposuro SPL in excess of 90 dB.

PATENTS

VRX series products are manufactured and sold under U.S. patents 5,748,760; 6,112,847; 6,394,223; 6,847,726; 6,774,510; D483,743; 6,768,806; and D483,744.

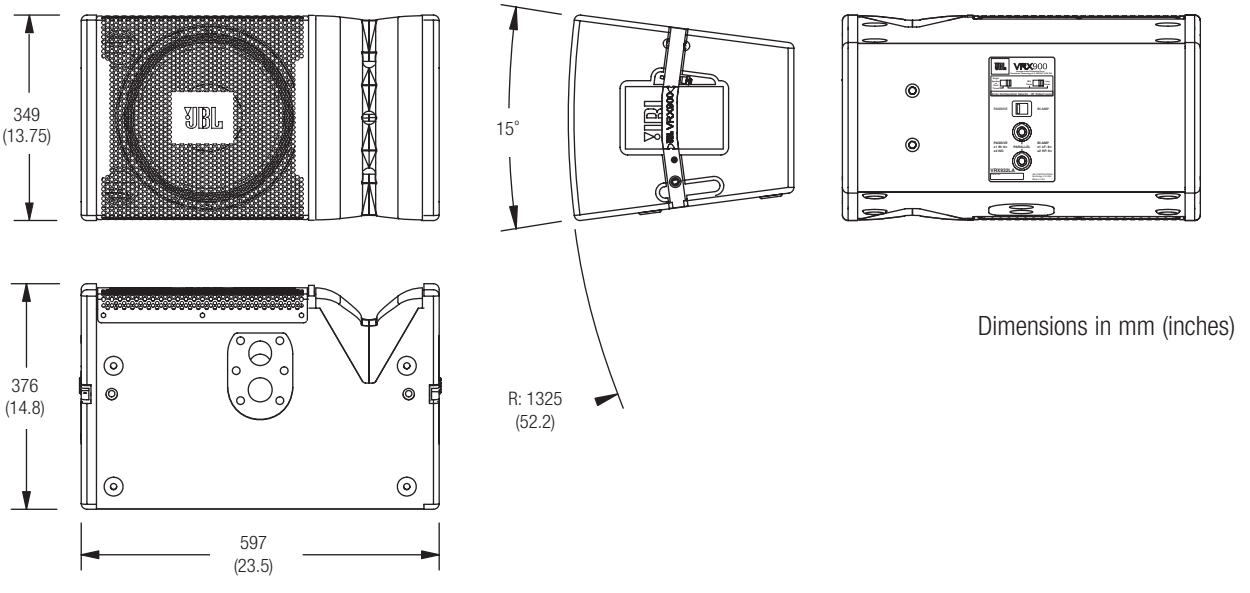
INTRODUCTION TO THE VRX932LA-1



The VRX932LA-1 is a two-way, line-array loudspeaker system intended for use in arrays of up to six enclosures. Three high-frequency drivers are mounted to the Constant Curvature waveguide which is designed so that multiple enclosures may be arrayed with no discontinuity in the vertical coverage pattern. As a result, the array will behave in much the same way as would a single loudspeaker. Array coverage may be adjusted by means of the Array Configuration Selector (ACS), a feature that provides amplitude shading (see page 14 & 15) when the system is used in passive mode. Integral rigging hardware, a dual angle pole socket and an accessory array frame provide for a variety of mounting and suspension options. VRX932LA and VRX932LA-1 are completely interchangeable and can be used together. When operated in passive mode, frequency response characteristics are exactly the same and both can be used in the same array.

NOTE: The VRX932LA-1WH is designed for fixed install situations where white loudspeakers are required to match existing decor. White versions therefore do not have handles, feet or pole mount features.

DIMENSIONAL DRAWINGS FOR VRX932LA-1



Dimensions in mm (inches)

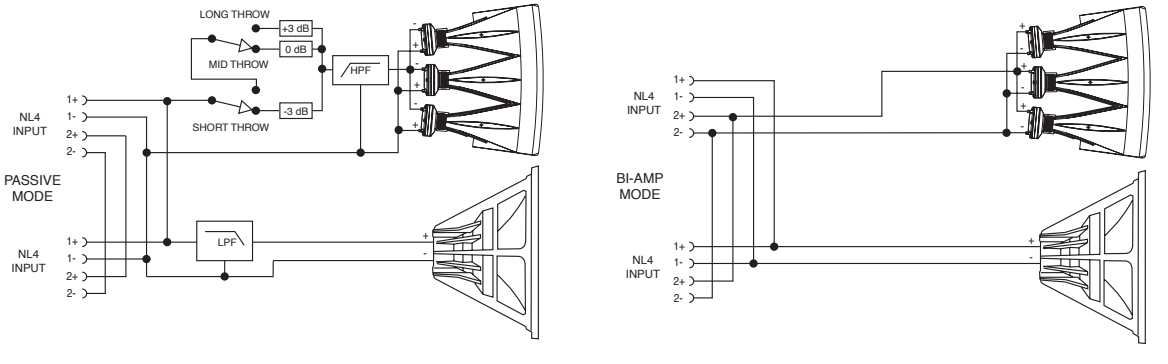
SPECIFICATIONS

VRX932LA-1 - 12", TWO-WAY, LINE-ARRAY LOUDSPEAKER SYSTEM

System Type:	12" two-way, line array loudspeaker system
Frequency Range (-10 dB):	57 Hz - 20 kHz
Frequency Response (±3 dB):	75 Hz - 20 kHz
Coverage Pattern:	100º x 15º nominal (horizontal x vertical)
Crossover Modes:	Bi-amp / passive, externally switchable
Crossover Frequency:	1.2 kHz
Power Rating	Passive: 800 W / 1600 W / 3200 W
(Continuous[1] / Program / Peak):	Bi-amp LF: 800 W / 1600 W / 3200 W
	Bi-amp HF: 75 W / 150 W / 300 W
System Maximum SPL[2]:	130 dB SPL peak (passive)
	LF: 130 dB
	HF: 139 dB
System Sensitivity (1w @ 1m):	95 dB SPL (passive mode)
	LF: 95 dB
	HF: 114 dB
LF Driver:	1 x JBL 2262H 305 mm (12 in) Differential Drive® woofer with neodymium-magnet and dual voice-coils
HF Driver:	3 x JBL 2408J, 38 mm (1.5 in) voice-coil, neodymium magnet compression driver
Nominal Impedance:	Passive: 8 ohm
	Bi-amp LF: 8 ohms
	Bi-amp HF: 8 ohms
Active Tunings:	Tunings available at www.jblpro.com
Enclosure:	18 mm, 11-ply birch plywood.
Suspension / Mounting[3]:	Suspension requires optional VRX-AF line-array frame kit / Dual angle 36 mm pole socket / 10 mm eyebolt
Finish[4]:	Black DuraFlex™ finish
Grille[5]:	Powder coated, black, 16-gauge perforated steel with acoustically transparent foam
Input Connectors:	Neutrik® Speakon® NL-4 (x2)
Dimensions (H x W x D):	349 mm x 597 mm x 376 mm (13.75 in x 23.5 in x 14.8 in)
Net Weight:	21 kg (46 lb)
Optional Accessories:	VRX-AF: Suspension array frame
	SS2-BK: Tripod speaker stand
	SS4-BK: Adjustable Satellite Speaker Pole to be used with VRX918S and SRX718S only.
	M10 Eyebolt Kit (Part # 229-00009-01)

1. IEC filtered noise with 6 dB crest factor, 2 hours.
2. Calculated based on power rating and sensitivity.
3. White version does not include pole mount feature.
4. White version uses JBL Pro White Duraflex Finish.
5. White version grille is powdercoated white with acoustically transparent white cloth backing.

FUNCTIONAL BLOCK DIAGRAM

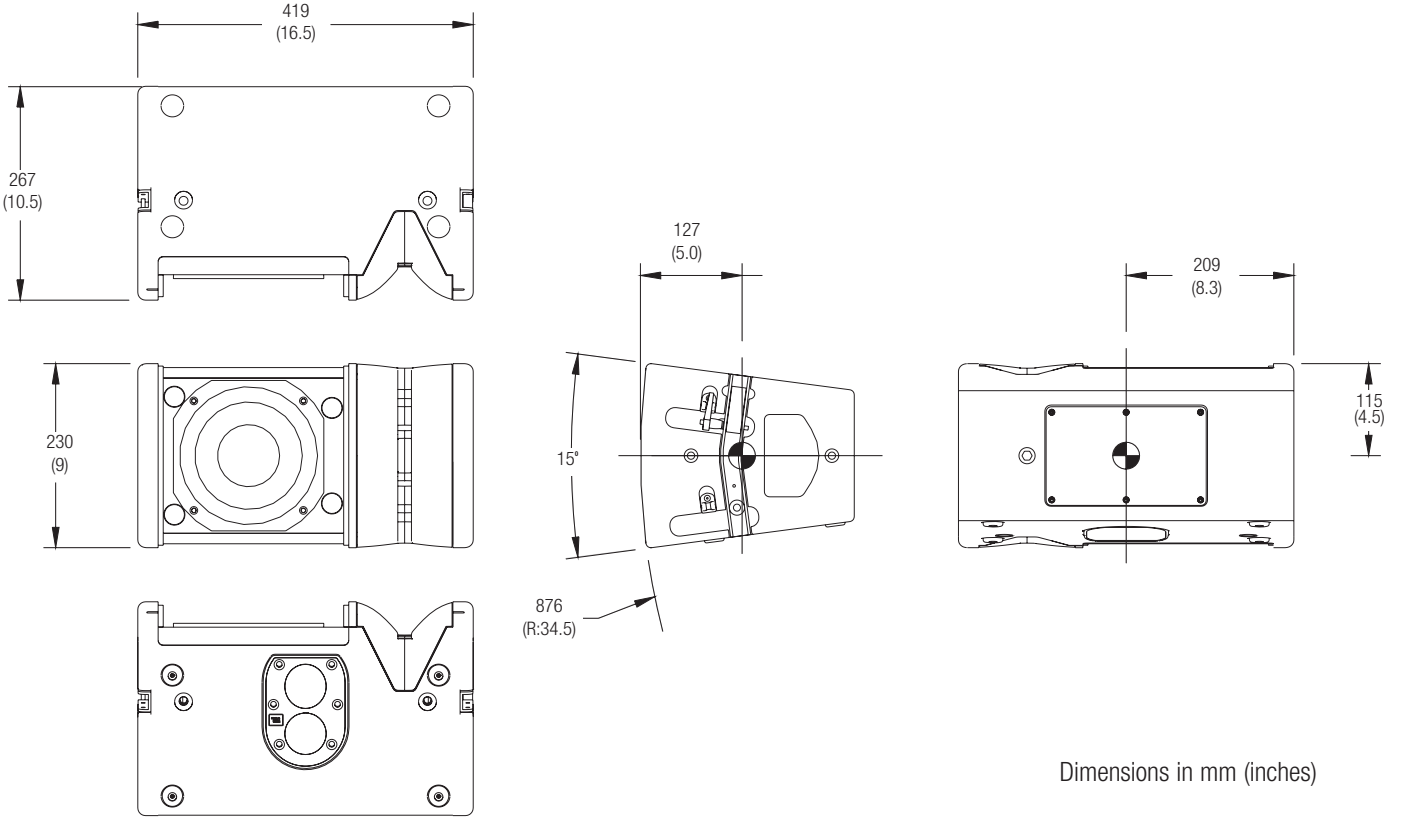


INTRODUCTION TO THE VRX928LA

The VRX928LA – the smaller version of the VRX932LA is a light-weight, compact, 8", two-way line-array speaker system designed for use in arrays of up to six units. VRX928LA is the ideal choice when line-array performance is needed but the venue size doesn't call for the very long-throw characteristics of larger line-arrays. The VRX928LA offers all the same features as the VRX932LA. As with the VRX932LA, the Array Configuration Selector (ACS) makes it possible to distribute the sound more evenly over the entire audience area, by reducing the output near the stage and increasing it for the far to reach rear areas. (See page 14 & 15)

NOTE: The VRX928LA-WH is designed for fixed install situations where white loudspeakers are required to match existing decor. White versions therefore do not have handles, feet or pole mount features.

DIMENSIONAL DRAWINGS FOR VRX928LA



Dimensions in mm (inches)

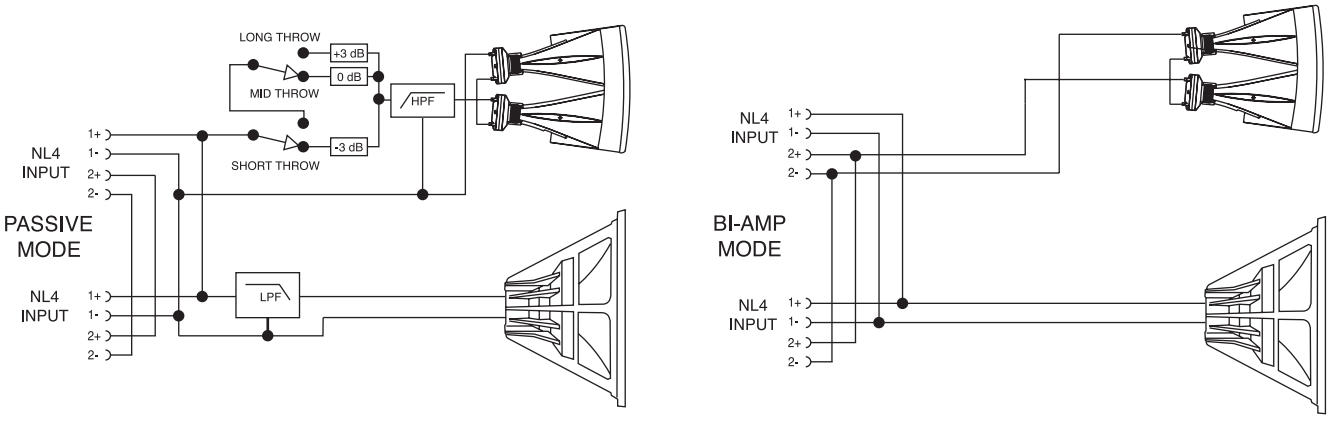
SPECIFICATIONS

VRX928LA - 8", TWO-WAY, LINE-ARRAY SPEAKER

System Type:	8" two way, line array loudspeaker system
Frequency Range (-10 dB):	70Hz -20kHz
Frequency Response (±3 dB):	87Hz - 19kHz
Coverage Pattern:	100º x 15º nominal (horizontal x vertical), single unit
Crossover Modes:	Bi-amp / passive, externally switch-able
Crossover Frequency:	2.0 KHz
Power Rating [1]:	400 W / 800 W / 1600 W
(Continuous / Program / Peak)	Bi-amp LF: 400 W / 800 W / 1600 W
	Bi-amp HF: 30 W / 60 W / 120 W (two drivers)
System Maximum SPL [2]:	122dB SPL (passive mode)
	LF: 122 dB
	HF: 128 dB
System Sensitivity (1 W @ 1m)	90 dB SPL (passive mode)
	LF: 90 dB
	HF: 108 dB
LF Driver:	1 x JBL 2168H-1, 200 mm (8 in) Differential Drive® woofer
HF Driver:	2 x JBL 2414H, 25 mm (1.0 in) neodymium compression driver
Nominal Impedance:	Passive: 8 Ohms
	Bi-amp LF: 8 Ohms
	Bi-amp HF: 16 Ohms
Active Tunings:	Tunings available at www.jblpro.com
Enclosure:	15 mm - 25 mm, multi ply birch plywood
Suspension / Mounting [3]:	Dual 36mm pole socket included. Suspension requires optional VRX-SMAF line array frame kit or 10 mm eyebolt.
Transport:	Integrated handle with backing cup
Finish [4]:	Black DuraFlex™ finish
Grille [5]:	Powder coated, black, 18 gauge perforated steel with acoustical transparent black foam backing.
Input Connectors:	2x Neutrik® Speakon NL-4
Dimensions (H x W x D):	230 mm x 419 mm x 267 mm (9 in x 16.5 in x 10.5 in)
Net Weight:	12.7 kg (28 lb.)
Optional Accessories:	VRX-SMAF: Suspension array frame
	SS2-BK: Tripod speaker stand
	Eyebolt Kit (Part # 229-00009-01)

1. IEC filtered noise with 6 dB crest factor, 2 hours.
2. Calculated based on power rating and sensitivity.
3. White version does not include pole mount feature.
4. White version uses JBL Pro White Duraflex Finish.
5. White version grille is powdercoated white with acoustically transparent white cloth backing.

FUNCTIONAL BLOCK DIAGRAM

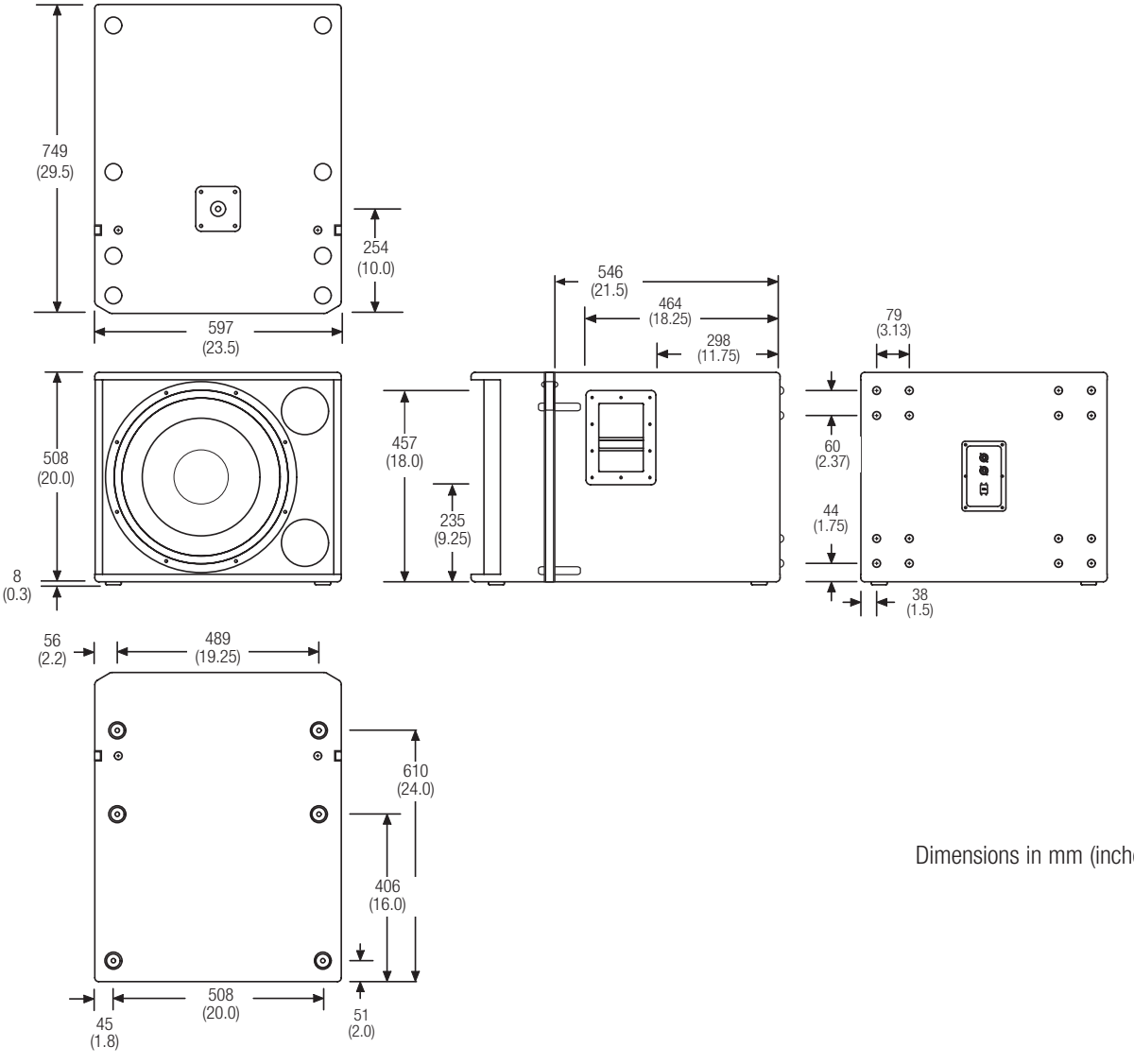


INTRODUCTION TO THE VRX918S

The VRX918S is a compact, single, 18" direct radiating subwoofer intended for use in suspended arrays or ground-supported applications. The suspension system is designed for full compatibility with the VRX932LA-1 line-array speaker system and the VRX-AF array frame.

NOTE:
The VRX918S-WH is designed for fixed installation situations where white loudspeakers are required to match existing decor. White versions therefore do not have handles, feet or pole mount features.

DIMENSIONAL DRAWINGS FOR VRX918S



Dimensions in mm (inches)

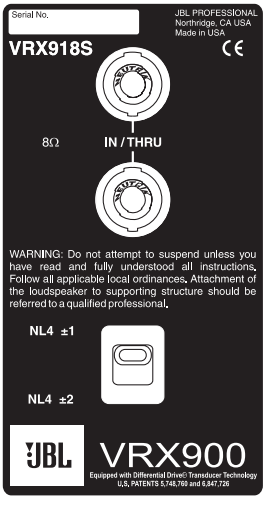
SPECIFICATIONS

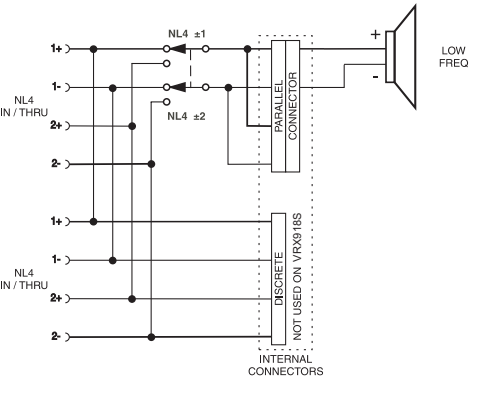
VRX918S - 18" BASS-REFLEX SUBWOOFER

System Type:	18" bass-reflex subwoofer
Frequency Range (-10 dB):	31 Hz - 220 Hz
Frequency Response (±3 dB):	34 Hz - 220 Hz
Input Connection Modes:	Switchable, +1/-1 or +2/-2
Recommended Crossover:	High-pass: Butterworth 18 dB/oct, 31 Hz Low-pass: Linkwitz-Riley 48 dB/oct, 80 Hz
Power Rating (Continuous[1] / Program / Peak)	800 W / 1600 W / 3200 W
Maximum SPL[2]:	130 dB SPL peak
Sensitivity (1w @ 1m):	95 dB SPL
LF Driver:	1 x JBL 2268H 457 mm (18 in) Differential Drive woofer
Nominal Impedance:	8 ohms
Active Tunings:	Use SRX718S tunings
Mounting[3]:	Optional VRX-AF line array frame kit or 10mm eyebolt (Part #229-00009-01)
Suspension / Mounting:	Top mounted M20 threaded socket for optional SS4-BK pole
Enclosure:	Rectangular, 18 mm, 13-ply birch plywood
Finish[4]:	Black DuraFlex finish
Grille[5]:	Powder coated, 16-gauge perforated steel with acoustical transparent charcoal foam backing.
Input Connectors:	Neutrik® Speakon® NL-4 (x2)
Dimensions (H x W x D):	508 mm x 597 mm x 749 mm; (20.0 in x 23.5 in x 29.5 in)
Net Weight:	37 kg (81 lb)
Optional Accessories:	SRX718S-CVR: Pull-over padded cover SS4-BK: Adjustable, heavy-duty pole, M20 thread to 35 mm pole mount WK-4S: Caster kit VRX-AF Array Frame Eyebolt Kit (Part #229-00009-01)

1. IEC filtered noise with 6 dB crest factor, 2 hours.
2. Calculated based on power rating and sensitivity.
3. White version does not include pole mount feature.
4. White version uses JBL Pro White Duraflex Finish.
5. White version grille is powdercoated white with acoustically transparent white cloth backing.

FUNCTIONAL BLOCK DIAGRAM





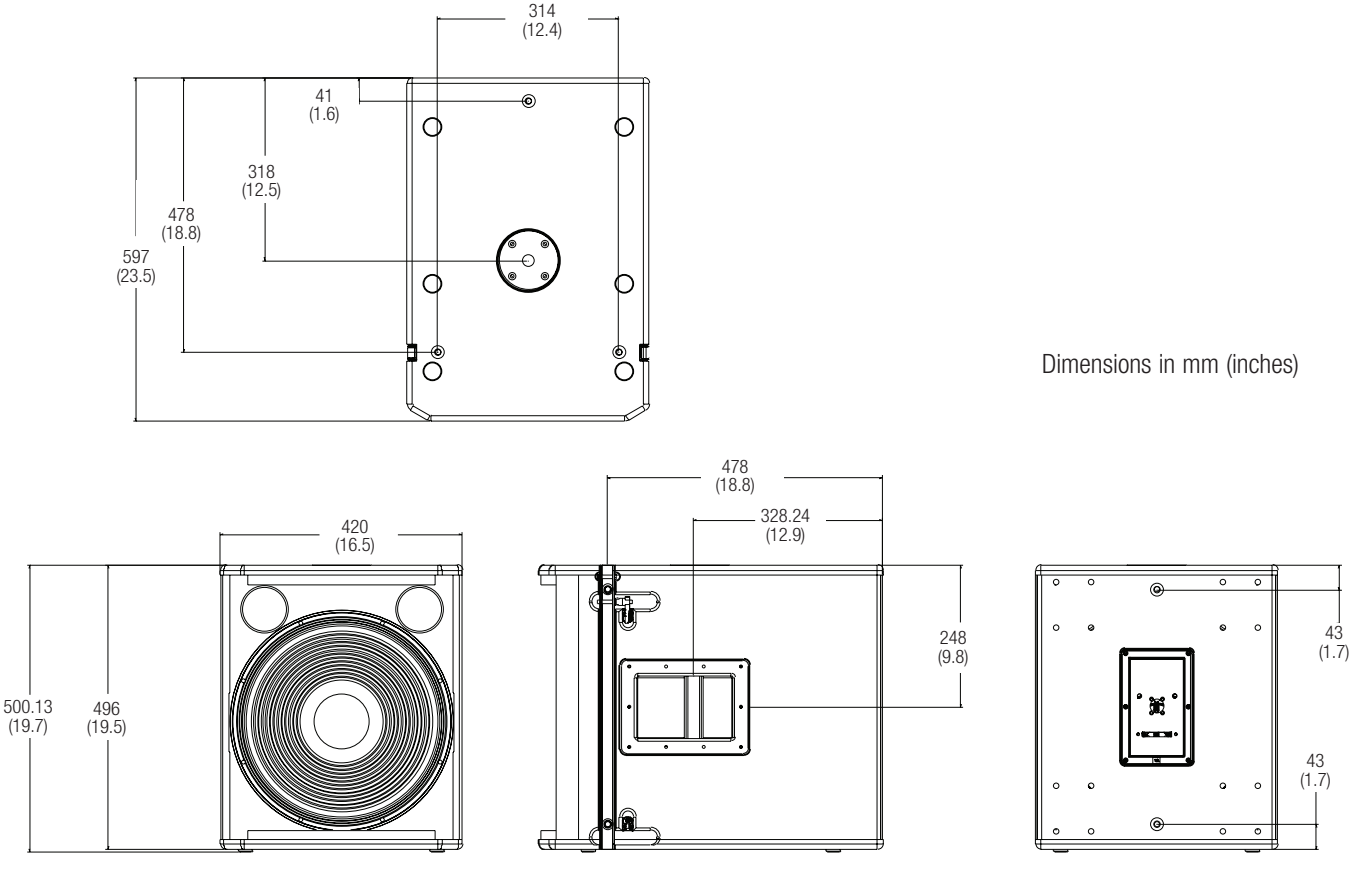
INTRODUCTION TO THE VRX915S

The VRX915S a very compact single 15" direct radiating subwoofer is intended as companion subwoofer for the VRX928LA. The suspension system is designed for full compatibility with the VRX928LA Line Array System and with the VRX-SMAF array frame. The M20 mounting plate allows for utilization of the adjustable pole mount SS4-BK.

WARNING: The VRX928LA is the only system intended for use with the VRX915S when utilizing the SS4-BK.

NOTE: The VRX915S-WH is designed for fixed install situations where white loudspeakers are required to match existing decor. White versions therefore do not have handles, feet or pole mount features.

DIMENSIONAL DRAWINGS FOR VRX915S



Dimensions in mm (inches)

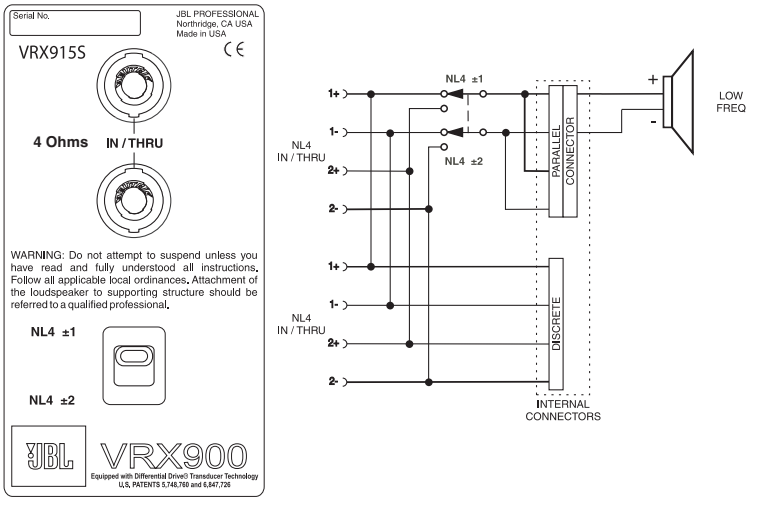
SPECIFICATIONS

VRX915S - 15", BASS-REFLEX SUBWOOFER

System Type:	15" bass reflex subwoofer
Frequency Range (-10 dB):	35Hz -250Hz
Frequency Response (±3 dB):	40Hz - 250Hz
Recommended Hi-Pass Filter:	HP: Butterworth 24 dB/octave, 45 Hz LP: Linkwitz-Riley 48 dB/octave, 80 – 120Hz
Power Rating [1]:	
(Continuous / Program / Peak)	800 W / 1600 W / 3200W
Recommended EQ:	+2dB at 45Hz, Q: 2.5
Maximum SPL [2]:	126 dB SPL
Sensitivity (1 W @ 1m)	91 dB SPL
LF Driver:	1 x JBL 2265G-1, 250 mm (15 in) Differential Drive® woofer
Nominal Impedance:	4 Ohms
Active Tunings:	Tunings available at www.jblpro.com
Enclosure:	15 mm - 18 mm, multi ply birch plywood
Suspension / Mounting [3]:	Top mounted M20 threaded socket for optional pole SS4-BK. Integrated flying hardware for use with array frame VRX-SMAF. Optional M10 eyebolt kit.
Transport:	Integrated steel handle with backing cup
Finish [4]:	Black DuraFlex™ finish
Grille [5]:	Powder coated, black, 18 gauge perforated steel with acoustical transparent black foam backing.
Input Connectors:	2x Neutrik® Speakon NL-4
Input connection modes:	Switchable, +1/-1 or +2/-2
Dimensions (H x W x D):	496 mm x 420 mm x 597 mm (19.5 in x 16.5 in x 23.5 in)
Net Weight:	26 kg (57 lb.)
Optional Accessories:	SS4-BK: Adjustable, heavy-duty pole, M20 thread to 35 mm pole mount WK-4S: Caster kit VRX-SMAF Array Frame Eyebolt Kit (Part #229-00009-01)

1. IEC filtered noise with 6 dB crest factor, 2 hours.
2. Calculated based on power rating and sensitivity.
3. White version does not include pole mount feature.
4. White version uses JBL Pro White Duraflex Finish.
5. White version grille is powdercoated white with acoustically transparent white cloth backing.

FUNCTIONAL BLOCK DIAGRAM



INTRODUCTION TO THE VRX915M

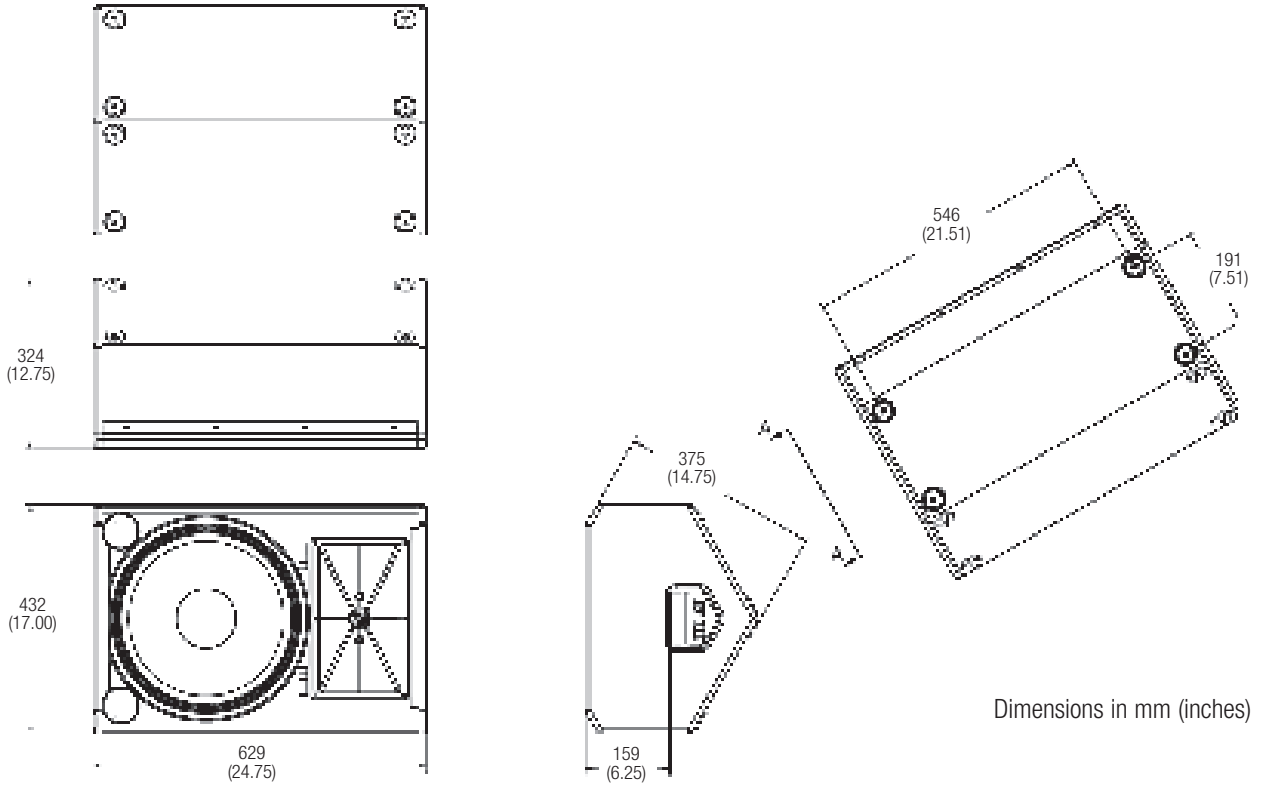
The VRX915M is a dedicated, compact and lightweight, 15", two way touring-class floor monitor, with only a 375 mm (14.75 in) stage height and JBL's latest neodymium-magnet transducers.

A 380 mm (15 in) 2265H patented Differential Drive® woofer handles 800 watts (continuous) and delivers accurate and precise low frequency reproduction. The 2452H 102 mm (4 in) voice-coil compression driver is coupled to a 50° x 90° aluminum horn to provide smooth and clear high frequency reproduction, critical for high performance monitoring.

Bi-amp or full-range passive operation may be selected via a recessed, high-current switch mounted alongside the NL4 input connector in one of the handle cups. An additional NL4 connector is mounted in the other handle cup for a convenient loop-thru connection, minimizing cable runs on stage.

The enclosure is constructed of top quality Baltic birch plywood and is coated in JBL's rugged DuraFlex™ finish. It is a symmetrical 30° wedge design, with four non-slip rubber feet per side enabling convenient left and right applications of adjacent monitors. The transducers are protected by an attractive 16 gauge CNC-machined steel grille, which is internally lined with acoustically transparent foam to provide additional transducer protection.

DIMENSIONAL DRAWING FOR VRX915M



Dimensions in mm (inches)

SPECIFICATIONS

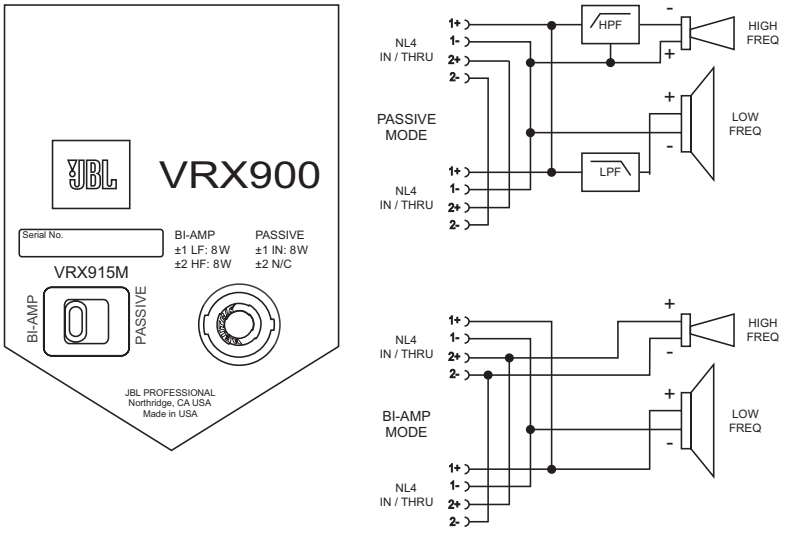
VRX915M - 15” TWO-WAY STAGE MONITOR

System Type:	15" Two-way Stage Monitor
Frequency Range (-10 dB):	60 Hz - 20 kHz
Frequency Response (±3 dB):	70 Hz - 20 kHz
Coverage Pattern:	50° x 90° nominal
Crossover Modes:	Passive / Bi-amp
Crossover Frequency:	1.1 kHz
Power Rating: (Continuous / Program / Peak)	Passive Full-Range 800 W / 1600 W / 3200 W, 2 hrs [1] Bi-amp LF: 800 W / 1600 W / 3200 W, 2 hrs [1] Bi-amp HF: 75 W / 150 W / 300 W, 2 hrs [1]
Maximum SPL:	127 dB SPL continuous (133 dB SPL peak) [2]
System Sensitivity (1w @ 1m):	98 dB SPL
LF Driver:	1 x JBL 2265H, 380 mm (15 in) Differential Drive® woofer 8 Ohms
HF Driver:	1 x JBL 2452H, 100 mm (4.0 inch) diameter voice coil, 38 mm (1.5 inch) exit, neodymium magnet compression driver 8 Ohms
Nominal Impedance:	8 Ohms Full-Range Passive
Active Tunings:	Settings available at http://www.jblpro.com/tunings/index.htm
Enclosure:	Symmetrical stage monitor, 15/18 mm, Birch plywood.
Transport:	2x Integrated handle / input cup
Finish:	Black DuraFlex™ finish
Grille:	Powder coated, black, 16 gauge perforated steel with acoustically transparent black screen backing.
Input Connectors:	Neutrik® Speakon® NL-4 (x2), one on each end
Dimensions (H x W x D):	629 mm x 432 mm x 324 mm (375 mm stage height) 24.75 in x 17 in x 12.75 in (14.75" stage height)
Net Weight:	21 kg (46.0 lb)

1. IEC standard, full bandwidth pink noise with 6 dB crest factor for specified period
2. Calculated based on power rating and sensitivity.

JBL continually engages in research related to product improvement. Some materials, production methods and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise stated.

FUNCTIONAL BLOCK DIAGRAM



AMPLITUDE SHADING

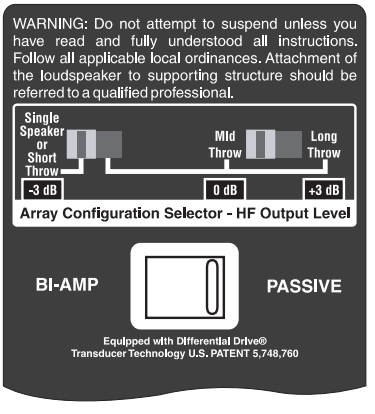
AMPLITUDE SHADING

Amplitude shading is a technique that allows the coverage pattern of a loudspeaker array to be shaped by adjusting the relative acoustic output of some of the devices in the array. Most often, array shading involves only the mid and high-frequency sections of the array. In a simple system consisting of three VRX932LA-1/ VRX928LAs, the lower speaker (which covers the nearest listeners) may have its high-frequency output reduced. At the same time, the upper speaker may have its high frequency output increased. The overall sound-power in the room is unchanged but the distribution of acoustic energy to the audience is far more uniform. Amplitude shading of a VRX932LA-1/ VRX928LA array may be accomplished in passive or bi-amplified systems.

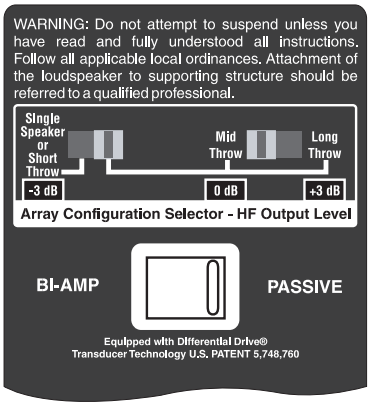
ARRAY CONFIGURATION SELECTOR (ACS)

In passive mode, the Array Configuration Selector may be used. The -3 dB position will typically be used for the speaker(s) in an array that are covering the nearest listening area. The +3 dB position will be used for the speaker(s) covering the more distant areas; or to compensate for the low-frequency build-up resulting from mutual coupling of multiple woofers in an array.

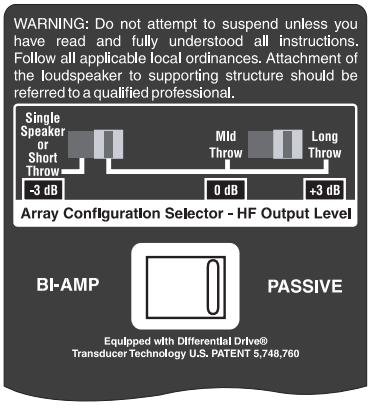
Short Throw (-3 dB)



Medium Throw (0 dB)

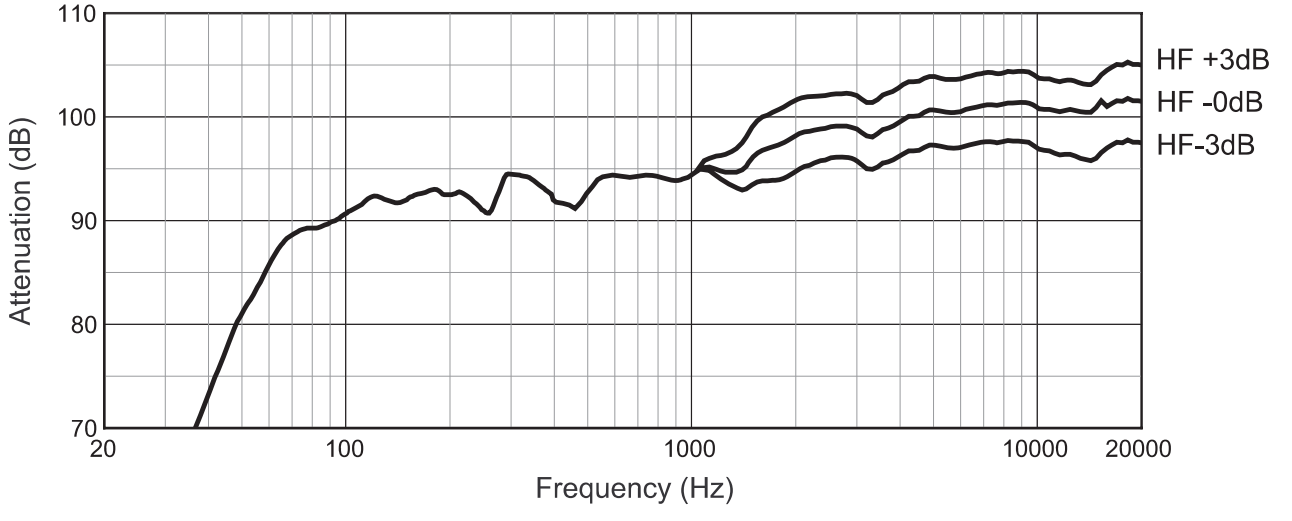


Long Throw (+3 dB)



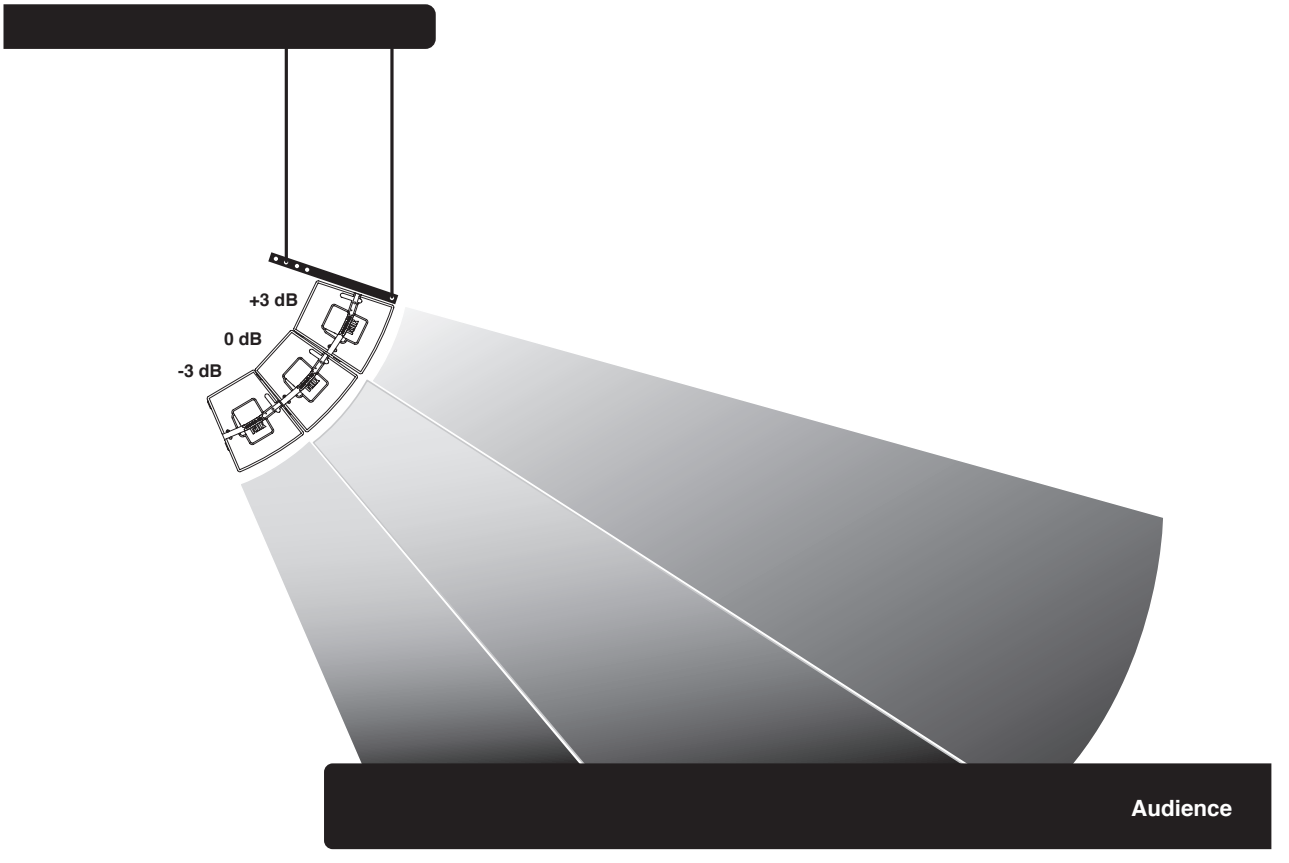
FREQUENCY RESPONSE

The frequency response graph represents measurements from a single typical VRX900LA speaker, applying the three different ACS settings: +3dB, 0dB, -3dB.



ARRAY CONFIGURATION SELECTOR (ACS)

Below is an example of applying the ACS in a three-speaker array. In this particular configuration, the ACS on the top speaker is set at +3 dB, the middle speaker at 0 dB, and the bottom speaker -3 dB.



BI-AMPLIFIED SYSTEM

In a bi-amplified system, array shading is accomplished by connecting separate amplifier channels to the HF section of each VRX932LA-1/VRX928LA. In larger arrays, a single amplifier channel may be used for two adjacent loudspeakers. Array shading is then accomplished by adjusting the gain of the HF amplifier channels. For extremely precise control over system performance, it may also be desirable to dedicate an individual system controller output to each HF amplifier channel.

SYSTEM PROCESSOR TUNINGS

Please note that when operated in bi-amp mode, the VRX932LA-1 requires a unique DSP preset that is different from the preset required for bi-amplified operation of the VRX932LA. When operated in bi-amp mode, VRX932LA and VRX932LA-1 performance is fully compatible provided that the correct preset is used for processing the respective models.

Please visit www.jblpro.com/tunings for latest versions of our recommended system tunings or call customer service at Toll Free 1-800-852-5776.

DEPLOYING THE SYSTEM

All of the information in this section for VRX932LA-1 also applies to previous VRX932LA systems.

The VRX932LA-1/VRX928LA is a flexible speaker system that can be deployed in ground-supported or suspended applications. The following information will help you set up your VRX932LA-1/VRX928LA system safely and effectively.

POLE AND TRIPOD SAFETY WARNINGS!

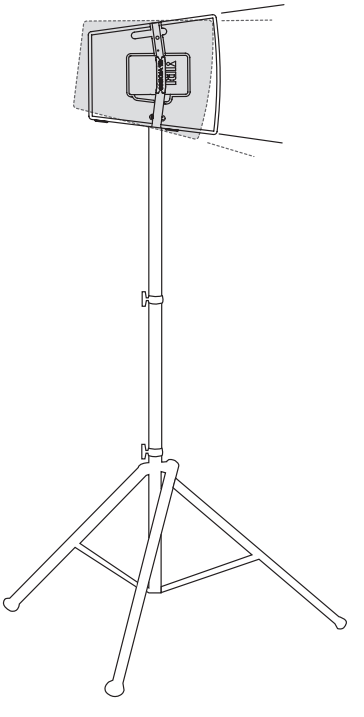
When using stands or poles, be sure to observe the following precautions:

- Check the stand or pole specification to be certain the device is designed to support the weight of the speaker. Observe all safety precautions specified by the manufacturer.
- Be certain that the surface on which the system is to be stacked is flat, stable and solid.
- Route cables so that performers, production crew, and audience will not trip and topple the speakers.
- Inspect the stand (or pole and associated hardware) before each use and do not use equipment with worn, damaged, or missing parts.
- Do not attempt to place more than two VRX932LA-1/VRX928LA loudspeakers on a stand or pole.
- When mounting two VRX932LA-1/VRX928LA speakers on a pole or tripod, integral rigging hardware must be used to secure the speakers to each other.
- Always be cautious when deploying the system outdoors. Unexpected winds may topple a system. It may be necessary to place additional weight (i.e.sandbags) on the base of the stand to improve stability. Avoid attaching banners or similar items to any part of a speaker system. Such attachments could act as a sail and topple the system.
- Unless you are confident that you can handle the weight of the speaker, ask another person to help you get it onto the tripod stand or pole.
- One or two VRX932LA-1/VRX928LA cabinets may be mounted onto either a JBL SS2-BK tripod stand or with the SS4-BK adjustable pole mount to their companion VRX918S,VRX915S or SRX718S subwoofers.
  Do not mount VRX932LA-1 cabinets on top of the compact VRX915S subwoofer!

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SINGLE VRX932LA-1/VRX928LA

A single VRX932LA-1 may be used on a tripod stand (JBL SS2-BK) or on a pole (JBL SS4-BK) over its companion subwoofer the VRX918S or the SRX718S. The use of a subwoofer is recommended for applications requiring more low-frequency power and extension. Usually, the Array Configuration Selector (ACS) switches on the input panel should be set to the “Short Throw (-3 dB)” position when a single speaker is used.



A single VRX928LA may be used on a tripod stand (JBL SS2-BK) or on a pole (JBL SS4-BK) over its compact companion subwoofer the VRX915S or the larger VRX918S/SRX718S subwoofer models.

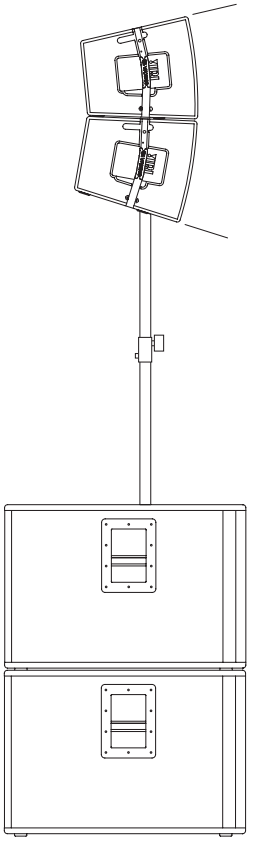
The VRX932LA-1/VRX928LA includes a dual angle 36 mm pole mount socket. By selecting the appropriate pole socket and adjusting the height of the tripod or pole, optimum coverage may be achieved. Ideally, the audience should not be able to see either he bottom or the top surfaces of the speaker. This will insure that all listeners are within the "included coverage angle" of the loud-speaker. The rear pole-socket will position the speaker with the baffle 2.5° to the floor while the forward socket will position the speaker with the baffle angled down by 15°. System illustration shows the available JBL SS2-BK tripod stand.

NOTE: VRX932LA-1WH/VRX928LA-WH does not include pole mount features and is designed specifically for fixed installations.

DUAL VRX932LA-1/VRX928LA

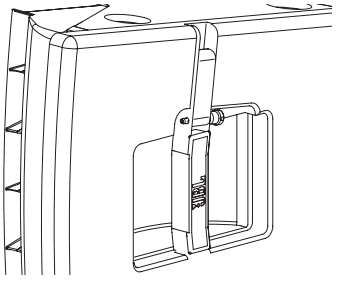
Unlike most conventional speakers, the VRX932LA-1/ VRX928LA is designed so that a pair of speakers may be safely mounted onto a pole or tripod stand. For most applications, the forward socket of the dual angle pole socket will be used. This will tilt the lower of the two speakers at a 15° down-angle (providing coverage of the near listeners) while the upper speaker will face straight out (covering the more distant areas). Ideally, the listeners should not be able to see either the bottom or the top surfaces of the two-speaker array. Usually, the Array Configuration Selector (ACS) switches on the lower speaker's input panel should be set to the “Short Throw (-3 dB)” position while the upper speaker will be set to either “Short Throw (-3 dB)” or “Mid Throw (0 dB)”.

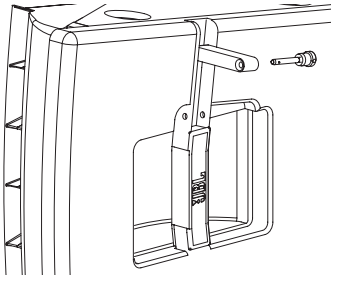
Place the speakers on the pole or tripod one at a time. Be sure to lock the two speakers together using the integral rigging hardware (see below). System illustration shows available JBL SS4-BK speaker pole and SRX718S subwoofers. **Do not stack more than two VRX932LA-1/VRX928LA speakers on a pole.**

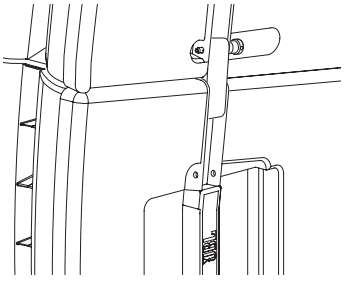


LOCKING (2) VRX932LA-1/VRX932LA-1WH/VRX928LA/VRX928LA-WH LOUDSPEAKERS TOGETHER

Any time two or more VRX932LA-1/VRX928LAs are arrayed together, they must be mechanically secured to each other using the integral rigging frame and supplied quick release pins. See the diagram below for details.
Safe combinations are:
VRX918S with VRX932LA/VRX932LA-1/VRX932LA-WH/VRX932LA-1WH
VRX915S with VRX928LA/VRX928LA-WH
WARNING: Only the correct quick release pins supplied by JBL are to be used.







SUSPENSION SAFETY WARNINGS!

All of the information in this section for VRX932LA-1 also applies to previous VRX932LA systems.

Correct use of all rigging hardware is required for secure system suspension. Careful calculations should always be performed to ensure that all components are used within their Maximum Load Limit before the array is suspended. Never exceed the maximum recommended load ratings. Prior to suspending the system, an expert, trained and experienced in flying speaker systems should be consulted. Research and understand the codes, practices, and requirements in the venues where you intend to operate your sound system.

INSPECTION & MAINTENANCE

Before suspending or pole mounting any speaker system always inspect all components (enclosure, rigging frames, pins, eyebolts, track fittings, etc.) for cracks, deformations, corrosion, missing, loose or damaged parts that could reduce strength and safety of the array. Do not suspend or pole mount the speaker until the proper corrective action has been taken. Installed systems should be inspected at least annually. The inspection shall include a visual survey of all corners and load bearing surfaces for signs of cracking, water damage, de-lamination, or any other condition that may decrease the strength of the loudspeaker enclosure. Accessory rigging hardware provided with or for the JBL VRX932LA-1/VRX932LA-WH/VRX928LA or VRX918S/VRX915S loudspeaker must be inspected for fatigue at least annually or as required by local ordinance. For all other hardware and fittings, refer to the hardware manufacturer's inspection and maintenance guidelines for process.

ARE YOU NEW TO RIGGING?

If you are new to rigging, you should do the following:

- Read and study JBL Technical Note Volume 1, Number 14: Basic Principles for Suspending Loudspeaker Systems (available at http://www.jblpro.com/pub/technote/tn_v1n14.pdf).
- Know the rules for safe rigging.
- Attend a safe rigging seminar, such as that presented by professionals like Rigging Seminars™ (www.riggingseminars.com) or by Chain Motor Hoist manufacturers like Columbus McKinnon Corp. (manufacturers of the C/M Lodestar).
- Meet and establish a relationship with a licensed mechanical or structural engineer. Get in the habit of asking them questions instead of guessing about their answers. Learn from what they tell you.
- Meet and discuss this aspect of your business with your Insurance Agent.

ATTACHMENT TO STRUCTURES

A licensed Professional Engineer must approve the placement and method of attachment to the structure prior to the installation of any overhead object. The following performance standards should be provided to the Professional Engineer for design purposes; Uniform Building Code as applicable, Municipal Building Code as applicable, and Seismic Code as applicable. The installation of the hardware and method of attachment must be carried out in the manner specified by the Professional Engineer. Improper installation may result in damage, injury or death.

JBL is not responsible for the application of its products for any purpose or the misuse of this information for any purpose. Furthermore, JBL is not responsible for the abuse of its products caused by avoiding compliance with inspection and maintenance procedures or any other abuse.

MAXIMUM ARRAY SIZE

There are three variations of the VRX array frame. The VRX-AF supersedes the VRX932LA-AF. The VRX-SMAF is solely intended for use with the VRX928LA and VRX915S. Before suspending a VRX array, determine which version of the array frame you have and consult the table below to determine the maximum number of speakers that may be safely suspended. The subwoofers must always be at the top of the array.

VRX-AF Array Frame

VRX-AF ARRAY FRAME

The following table defines the maximum number of speakers that may be suspended using the VRX-AF frame. A minimum design factor of 7:1 is maintained for all speaker configurations at or below those indicated in the table.

Maximum number of VRX918S in array	6	5	4	3	2	1	0
Maximum number of VRX932LA-1 in array	0	1	2	3	4	5	6

VRX932LA-AF Array Frame

VRX932LA-AF ARRAY FRAME

The following table defines the maximum number of speakers that may be suspended using the VRX932LA-AF frame. A minimum design factor of 7:1 is maintained for all speaker configurations at or below those indicated in the table.

Maximum number of VRX918S in array	4	3	2	1	0
Maximum number of VRX932LA-1 in array	1	2	3	4	5

VRX-SMAF Array Frame

VRX-SMAF ARRAY FRAME

The following table defines the maximum number of speakers that may be suspended using the VRX-SMAF array frame. A minimum design factor of 7:1 is maintained for all speaker configurations at or below those indicated in the table.

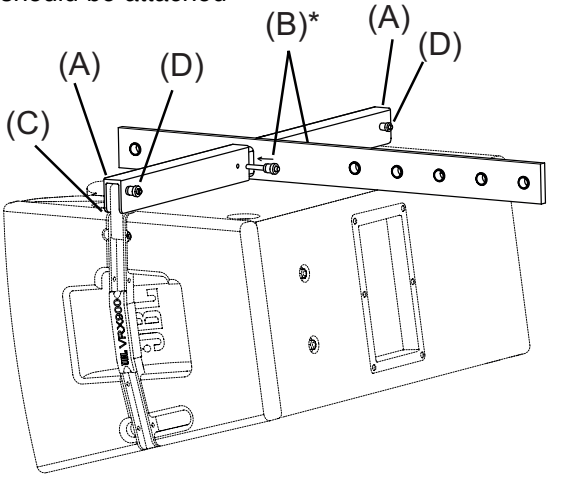
Maximum number of VRX915S in array	4	3	2	2	2	0
Maximum number of VRX928LA in array	0	2	3	4	5	6

The VRX subwoofers must always be on top of the array.

INSTALLING THE ARRAY FRAME

The array frame is attached to the internal rigging of the VRX900 system using the provided Quick Release Pins
WARNING: Do not use any substitute for these pins.

1. Begin by attaching the two side arms (A) to either side of the center frame. Use a pair of the provided Quick Release Pins (B)* to attach the arms to the frame. Note: Side arms should be attached with the rubber bumper facing up and away from the center frame. The center frame is installed with the rubber gasket toward the enclosure and the label right side up. [NOTE: The arms of the VRX932LA-AF and VRX-AF are deliberately designed so as not to be interchangeable. The arms of the VRX-SMAF are already attached.



2. Place the entire array frame on top of the VRX900 system and flip up the drop levers (C) found on both sides of the speaker to be received by the array frame arms.

3. Once the drop levers on the speaker are received by the array frame, use a pair of the provided Quick Release Pins (D) to attach the drop levers to the array frame.

*(B) does not apply to VRX-SMAF

SUSPENSION IN PERMANENT INSTALLATIONS

For permanent installation applications a VRX array may be suspended using M10 eyebolts. Only load-rated, forged shoulder eyebolts are to be used. A kit consisting of three (3) forged shoulder eyebolts is available from JBL Professional as part number 229-00009-01. Suspension of the VRX array must employ both top attachment points. The VRX918S and VRX915S subwoofers must always be at the top of the array.

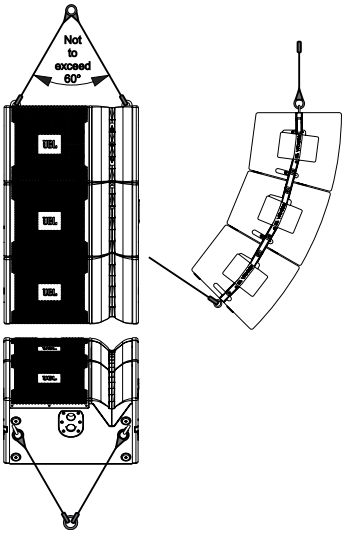
EYEBOLT SUSPENSION

The following table defines the maximum number of speakers that may be suspended using the two M10 eyebolt attachment points provided on the cabinets. A minimum design factor of 7:1 is maintained for all speaker configurations at or below those indicated in the table.

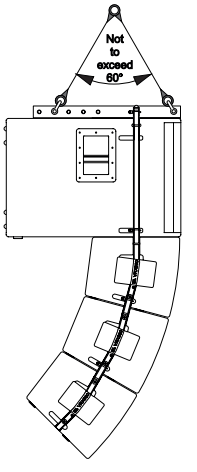
Maximum number of VRX918S in array	5	4	3	2	1	0
Maximum number of VRX932LA-1 in array	0	2	4	5	6	6

Maximum number of VRX915S in array	4	3	2	2	2	0
Maximum number of VRX928LA in array	0	2	3	4	5	6

EYEBOLT SUSPENSION



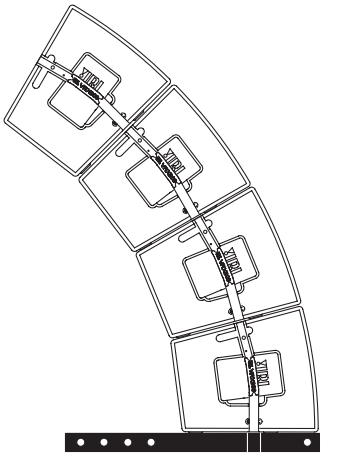
ARRAY FRAME SUSPENSION



GROUND-STACKED, UPWARD FIRING ARRAYS

Applications such as covering stadium bleachers from the playing field may be addressed by installing the VRX932LA-AF/VRX-AF/VRX-SMAF array frame to the bottom of the array.

Up to four VRX932LA-1/VRX928LA loudspeakers may be locked together and ground stacked using the VRX array frame kit, as shown.
WARNING: Do not ground stack more than four VRX932LA-1/VRX928LA loudspeakers in one array.



When ground stacking VRX900LA loudspeakers, use the VRX932LA-AF/VRX-AF/VRX-SMAF array frame as the base (as shown) by attaching the loose drop levers, included in the array frame kit, to the lower rigging bar on the VRX900LA loudspeaker. When stacking the loudspeakers together, make sure each loudspeaker is locked together. Be certain that the surface on which the system is to be stacked is flat, stable and solid.

INTRODUCTION TO THE VRX-AF

The VRX-AF is an array frame designed to be used for suspension of the VRX932LA-1 and VRX918S loudspeaker systems. The optional array frame kit includes the following items:

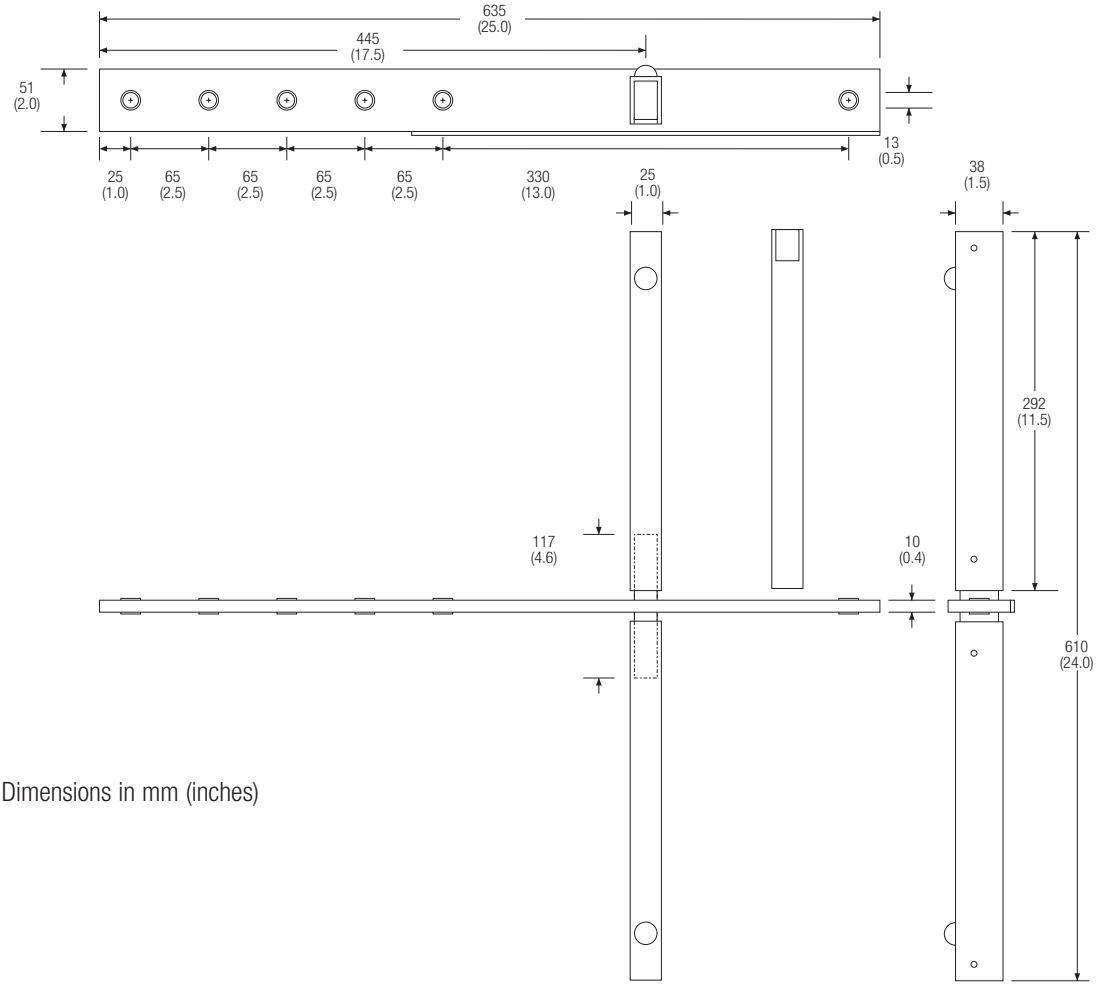
- 1 x center frame
- 2 x side arms
- 4 x quick release pins
- 2 x drop levers
- 2 x 3/8″ shackles

WORKING LOAD LIMIT

The VRX-AF, VRX932LA-AF, and VRX-SMAF array frames have been precisely engineered to work together with the VRX line of speakers as a system. The working load limit depends upon the configuration of array frame and speakers being suspended. Please refer to the “DEPLOYING THE SYSTEM” section of this user guide for maximum allowable load limits when using the VRX-AF, VRX-SMAF or VRX932LA-AF frame.

Use of the array frames in any manner other than as described in this manual could result in damage to the frame and pose a risk of injury or death.

DIMENSIONAL DRAWINGS FOR VRX-AF



Dimensions in mm (inches)

INTRODUCTION TO THE VRX-SMAF

The VRX-SMAF is an array frame designed to be used for suspension of the VRX928LA and VRX915S loudspeaker systems. The optional array frame kit includes the following items:

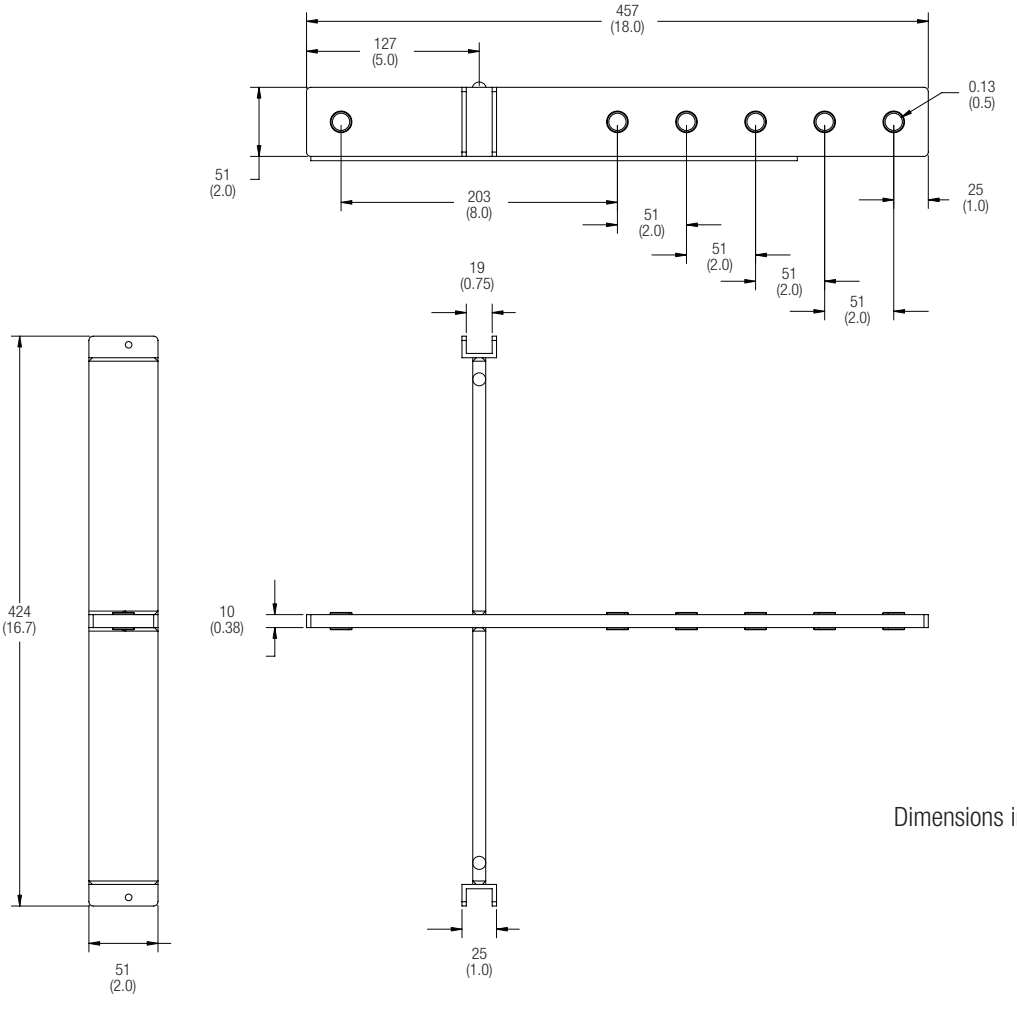
- 1 x frame
- 2 x quick release pins
- 2 x drop levers
- 2 x 3/8" shackles

WORKING LOAD LIMIT

The working load limit depends upon the configuration of array frame and speakers being suspended. Please refer to the “DEPLOYING THE SYSTEM” section of this user guide for maximum allowable load limits when using the VRX-SMAF frame.

The VRX-SMAF array frame has been specifically designed to work only with the VRX928LA and VRX915S speakers. Use of the array frames in any manner other than as described in this manual could result in damage to the frame and pose a risk of injury or death.

DIMENSIONAL DRAWINGS FOR VRX-SMAF



Dimensions in mm (inches)

JBL WARRANTY AND INFORMATION

The JBL Warranty on professional loudspeaker products (except for enclosures) remains in effect for five years from the date of the first consumer purchase. JBL amplifiers are warranted for three years from the date of original purchase. Enclosures and all other JBL products are warranted for two years from the date of original purchase.

WHO IS PROTECTED BY THIS WARRANTY?

Your JBL Warranty protects the original owner and all subsequent owners so long as: A.) Your JBL product has been purchased in the Continental United States, Hawaii or Alaska. (This Warranty does not apply to JBL products purchased elsewhere except for purchases by military outlets. Other purchasers should contact the local JBL distributor for warranty information.); and B.) The original dated bill of sale is presented whenever warranty service is required.

WHAT DOES THE JBL WARRANTY COVER?

Except as specified below, your JBL Warranty covers all defects in material and workmanship. The following are not covered: Damage caused by accident, misuse, abuse, product modification or neglect; damage occurring during shipment; damage resulting from failure to follow instructions contained in your Instruction Manual; damage resulting from the performance of repairs by someone not authorized by JBL; claims based upon any misrepresentations by the seller; any JBL product on which the serial number has been defaced, modified or removed.

WHO PAYS FOR WHAT?

JBL will pay all labor and material expenses for all repairs covered by this warranty. Please be sure to save the original shipping cartons because a charge will be made if replacement cartons are requested. Payment of shipping charges is discussed in the next section of this warranty.

HOW TO OBTAIN WARRANTY PERFORMANCE

If your JBL product ever needs service, write or telephone us at JBL Incorporated (Attn: Customer Service Department), 8500 Balboa Boulevard, PO Box 2200, Northridge, California 91329 (818-893-8411). We may direct you to an authorized JBL Service Agency or ask you to send your unit to the factory for repair. Either way, you'll need to present the original bill of sale to establish the date of purchase. Please do not ship your JBL product to the factory without prior authorization. If transportation of your JBL product presents any unusual difficulties, please advise us and we may make special arrangements with you. Otherwise, you are responsible for transporting your product for repair or arranging for its transportation and for payment of any initial shipping charges. However, we will pay the return shipping charges if repairs are covered by the warranty.

MAILING ADDRESS:

JBL Professional
8500 Balboa Blvd.
Northridge, CA 91329 USA

SHIPPING ADDRESS:

JBL Professional
8370 Balboa Blvd., Dock D
Northridge, CA 91329 USA
(Do not return product to this address without first obtaining prior authorization from JBL)

CUSTOMER SERVICE:

Monday through Friday
8:00am - 5:00pm
Pacific Standard Time In the U.S.A.
(800) 8JBLPRO (800.852.5776)
www.jblproservice.com

OUTSIDE THE USA:

Contact the JBL Professional Distributor in your area. A complete list of JBL Professional international distributors is provided at our U.S.A.website - www.jblpro.com

PRODUCT REGISTRATION:

Register your product online at www.jblpro.com/registration

ON THE WORLD WIDE WEB:

www.jblpro.com

VRX900 SERIES

Part Number: 353551-008 08/2008

JBL Professional
8500 Balboa Blvd.
Northridge, CA 91329 USA

JBL PROFESSIONAL

A Harman International Company