

# BRX300

S E R I E S

## USER'S GUIDE

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# TABLE OF CONTENTS


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SAFETY INFORMATION.....	3
Safety Instructions.....	3
General Hardware Information.....	4
Important Safety Warning.....	4
INSPECTION & MAINTENANCE.....	5
Inspection & Maintenance.....	5
Attachment To Structures.....	5
ORDERING INFORMATION.....	6
PRODUCT INFORMATION.....	7
BRX300 System.....	7
BRX308-LA Dual 8” 2-Way Line Array Element.....	8
BRX325SP Dual 15” Subwoofer Housing DSP & Amplifier Module.....	8
SYSTEM WIRING INFORMATION.....	10
SYSTEM APPLICATION GUIDE.....	11
Option 1 - Ground Stack Option.....	11
Option 2 - Pole Mount Option.....	12
ACCESSORIES.....	13
BRX308-ACC Transporter Kit.....	13
BRX308-PM Storage.....	14
BRX308-AF Array Frame.....	15
SPECIFICATIONS.....	16
System Specifications.....	16
BRX308-LA Specifications.....	16
BRX325SP Specifications.....	16
System Frequency Response.....	17
System Directivity.....	17

# SAFETY INFORMATION

Before using a JBL BRX Series system, please review the following for important information on safety and protection of your investment.

## SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not expose the product to direct rain or sea spray.
6. Clean only with a dry cloth.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
8. Only use attachments / accessories specified by the manufacturer.
9. Use only with a cart, stand, tripod, 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. 
10. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as 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.
11. Contact JBL Professional for advanced servicing issues.
12. CAUTION – DO NOT PERFORM ANY SERVICING UNLESS YOU ARE QUALIFIED TO DO SO.
13. Prolonged exposure to excessive SPL can cause hearing damage: 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 exposure to SPL in excess of 90 dB.
14. Read the System Rigging Manual before installation and use of the product.
15. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
16. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
17. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
18. Unplug this apparatus during lightning storms or when unused for long periods of time.
19. To completely disconnect this apparatus from the AC mains, disconnect the power supply cord plug from the AC receptacle.
20. "WARNING – TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE."
21. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids such as vases, are placed on the equipment.
22. The main plug of the power supply cord shall remain readily operable.

# SAFETY INFORMATION

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## GENERAL HARDWARE INFORMATION

Any hardware used in an overhead suspension application must be load rated for the intended use. Generally, this type of hardware is available from rigging supply houses, industrial supply catalogs and specialized rigging distributors. Local hardware stores do not usually stock these products. Hardware that is intended for overhead suspension will comply with ASME B30.20 and will be manufactured under product traceability controls. Compliant hardware will be referenced with a working load limit (WLL) and a traceability code.

## IMPORTANT SAFETY WARNING

The information in this section has been assembled from recognized engineering data and is intended for informational purposes only. None of the information in this section should be used without first obtaining competent advice with respect to applicability to a given circumstance. None of the information presented herein is intended as a representation or warranty on the part of JBL. Anyone making use of this information assumes all liability arising from such use.

All information presented herein is based upon materials and practices common to North America and may not directly apply to other countries because of differing material dimensions, specifications and/or local regulations. Users in other countries should consult with appropriate engineering and regulatory authorities for specific guidelines.

Correct use of all included hardware is required for secure system suspension. Careful calculations should always be performed to ensure that all components are used within their working load limits before the array is suspended. Never exceed the maximum recommended load ratings.

**THIS APPARATUS CONTAINS POTENTIALLY LETHAL VOLTAGES. TO PREVENT ELECTRIC SHOCK OR HAZARD, DO NOT REMOVE CHASSIS, INPUT MODULE OR AC INPUT COVERS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “Dangerous Voltage” within the product’s enclosure that may be of sufficient magnitude to constitute risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) information in the literature accompanying the product.

## INSPECTION & MAINTENANCE

Before suspending any speaker system always inspect all components (enclosure, rigging frames, pins, eyebolts, track fittings, etc.) for cracks, deformations, corrosion or missing/loose/damaged parts that could reduce strength and safety of the array. Do not suspend the speaker until the proper corrective action has been taken. Use only load-rated hardware when suspending JBL suspendable loudspeaker models.

Suspension systems are comprised of mechanical devices and, as such, they require regular inspection and routine maintenance to ensure proper functionality. Before suspending or pole mounting any speaker system, always inspect all components (enclosure, suspension frames or brackets, pins, eyebolts, etc.) for cracks, deformations, corrosion or missing/loose/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, delamination or any other condition that may decrease the strength of the loudspeaker enclosure.

Accessory suspension hardware provided with or for BRX systems must be inspected for fatigue at least annually or as required by local ordinance. The inspection shall include a visual survey of the material for signs of corrosion, bending or any other condition that may decrease the strength of the fastener. Additionally, any eyebolts shall be checked for possible spin-out of the enclosure.

For all other hardware and fittings, refer to the hardware manufacturer's inspection and maintenance guidelines for process.

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.

Prior to suspending the system, an expert, trained and experienced in suspending speaker systems, should inspect all parts and components.

## 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.

# ORDERING INFORMATION

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MODEL NUMBER	DESCRIPTION
BRX308-LA	Dual 8" line array element
BRX325SP	Dual 15" subwoofer with power amplifier and DSP for entire system
BRX308-ACC	Accessory Kit – Transport cart for 4 x BRX308-LA, soft cover for cart, soft cover for subwoofer, speaker cables for system
BRX308-AF	Array frame for suspending up to 8 x BRX308-LA
BRX308-PM	Pole mount + adapter kit

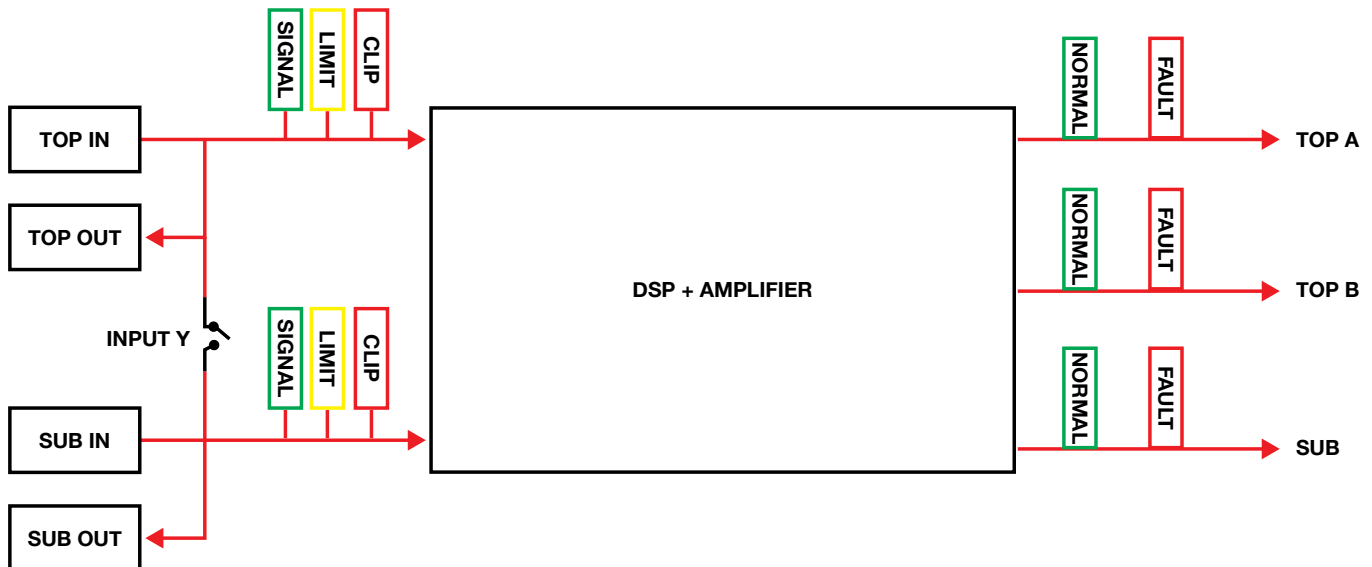
## BRX300 SYSTEM

The BRX300 System is a true plug and play solution that features a combination of the BRX308-LA Dual 8" 2-Way Line Array Element and the BRX325SP Dual 15" Subwoofer that also houses a 6-channel high-power amplifier along with a 48kHz/24-bit DSP for loudspeaker tuning. All the components are packaged to maximize use of space, ease of handling and setup.

The power and processing module features BSS Audio processing for the subwoofer and 2 circuits of 2 x BRX-308LA, each including linear phase FIR filters and dbx limiter suite for loudspeaker protection. As such, no external processing is required.

This system is primarily intended for ground stack use (4 x BRX308-LA + 1 x BRX325SP) and pole stacked (2 x BRX308-LA + 1 x BRX325SP with the pole and adapter sold with the BRX308-PM Pole Mount Kit).

There is a third option of use as a flown system (up to 8 x BRX308-LA suspended from 1 x BRX308-AF). The subwoofers remain stacked on the ground. Each Subwoofer can power up to 4 x BRX308-LA using the built-in power module.



# PRODUCT INFORMATION

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## **BRX308-LA Dual 8” 2-Way Line Array Element**

The BRX308-LA combines 2 x 8” woofers with a single 3” high frequency compression driver mounted to a purpose-built planar waveguide that is derived from JBL Professional’s deep technology expertise and experience with loudspeaker design.

The BRX308-LA has a simple yet highly efficient rigging system that allows a lot of options to optimize audience coverage whether used in ground stacked, pole mounted or flown configuration. Available inter-enclosure angles are 0, 1, 2, 3, 4, 5, 6, 8, 10 and 12°.

Each BRX308-LA has 2 x Neutrik NL4 connectors wired in parallel and can be used as system input or as a pass through connection for daisy-chaining up to 2 cabinets in parallel for amplification with the power module built in the BRX325SP subwoofer system.



## **BRX325SP Dual 15” Subwoofer Housing DSP & Amplifier Module**

The BRX325SP uses 2 x 15” subwoofer transducers with ports designed to extend low frequency response and increase efficiency of the system.

The BRX325SP ships with 4 heavy-duty castors installed on its back that enables ease of transport while also protecting the amplifier module connectors and switches.

The BRX325SP has a rigging system that allows up to 4 x BRX308-LA to be mounted onto it for ground stacked applications.

Additionally, a pole mount cup allows for up to 2 x BRX308-LA to be pole mounted onto the subwoofer using components from the optional BRX308-PM System.

The subwoofer also houses the DSP and amplifier module that powers the entire system.



# PRODUCT INFORMATION

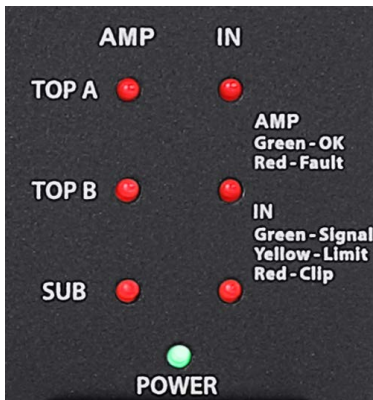
The module has a Neutrik 20A PowerCon power supply input connector for its power supply and ships with a power cord specific to the region it is purchased in. A power switch allows the module to be powered ON or OFF.

The module has 2 XLR-F input connectors: one for the subwoofer and one for the BRX308-LA tops. These connectors are wired in parallel to XLR-M connectors to enable daisy-chaining of input signal to other systems. There is a switch that allows for the subwoofer and tops to share the same input (INPUT Y) or use the subwoofer on a separate signal feed (DUAL).

The module also has 2 Neutrik NL4 output connectors (labelled TOP A and Top B) for powering 2 x BRX308-LA on each output circuit.



The processing and power module has 7 multi-color LED Indicators used to provide feedback on power, input signal status and amplifier status.



Upon powering ON the unit, all the LED's are lit red while the amplifiers and DSP boot up. Once the DSP and amplifier are ready to pass audio, the LED's turn green.

The bottom-most LED—marked “POWER”—is lit green when the unit is receiving power and is in the ON state.

The left 3 LEDs show the amplifier status for each of the 3 pairs of amplifier channels that drive the SUB, TOP A and TOP B. When the LED's are lit green, the amplifier is in the ready state and will pass audio through to the loudspeakers.

The LED's light red to indicate a fault with the amplifier. Possible reasons could be thermal shutdown and extended period of output limiting.

The LEDs on the right are used to indicate the status of input signal to each of the 3 pairs of amplifier channels that drive the SUB, TOP A and TOP B.

Green indicates signal presence ( $\geq -40$ dBu), yellow indicates the onset of input limiting ( $+17$ dBu) while red indicates clipping ( $\geq 21$ dBu) of the input signal.

It is advised to set up the gain structure so that the yellow status lights only come on momentarily during maximum drive level from the mixer. Extended periods of limiting and clipping of the input signal will lead to failure of the loudspeaker components.

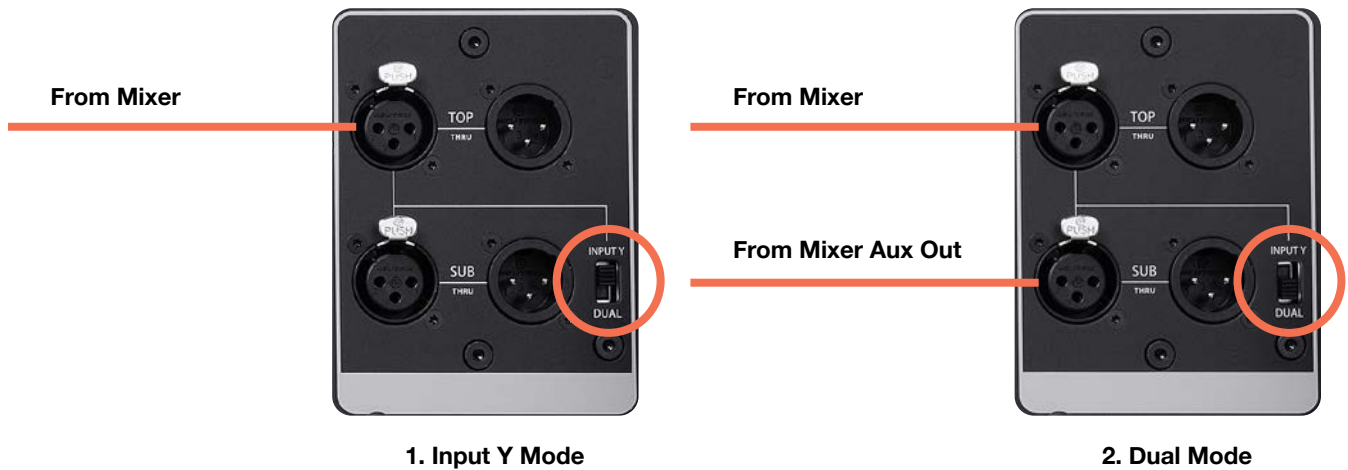
# SYSTEM WIRING INFORMATION

The below image shows the connection diagram for the BRX308-LA tops from the amplifier and DSP module. Each output on the power amplifier module can drive up to 2 x BRX308-LA tops.



The system can be driven in one of two modes:

1. **INPUT Y MODE:** In this mode, a single output from the mixer feeds the entire system to drive both the sub + tops.
2. **DUAL MODE:** In this mode, both the sub and tops can be driven from different outputs of the mixer to enable additional control over the sub + top balance of the system.



# SYSTEM APPLICATION GUIDE

## OPTION 1 - GROUND STACK OPTION



The most common use case for the BRX300 system is the ground stack option, as shown above.

It is advised to use an inter-box angle of at least 2° between each BRX308-LA to allow for wide enough vertical coverage of the high frequencies.



Figure 1: Angle Bar 0°



Figure 2: Angle Bar Standby

The BRX308-LA has captive rigging hardware that allows for inter-box angles of 0, 1, 2, 3, 4, 5, 6, 8, 10 and 12°.

To set the inter-box angle to any of the values mentioned above, align the bottom box's angle bar 'Lock' hole to match with the desired angle value on the top box and lock it in place with the Quick Release Pin (**Figure 1: Angle Bar 0°** shows an example angle bar setting of 0°).

When setting inter-box angles of 8° and above, the angle bar of the upper box may obstruct the angle bar from the below box from aligning with the desired value. In such cases, the angle bar of the upper box must be stored using the Quick Release Pin in the 'Standby' hole (as seen in **Figure 2: Angle Bar Standby**).

# SYSTEM APPLICATION GUIDE

## OPTION 2 - POLE MOUNT OPTION

The other option to set up the system is the pole mount option.

A maximum of 2 x BRX308-LA may be mounted on the Pole + Adapter Kit that is available for purchase as part of the BRX308-PM Pole Mount Kit.

It is advised to use an inter-box angle of at least 2° between each BRX308-LA to allow for wide enough vertical coverage of the high frequencies.



**Adapter Bar**

The pole mount adapter bar allows for the following angles for the first box mounted on it: 0, -2, -3, -4, -5, -6, -8, -9, -10, -11 and -12°. The negative angles allow the first box to aim downwards and cover audience that is closer to the array.

To set the first box at the desired -ve angle value, align the desired value on the adapter bar to the bottom of the box and lock in place with the Quick Release Pin in the matching hole.

We recommend an inter-box angle of 10 or 12° for the second speaker. This allows for more uniform coverage from front to back.

## BRX308-ACC TRANSPORTER KIT

1. Position transporter cart so there is ample space to move the loudspeakers around. Prepare cart by releasing all the Quick Release Pins (QRP's) as shown in **Figure 3**.
2. It is convenient to assemble the cart for transport using 2 loudspeakers at a time with the inter-box angle between the speakers pre set to 0° as shown in **Figure 3**. This same process can be followed even if assembling the cart one loudspeaker at a time.
3. Seat the loudspeakers on the cart by first aligning the front and then the rear rigging points of the bottom loudspeaker to the attachment points on the cart as shown in **Figure 4**.
4. Insert the QRP's and lock loudspeakers in place as shown in **Figure 5**.
5. Follow the same process for the other two loudspeakers on the other side of the cart.
6. Release the QRP's on the front top rigging points for the upper speakers as seen in **Figure 6**.
7. Align the Top Lid so the attachment points match with the front top rigging points on the loudspeakers as seen in **Figure 7**.
8. Insert the QRP's and lock the top lid in place as shown in **Figure 8**.



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8

# ACCESSORIES

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## BRX308-PM STORAGE

You can store two BRX308-PM kits in the BRX308-ACC top lid for easier pack and transport.

1. Flip the top lid upside down so the flat surface is on the floor.
2. Slide the poles in the sleeves as shown in **Figure 9**, with the threaded portion of the pole going in first.
3. Release the two front QRP's on the pole adapter frame and slide into place as shown in **Figure 10**.
4. Insert the QRP's through the clamps to lock the adapter in place as shown in **Figure 11**. The adapter holds the poles in place and prevents them from sliding out during transport.

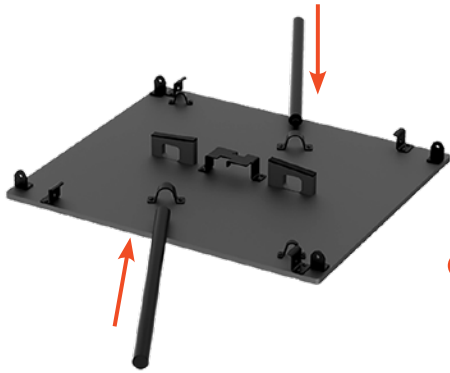


Figure 9

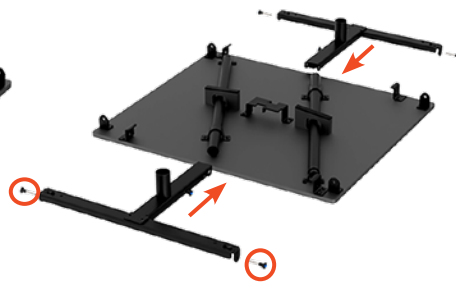


Figure 10

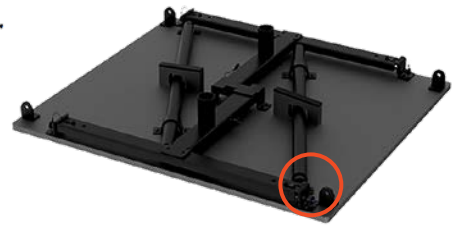


Figure 11

## BRX308-AF ARRAY FRAME

The BRX308-AF Array Frame supports a flown configuration of one BRX325SP Subwoofer or eight BRX308-LA Line Array tops.

The Array Frame accepts shackles with a pin diameter of 17/32" and opening width of 1" for attachment to hoists or other lifting equipment.

To attach the BRX308-AF to an array of BRX308-LA follow the steps below:

1. Place the Array Frame on the topmost BRX308-LA so the frame aligns with the attachment points and secure in place using the QRP's on the front of the loudspeaker as shown in **Figure 13**.
2. Flip up the Angle Bar of the loudspeaker and use the QRP to secure the Angle Bar to the Array Frame by pinning through the 'LOCK' hole on the Angle Bar as shown in **Figure 14**. This ensures a 0° sight angle for the first loudspeaker in the array.
3. To attach the array frame to a BRX325SP Subwoofer, place the Array Frame on the subwoofer so the frame aligns with the attachment points and secure in place using the QRP's on the front of the loudspeaker as shown in **Figure 15**.
4. Flip up the Angle bar of the subwoofer and use the QRP to secure the Angle bar to the Array frame by pinning through the 'LOCK' hole on the Angle bar as shown in **Figure 16**.



Figure 12: BRX308-AF



Figure 13



Figure 14



Figure 15



Figure 16

# SPECIFICATIONS

## SYSTEM SPECIFICATIONS

The BRX300 Series is a system that ships as different SKU's to enable ease of transportation. The models are meant to be used together. The specifications below are for the systems.

Frequency Range (-10 dB)	32 Hz–20 kHz
Frequency Response (-3 dB)	40 Hz–19 kHz
Max Rated SPL	SUB: 136 dB, TOP: 136 dB
System Components	SUB: 2 x 15", TOP (each): 2 x 8" LF + 1 x 3" titanium compression driver
Nominal Coverage (H x V)	110° x 12° each element (vertical coverage is a function of inter-box angles)
System Input Connectors	AMP MODULE: 2 x balanced XLR-F wired in parallel to XLR-M for THRU outputs TOP: 2 x 4-pole NL4 connectors wired in parallel for IN/THRU use
System Output Connectors	AMP MODULE: 2 x 4-pole NL4 connectors for powering up to 4 x TOPS
System Power Input	1 x 20A PowerCon, system input voltage is 230 VAC only
Dimensions (H x W x D)	TOP: 299 x 662 x 376 mm SUB: 890 x 690 x 693 mm
Weight	TOP: 20.5 kg each SUB: 86 kg

## BRX308-LA SPECIFICATIONS

The BRX300 Series is a system that ships as different SKU's to enable ease of transportation. The models are meant to be used together. The specifications below are for shipping purpose only.

Frequency Range (-10 dB)	80 Hz–20 kHz
Frequency Response (-3 dB)	100 Hz–19 kHz
Max Rated SPL	136 dB
System Components	2 x 8" LF + 1 x 3" titanium compression driver
Nominal Coverage (H x V)	110° x 12° each element (vertical coverage is a function of inter-box angles)
System Input Connectors	2 x 4 pole NL4 connectors wired in parallel for IN/THRU use
Dimensions (H x W x D)	299 x 662 x 376 mm
Weight	20.5 kg each

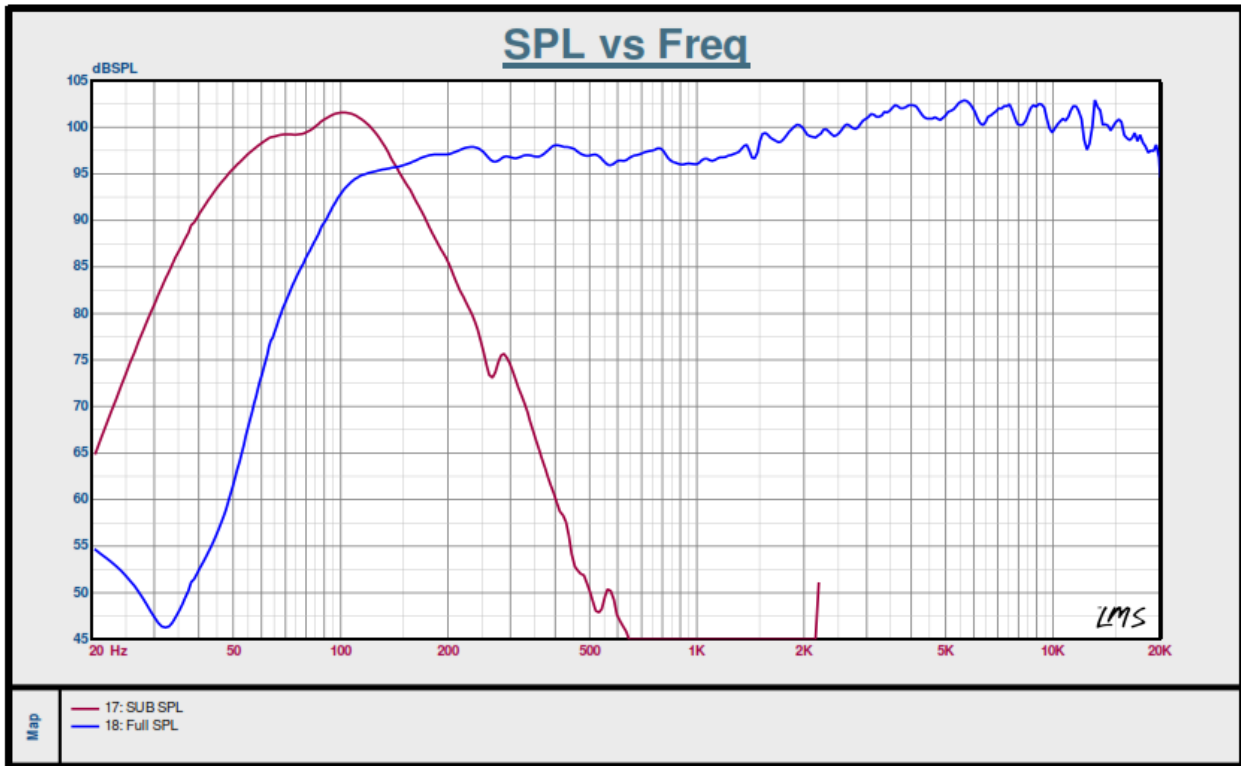
## BRX325SP SPECIFICATIONS

The BRX300 Series is a system that ships as different SKU's to enable ease of transportation. The models are meant to be used together. The specifications below are for shipping purpose only.

Frequency Range (-10 dB)	32 Hz–250 Hz
Frequency Response (-3 dB)	40 Hz–150 Hz
Max Rated SPL	136 dB (calculated based on sensitivity and power ratings)
System Components	2 x 15"
System Input Connectors	AMP MODULE: 2 x balanced XLR-F wired in parallel to XLR-M for THRU outputs
System Output Connectors	AMP MODULE: 2 x 4-pole NL4 connectors for powering up to 4 x TOPS
System Power Input	1 x 20A PowerCon, system input voltage is 230 VAC only
Dimensions (H x W x D)	890 x 690 x 693 mm
Weight	86 kg

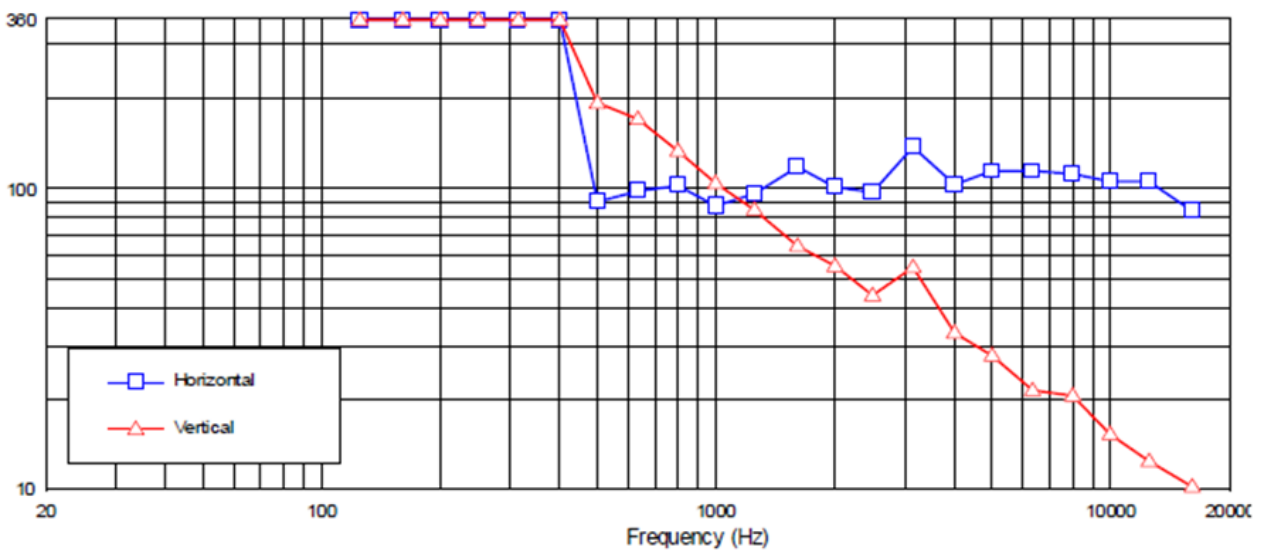


## SYSTEM FREQUENCY RESPONSE



\* Measured in a 2pi field.

## SYSTEM DIRECTIVITY



\* BRX308-LA - Measured in a 4pi field using system DSP and amplifier module.



# BRX300 SERIES

## USER'S GUIDE

### Website URLs

China: <https://jblpro.com/zh/products/brx300>  
Asia: <https://jblpro.com/en-asia/products/brx300>