JBL VTX-V20-DF SUSPENSION MANUAL

VTX SERIES
system solutions

Contents

JBL VTX-V20-DF
SUSPENSION MANUAL

JBL VTX SERIES SUSPENSION PRECAUTIONS AND SAFETY INFORMATION

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 American and may not directly apply to other countries because of different 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 hardware is required for secure system suspension. Careful calculations should always be performed to ensure that all components are used within their rated workload before the array is suspended. Never exceed maximum recommended load ratings.

Before suspending any speaker system always inspect all components (enclosure, suspension tubes, pins, etc.) for cracks, deformations, corrosion, missing, loose or damaged parts that could reduced 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 VTX Series loudspeakers.

Are You New to Rigging?

If your work with suspended loudspeakers also involves 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™ 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.
- Research and understand the codes, practices, and requirements in the venues where you intend to operate your sound system.

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.

Attachment to Structures

A licensed Professional Engineer must approve placement and method of attachment to structures prior to 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, Seismic Code as applicable. Installation of 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.

Suspension Hardware Inspection & Maintenance

Suspension systems are comprised of mechanical devices and, as such, they require regular inspection and routine maintenance to insure proper function ability. JBL VTX Series loudspeakers must be inspected for fatigue 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 JBL VTX Series loudspeakers must be inspected for fatigue at least annually. The inspection shall include a visual material survey for signs of corrosion, bending or any other condition that may decrease strength of the fastener. For other fittings used, refer to the 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 flying loudspeaker systems should inspect all rigging parts and components.

Safe Rigging

The JBL VTX Series arrayable loudspeakers are equipped with integral suspension hardware and should only be suspended using the supplied equipment. The system is designed to facilitate the suspension of the loudspeakers by a qualified person familiar with rigging hardware and industry practices. Improper installation may result in damage, injury or death.

Working Load Limit

The working load limit (WLL) for any group ("array") of JBL VTX Series system products is noted on the appropriate VTX Series Array Frame.

EC-DECLARATION OF CONFORMITY

Brand: JBL Professional
Family Name: VTX Series & Suspension Hardware
Model Names: VTX-V25, VTX-S28, VTX-G28, VTX-V20, VTX-S25, VTX-V25-II,VTX-V25-C, VTX-V25-II-CS, VTX-V25-PB, VTX-V20-PB, VTX-V25-AF, VTX-V25-AF-EB, VTX-V20-AF, VTX-V20-AF-EB, VTX-F12-UB, VTX-F15-UB, VTX-V25-LH, VTX-V20-LH, VTX-V20-DF

We, Harman International, declare under our sole responsibility that the product**,** to which this declaration relates, is in conformity with the following standards.

Standard	Description	Testing Agency
EC MACHINE DIRECTIVE 2006/42/EC SECTIONS 4.1.2.3 & 4.1.2.5	MACHINE DIRECTIVE – Applies to machinery and lays down essential health and safety requirements	Tested at JBL

Copies of all Technical Data, Safety Data and EMC reports can be obtained by contacting Frank Lacelle at frank.lacelle@harman.com.

I certify that the product identified above conforms to the requirements of the the Low Voltage Directive 2006/95/EC and the Waste from Electrical and Electronic Equipment Directive 2002/96/EC RoHS.
http://www.jblpro.com/catalog/support/getfile.aspx?docid=1525&doctype=3

JBL Professional, part of the Harman International group of companies, declares that the products produced under the aforementioned brand names are designed and produced as professional audio speakers and therefore outside of the intended scope of the European Commission Regulation (EC) 1275/2008 of 17 December 2008 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment.
http://www.jblpro.com/catalog/support/getfile.aspx?docid=1528&doctype=3

Harman International expects our suppliers and business partners to be aware of their obligations under REACH and expects any substances or products within the scope of REACH to be pre-registered before December 1, 2008. The product identified above meet REACH requirements for chemicals designated by the European Chemicals Agency (ECHA) as Substances of Very High Concern (SVHC). Our current products are exempt from REACH pre-registration and later registration activities. We provide separate E.U. Reduction of Hazardous Substances documentation for our RoHS compliant products. None of the products listed above have SVHC's over the 0.1% threshold for any chemical on the Candidate list.
http://www.jblpro.com/catalog/support/getfile.aspx?docid=1529&doctype=3

The WEEE directive (2002/96/EC) places an obligation on all EU-based manufacturers and importers to take-back electronic products at the end of their useful life. JBL, through it's agent, accepts its responsibility to finance the cost of treatment and recovery of redundant WEEE in accordance with the specific WEEE recycling requirements. All of our products are marked with the WEEE symbol; this indicates that this product must NOT be disposed of with other waste. Instead it is the user's responsibility to dispose of their waste electrical and electronic equipment by handing it over to an approved re-processor, or by returning it to JBL's agent for reprocessing. For more information about where you can send your waste equipment for recycling, please contact your local distributor.
http://www.jblpro.com/catalog/support/getfile.aspx?docid=1527&doctype=3

JBL Professional, Northridge CA. USA 02/20/2014 Frank Lacelle Compliance Manager
(Place and Date of issue) (Name and function of authorized person)

Frank
Digitally signed by Frank
DN: cn=Frank, o=JBL Professional, ou=Loudspeaker, email=frank.lacelle@harman.com, c=US
Date: 2014.02.25 17:12:38 -08'00'

JBL VTX-V20-DF
SUSPENSION MANUAL

APPLICATION OF VTX-V20-DF

The VTX-V20-DF is an adapter frame that facilitates attachment of VTX-V20 cabinets underneath suspended arrays of VTX-V25-II or VTX-V25-II-CS. *(VTX-V25 is not supported)*

- Rated for up to 6 VTX-V20 cabinets
- VTX-V20 arrays must be flown in fixed angle tension mode
- The VTX-V20-DF also functions as a pullback frame for compression of VTX-V25-II-CS arrays

VTX-V20-DF Packaging Includes:

- **2x VTX-V20-DF Side Adapter Frames**
- **1x VTX-V20-DF Main Frame**

Spare Parts

These parts can be ordered through JBL Customer Service as spares or replacements for the VTX-V20-DF:

- 5044448 – 5/8” Shackle for compression of VTX-V25-II-CS Arrays
- 5049177 – Dual Leg Chain Sling for compression of VTX-V25-II-CS Arrays

ATTACHMENT OF V20-DF TO V25-II / V25-II-CS

1. Pre-attach the V20-DF frame to the bottom of a previously suspended VTX-V25-II / V25-II-CS array. This is done by raising the integrated attachment hinges on the VTX-V20-DF to their upright and locked position, then raising the frame up underneath the array.

2. Note that the contoured top of the VTX-V20-DF matches the bottom contour of the VTX-V25-II / V25-II-CS.

3. Lift and pin the VTX-V20-DF into place with the captive QRP's located on the VTX-V25-II / V25-II-CS cabinet.

4. Stage a stack of V20 cabinets on a VTX-V20-VT Vertical Transporter behind or in front of the array in order to pre-attach the VTX-V20-DF side adapter panels onto the top V20.

5. Remove the VTX-V20 rear suspension frame hinge bar attachment QRP from the top VTX-V20 before attaching the VTX-V20-DF side adapter frame.

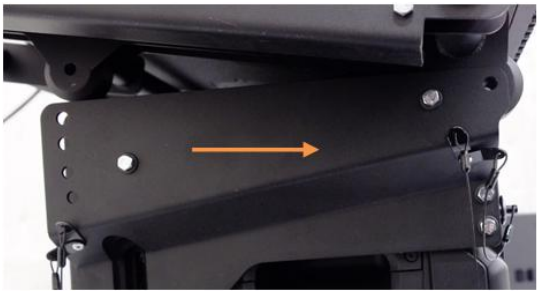
6. The captive VTX-V20 rear QRP is used to attach the side adapter frame to the rear of the VTX-V20. One of the front QRP's on the VTX-V20-DF side adapter frame is used to attach the side adapter frame to the front of the VTX-V20. Repeat this process for both sides of the VTX-V20 array.

Two QRP's along the top of the VTX-V20-DF side adapter frame are use for attaching the side adapter frames to the VTX-V20-DF main frame and should not be used for attachment to VTX-V20.

7. Once the front and rear of the VTX-V20-DF side adapter frames are secured to both sides of the top-most VTX-V20 on the VTX-V20-VT, roll the VTX-V20 cabinets on the VTX-V20 Vertical Transporter into position behind the suspended V25-II / V25-II-CS array.

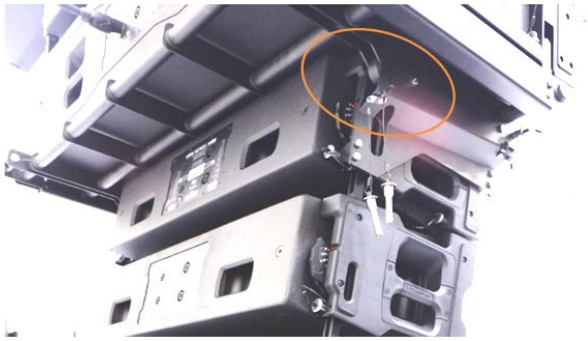
8. Position the suspended VTX-V25-II / V25-II-CS array at a height which aligns the front attachment points on the VTX-V20 side adapter frames at the same height as the front attachment points on the VTX-V20-DF main frame

9. Roll the VTX-V20's into place underneath the suspended VTX-V25-II / V25-II-CS array. Align the front attachment points and use the captive QRP indicated below to attach the systems together on both sides of the array.



10. Raise the attached arrays up off the ground.

11. Using the integrated rear handle on the VTX-V20-VT, lift the VTX-V20 array until the rear attachment points on the VTX-V20-DF side adapter frames align with the V20-DF main frame.



12. Once the rear attachment points have been aligned for the proper angle selection, secure them on both sides with the captive QRP's included on the VTX-V20-DF side adapter panels.

Note that there are multiple angles options that can be selected, refer to the JBL LACII printout for which angle selection to make.

13. With the VTX-V20 array suspended and completely off the ground, follow the steps outlined in the VTX-V20 suspension manual for setting VTX-V20 angles in order to configure the proper array curvature.

14. Since the VTX-V20 cabinets are to be suspended in fixed-angle tension mode, lower the combined VTX-V25-II / V25-II-CS and VTX-V20 array, pull back on the VTX-V20-VT using the integrated rear handle, and lower the array in order to compress the VTX-V20 cabinets together.

15. Carefully continue lowering the array until the inter-enclosure angles between VTX-V20 cabinets have been completely closed. Use the captive QRP's on each VTX-V20 cabinet to secure the systems in place on both sides of the array at the selected angles. For the top-most VTX-V20, use the captive QRP that is attached to the VTX-V20-DF side adapter frame.

16. Raise the combined VTX-V25-II / V25-II-CS and VTX-V20 array off the ground and remove the VTX-V20-VT from underneath the VTX-V20's.

17. At this point VTX-V25-II-CS arrays can be safely compressed. Attach the compression suspension dual-leg chain sling and shackles, then use the VTX V25-LH to compress the array. (Approved OEM factory-approved suspension hardware is available from JBL Professional Customer Service)

Alternatively, an array of VTX-V25-II-CS cabinets can be compressed between step 7 and 8.

18. In order to de-suspend the combined VTX-V20 and VTX-V25-II / V25-II-CS array, repeat steps 1-15 in reverse.

    a. Lower the array until it is touching the ground and the weight is removed off of the VTX-V20 QRP's and the rear attachment point QRP's.
    b. Remove the QRP's and store them in their proper transport positions.
    c. Lift the combined array to straighten the VTX-V20 array, set all ASM cam wheels to 0 degrees for transport and attach the VTX-V20-VT.
    d. Lower the array until the straightened VTX-V20 array on the VTX-V20-VT is touching the ground and the weight is removed from the front attachment point QRP's. Carefully remove the QRP's, and separate the vertically stacked VTX-V20 cabinets from the suspended VTX-V25-II / V25-II-CS array.