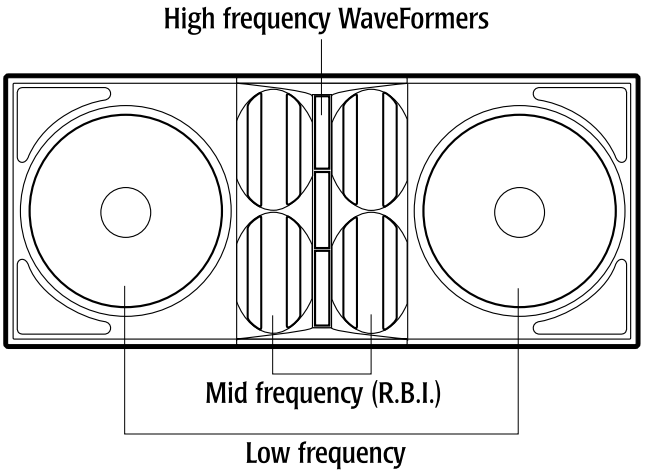
VT4889 System Enclosure

The system enclosure integrates the unique acoustical elements into a highly portable and rugged physical package. To make field handling easier and to enable you to create very large arrays, the individual box weight has been minimized without sacrificing strength, safety, or audio quality. Each box weighs just 72kg (159 lb) while containing two 600-watt low frequency drivers, four 300-watt mid frequency drivers, and three 75-watt, 3" diaphragm high frequency compression drivers. This weight includes the attached rigging frames and hinge bars.

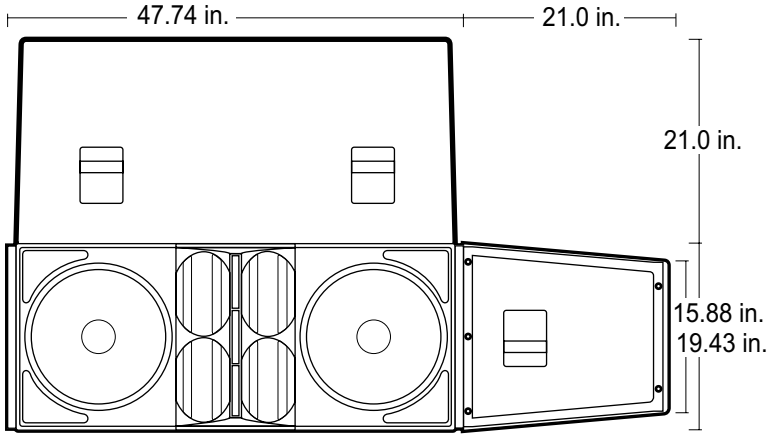


Front view of the VT4889 enclosure. Note location of sub-elements.

More information on the component transducers in the VT4889 will be found in Chapter 3, "VT4889 Component Transducers".

Box Description and Dimensions

Measuring only 1214mm x 494mm x 544mm (47.75" W x 19.43" H x 21" D), each enclosure includes all required hanging and rigging hardware and fittings needed to couple one box to another. Shown here, a front, top and side view of the enclosure.



This is a closeup of the VT4889 enclosure. Recessed handles are located on every surface of the enclosure except the front. There are eight (8) handles in total, including two on the back panel.

Designed as a Line Array Element, the VT4889 is intended to be used in multi-box arrays. Due to its trapezoidal shape, these VERTEC arrays have an important acoustical design characteristic: no “gaps” on the front baffle. All box splay angle adjustments are made at the rear of the enclosure, not the front.

This mechanical design allows the front baffle size and box spacing to remain relatively consistent, regardless of box splay angles set. This results in better overall array performance, and minimizes the diffraction that would be caused if gaps were opened between adjacent box edges on the front baffle of the array. A significantly curved (articulated) VERTEC array can thus be created without gaps on the front baffle of the array.

The VT4889 enclosure can be coupled together to create small, medium or large arrays. The acoustic benefits of the "no gaps" array characteristic become more obvious with increasing array size.

Outdoor Exposure Issues

The VT4889 is designed for applications that require outdoor exposure to rain, dust and other environmental conditions. While not a fully "weatherproof" system intended for prolonged exposure in extreme environments such as seaside or tropical locales, the system has a number of integral features that resist environmental exposure damage.

All loudspeaker cones are treated with special weather-resistant compounds. The enclosure is fitted with two foam-backed low frequency grilles, with closely-fitted gasketing frames for each.

Dense protective foam inserts are set into the midrange apertures, to assist in blocking dirt and water entry. A two-stage protection process protects the high frequency elements. An outer fine steel mesh grille safeguards the high frequency apertures, while a very fine inner mesh screen is fitted over the high frequency driver exit.

The VT4889's pair of low frequency grilles are foam-backed, and edged with closely fitting gasketing frames

Premium-grade metal alloys are used for external metalwork. Pre-weld cleaning procedures are implemented on the rigging frames to help ensure proper weld penetration. Zinc pre-preparation processes are used before powder-coat painting applications. The center pins in each hinge bar are cadmium-plated to resist rust and provide long life for outdoor use.

As with any premium-grade professional product, care should be taken with each VT4889 system enclosure to prevent excessive amounts of dirt, water or other foreign substances from penetrating the interior of the box. Systems subjected to extreme environmental conditions require a more rigorous maintenance program.

For more information, see Chapter 10, "Troubleshooting & Maintenance".

Input Connector Panel

The input connector panel is located at the rear of the enclosure. The printed legends on the panel identify the system connections as well as indicating proper box orientation. The connector panel has two paralleled Neutrik NL8 connectors. The connector pinouts are marked on the panel.

NL8 Pins	Driver Model	Qty	Usage	Driver Power (each)	Driver Impedance	Impedance at Pins
1+/-	2255H	1	LF	600W	8-ohms	8-ohms
2+/-	2255H	1	LF	600W	8-ohms	8-ohms
3+/-	2250H	4	MF	300W	8-ohms	8-ohms (Series-Parallel)
4+/-	2435H	3	HF	75W	5.3-ohms	16-ohms (Series)

Note: Each low-frequency driver has its own set of pins on the NL8 connector. A small arrow on the input plate connector directs the user to which 15" loudspeaker pins #1 and #2 are connected to.

Note: The mid-frequency section can also be configured for 4-ohm impedance by special order of enclosure model VT4889-M4 (Midrange, 4-ohm).

For more information, see Chapter 4, "System Configuration and Amplification".

The location of the connector panel facilitates checking each enclosure for damaged transducers even when covered and mounted to the transport dolly. The connector panel is easily accessible from a flap in the protective padded cover.

Transducer testing should use a combination of band-limited frequency sweeps to locate rattles, buzzes, and rubs as well as DC (Direct Current) resistance measurement using an ohmmeter to find shorted turns or open voice coils. The series-parallel connected midrange section lends itself particularly well to the ohmmeter test.

The connector panel is also the access port for maintenance and removal of the high-frequency drivers.

For more information on troubleshooting and maintenance, see Chapter 10, "Troubleshooting and Maintenance".

Enclosure Finish

JBL's DuraFlex™ surface coating is a tough, weather resistant finish. It is inherently flexible, and is resilient to knocks, scratches and scuffs. It is highly resistant to damage from environmental hazards, including sea salt spray, temperature extremes and U.V. radiation. This should allow the enclosure to retain its like-new appearance over time.

The DuraFlex finish is a textured surface that most household or industrial paints will readily adhere to. The result is a speaker enclosure able to blend unobtrusively into the decor of any stage set or production audio environment.