



VT4889-1

Fullsize Three-Way High Directivity Line Array Element



VERTEC® Series

Application:

The VT4889-1 Three-Way Line Array Element is designed to deliver high-quality reinforcement of music and speech in a variety of applications including concert audio and corporate A/V presentations of all types for both portable users and fixed venue installations.

Key Features:

- ▶ Advanced construction techniques and JBL PlyMax™ engineered wood materials provide rigid, yet lightweight enclosure
- ▶ Advanced technology components: Differential Drive®, neodymium magnet, dual voice coil, Direct Cooled™ cone transducers for low weight and high output.
- ▶ Industry's smallest, lightest, most powerful 1.5" exit, 3" diaphragm high frequency compression driver
- ▶ Proprietary waveguides couple to create precision HF vertical slot aperture
- ▶ Radiation Boundary Integrator® (RBI): Patented technology integrates output of individual bandpass elements
- ▶ Rugged DuraFlex™ exterior finish; weatherized components
- ▶ Integrated S.A.F.E.™ suspension system: premium heat-treated alloys provide rigid, reliable hanging arrays
- ▶ Pre-engineered to accept optional amplified electronics package. Rear-panel mechanical attachments and electrical connections ensure upgrade path for DrivePack™ self-powered system modules with integral signal processing

The above features come together in a line array system with performance advantages offering benefits for both portable system users and fixed-venue installations. The VT4889-1 combines time tested acoustical physics with JBL's innovative transducer research and design in a premium-grade system package. JBL's VERTEC (Vertical Technology) builds on proven line array theory as demonstrated in JBL's line array systems in the early 1970's. The VT4889-1 is a rugged, lightweight enclosure housing two 15" woofers, four 8" midrange radiators, and three high frequency compression drivers. Extremely high power-to-weight ratio.

The PlyMax™ enclosure features foam-backed low frequency grilles, dense protective foam inserts for midrange apertures, and a fine steel mesh grille to protect high-frequency apertures. All speaker cones are treated with weather-resistant compounds. Rigging frames and hinge bars are made from premium-grade chromoly alloy steel, with epoxy powder coating over plated surfaces; hinge pins are plated and quick-release pin restraining lanyards are stainless steel to resist corrosion and weather damage. VERTEC arrays are rigid for maximum support strength, yet flexible in design and application. The VT4889-1's suspension hardware relies on quick-release pins and end-mounted metal frames to couple adjacent VT4889-1's together. Enclosure ships with available front and rear hinge bar set (VT4889-RIG). Available padded soft bag and protective grille cover/wheel-board ensure handy transport for rough road conditions (purchased separately as VT4889-1-ACC).



Specifications:

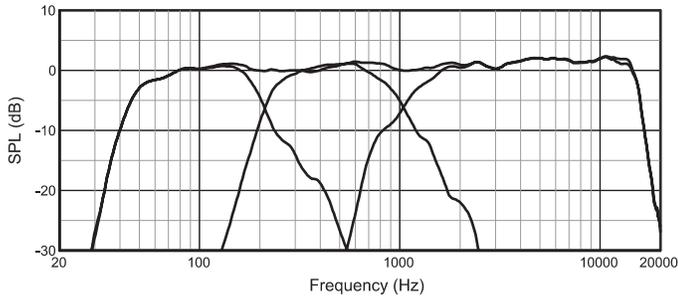
Line Array Element	
Frequency Range (-10 dB):	40 Hz - 18 kHz
Frequency Response (+/- 3 dB):	45 Hz - 16 kHz
Horizontal Coverage Angle (-6 dB):	90 degrees nominal (250 Hz - 16 kHz)
Vertical Coverage Angle (-6 dB):	Varies with array size and configuration
System Input Power Rating:	LF: 2000 W Continuous, 8000 W Peak (AES / 2 hour) MF: 1400 W Continuous, 5600 W Peak (AES / 2 hour) HF: 225 W Continuous, 900 W Peak (AES / 2 hour)
Maximum Peak Output ¹ :	138 to 146 dB SPL, 1m (frequency/bandpass dependent)
Recommended Amplification:	LF: 2 x 1000 - 2000 W into 8 ohms (2 x LF transducers powered independently) MF: 1400 - 2800 W into 8 ohms HF: 450 - 900 W into 8 ohms
Recommended Signal Processing:	dbx® 4800, Crown® 1-Tech, BSS FDS-366T, and other Digital System Controllers supported
Transducer Sections	
Low Frequency:	Two 2255H, 380 mm (15 in) dia., 76 mm (3 in) dual coil, Neodymium Differential Drive®, Direct Cooled™
Bandpass Nominal Impedance:	2 x 8 ohms (LF transducers wired individually)
Input Power Rating (each driver) ² :	2 x 1000 W Continuous, 2 x 4000 W Peak (AES / 2 hour) 2 x 650 W Continuous, 2 x 2600 W Peak (100 hour)
Bandpass Sensitivity:	99 dB, 1W / 1m (2.83 Vrms at 3.3 ft)
Mid Frequency:	Four 2250H, 203 mm (8 in) dia., 76 mm (3 in) dual coil, Neodymium Differential Drive®, Direct Cooled™
Bandpass Nominal Impedance:	8 ohms (MF transducers wired in series parallel)
Input Power Rating ² :	1400 W Continuous, 5600 W Peak (AES / 2 hour) 1200 W Continuous, 4800 W Peak (100 hour)
Bandpass Sensitivity:	102 dB, 1W / 1m (2.83 Vrms at 3.3 ft)
High Frequency:	Three 2435H, 76 mm (3 in) diameter beryllium diaphragm, 38 mm (1.5 in) throat diameter Neodymium compression drivers
Bandpass Nominal Impedance:	16 ohms (HF drivers wired in series)
Input Power Rating:	225 W Continuous, 900 W Peak (AES / 2 hour)
Bandpass Sensitivity:	116 dB, 1W / 1m (2.83 Vrms at 3.3 ft)
Enclosure	
Box Construction:	Wedge frustum 5 degree side angle enclosure, PlyMax™ engineered wood composite structure, DuraFlex™ finish, 10 handles
Suspension System:	S.A.F.E. hardware, integral hinge bars nest in rigging frames on box ends. Quick release pins with restraining lanyards. Set of 4 hinge bars included. Suspend with VT4889-AF or VT4889-SF Array Frame.
Grille:	Separate LF and HF, black perforated steel. LF grilles foam backed
Input Connectors:	Neutrik® Speakon® NL-8 (2x) Pins 1+/- & 2+/- for Lows, Pin 3+/- for Mids, Pin 4+/- for Highs
Dimensions (W x H x D):	1213 mm x 489 mm x 546 mm (47.8 in x 19.3 in x 21 in)
Net Weight:	79.8 kg (176 lb)
Shipping Weight:	86.2 kg (190 lb)

¹Calculated maximum SPL based on rated peak power and measured sensitivity

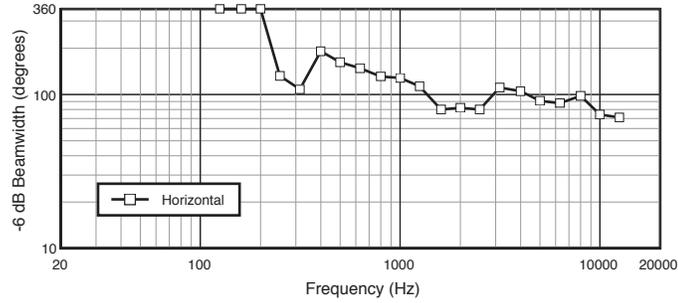
²AES Standard one decade pink noise with 6 dB crest factor within devices operational band, free air. Standard AES 2 hr rating plus long term 100 hr rating are specified for cone transducers.

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.

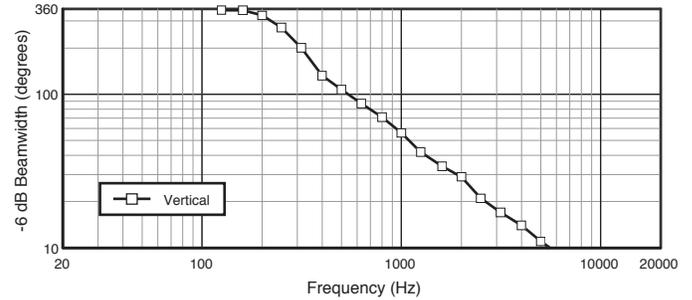
▶ VT4889-1 Fullsize Three-Way High Directivity Line Array Element



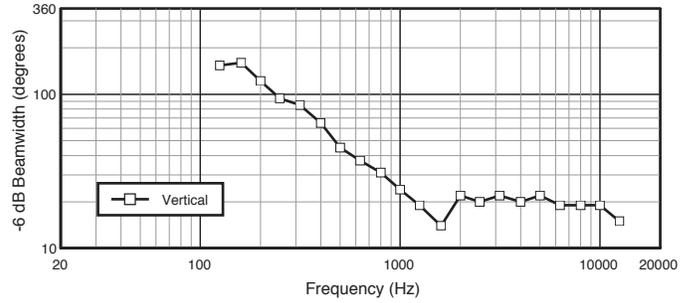
Normalized Frequency Response
(Individual bandpasses with composite overlay)



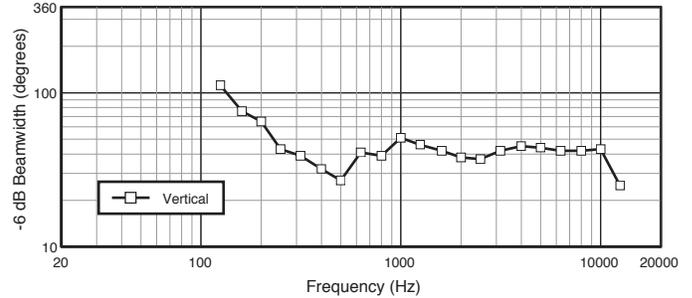
Horizontal Beamwidth, Single Element and Typical Array



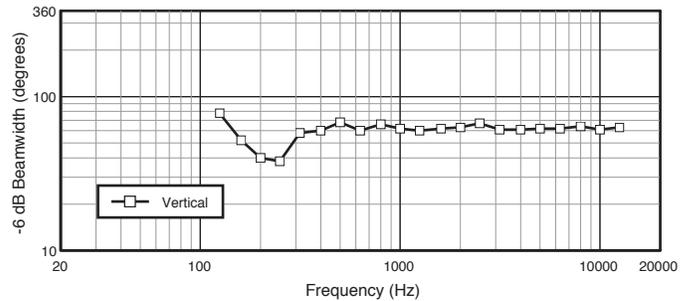
Vertical Beamwidth, Single Line Array Element



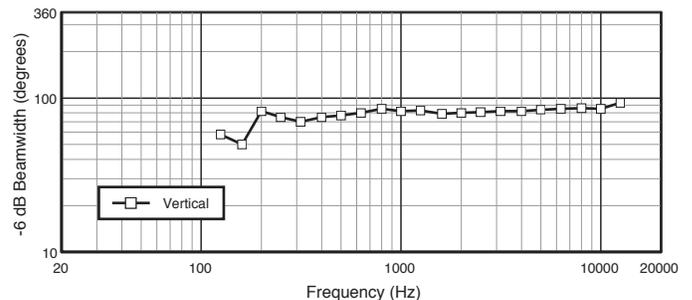
Vertical Beamwidth, Two Element Array
(10° splay between cabinets)



Vertical Beamwidth, Four Element Array
(10° splay between cabinets)



Vertical Beamwidth, Six Element Array
(10° splay between cabinets)



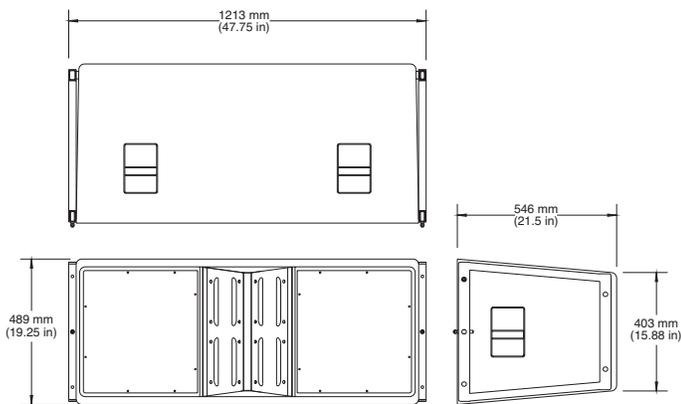
Vertical Beamwidth, Eight Element Array
(10° splay between cabinets)

VT4889-1 Acoustical Measurements

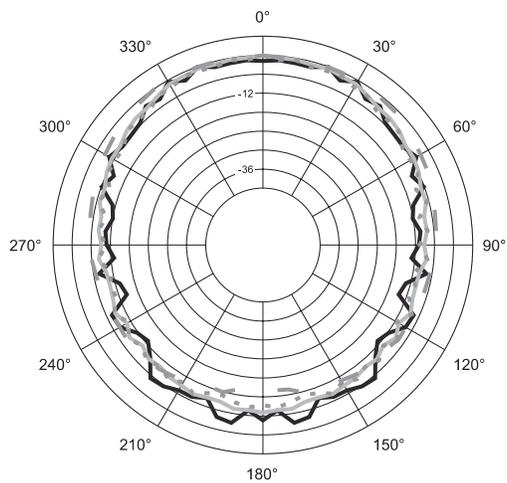
The acoustical performance of line array elements must be considered within the context of a multi-box vertical array, in which format they are designed to be used. The frequency response measurement shows individual bandpass responses with composite response overlay. The Vertical Beamwidth results range from a single box up to an 8-box array with 10° splay angles between adjacent array elements.

All measurements provided herewith are derived from data gathered with a calibrated measurement microphone centered on-axis of the box or array, with polar data points taken symmetrically around the measurement axis.

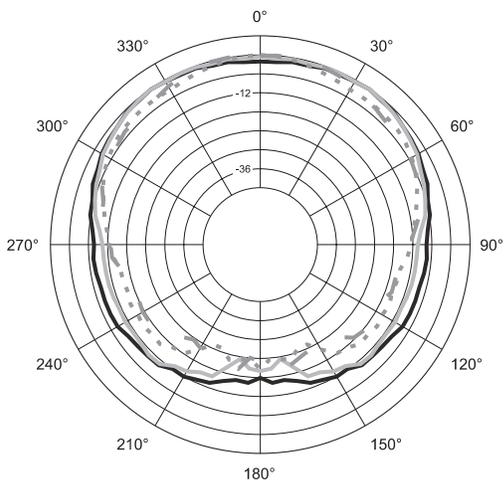
All polars were taken as groundplane measurements at a distance of 20 meters, with data gathered on 5-degree intervals from 0-355° using the MLSSA measurement system.



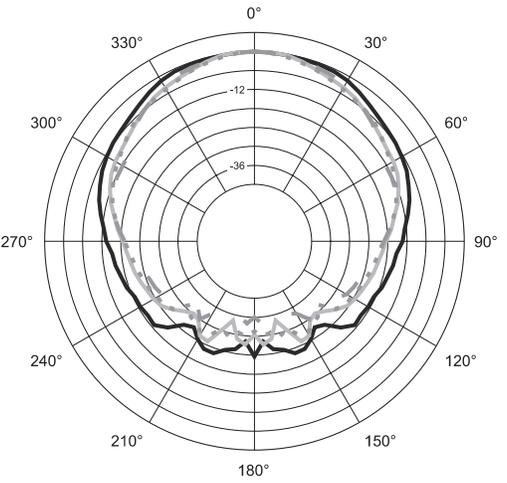
System Dimensions (WxHxD): 1213 mm x 489 mm x 546 mm
Including attached suspension hardware



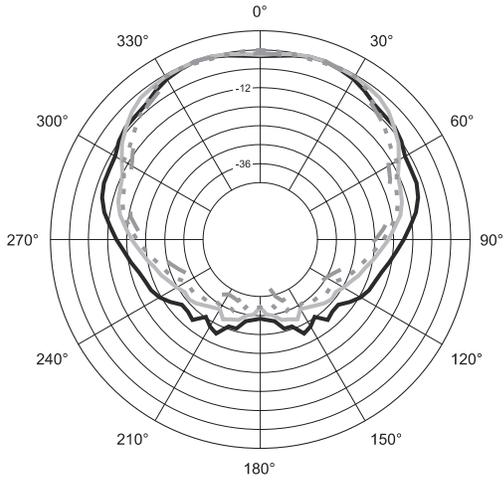
- 200Hz
- 250Hz
- ... 315Hz
- 400Hz



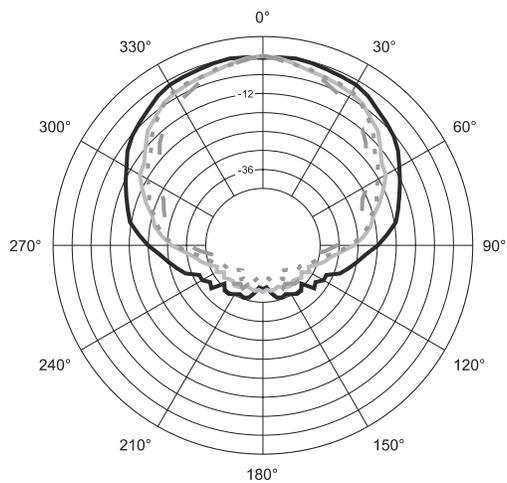
- 500Hz
- 630Hz
- ... 800Hz
- 1kHz



- 1.25kHz
- 1.6kHz
- ... 2kHz
- 2.5kHz



- 3.15kHz
- 4kHz
- ... 5kHz
- 6.3kHz

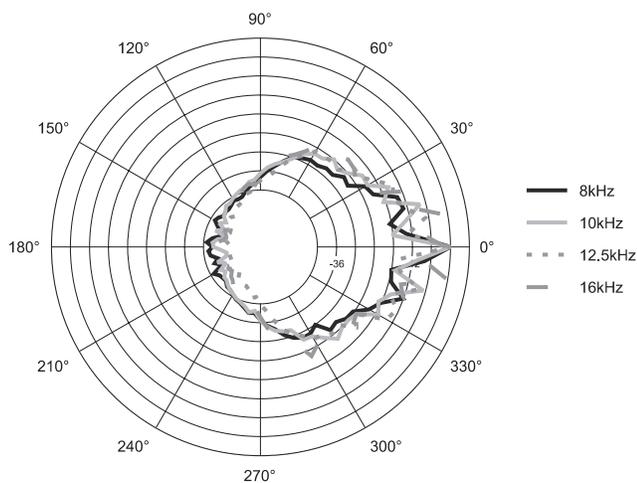
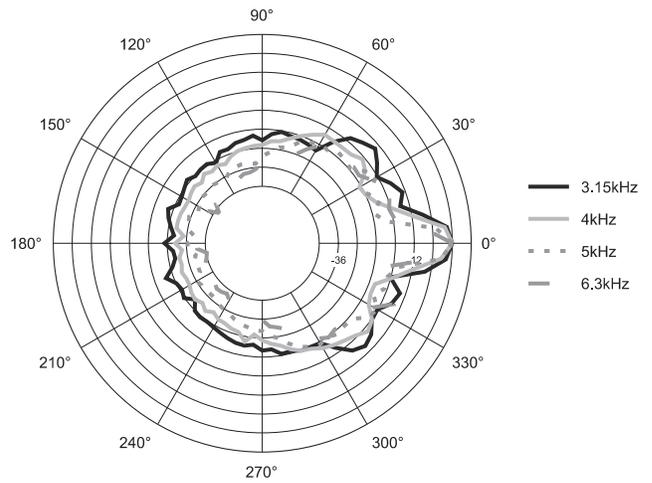
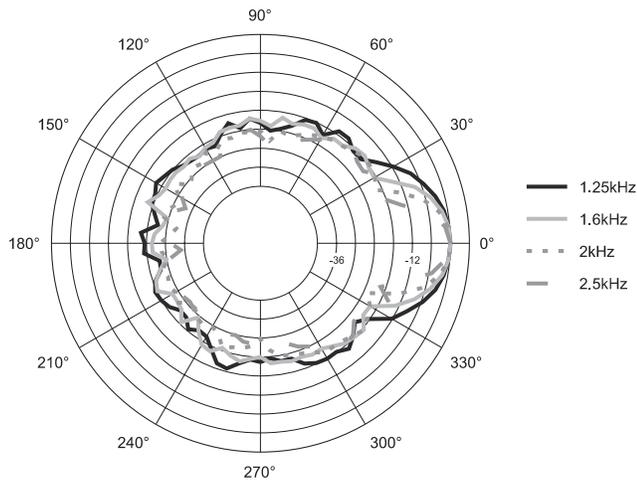
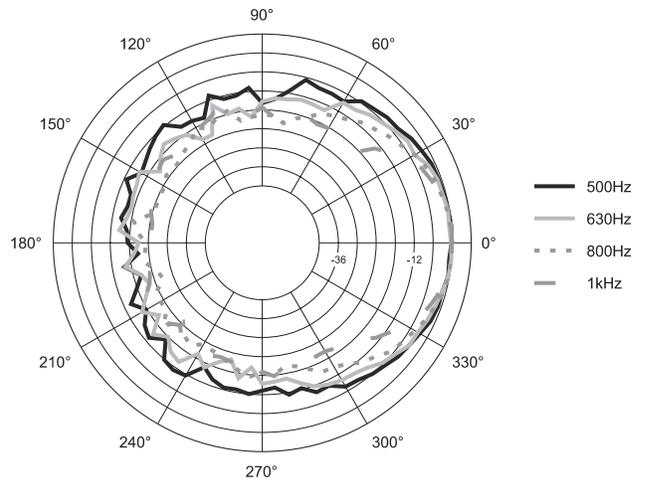
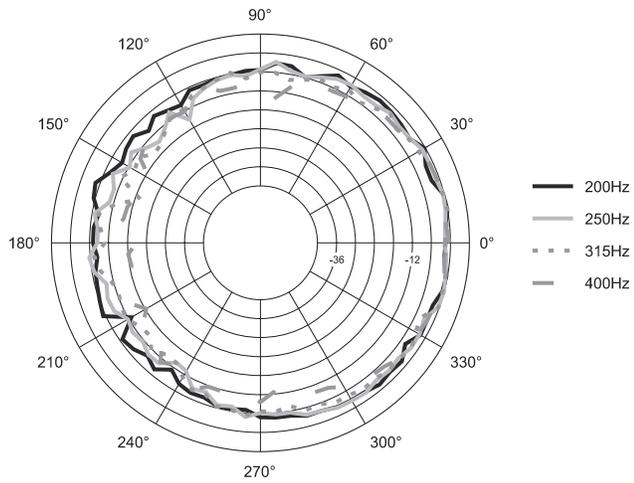


- 8kHz
- 10kHz
- ... 12.5kHz
- 16kHz

Horizontal 1/3 Octave Polars (Single VT4889-1 Array Element)

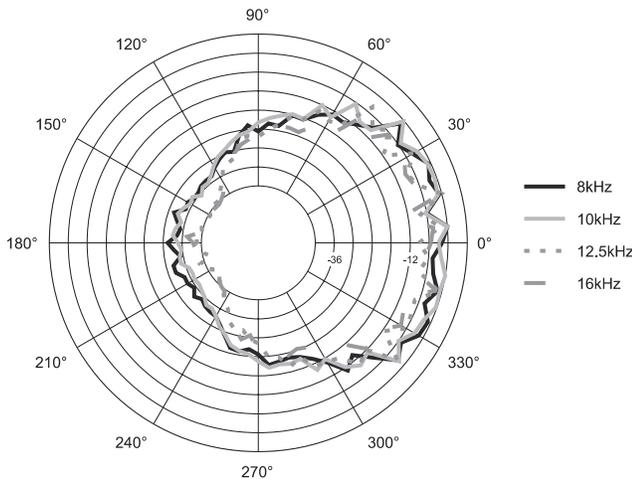
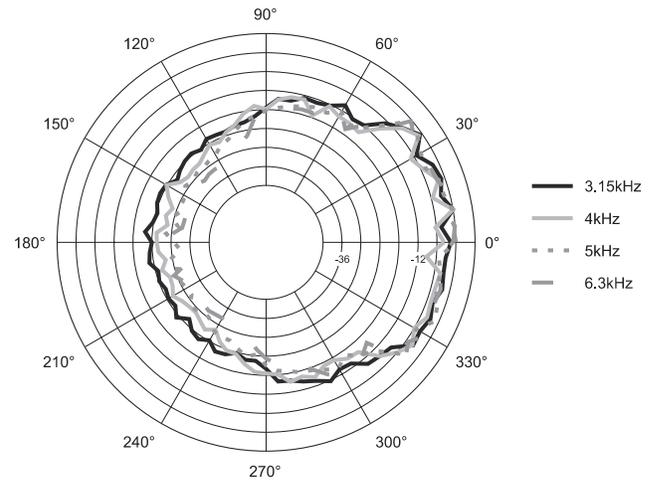
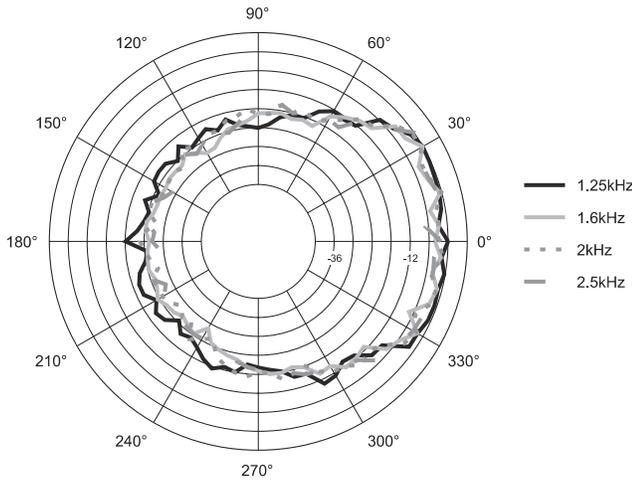
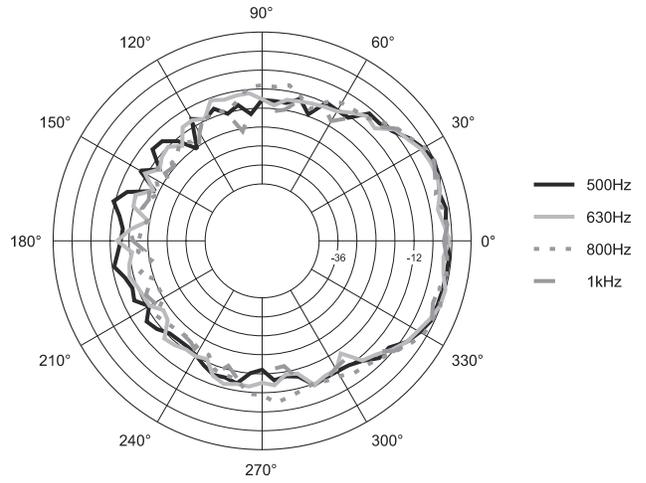
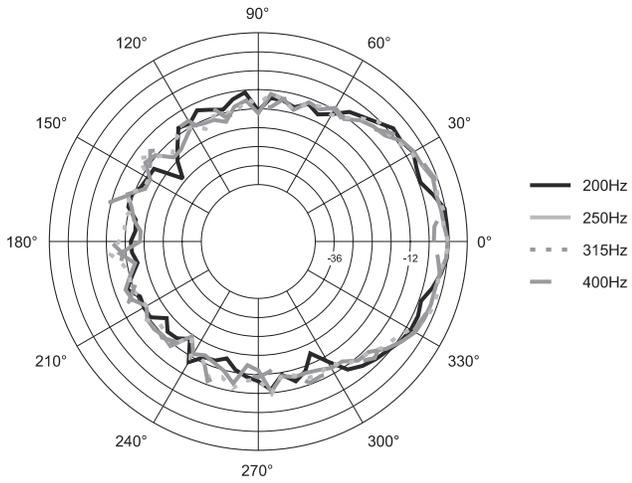
Data taken as groundplane measurements at a distance of 20 meters, gathered on 5-degree intervals from 0-355° using the MLSSA measurement system.

▶ VT4889-1 Fullsize Three-Way High Directivity Line Array Element



Vertical 1/3 Octave Polars (Single VT4889-1 Array Element)

Data taken as groundplane measurements at a distance of 20 meters, gathered on 5-degree intervals from 0-355° using the MLSSA measurement system.



Vertical 1/3 Octave Polars
(8-Box Array of VT4889-1 Enclosures)
 Data taken as groundplane measurements at a distance of 20 meters, gathered on 5-degree intervals from 0-355° using the MLSSA measurement system.

▶ VT4889-1 Fullsize Three-Way High Directivity Line Array Element

VERTec System Arrays

The VT4889-1 is an Articulating Line Array™ element designed for use in vertically-oriented, multi-box systems. A nominal horizontal coverage pattern of 90° is maintained, while setting the individual box angles allows the creation of arrays with varying vertical coverage angles. Vertical coverage of an array is a function of the number of boxes used and the splay angles chosen.

VT4889-1 enclosures can be suspended from the available VT4889-AF or VT4889-SF array frames. Due to the use of JBL's S.A.F.E. suspension hardware system, rigid arrays can be constructed that can be tilted either upwards or downwards at radical angles. Front hinge bars are tightly coupled, while rear hinge bars are used to set angles from zero to ten degrees for adjacent enclosures.

No "gaps" appear on the array's front baffle due to trapezoidal box shape. No "straps" are required on the rear of the array.



VT4889-AF (Array Frame)

This array suspension frame is crafted of 6061 heat-treated aluminum. It includes 11 (eleven) attachment holes for shackles, each fitted with bronze bushings for long life. These holes are set on approx. 4" centers. Each hole has an I.D. (inner diameter) of 1" (25.4 mm). Fitted with SAE Grade 8 bolts, 7075 Grade aluminum receiver blocks and steel quick release pins with stainless steel restraining lanyards. The VT4889-AF can also be used to groundstack up to 6 (six) enclosures. Weight: 100 lbs. (45 kg).



VT4889-SF (Short Frame)

This array suspension frame is crafted in similar fashion to the VT4889-AF. The VT4889-SF is primarily intended for use with smaller clusters or distributed satellite arrays. Optional anchor for use on bottom of large arrays. Can also be used to groundstack up to 4 enclosures. Weight: 52 lbs. (24 kg).



VT4889-RIG

VT4889-RIG comprises a set of four separate hinge bars for the VT4889-1, two each of the front hinge bar and two each of the longer rear hinge bar. Crafted of premium-grade chromoly steel alloy with plated hinge pins, ships with product. Extra set is advised for use when groundstacking with the VT4889-AF or VT4889-SF. Weight: 9.5 lbs. (4.3 kg).



VT4889-1-ACC

The VT4889-1-ACC includes items necessary for the proper transport and protection of one VT4889-1. The accessory kit includes: (1) VT4889-Dolly and (1) VT4889-1-Cover.

Important Note: The VT4889-1-ACC is sold as a separate item. One kit should be ordered with each VT4889-1 to ensure safe and reliable transport of each system in portable use.



JBL Professional
8500 Balboa Boulevard, P. O. Box 2200
Northridge, CA 91329 USA

H A Harman International Company
© Copyright 2007 JBL Professional

SSVT4889-1
CRP 5M
01/07