VQ 64DF

Product Description

The VQ 64DF (60x40), is a very high output down firing Mid/High loudspeaker systems designed for applications requiring high impact sound reinforcement with class leading pattern control.

The modular design approach allows the sound system designer to create seamless andpredictable arrays, or they can be used singly as part of large distributed systems. VQ 64DF addresses the requirement for compact dimensions without compromising performance in any way.

VQ MH elements which are available in various patterns will integrate seamlessly with the VQ 64DF enclosures to facilitate tight pack arrays; the compound angles on the enclosure avoid unsightly spaces between separate cabinets when arrayed horizontally VQ MB or VS 15DR elements can be added to extend bandwidth and pattern control to lower frequencies.

The VQ 64DF can be configured for use in Single-Amp or Bi-Amp mode, in conjunction with a suitable digital signal processor (DSP).

Horn design involves balancing compromise…..until now.

Our unique approach in keeping what is effectively a Dual Concentric behind a single horn gives us many performance advantages. Performance of the VQ 64DF in terms of accuracy & sound quality is second to none. The VQ horn design principles provide definitive and measurable advantages over multiple-horn and co-axial designs.

Each VQ 64DF incorporates a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to a PSW™ (Point Source Waveguide). This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The PSW™ waveguide achieves an optimum balance of extremely well controlled coverage, smooth frequency response, and natural sound character.

For outdoor applications, weather resistant enclosures which incorporate stainless steel hardware are available.

Features

- “PSW™ Waveguide” - Point source design (Patent applied for).
- Excellent Phase Coherence
- Perfect time alignment without the associated problems of multi source interference
- Compact Dimensions
- Class leading directivity characteristics
- Extremely high sensitivity, therefore high SPL’s can be achieved with a very modest amount of amplifier power
- Exceptional transient response

Applications

- High output long throw applications
- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & Arenas
- Dance Clubs
- Live sound – concert halls, theatres, open-air venue

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TECHNICAL SPECIFICATIONS

System	VQ 64MH
System Type	2-Way Mid/High - Point Source
Frequency Response (-3dB) (1)	400Hz - 23kHz
Frequency Range (-10dB) (1)	350Hz - 27kHz
Operating Modes	Single Amplified Bi-Amp (MF,HF) User Configurable
System Sensitivity & Operating Freq. (1W @1m) (2)	
Single Amplified	
Passive MF/HF (450Hz - 23kHz)	114dB (2.83V @ 8 Ohms)
Bi-Amp	
MF (450Hz - 7kHz)	114dB (2.83V @ 8 Ohms)
HF (7kHz - 23kHz)	112dB (2.83V @ 8 Ohms)
Dispersion (-6dB)	60 x 40 degrees conical
Driver Complement	
MF/HF	Dual Concentric™ Compression driver loaded into a single PSW™ Waveguide
Crossover	Single Amplified - 7kHz (passive) Bi-amp 7kHz (active) Recommended HighPass Filter @ 400Hz
Directivity Factor (Q)	19.3 averaged 1kHz to 10kHz
Directivity Index (DI)	12.9 averaged 1kHz to 10kHz

Rated Maximum SPL (2)	Average	Peak
MF	137dB	143dB
HF	135dB	141dB
Passive MF/HF	137dB	143dB

Power Handling (3)	Average	Programme
MF @ 8 Ohms	200W (40V)	400W
HF @ 8 Ohms	90W (27V)	180W
Passive MF/HF @ 8 Ohms	200W (40V)	400W

Recommended Amplifier Power	
MF	400W into 8 Ohms
HF	200W into 8 Ohms
Passive MF/HF	400W into 8 Ohms
Nominal Impedance	
MF	8 Ohms (6.5 Ohms Minimum)
HF	8 Ohms (8.5 Ohms Minimum)

Distortion

	2nd Harmonic	3rd Harmonic
110dBSPL		
500Hz	1.793	0.477
2kHz	0.878	0.048
5kHz	1.191	0.004
115dBSPL		
500Hz	3.172	0.755
2kHz	1.569	0.044
5kHz	2.082	0.137
120dBSPL		
500Hz	5.940	1.289
2kHz	2.716	0.157
5kHz	3.624	0.446
125dBSPL		
500Hz	11.102	3.667
2kHz	4.348	0.408
5kHz	6.709	1.637

Construction

Enclosure	18mm (0.71") birch plywood. Internally braced.
Grille	Powder coated perforated steel grille
Finish	Textured black or white paint (custom colours on request)
Connectors	Barrier Strip and Neutrik NL4
Fittings	2 x Recessed carrying handles 11 x M10 flying inserts
Dimensions	500 mm x 694 mm x 515 mm (19.69" x 27.32" x 20.28")
Net Weight	29.5kg (64.9 lbs)

Notes:
(1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre
(2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre
(3) Accelerated Life Test (EIA RS426-B)

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from www.tannoy.com

Full independent verification of published specifications carried out by NWAA Labs, California can also be obtained from the downloads section of www.tannoy.com

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTY
8001 5790	VQ 64DF	BLACK	1
8001 5791	VQ 64DF	WHITE	1

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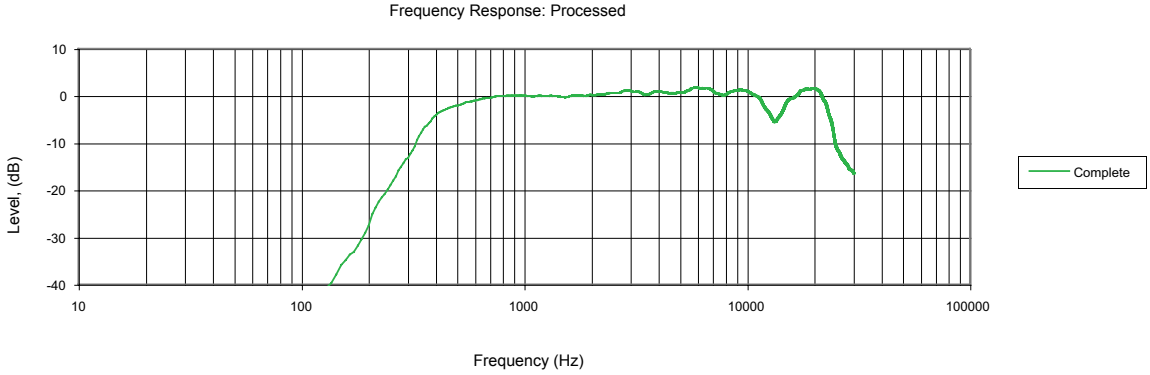
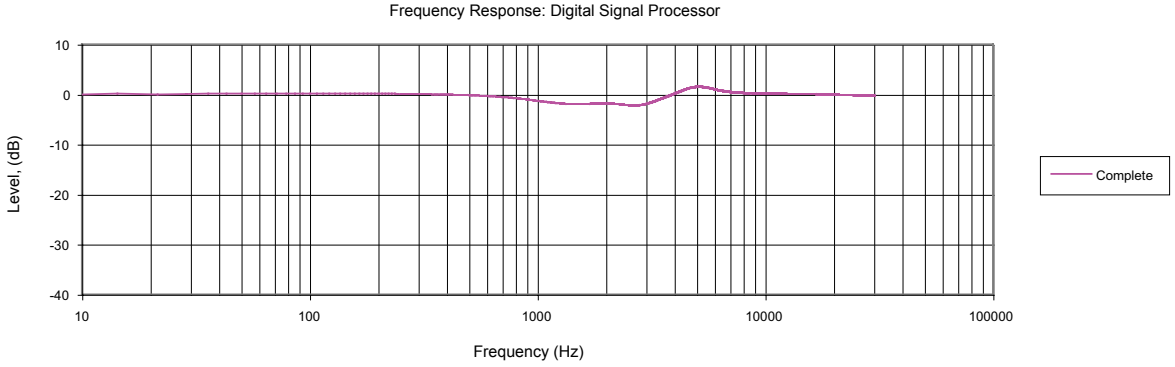
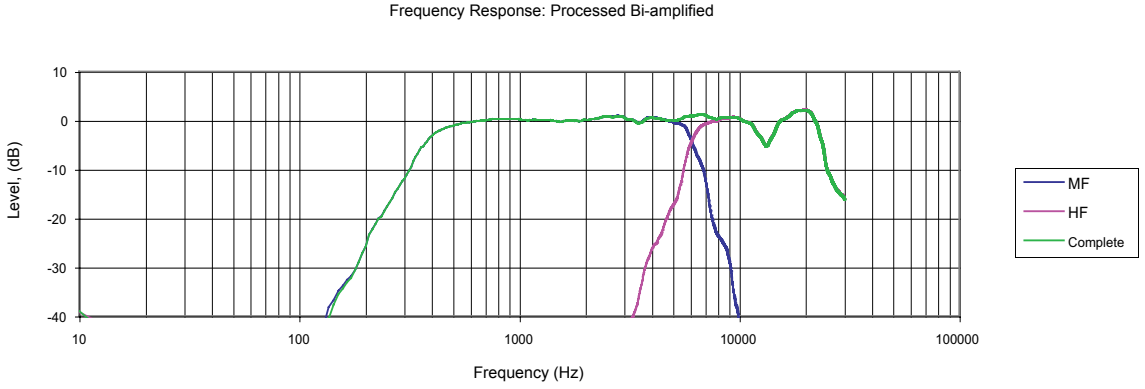
PERFORMANCE MEASUREMENTS



ANECHOIC FREQUENCY RESPONSE (SINGLE AMP MODE)



ELECTRICAL TRANSFER FUNCTION FOR OPTIMAL OPERATION (SINGLE AMP MODE)



ANECHOIC FREQUENCY RESPONSE (BI-AMP MODE)

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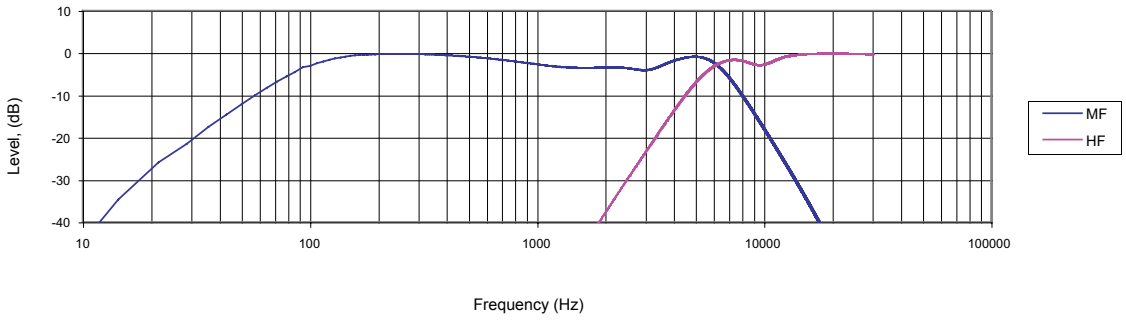
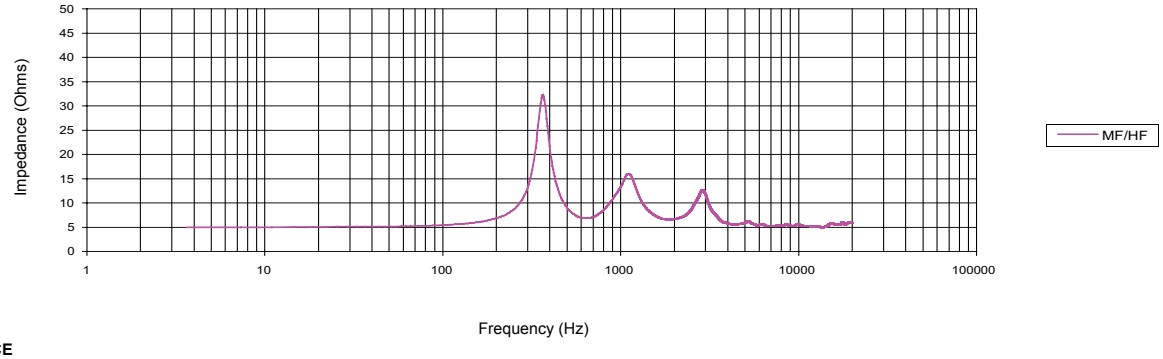
PERFORMANCE MEASUREMENTS

Frequency Response: Digital Signal Processor



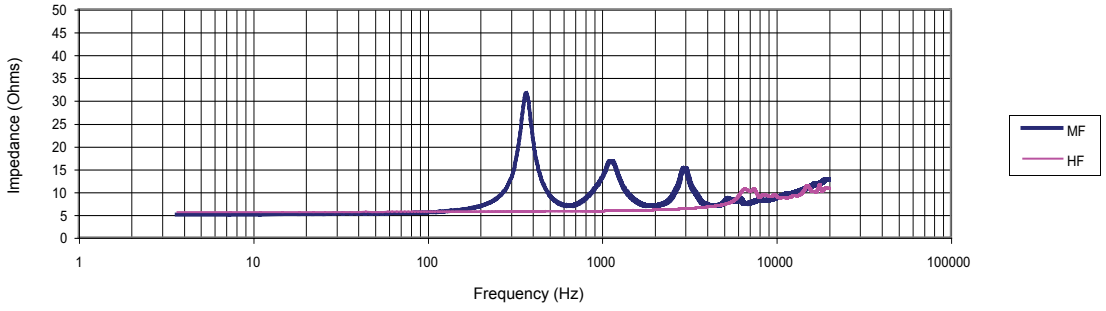
ELECTRICAL TRANSFER FUNCTION FOR OPTIMAL OPERATION (BI-AMP MODE)

Impedance vs frequency



IMPEDANCE (SINGLE AMP MODE)

Impedance vs frequency



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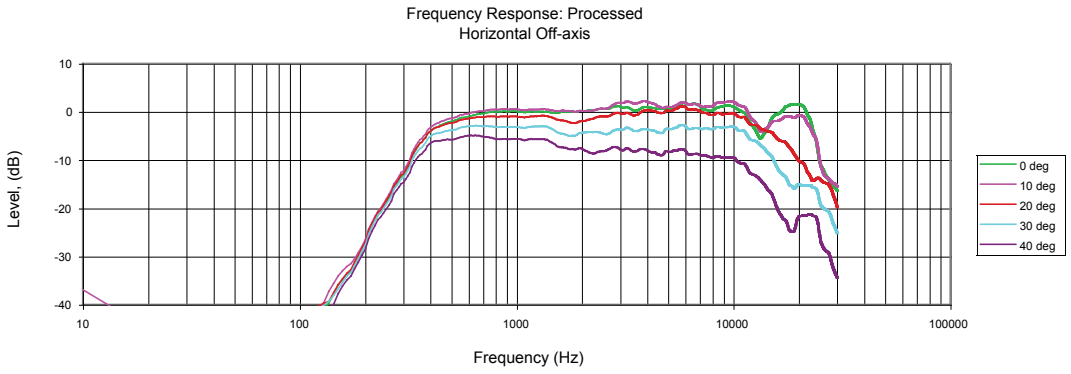
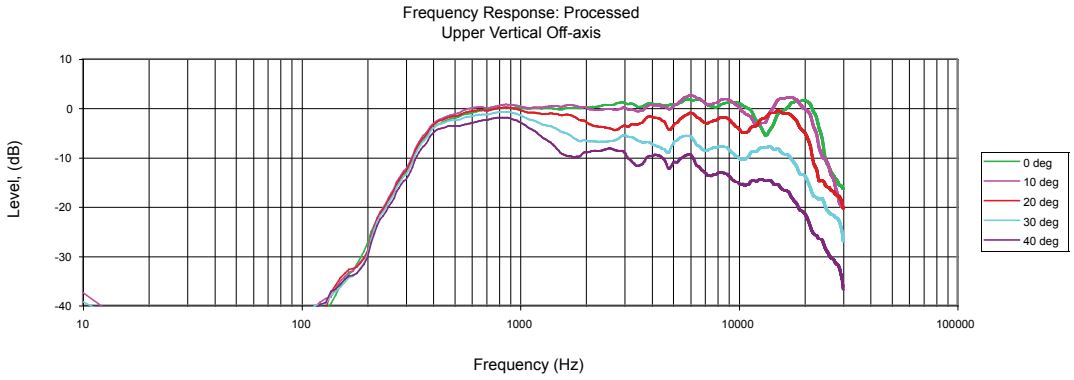
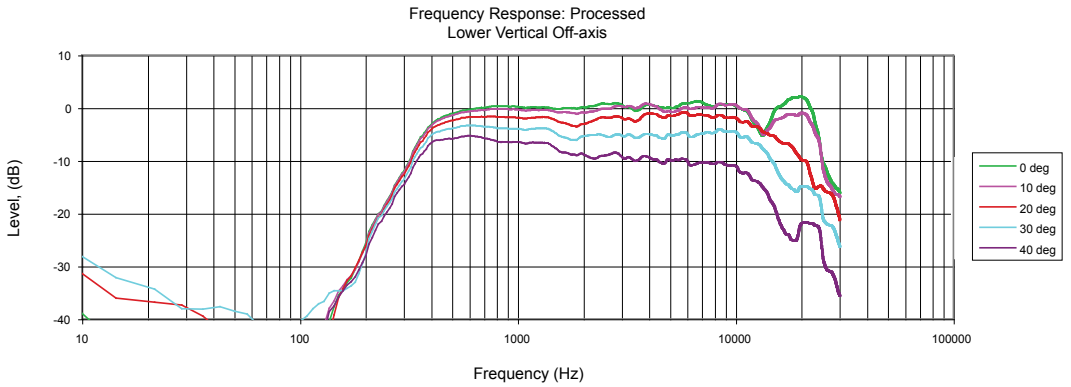
PERFORMANCE MEASUREMENTS



HORIZONTAL OFF AXIS RESPONSE (SINGLE AMP MODE)



UPPER VERTICAL OFF AXIS RESPONSE (SINGLE AMP MODE)



LOWER VERTICAL OFF AXIS RESPONSE (SINGLE AMP MODE)

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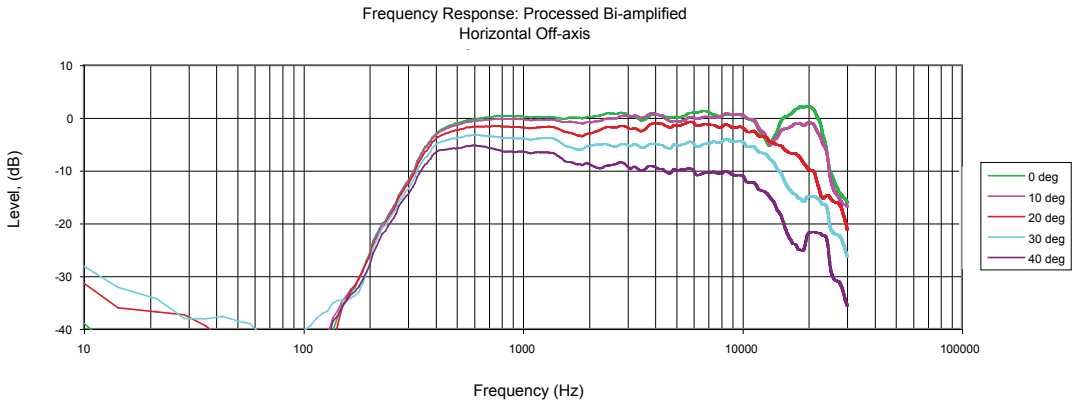
PERFORMANCE MEASUREMENTS



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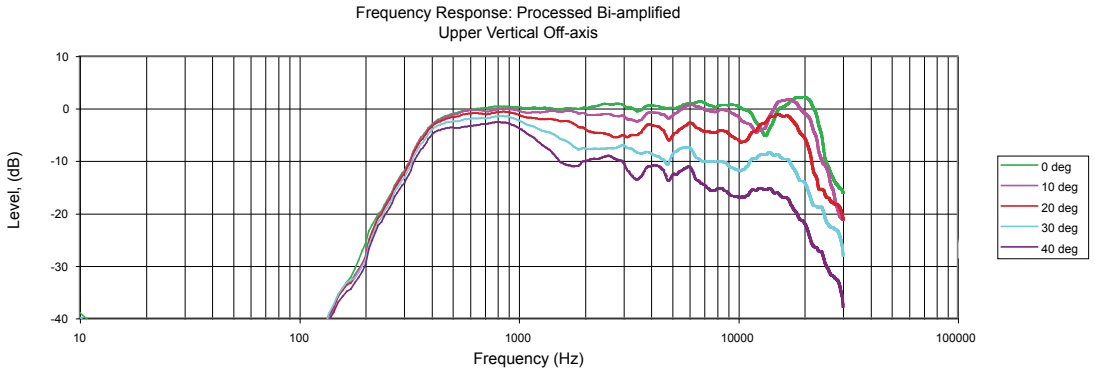

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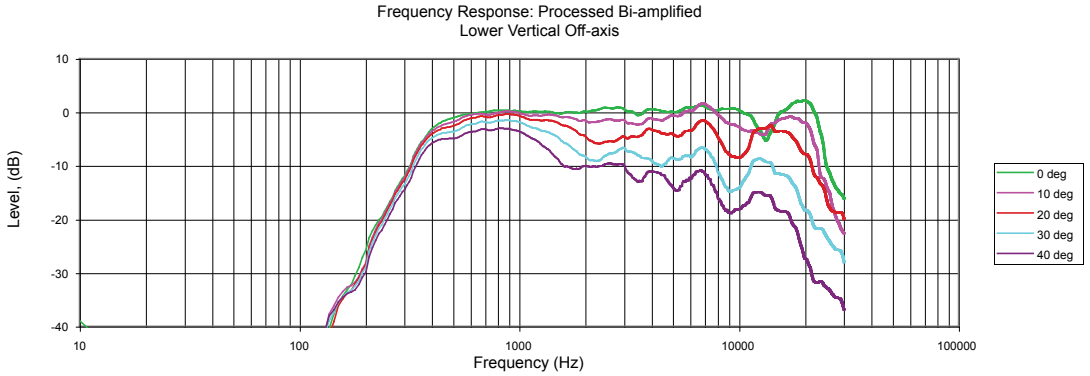

LOWER VERTICAL OFF AXIS RESPONSE (BI-AMP MODE)

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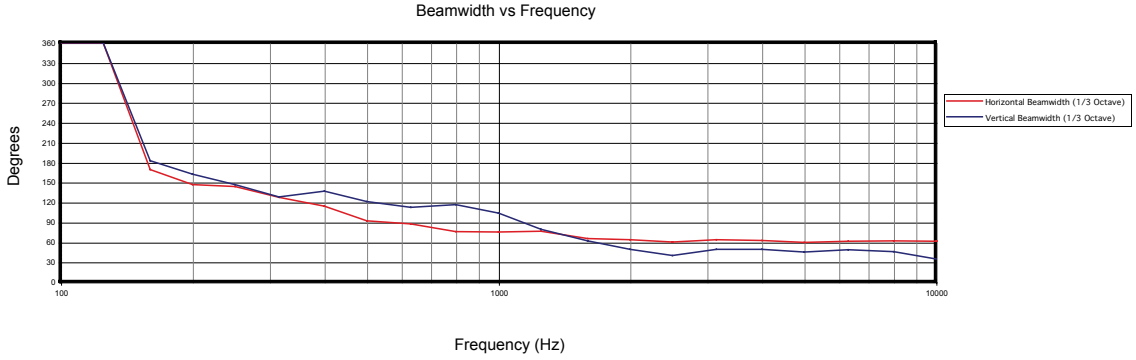

BEAMWIDTH
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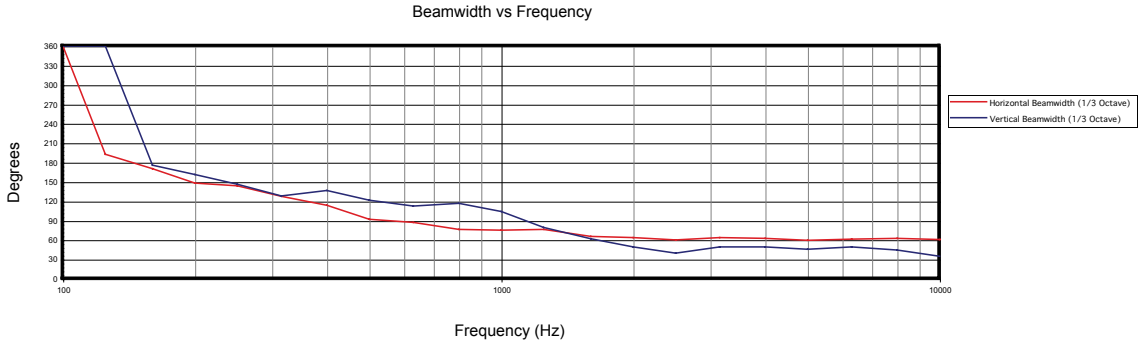

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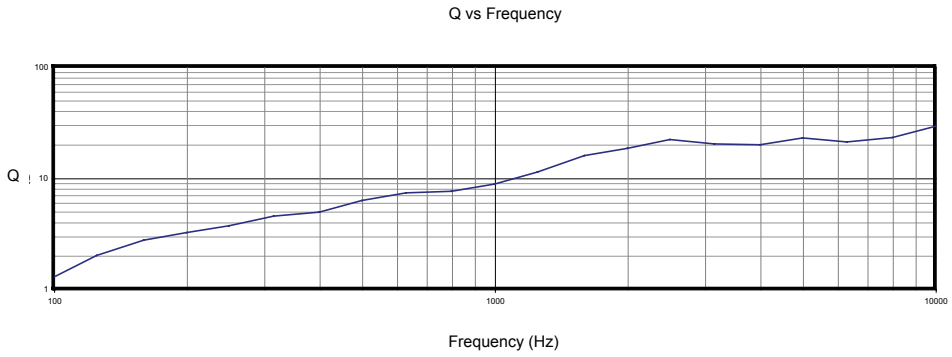

Q VS FREQUENCY
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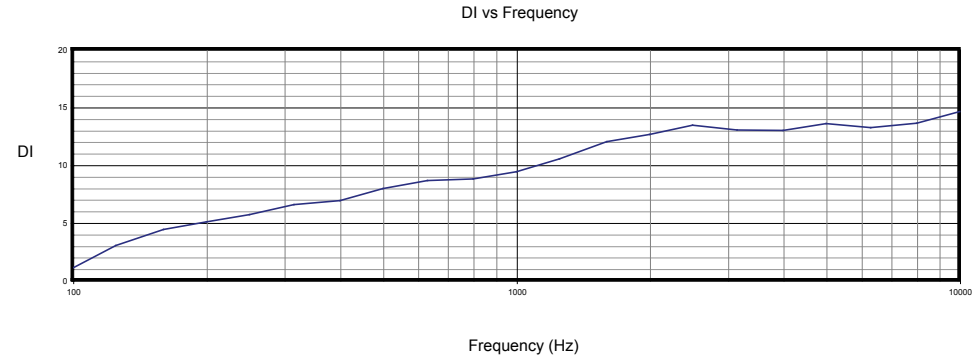
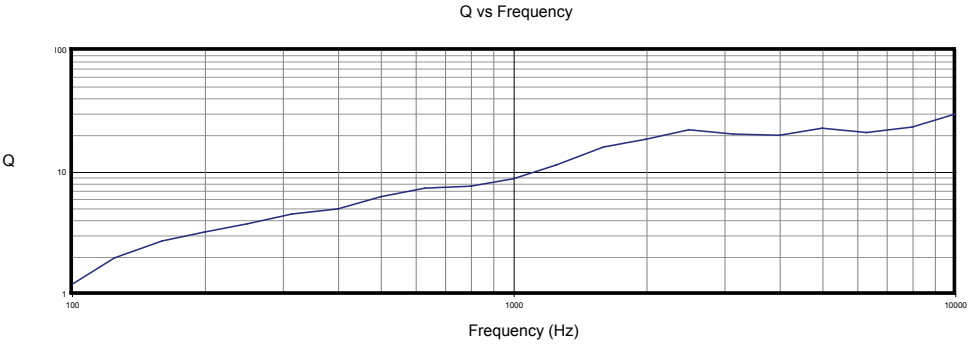
PERFORMANCE MEASUREMENTS



DIRECTIVITY INDEX
(SINGLE AMP MODE)



Q VS FREQUENCY
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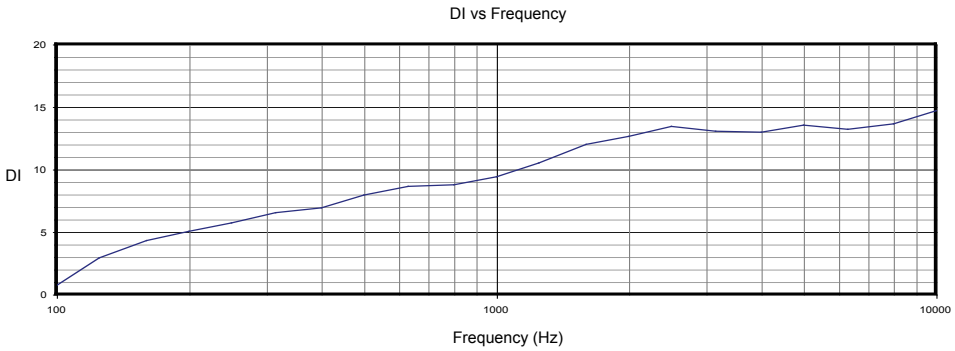

DIRECTIVITY INDEX
(BI-AMP MODE)

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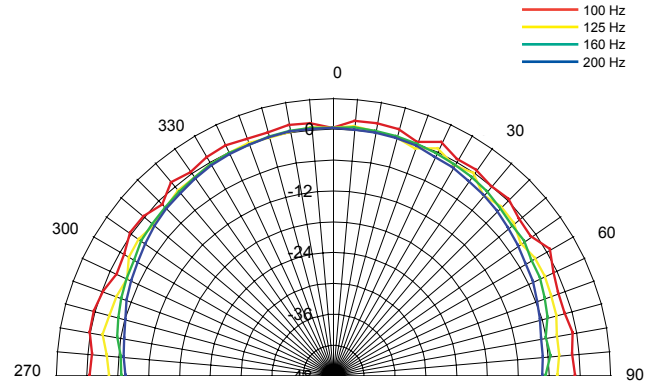
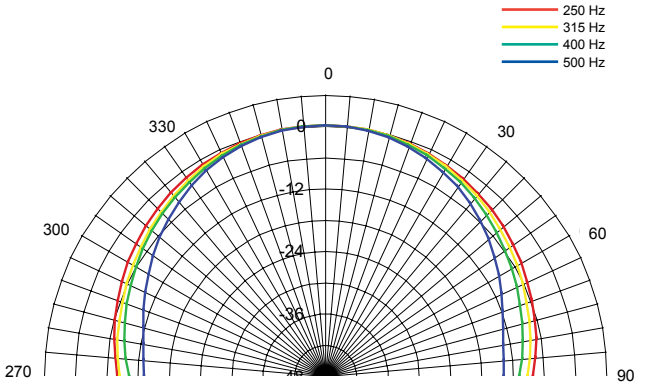
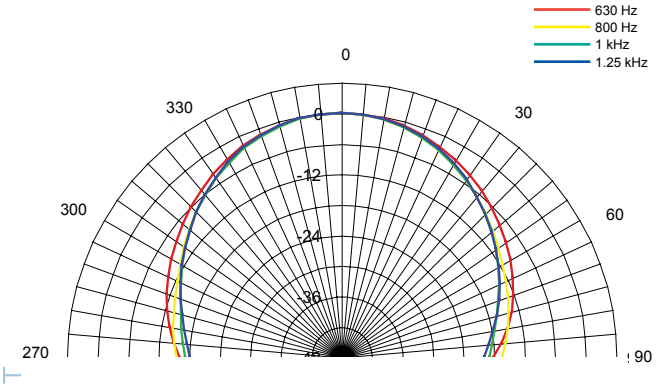
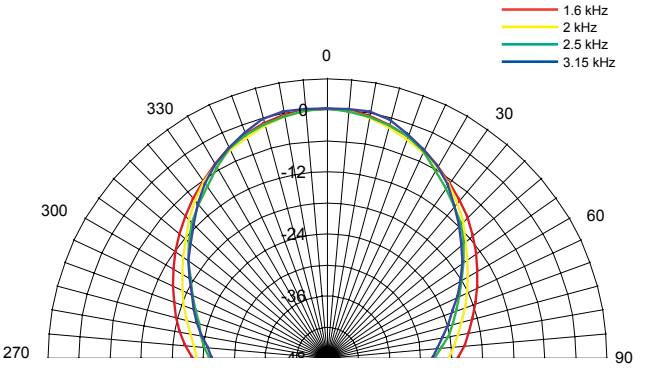
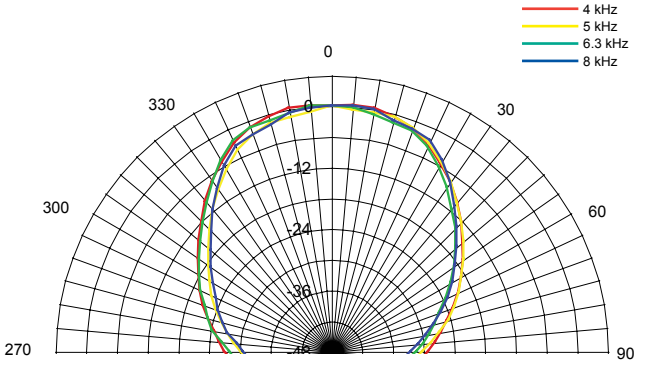
PERFORMANCE MEASUREMENTS POLAR PLOTS (1/3 OCTAVE)

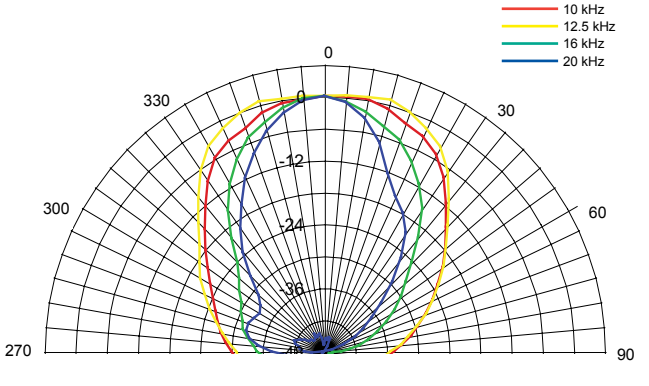












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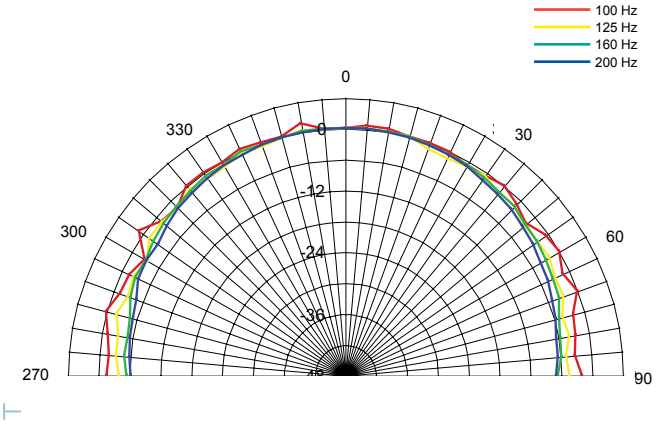
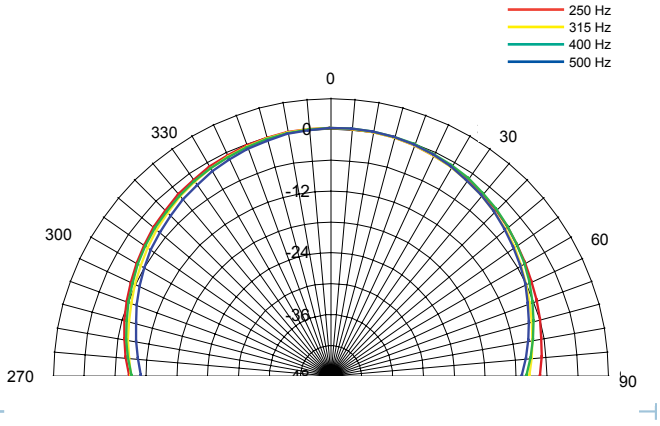
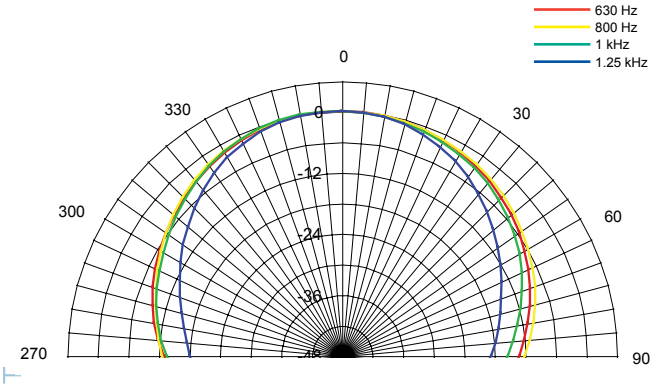
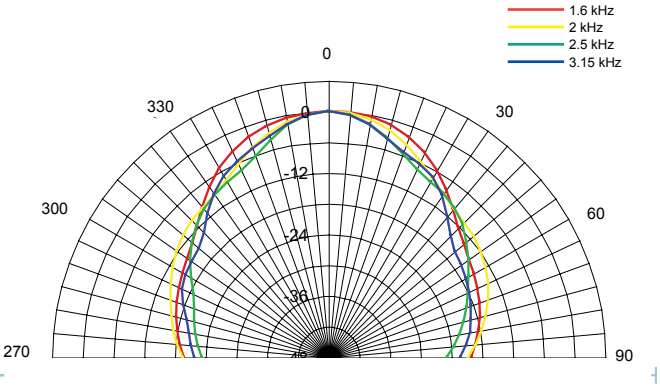
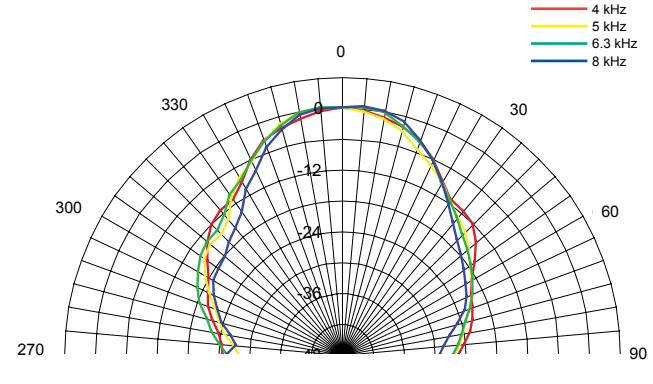
PERFORMANCE MEASUREMENTS POLAR PLOTS (1/3 OCTAVE)

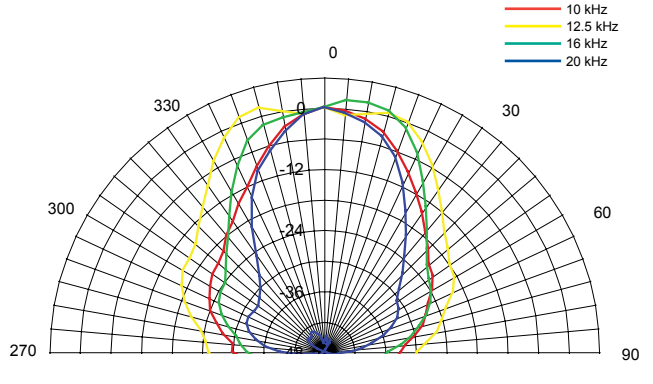












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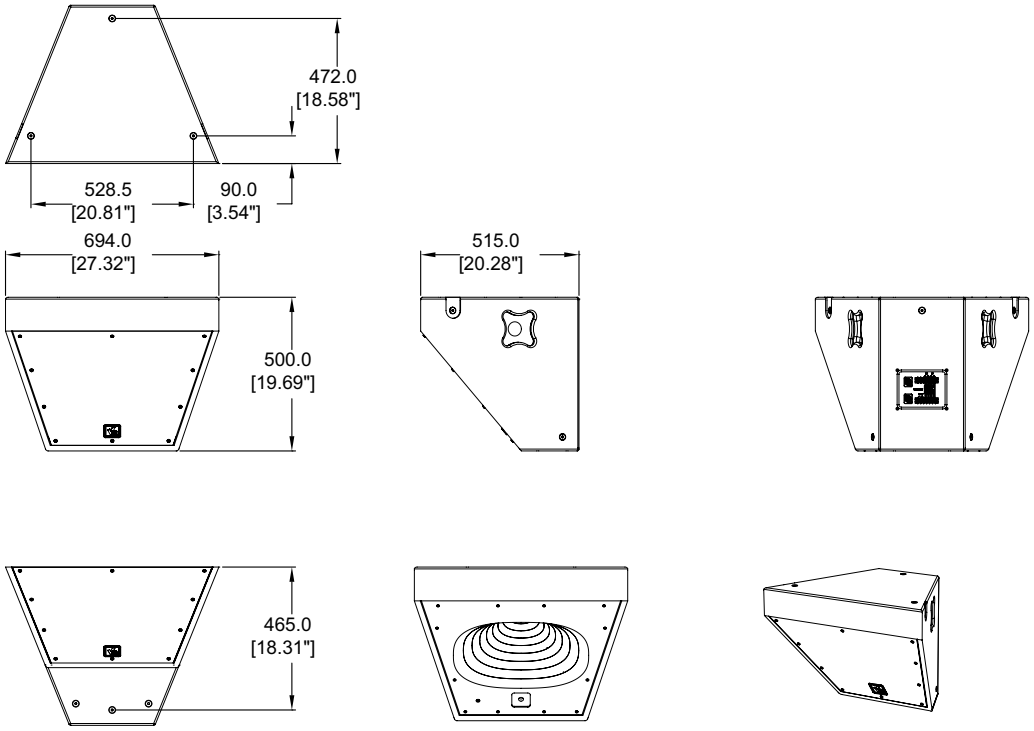
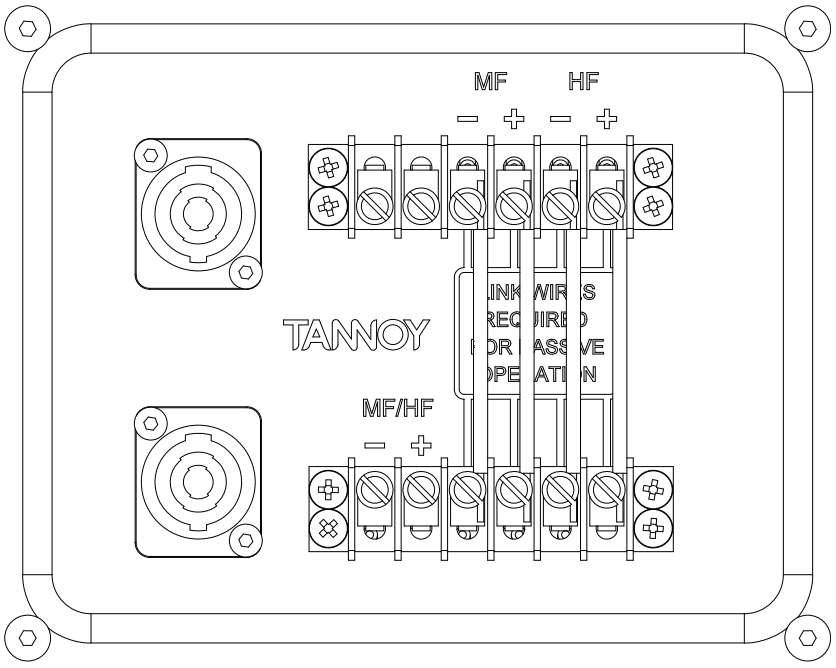
DIMENSIONAL SKETCHES



INPUT PANEL



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Architectural specifications

The loudspeaker shall consist of a Dual Concentric™ Compression driver with a 3.5” Midrange voice coil and a 2” High Frequency voice coil, both mounted in a common subsystem with a common 2” exit. This Dual Concentric™ compression driver shall be coupled to a PSW™ (Point Source Waveguide) constant directivity horn operating over the frequency range of 400Hz to 23kHz.The loudspeaker shall be user configurable for Bi-Amp operation via the rear input panel. The loudspeaker shall be trapezoidal in shape.

Performance of the loudspeaker, using the recommended electronic control shall meet or exceed the following criteria:
In Bi-amp mode the Mid/High section shall produce a sound pressure level of 111dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 140dB SPL on axis at 1 meter. In Bi-amp mode the Mid/High section shall handle 400 Watts of amplifier power and shall have a nominal impedance of 8 Ohms. The High Frequency section shall handle 180 Watts of amplifier power and shall have a nominal impedance of 8 Ohms. The dispersion of the loudspeaker shall be 60 (horizontal) x 40 (vertical) degrees (-6dB). The enclosure shall be of birch plywood construction and internally braced. The enclosure shall be fitted with eight integral carrying handles, and twelve M10 inserts for flying hardware. The enclosure shall not exceed the following dimensions (H x W x D): 500 mm x 694 mm x 515 mm (19.69” x 27.32” x 20.5”).
The loudspeaker shall be the Tannoy...VQ 64DF.

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