SELENIUM
L O U D S P E A K E R S

PROFESSIONAL LINE - Horn Tweeter
DT150

The DT150 is a horn tweeter specially designed to offer a smooth extended frequency response over a broad band, from mid to highs with high efficiency.

Ideal for compact two-way systems that require excellent performance with high power output and superb frequency response.

The magnetic assembly with high flux density is provided by FEA (Finite Element Analisys) software.

The 1" phenolic dome diaphragm is light weight and extremely reliable, covering the frequency range from 1,500 Hz to 15,000 Hz with high fidelity.

The voice coil is made of high temperature wire wound on Nomex® former to withstand high operating temperatures.

The DT150 is capable of handling up to 75 watts RMS or 150 watts (Musical Program) if connected to a 12 dB/octave crossover with 4,000 Hz cut-off frequency.

A constant directivity ABS horn offers 60º x 60º coverage.

A precisely engineered diaphragm structure and alignment mechanism allows for easy, reliable and cost effective repair in case of diaphragm failure.

RECOMMENDED CROSSOVER

AMPLIFIER

CROSSOVER
4,000 Hz - 12 dB/oct

DT150
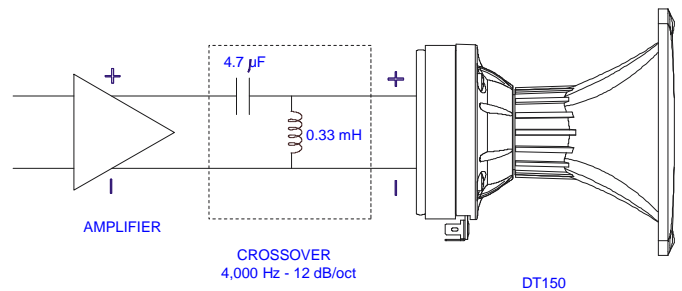
SPECIFICATIONS

|		
Nominal impedance	8	Ω
Minimum impedance @ 6,300 H z	9.6	Ω
Power handling		
Musical Program(w/ xover 2,000 Hz 12 dB / oct)[1]	80	W
Musical Program(w/ xover 4,000 Hz 12 dB / oct)[1]	150	W
Sensitivity (1W/1m) averaged from 2 to 8 kHz	108	dB SPL
Frequency response @ -6 dB	1,500 to 15,000	Hz
Throat diameter	25 (1)	mm (in)
Diaphragm material		Phenolic
Voice coil diameter	25 (1)	mm (in)
Re	8.0	Ω
Flux density	1.50	T
Minimum recommended crossover (12 dB / oct)	4,000	Hz

[1] Specifications to handle normal speech and music program material with 5% maximum acceptable distortion on amplifier, with the recommended passive crossover connected. Power is calculated taking into account the true RMS voltage at amplifier output along with transducer nominal impedance.
Musical Program= 2 x W RMS.

ADDITIONAL INFORMATION

|		
Magnet material		Barium ferrite
Magnet weight	290 (10)	g (oz)
Magnet diameter x depth	82 x 14 (3.23 x 0.55)	mm(in)
Magnetic assembly weight	665 (1.47)	g (lb)
Housing material		Plastic
Housing finish		Black
Magnetic assembly steel finish		Zinc-plated
Voice coil material		CCAW
Voice coil former material		Nomex®
Voice coil winding length	2.4 (7.87)	m (ft)
Voice coil winding depth	2.0 (0.08)	mm (in)
Wire temperature coefficient of resistance ($\alpha 25$)	0.00435	1/°C
Volume displaced by driver	0.6 (0.021)	l (ft³)
Net weight	800 (1.76)	g (lb)
Gross weight (2 pieces per carton)	2,000 (4.41)	g (lb)
Carton dimensions (W x D x H)	14 x 26.5 x 16.5 (5.5 x 10.4 x 6.5)	c m (in)

MOUNTING INFORMATION

|		
Number ofbolt-holes	4	
Bolt-hole diameter	5.5 (0.22)	mm(in)
Distance between bolt-holes (H x V)	100 x 100 (3.94 x 3.94)	mm(in)
Baffle cutout dimension (front mount)	85 x 85 (3.35 x 3.35)	mm(in)
Connectors		Push onterminals
Polarity	Positive voltage applied to the positive (+) terminal gives diaphragm motion toward the throat	

4 x ø 5.5

120

100
115

100

115

ø 82

113

7

Dimensions in mm.

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L O U D S P E A K E R S
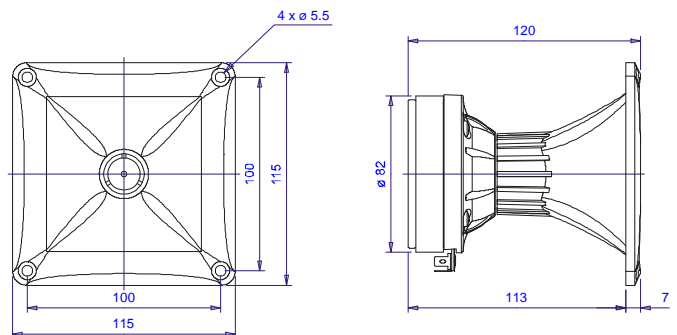
RESPONSE CURVE MEASURED IN ANECHOIC CHAMBER, 1 W / 1 m
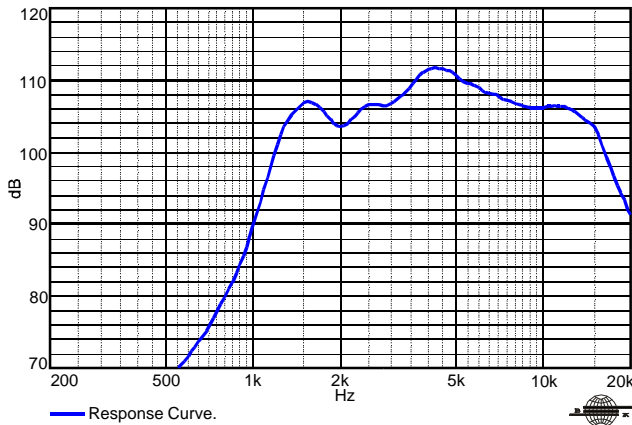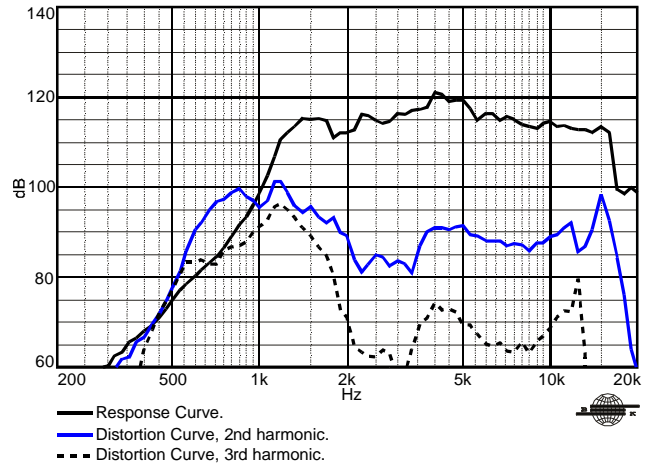
Response Curve.

IMPEDANCE AND PHASE CURVES MEASURED IN FREE-AIR.

Impedance Curve.

Phase Curve.

HARMONIC DISTORTION CURVES, 1 W / 1 m.

Response Curve.

Distortion Curve, 2nd harmonic.

Distortion Curve, 3rd harmonic.

HARMONIC DISTORTION CURVES, 7.5 W / 1 m.

Response Curve.

Distortion Curve, 2nd harmonic.

Distortion Curve, 3rd harmonic.
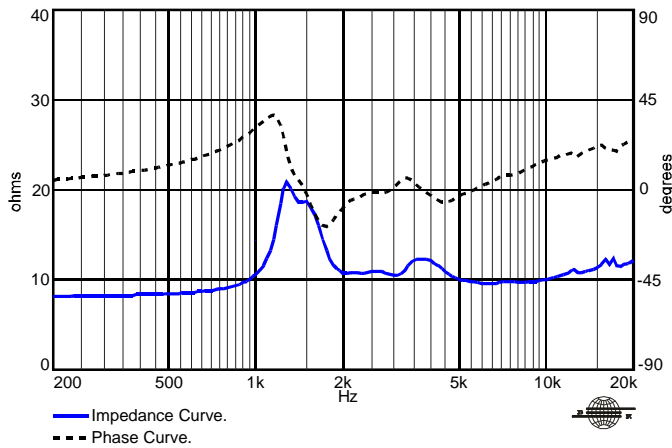
POLAR RESPONSE CURVES

2 kHz   4 kHz   8 kHz

Polar Response Curve.
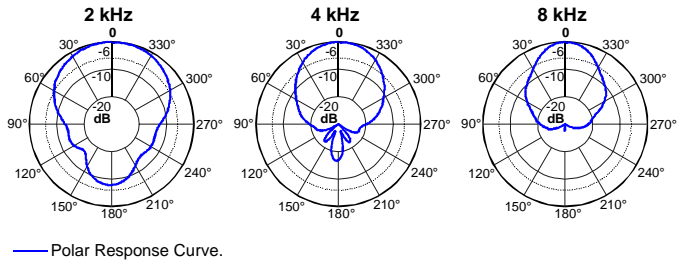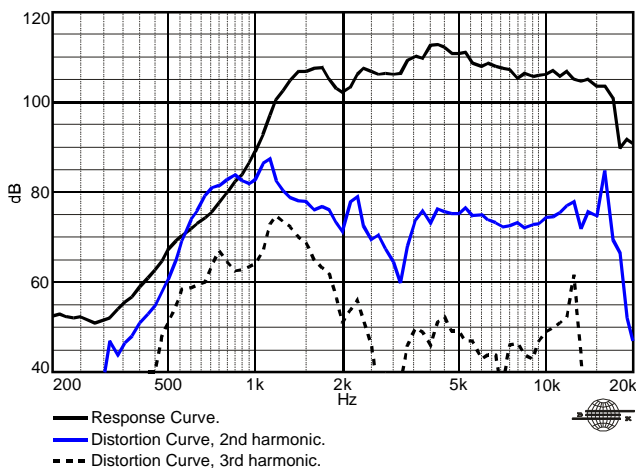
HOW TO CHOOSE THE RIGHT AMPLIFIER

The power amplifier must be able to supply twice the RMS driver power. This 3 dB headroom is necessary to handle the peaks that are common to musical programs. When the amplifier clips those peaks, high distortion arises and this may damage the transducer due to excessive heat. The use of compressors is a good practice to reduce music dynamics to safe levels.

FINDING VOICE COIL TEMPERATURE

It is very important to avoid maximum voice coil temperature. Since moving coil resistance (R_E) varies with temperature according to a well known law, we can calculate the temperature inside the voice coil by measuring the voice coil DC resistance:

$$T_B = T_A + \left(\frac{R_B}{R_A} - 1 \right)\left(T_A - 25 + \frac{1}{\alpha_{25}} \right)$$

T_A , T_B = voice coil temperatures in °C.

R_A , R_B = voice coil resistances at temperatures T_A and T_B, respectively.

α_{25} = voice coil wire temperature coefficient at 25 °C.