SELENIUM LOUDSPEAKERS

PROFESSIONAL LINE - Compression Driver

D205TI

The D205TI 1" (25 mm) is a high quality full range compression driver and is the driver of choice for high performance, high value professional systems. The titanium diaphragm assures high sensitivity, low distortion and smooth, extended frequency response.

It is highly recommended for use in monitor speakers, stage monitors and surround speakers in movie theaters.

The following highlights the exceptional features of the D205TI:

- titanium dome diaphragm combining a stable structure for mid-frequency reproduction with a low mass, enabling outstanding high frequency reproduction up to 18 kHz;

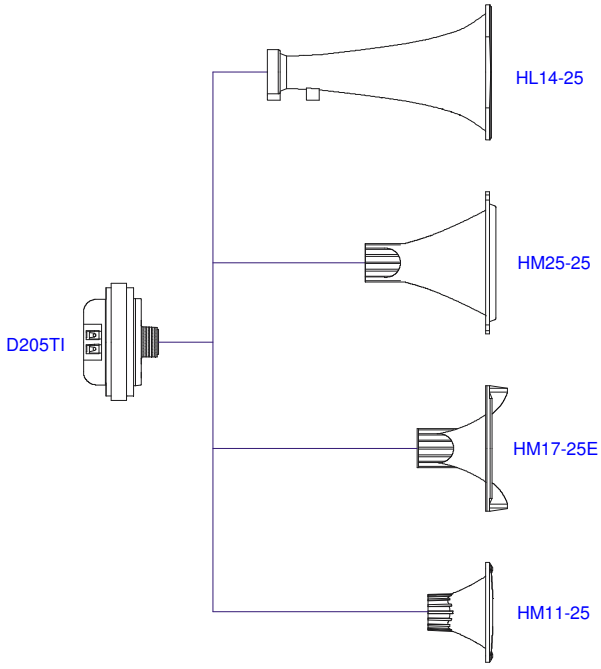
- ferrofluid (Ferrosound®) loaded gap reducing heat build-up and offering consistent results even over long-term demanding concert usage;

- voice coil is made of high temperature wire wound on Kapton® former to withstand high operating temperatures;

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

The front adaptor (standard 1 $^{3}/_{8}$" - 18 TPI) may be removed (unscrewed) to allow the use of standard 25 mm two or three bolt pattern throat.

DRIVER x HORN CONNECTION



SPECIFICATIONS

Nominal impedance	8	Ω
Minimum impedance @ 2,900 H z	7.2	Ω
Power handling		
Musical Program(w/ xover 1,200 Hz 12 dB / oct)[1]	100	W
Musical Program(w/ xover 2,000 Hz 12 dB / oct)[1]	150	W
Sensitivity		
On horn,1 W @ 1m, on axis[2]	107	dB SPL
On plane-wave tube,1mW[3]	110	dB SPL
Frequency response @ -10 dB	800 to 18,000	Hz
Throat diameter	25 (1)	mm (in)
Diaphragm material	Titanium	
Voice coil diameter	51 (2)	mm (in)
Re	6.0	Ω
Flux density	1.65	T
Minimum recommended crossover (12 dB / oct)	1,200	Hz

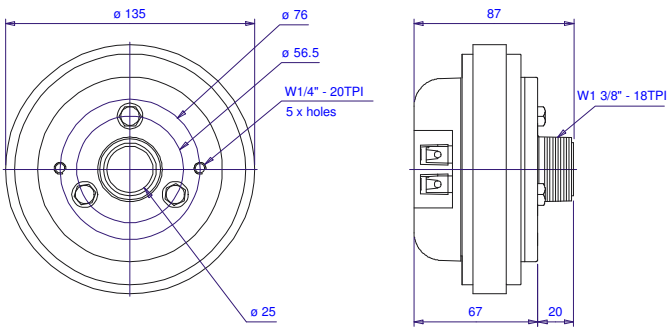
[1] Specifications to handle normal speech and music program material with 5% maximum acceptable distortion on amplifier, with the recommended passive crossover connected. Power is calculated taking into account the true RMS voltage at amplifier output along with transducer nominal impedance.
Musical Program= 2 x W RMS.
[2] Measured with HL14-25 horn, 1,200 - 5,000 Hz average.
[3] The sensitivity represents the SPL in a 25 mm terminated tube, 800 - 2,000 Hz average.

ADDITIONAL INFORMATION

Magnet material	Barium ferrite	
Magnet weight	920 (33)	g (oz)
Magnet diameter x depth	134 x 18 (5.28 x 0.71)	mm (in)
Magnetic assembly weight	2,240 (4.94)	g (lb)
Housing material	Plastic	
Housing finish	Black	
Magnetic assembly steel finish	Zinc-plated	
Voice coil material	Copper	
Voice coil former material	Polyimide (Kapton®)	
Voice coil winding length	3.8 (12.47)	m (ft)
Voice coil winding depth	2.0 (0.08)	mm (in)
Wire temperature coefficient of resistance (α25)	0.00358	1/°C
Volume displaced by driver	0.8 (0.028)	l (ft^3)
Net weight	2,515 (5.55)	g (lb)
Gross weight	2,600 (5.73)	g (lb)
Carton dimensions (W x D x H)	14.5 x 14 x 9.5 (5.7 x 5.5 x 3.7)	cm (in)

MOUNTING INFORMATION

Horn connection	Screw-on $1^{3}/_{8}$" - 18 TPI
Connectors	Push terminals
Polarity	Positive voltage applied to the positive terminal (red) gives diaphragm motion toward the throat



Dimensions in mm.

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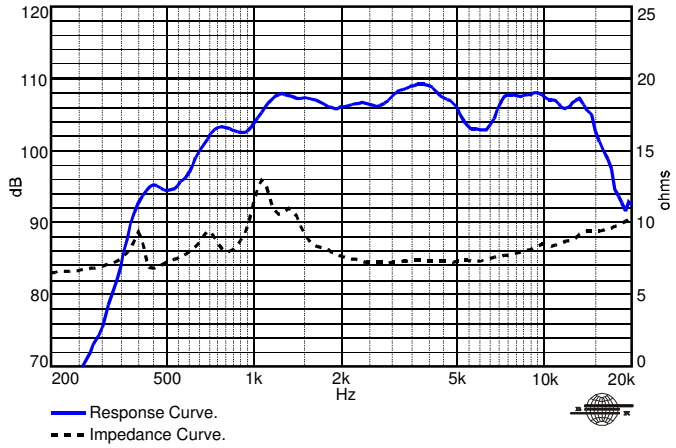
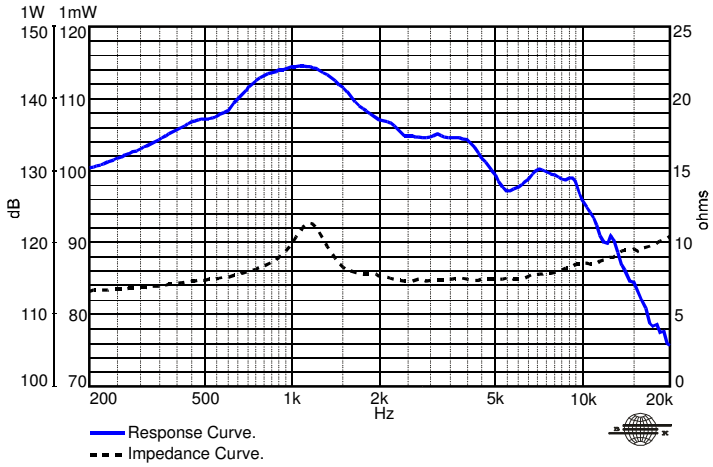
RESPONSE AND IMPEDANCE CURVES W/ HL14-25 HORN INSIDE AN ANECHOIC CHAMBER, 1 W / 1 m

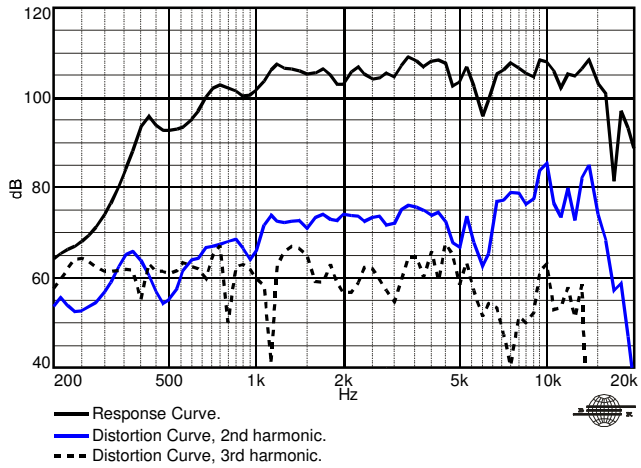


RESPONSE AND IMPEDANCE CURVES W / PLANE-WAVE TUBE, 1 mW

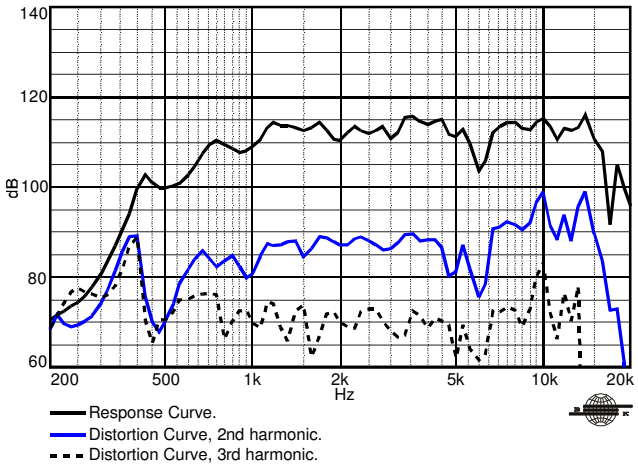


Frequency response and impedance curves measured with 25 mm terminated plane-wave tube.

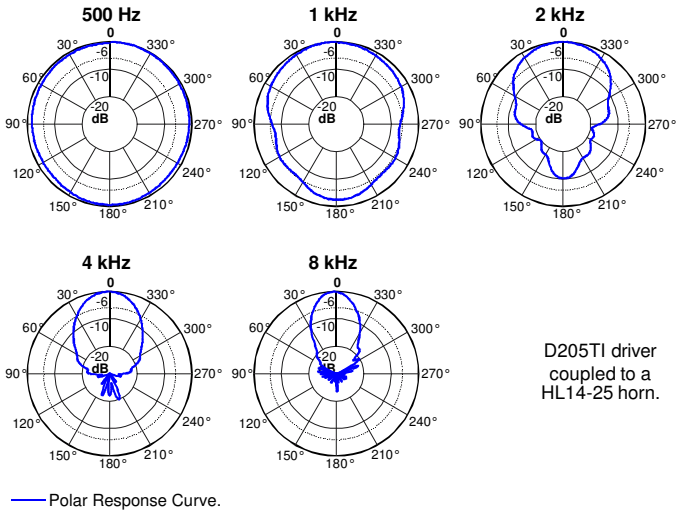
HARMONIC DISTORTION CURVES W/ HL14-25 HORN, 1 W / 1 m.



HARMONIC DISTORTION CURVES W / HL14-25 HORN, 5 W / 1 m.



POLAR RESPONSE CURVES



D205TI driver coupled to a HL14-25 horn.

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.

Specifications subject to change without prior notice.
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