4530 8 Ω

B30

PROFESSIONAL SERIES

12” Bass Midrange Driver
High Sounding Performance

APPLICATIONS

SP4530 is a 12”high sounding performance bass-midrange driver intended to be used in two-way or three-way systems when high sounding performance or full outdoor environmental withstanding is requested.

Its main purpose is use in the field of Studio Monitoring.
Its linear pressure response up to 2kHz together with the smooth upper roll-off are ideal for this application.

Recommended acoustical load is a Reflex enclosure of 55L to 65L tuned from 38Hz to 42Hz, while usable freq. range is possible up to 2.0kHz depending only on the directivity compromise you agree on.

DESIGN CONCEPT

DEFLECTION CONTROLLED DIAPHRAGM optimized for dynamic damping. DEFLECTION CONTROLLED DIAPHRAGM technology consists in optimizing the shape and material of the diaphragm so that it works as a mechanical transmission line, to avoid breaking modes as well as mechanical threshold which destroy sound quality.

This leading edge technology offers substantial sonic advantages. Among them: sound coherency, fast transients, stable sound imaging, high sensitivity, wide frequency range and reduced directivity pattern.

VENTED COMPACT MAGNET SYSTEM. It has been carefully optimized to obtain maximum transducing efficiency while avoiding unlinear behavior such as coil inductance variation with position, flux modulation, harmonic distortion, rest position offset, air compression and off-axis voice-coil pushing.

Its design incorporates a T-shaped and vented pole piece and a flux stabilization ring. It also takes into consideration demagnetization at cold temperatures.

INTERCOOLER SYSTEM (patented). Entirely integrated into the loudspeaker itself, the INTERCOOLER SYSTEM extracts the heat produced by Joule effect in the voice-coil by the means of an air flow directed through the heatsink rims of the basket by the motion of the dust-cap and the spider.

The gain brought about by this technology is over 20 % of extra power, so for example, a 3”coil according to this design has the same power handling capacity as a classical 4”one.

FEATURES

Power handling capacity	**300 W AES**
Reference efficiency (1W @ 1m)	**94 dB SPL**
SPL max (continuous)	**115 dB SPL**
Usable frequency range	**40-2000 Hz**
Environmental withstanding	**Outdoor+**

ARCHITECTURAL SPECIFICATIONS

NOMINAL DIAMETER : 300 mm.

FRAME : High tensile alloy pressure die-cast basket with patented INTERCOOLER SYSTEM.

MAGNET SYSTEM : 2.5” highly energized, heat extracting design with vented pole piece and flux stabilizing ring.

VOICE COIL : High-temperature stabilized copper wire wound on high-strength glass polyimide former.

CONE ASSEMBLY : High-strength cellulose fiber cone impregnated and coated on both sides with damped resins, fitted with central carbon-fiber dome and high-compliance treated double-roll fabric surround.

SPEAKER MASS : 6.40 kg.

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12” Bass Midrange Driver

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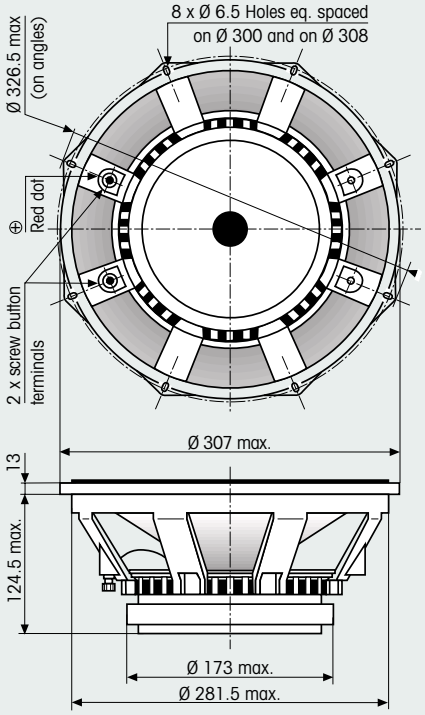
TYPICAL CHARACTERISTICS			
Rated impedance	Z	8	Ω
Reference efficiency (1 W@1 m)	-	94	dB SPL
Usable frequency range [1]	-	40–2000	Hz
Power handling capacity [2] (AES)	-	300	W
Max Sound Pressure Level [3]	SPL_{max}	115	dB SPL
Min. impedance modulus	Z_{min}	6.2 @ 250Hz	Ω
Voice-coil inductance [4] @ 1 kHz	L_{e1k}	1.06	mH
@ 10 kHz	L_{e10k}	0.46	mH
Bl product	Bl	15.1	N/A
Moving mass	M_{ms}	0.061	Kg
THIELE-SMALL PARAMETERS : TYPICAL (QC LIMITS)			
Resonance frequency [5]	F_s	37 (±5)	Hz
DC resistance [6]	R_e	5.5 (±0.5)	Ω
Mechanical quality factor	Q_{ms}	4.1	1
Electrical quality factor	Q_{es}	0.34	1
Total quality factor	Q_{ts}	0.32	1
Mechanical suspension compliance	C_{ms}	305	10^{-6} m/N
Effective piston area	S_d	0.054	m^2
Equivalent C_{as} air load	V_{as}	0.124	m^3
Max. linear excursion	X_{max}	± 6.0	mm
Linear displacement volume	V_d	0.324	10^{-3} m^3
Half-space efficiency		1.8	%
Unity load volume	V_{as} Q_{ts}^2	12	10^{-3} m^3
ABSOLUTE MAXIMUM RATINGS			
Short term max. input voltage [7]	V_{max}	100	V
Max. excursion before damage	X_{dam}	± 12	mm
Ambient operating temperature		–10 to +50	°C
Storage temperature [8]		–20 to +70	°C
Environmental conditions [9]		Outdoor✚	
APPLICATION INFORMATION			
Air volume occupied by the driver [10]		2.1	10^{-3} m^3
Speaker net mass		6.4	Kg
Recommended reflex box	V_b/F_b	60 / 39	L / Hz
Electrical polarity	A positive voltage applied on the red terminal produces forward cone motion.		

PHYSICAL CHARACTERISTICS



SPECIFICATION NOTES

Note 1 : Allowing for energy response, excursion capability, Power spectrum, and -3dB low freq. roll-off for standard reflex tuning.

Note 2 : Established at 20°C ambient temp, according to AES2-1984 standard using IEC268-1 simulated programme signal and a 50 liter Bass-Reflex test enclosure tuned at 53Hz.

Note 3 : Established at 1m on axis of the loudspeaker mounted in test enclosure, when driven at full AES Power Handling Capacity, including 4dB of thermal compression loss.

Note 4 : Measured at 20 mA in free air.

Note 5 : Measured at 20 mA and 20°C ambient temp. in free air conditions, after full run and rest.

Note 6 : Measured at 20°C ambient temp. QC limits are ±10%

Note 7 : Stated in RMS voltage according to IEC 268-5.

Note 8 : Includes shipping conditions. The lower limit prevents from demagnetization.

Note 9: Our products are classified in three categories : Indoor, Outdoor, and Outdoor✚ for permanent outdoor use or severe conditions.

Note 10 : Calculated for front mounting on to a 18 mm thick board.

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