

SPECIFICATIONS

SW215WA01 / 02 8½" paper cone subwoofer, 4 / 8 ohm

8½" High Performance Steel Frame Subwoofer Unit.
Suitable for dedicated subwoofer applications and as low frequency transducers in 2½-, 3- and multi-way speaker systems.

FEATURES

- Balanced Drive motor structure for optimal drive force symmetry resulting in largely reduced even order harmonic distortion
- Large linear stroke, ensuring low distortion at high output levels
- Rigid air-dried paper cone to ensure piston motion even at high levels - for reduced distortion
- Rigid steel chassis with extensive venting for lower air flow speed reducing audible distortion
- Vented center pole with dual flares for reduced noise level at large cone excursions
- Heavy-duty fiber glass voice coil former to reduce mechanical losses resulting in better dynamic performance and low-level details
- Large motor structure for better control and power handling
- Built-in alu field-stabilizing ring for reduced distortion at high levels
- Low-loss suspension (high Qm) for better reproduction of details and dynamics
- Black plated motor parts for better heat transfer to the surrounding air
- Conex spider for better durability under extreme conditions
- Gold plated terminals to ensure long-term trouble free connection
- Delivered with foam gasket attached for hassle-free mounting and secure cabinet sealing



NOMINAL SPECIFICATIONS

Notes	Parameter	SW215WA01		SW215WA02		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	8½		8½		[inch.]
	Nominal impedance	4		8		[ohm]
	Recommended max. upper frequency limit	500		500		[Hz]
1, 3	Sensitivity, 2.83V/1m	89				[dB]
2	Power handling, short term, IEC 268-5, no additional filtering	1,500		1,500		[W]
2	Power handling, long term, IEC 268-5, no additional filtering	400		400		[W]
2	Power handling, continuous, IEC 268-5, no additional filtering	150		150		[W]
	Effective radiating area, S _d	206		206		[cm ²]
3, 6	Resonance frequency (free air, no baffle), F _s	33	30	35		[Hz]
	Moving mass, incl. air (free air, no baffle), M _{MS}	53		49		[g]
3	Force factor, Bxl	8.45		11.4		[N/A]
3, 6	Suspension compliance, C _{MS}	0.43	0.54	0.43		[mm/N]
3, 6	Equivalent air volume, V _{AS}	26	32.5	26		[lit.]
3, 6	Mechanical resistance, R _{MS}	1.0	1.0	1.0		[Ns/m]
3, 6	Mechanical Q, Q _{MS}	11	10	10.7		[-]
3, 6	Electrical Q, Q _{ES}	0.51	0.46	0.52		[-]
3, 6	Total Q, Q _{TS}	0.49	0.44	0.49		[-]
4	Voice coil resistance, R _{DC}	3.3		6.3		[ohm]
5	Voice coil inductance, L _e (measured at 1 kHz)	1.2		1.7		[mH]
	Voice coil inside diameter	39		39		[mm]
	Voice coil winding height	25		25		[mm]
	Air gap height	5		5		[mm]
	Theoretical linear motor stroke, X _{max}	±10		±10		[mm]
	Magnet weight					[g]
	Total unit net weight excl. packaging	2.4		2.4		[kg]
3, 5	K _{rm}	7.0		10.4		[mohm]
3, 5	E _{rm}	0.68		0.94		[-]
3, 5	K _{xm}	6.9		15.1		[mH]
3, 5	E _{xm}	0.78		0.74		[-]

Note 1 Measured in infinite baffle.

Note 2 Tested in free air (no cabinet).

Note 3 Measured using a semi-constant current source, nominal level 2 mA.

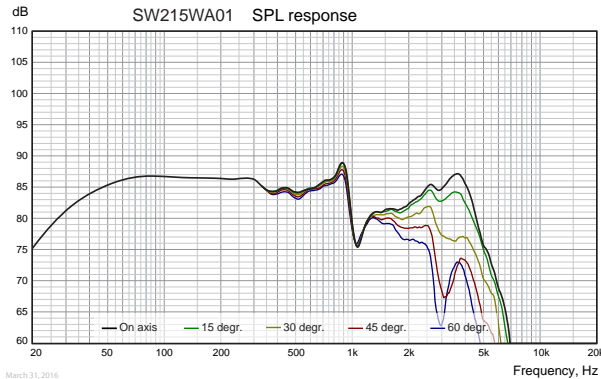
Note 4 Measured at 25 deg. C

Note 5 It is generally a rough simplification to assume that loudspeaker transducer voice coils exhibit the characteristics of an inductor. Instead it is a far more accurate approach to use the more advanced model often referred to as the "Wright empirical model", also used in LEAP-4 as the TSL model (www.linearx.com), involving parameters K_{rm}, E_{rm}, K_{xm}, and E_{xm}. This more accurate transducer model is described in a technical paper [here at our web site](#).

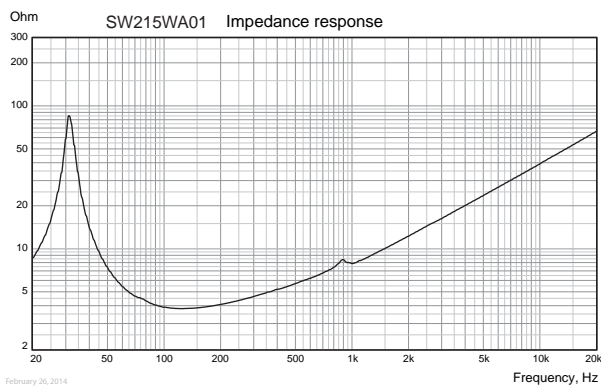
Note 6 After burn-in specifications are measured 12 hours after exiting the transducer by a 20 Hz sine wave for 2 hours at level 10 VRMS. The unit is not burned in before shipping.

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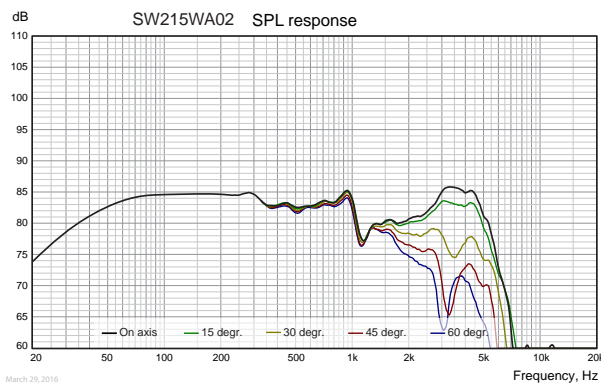
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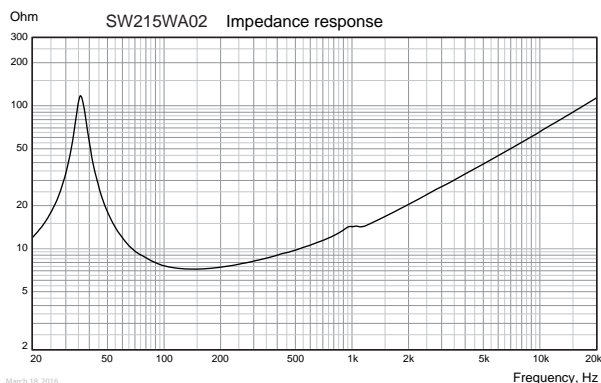
Measuring conditions, SPL
 Driver mounting: Flush in infinite baffle, back side open (no cabinet)
 Microphone distance: 1.0 m
 Input signal: 2.83 VRMS stepped sine wave
 Smoothing: 1/6 oct.



Measuring conditions, impedance
 Driver mounting: Free air, no baffle, back side open (no cabinet)
 Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
 Smoothing: None



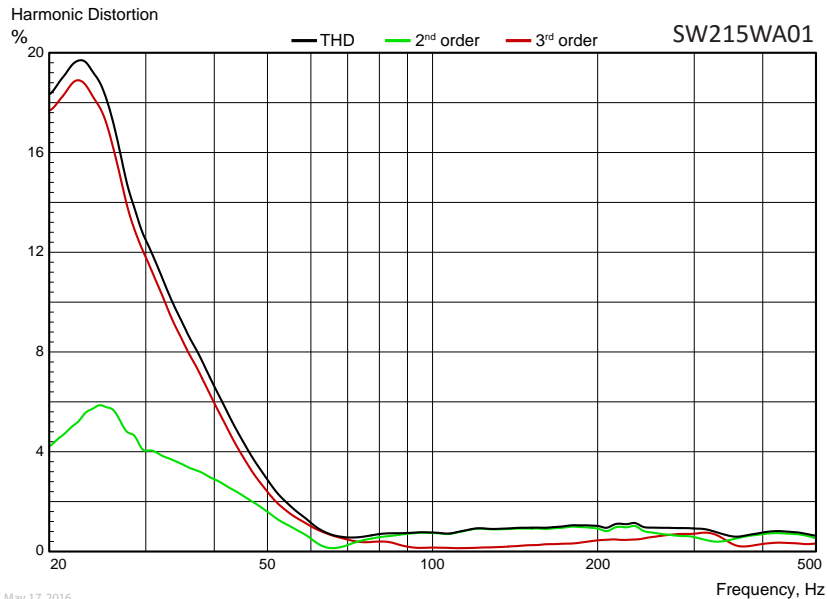
Measuring conditions, SPL
 Driver mounting: Flush in infinite baffle, back side open (no cabinet)
 Microphone distance: 1.0 m
 Input signal: 2.83 VRMS stepped sine wave
 Smoothing: 1/6 oct.



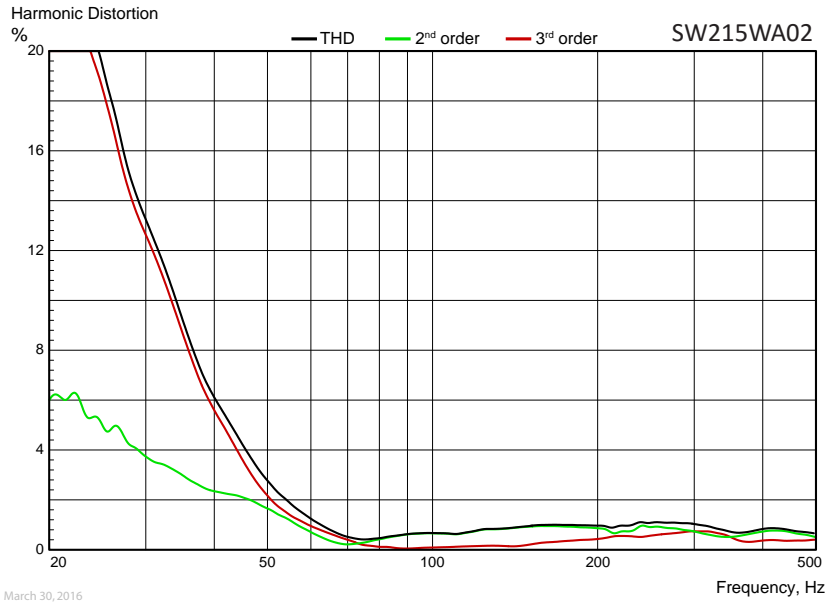
Measuring conditions, impedance
 Driver mounting: Free air, no baffle, back side open (no cabinet)
 Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
 Smoothing: None

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Measuring conditions, Harmonic Distortion
Driver mounting: In sealed, heavily stuffed enclosure, internal volume 29 lit., baffle dimensions 336 mm x 336 mm
Microphone distance: 0.5 m
Input signal: Stepped sine wave, 7.7 VRMS (SW215WA01) / 11 VRMS (SW215WA02)
Smoothing: 1/6 oct.

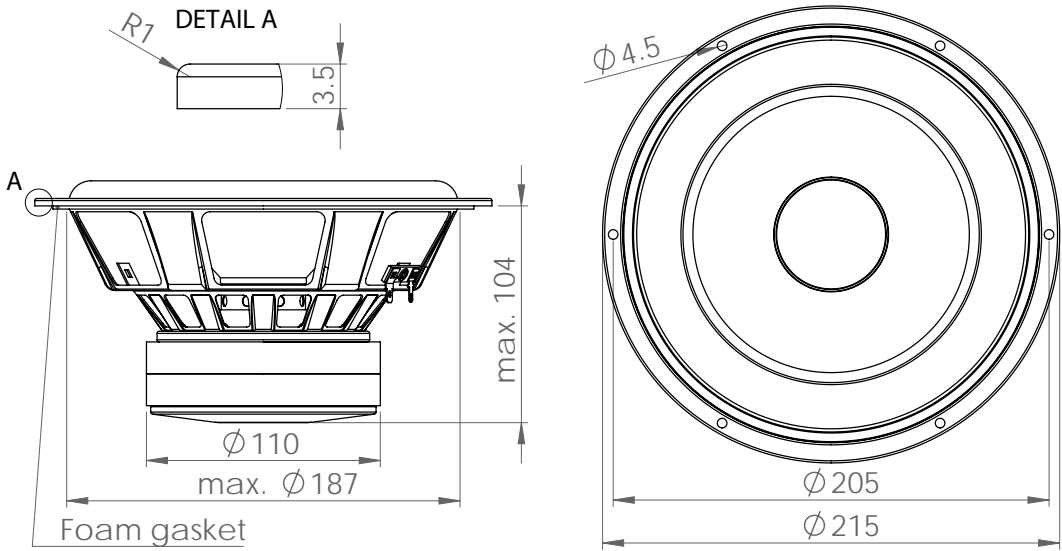


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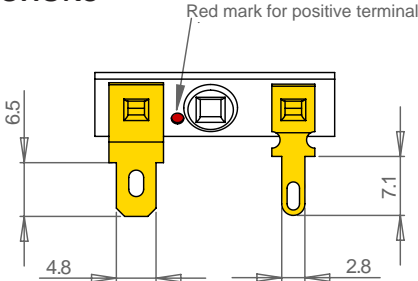
OUTLINE DRAWING (nominal dimensions)

Dimensions in mm



March 5, 2014

CONNECTIONS



Thickness, both terminals: 0.5 mm
Terminal plating: Gold

PACKAGING AND ORDERING INFORMATION

Part no. SW215WA01-01	4 ohm version, individual packaging (one piece per box)
Part no. SW215WA02-01	8 ohm version, individual packaging (one piece per box)

Latest update: Jun. 24, 2016