

SPECIFICATIONS

SW118WA01/02 4½" paper cone subwoofer, 4/8 ohm

4½" High Performance Steel Frame Subwoofer Units.
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 paper cones 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
- Heavy-duty fiber glass voice coil former to reduce mechanical losses resulting in better dynamic performance and low-level details
- Large motor structures for better control and power handling
- Built-in alu field-stabilizing rings 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	SW118WA01		SW118WA02		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	4½		4½		[inch.]
	Nominal impedance	4		8		[ohm]
	Recommended max. upper frequency limit	1,200		1,200		[Hz]
1, 3	Sensitivity, 2.83V/1m (calculated from T/S parameters)	86		83.5		[dB]
2	Power handling, short term, IEC 268-5, no additional filtering					[W]
2	Power handling, long term, IEC 268-5, no additional filtering					[W]
2	Power handling, continuous, IEC 268-5, no additional filtering	40		40		[W]
	Effective radiating area, S _d	49		49		[cm ²]
3, 6	Resonance frequency (free air, no baffle), F _s	58		60		[Hz]
	Moving mass, incl. air (free air, no baffle), M _{ms}	7.9		7.3		[g]
3	Force factor, B _{xl}	4.7		5.9		[N/A]
3, 6	Suspension compliance, C _{ms}	0.97		0.97		[mm/N]
3, 6	Equivalent air volume, V _{as}	3.3		3.3		[lit.]
3, 6	Mechanical resistance, R _{ms}	0.34		0.34		[Ns/m]
3, 6	Mechanical Q, Q _{ms}	8.4		8.1		[-]
3, 6	Electrical Q, Q _{es}	0.41		0.50		[-]
3, 6	Total Q, Q _{ts}	0.39		0.47		[-]
4	Voice coil resistance, R _{DC}	3.2		6.3		[ohm]
5	Voice coil inductance, L _e (measured at 1 kHz)	0.48		0.78		[mH]
	Voice coil inside diameter	26		26		[mm]
	Voice coil winding height	12		12		[mm]
	Air gap height	4		4		[mm]
	Theoretical linear motor stroke, X _{max}	±4		±4		[mm]
	Magnet weight					[g]
	Total unit net weight excl. packaging	0.80		0.80		[kg]
3, 5	K _{rm}	0.17		0.27		[mohm]
3, 5	E _{rm}	0.97		0.96		[-]
3, 5	K _{xm}	7.0		10.7		[mH]
3, 5	E _{xm}	0.66		0.65		[-]

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.

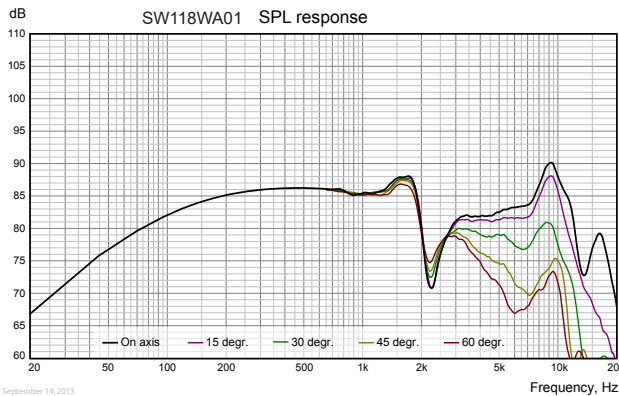
Note 4 Measured at 25 deg. C

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 10/14.1 V_{RMS} (4/8 ohm version). The unit is not burned in before shipping.

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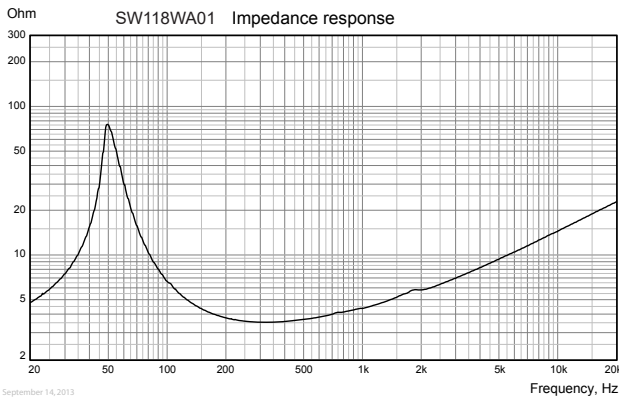


Important!
Please observe that graphs on the left side of this page and the below text files for download are actual measurements of the drivers measured in infinite baffle and without any enclosure. Measuring the drivers in a finite baffle (like the baffle of most speaker cabinets) and in any size of enclosure will lead to different response curves.



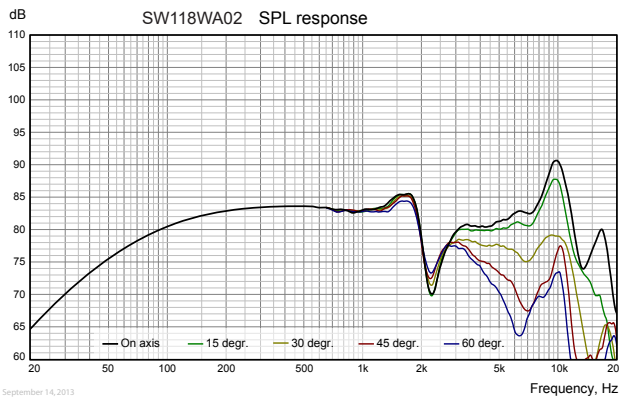
[Download SW118WA01 on-axis SPL response as .txt file](#)

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.



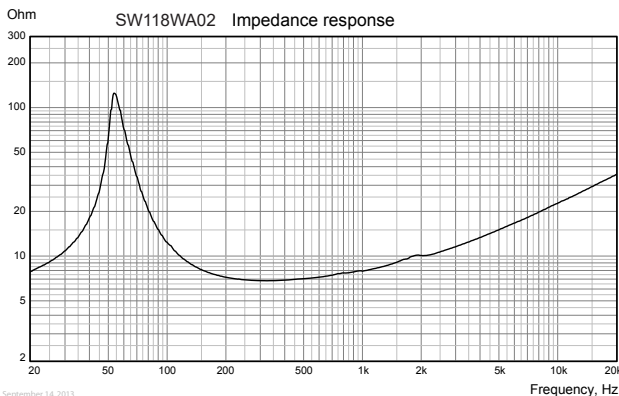
[Download SW118WA01 Impedance response as .txt file](#)

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



[Download SW118WA02 on-axis SPL response as .txt file](#)

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.

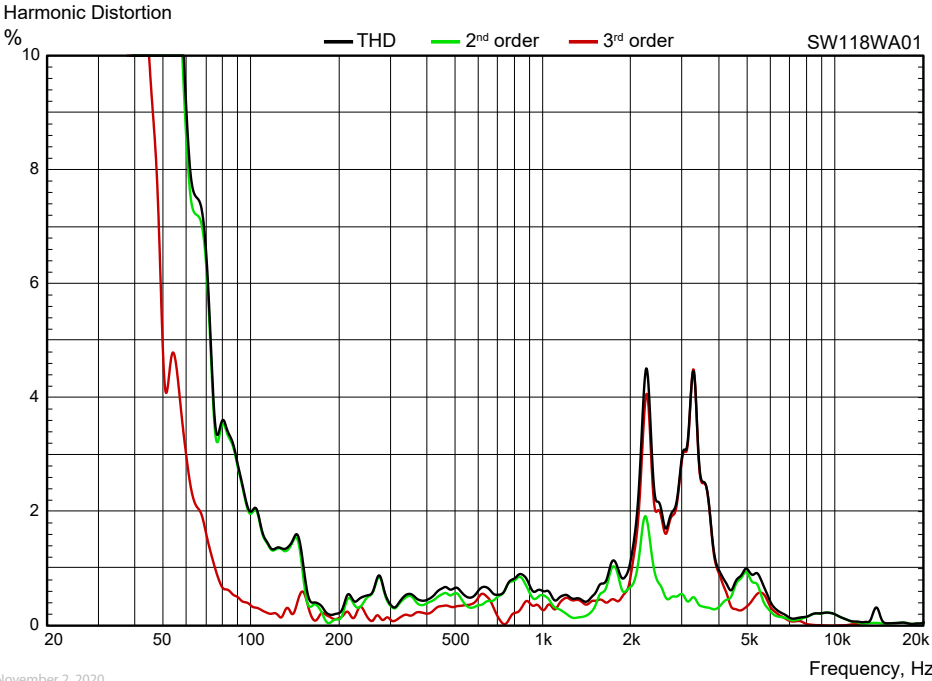


[Download SW118WA02 Impedance response as .txt file](#)

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

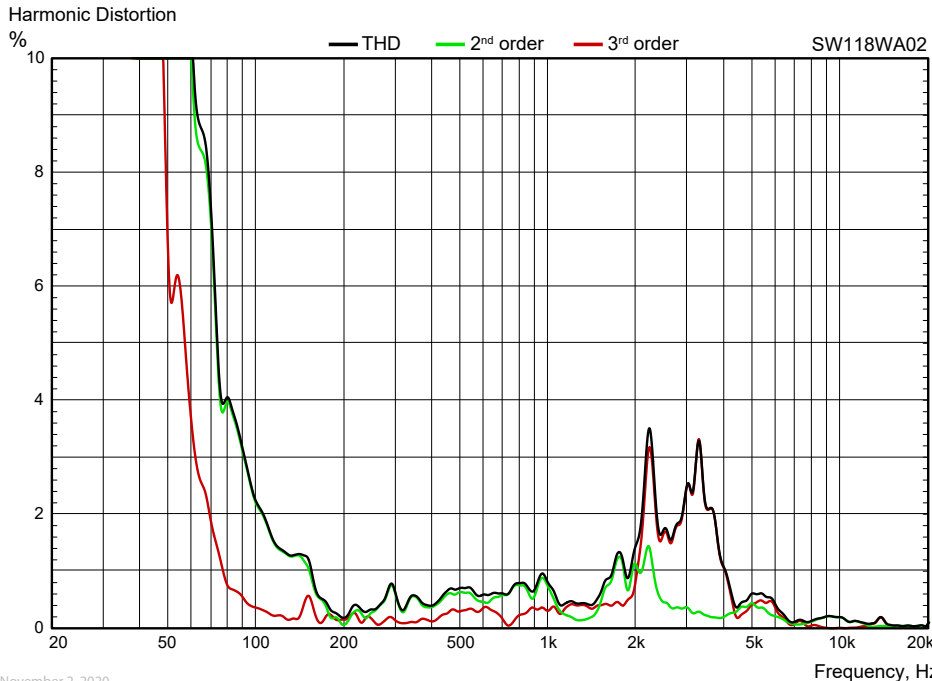
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November 2, 2020

Measuring conditions, distortion
 Driver mounting: Flush in infinite baffle,
 back side open (no cabinet)
 Microphone distance: 0.5 m
 Input signal: Stepped sine wave, 4.0 V_{RMS}
 Smoothing: 1/12 oct.



November 2, 2020

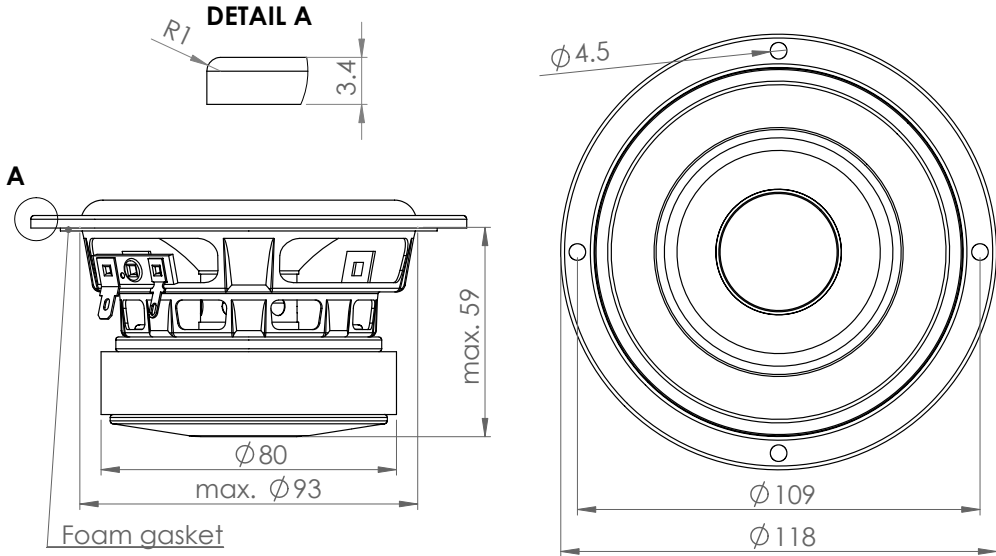
Measuring conditions, distortion
 Driver mounting: Flush in infinite baffle,
 back side open (no cabinet)
 Microphone distance: 0.5 m
 Input signal: Stepped sine wave, 5.7 V_{RMS}
 Smoothing: 1/12 oct.

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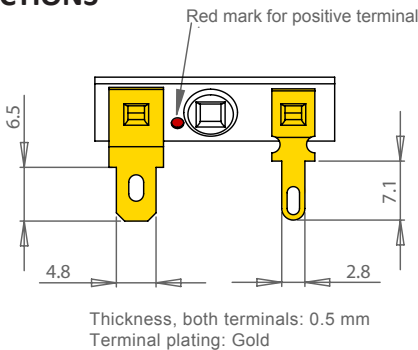
OUTLINE DRAWING (nominal dimensions)

Dimensions in mm



March 1, 2014

CONNECTIONS



PACKAGING AND ORDERING INFORMATION

Part no. SW118WA01-01	4 ohm version, individual packaging (one piece per box)
Part no. SW118WA01-02	4 ohm version, bulk packaging
Part no. SW118WA02-01	8 ohm version, individual packaging (one piece per box)
Part no. SW118WA02-02	8 ohm version, bulk packaging

Latest update: November 2, 2020