

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	50		50		[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.

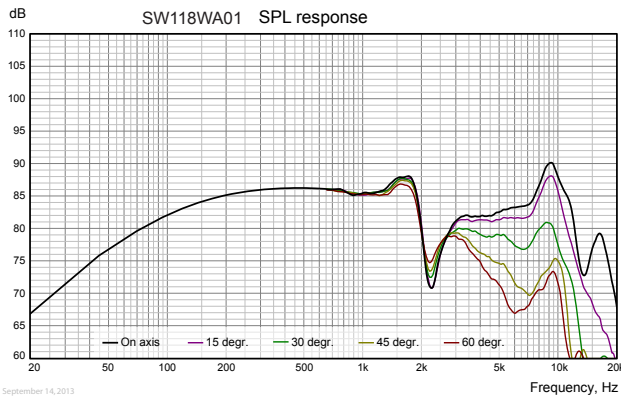
Note 4 Measured at 25 deg. C

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.

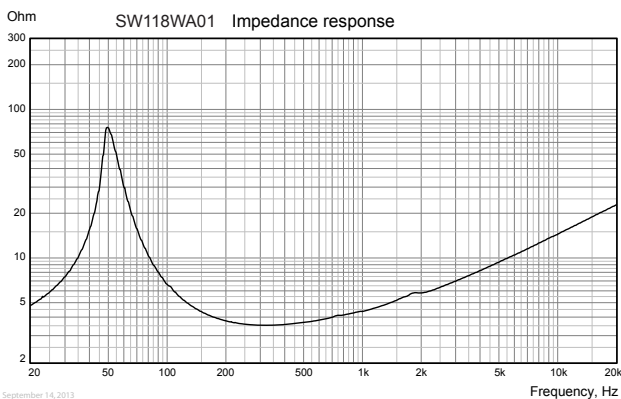
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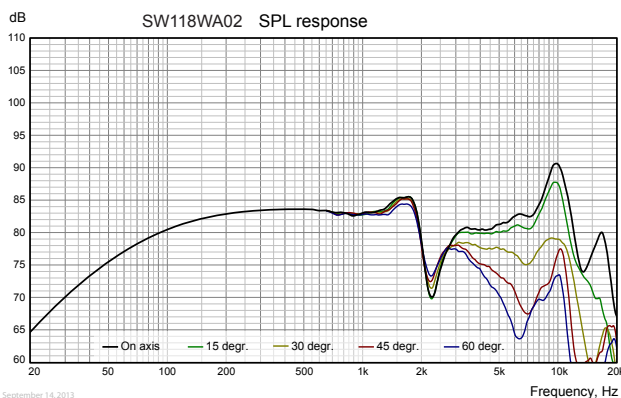
Measuring conditions, SPL

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.



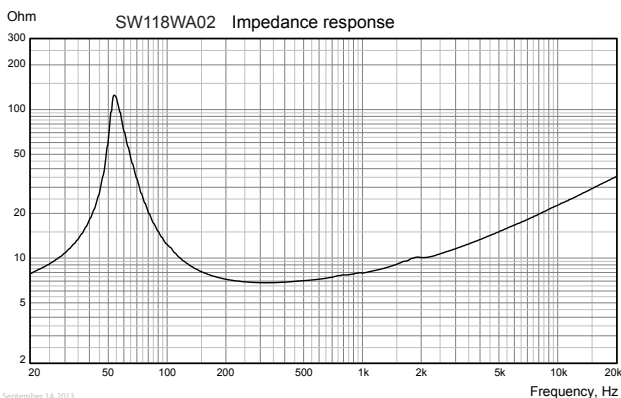
Measuring conditions, impedance

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

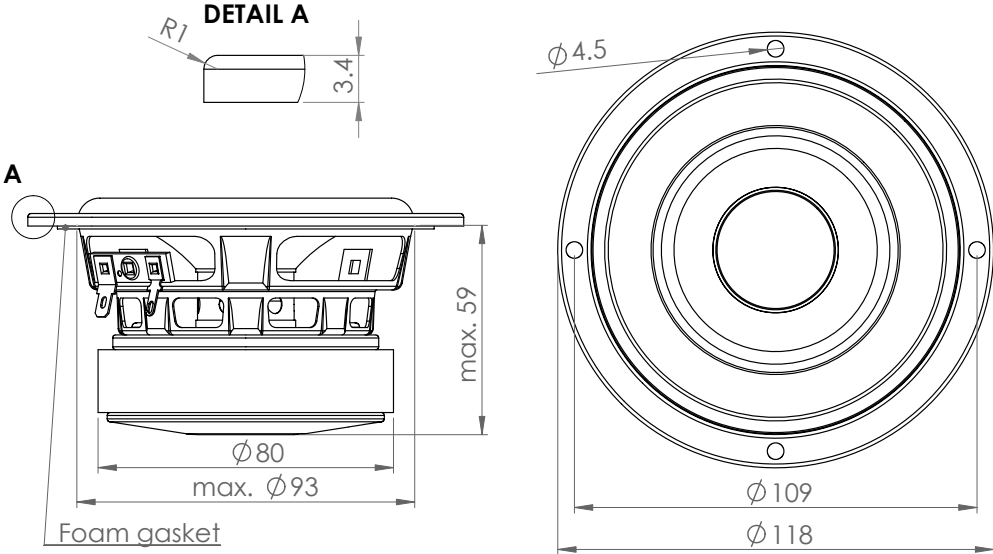
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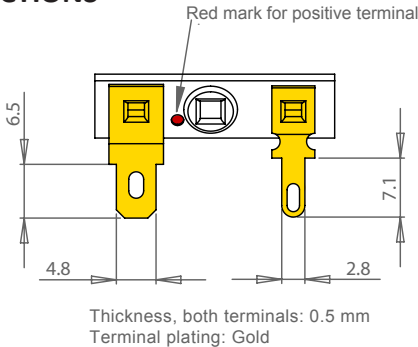
OUTLINE DRAWING (nominal dimensions)

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: Mar. 1, 2014