

AOW312B

Data Sheet

Genelec AOW312B Active On-Wall Loudspeaker



GENELEC®

Being a three-way active loudspeaker designed for medium sized, high quality home theater applications, the AOW312B excels as side or rear channels when mounted on-wall with Genelec's large three-way systems for left, center, and right positions and HTS6 series subwoofer in rooms greater than 260 m³ (9000 cu. ft.). However, the AOW312B is also capable of a commanding performance in the L-C-R main loudspeaker array of smaller rooms, where its minimal intrusion into the room saves space and gives additional freedom for the front wall design.

Designed as an active loudspeaker system, the AOW312B contains multiple driver and power amplifiers, active crossover filters and protection circuitry.

The RAM4 3 U remote amplifier module

is supplied with 19" rack-mount metalwork and Neutrik Speakon connectors are provided to facilitate wiring and system connection at customer facilities. Every amplifier is calibrated for optimal performance with the loudspeaker unit it is shipped with. This eliminates the effects of component tolerances and ensures consistent quality and long term reliability.

The unique Directivity Control Waveguide™ (DCW™) technology developed by Genelec provides extremely stable and accurate imaging and frequency balance even in difficult acoustic environments. Furthermore, versatile and precise crossover controls allow for accurate matching of the loudspeakers systems to different room acoustic conditions.

The AOW312B is fixed to the wall by unique mounting brackets which isolate and suspend the cabinet vertically. The brackets also allow the cabinets to be mounted with a ± 15 degree angle offset to the wall to facilitate energy focus at desired listening locations.

Low frequencies are reproduced by a 305 mm (12") bass driver with a low frequency extension down to 35 Hz. The 130 mm (5") midrange cone and 25 mm (1") HF driver are loaded into the proprietary Directivity Control Waveguide as found on the HT312B and HT315B models.

The RAM4 amplifier unit contains an active crossover, the ideal method for dividing an input signal between the driver units, allowing the overall response of the system to be optimized to an extent impossible with a passive system. Variable input sensitivity as well as XLR line level input connectors provide easy connection and accurate level matching to the preamplifier or surround decoder. The bass, midrange and treble amplifiers of the RAM4 produce 180 W for the low frequency driver and 120 W each for the mid-range and HF drivers.

The amplifiers are designed to operate at very low THD and IM distortion values and are capable of driving the AOW312B to peak output levels in excess of 124 dB SPL at 2 m with music material.

Like all Genelec HT models, the AOW312B incorporates special circuitry for driver overload and amplifier thermal protection, as well as an "Autostart" function for automatic switching between "Standby" and "On" power modes. A 12 V trigger or external switch or relay type remote control also provides power mode switching.

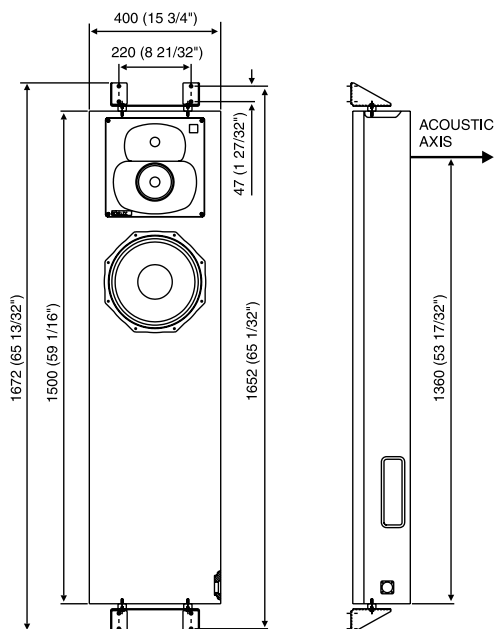
Where high quality and high output are essential the AOW312B will bring a new level of delivery and application to the custom home theater as well as the commercial installer.

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SYSTEM SPECIFICATIONS

	AOW312B
Lower cut-off frequency, -3 dB Upper cut-off frequency, -3 dB Free field frequency response of system	≤ 35 Hz ≥ 22 kHz 37 Hz - 21 kHz (± 2.5 dB)
Maximum short term sine wave acoustic output on axis in half space, averaged from 100 Hz to 3 kHz	@ 1 m ≥ 116 dB SPL
Maximum long term RMS acoustic output in same conditions with IEC-weighted noise (limited by driver unit protection circuit)	@ 1 m ≥ 107 dB SPL
Maximum peak acoustic output per pair with music material	@ 2 m ≥ 123 dB
Self generated noise level in free field @ 2 m on axis	≤ 15 dB (A weighted)
Harmonic distortion at 95 dB SPL at 1m on axis:	freq. ≤ 100 Hz $< 1\%$ freq. > 100 Hz $< 0.5\%$
Drivers Bass Midrange Treble	305 mm (12") cone 130 mm (5") cone 25 mm (1") metal dome
Weight Loudspeaker Amplifier	43 kg (95 lb) 12.3 kg (27 lb)
Loudspeaker dimensions Height Width Depth	1500 mm (59 1/16") 400 mm (15 3/4") 175 mm (6 7/8")
Amplifier dimensions Height Width Depth	133 mm (5 1/4") (3 U) 483 mm (19") 380 mm (15")*

*Note that the cable connectors require additional >100 mm (4") space behind the amplifier



AMPLIFIER SECTION

	AOW312B
Bass amplifier short term output power	180 W (4 Ohm load)
Midrange amplifier short term output power with an 8 Ohm load	120 W
Treble amplifier short term output power with an 8 Ohm load	120 W
	Long term output power is limited by driver unit protection circuitry.
Slew rate	80V/ μ s
Amplifier system distortion at nominal output THD SMPTE-IM CCIF-IM DIM 100	$\leq 0.05\%$ $\leq 0.05\%$ $\leq 0.05\%$ $\leq 0.05\%$
Signal to Noise ratio, referred to full output Bass Midrange Treble	≥ 100 dB ≥ 100 dB ≥ 100 dB
Mains voltage	100/200V or 115/230V
Voltage operating range	nominal $\pm 10\%$
Power consumption Idle Full output	50 W 300 W

CROSSOVER SECTION

	AOW312B
Input connector XLR female	pin 1 gnd pin 2 + pin 3 -
Input impedance	10 kOhm
Input level for 100 dB SPL output @ 1m	variable from +6 to -6 dBu
Input level for maximum short term output	variable from +22 to +10 dBu for 116 dB SPL @ 1m
Subsonic filter	18 dB/octave below 35 Hz
Ultrasonic filter	12 dB/octave above 25 kHz
Crossover frequency Bass/Mid Mid/Treble	420 Hz 3.2 kHz
Crossover acoustical slopes	18 - 24 dB/octave
Crossover level control operating range in 1 dB steps Bass Mid Treble	from 0 to -6 dB from 0 to -6 dB from 0 to -6 dB
Bass roll-off control in 2 dB steps	from 0 to -8 dB @ 35 Hz
Bass tilt control in 2 dB steps	from 0 to -8 dB @ 80 Hz

The 'CAL' position is with all tone controls set to 'off' and input sensitivity control to maximum.