

HT312B and HT315B

Data Sheet

Genelec HT312B and HT315B Three-Way Active Loudspeakers



GENELEC®

Genelec HT312B and HT315B are three-way active loudspeakers designed for medium sized high quality Home Theater systems.

Designed as active loudspeaker systems, they contain multiple drivers and dedicated power amplifier units with active crossovers filters and protection circuitry. These systems excel when flush-mounted into a solid wall structure but can also be used free-standing. The unique Directivity Control Waveguide™ (DCW™) Technology developed by Genelec provides extremely stable and accurate imaging and frequency balance even in difficult acoustic environments. It also results in perfect phase and delay uniformity at the crossover frequency. Furthermore, versatile and precise crossover controls allow for accurate matching of the loudspeaker systems to different room acoustic conditions.

The 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.

On the HT315B the low frequencies are reproduced by a 385 mm (15") bass driver featuring a -3 dB point at 33 Hz. The HT312B contains a 305 mm (12") bass driver with a -3 dB point at 35 Hz. Both models share the same midrange and high frequency driver layout consisting of a Genelec proprietary 130 mm (5") midrange cone driver and a 25 mm (1") metal dome HF driver loaded by the proprietary Directivity Control Waveguide™. All drivers are magnetically shielded.

The amplifier unit contains an active crossover. This is the ideal method for dividing the 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 and RCA line level input connectors provide easy connection and accurate level matching to the preamplifier or decoder. The bass, midrange and treble amplifiers of the RAM5 amplifier powering the HT315B produce 400 W, 120 W and 120 W of short term

power. The RAM4 amplifier unit of the HT312B has a 180 W amplifier for the low frequency driver and 120 W amplifiers each for midrange and treble drivers. The amplifiers are designed to operate at very low THD and IM distortion values and are capable of driving a stereo system to peak output levels in excess of 124 dB SPL at 2 m (HT315B) or 123 dB SPL at 2 m (HT312B) with music material.

The amplification units incorporate special circuitry for driver overload and amplifier thermal protection, as well as an "Autostart" function for automatic switching between "Standby" and "On" power modes. The power mode can also be changed with a 12 V trigger voltage or external switch or relay type remote control. An LED indicator on the DCW™ plate shows the system status. "Autostart" and "Remote control" functions can be enabled or disabled as required by using the switches on the amplifier.

Contact your local Genelec dealer for an audition and see Genelec's Home Theater website www.genelec-ht.com for more information on Genelec's Home Theater loudspeaker line.

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SYSTEM SPECIFICATIONS

	HT312B	HT315B
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)	≤ 33 Hz ≥ 20 kHz 35 Hz - 20 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	@ 1 m ≥120 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	@ 1 m ≥116 dB SPL
Maximum peak acoustic output per pair with music material	@ 2 m ≥123 dB	@ 2 m ≥124 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%	freq. 50...100 Hz <1% freq. >100 Hz <0.5%
Drivers Bass Midrange Treble All drivers are magnetically shielded	305 mm (12") cone 130 mm (5") cone 25 mm (1") metal dome	385 mm (15") cone 130 mm (5") cone 25 mm (1") metal dome
Weight Loudspeaker enclosure Amplifier	33 kg (73 lb) 12.3 kg (27 lb)	52 kg (114 lb) 15 kg (33 lb)
Loudspeaker enclosure dimensions Height Width Depth	680 mm (26 3/4") 400 mm (15 3/4") 380 mm (14 15/16")	810 mm (31 7/8") 480 mm (18 7/8") 420 mm (16 9/16")
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

	HT312B	HT315B
Bass amplifier short term output power	180 W (4 Ohm load)	400 W (8 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/μs	
Amplifier system distortion at nominal output THD SMPTE-IM CCIF-IM DIM 100	≤0.05% ≤0.05% ≤0.05% ≤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 ±10%	
Power consumption Idle Full output	50 W 300 W	60 W 500 W
Autostart	Signal sensing Standby/On switching	
Remote control	Remote controlled Standby/On switching by 12 V trigger or external switch	

CROSSOVER SECTION

	HT312B	HT315B
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	variable from +26 to +14 dBu for 120 dB SPL @ 1m
Subsonic filter	18 dB/octave below 35 Hz	18 dB/octave below 33 Hz
Ultrasonic filter	12 dB/octave above 25 kHz	
Crossover frequency Bass/Mid Mid/Treble	420 Hz 3.2 kHz	410 Hz 3 kHz
Crossover acoustical slopes	18 - 24 dB/octave	24 - 32 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	from 0 to -8 dB @33 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.	