Specifications — LQ™12 Loudspeaker

	LQ12 Loudspeaker
frequency response	76 Hz to 18 kHz ±3 dB
usable low frequency limit (-10 dB point)	54 Hz
power handling	Full-range 500 W continuous 1,000 W program High freq 60 W continuous 120 W program
sound pressure level	Full range 99.0 dB SPL, (2.83 V input) High freq 110.0 dB SPL, (2.83 V input)
maximum sound pressure level (1 meter)	Full range 125.0 dB SPL continuous 134.0 dB SPL peak High freq 127.0 dB SPL continuous 133.0 dB SPL peak
radiation angle measured	90° horizontal X 45° vertical
transducer complement	Low freq 1x 12" woofer, vented High freq 0.875 in. exit/51 mm voice coil HF™2 compression driver on a CD horn
box tuning frequency	Fbox 68 Hz
crossover frequency (internal passive)	Low freq High freq 1800 Hz
recommended minimum active crossover	Low freq High freq 1800 Hz at 12 dB/octave
time offset	Low freq 0.00 ms High freq 0.00 ms horn spatially aligned
impedance (Z)	Full range nominal 8.0 Ω minimum 5.8 Ω High freq nominal 8.0 Ω minimum 5.4 Ω
input connections	2x 1/4" phone jacks paralleled with 2x Neutrik® NL4 Speakon® for full-range inputs. 1x Neutrik NL4S switching Speakon for bi-amp inputs.
enclosure materials and finish	Dark gray high-impact polypropylene 1/4" thick finished in molded textured finish
mounting provisions	(8) 1/4"-20 threaded mounting points, four each top and bottom
dimensions (H x W x D)	Front 23.65 in. x 17.75 in. x 14.00 in. 601 mm x 451 mm x 356 mm Rear 22.25 in. x 10.00 in. x 14.00 in. 565 mm x 254 mm x 356 mm
net weight	45 lbs. (20.5 kg)

Architects' & Engineers' Specifications:

The loudspeaker system shall have an operating bandwidth of 76 Hz to 18 kHz. The nominal output level shall be 99 dB when measured at a distance of one meter with an input of one Watt. The nominal impedance shall be 8 Ohms. The maximum continuous power handling shall be 500 Watts, maximum program power of 1,000 Watts and a peak power input of at least 2,000 Watts, with a minimum amplifier headroom of 3 dB. The nominal radiation geometry shall be 90 degrees in the horizontal plane and 45 degrees in the vertical plane. The outside dimensions shall be 23.65 inches high by 17.75 inches wide by 14.00 inches deep. The weight shall be 45 pounds. The loudspeaker system shall be a Crest model LQ12.

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Crest Audio reserves the right to make improvements in manufacturing or design which may affect specifications.

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CREST PERFORMANCE

LQ™12 Loudspeaker

LQ SERIES

Power Handling Full Range	Continuous	Peak
LQ12	500W	2,000W
Other LQ series loudspeakers		
LQ10	250W	1,000W
LQ15	500W	2,000W

Features

- Quadratic Throat Geometry horn
- 1000 W program, 2000 W peak
- 12" cast frame 4" VC woofer
- Crest HF™2 two-inch titanium compression driver
- DPS™ (Dynamic Protection System) tweeter protection
- Crossover EQ switch
- High power crossover components
- Top and bottom flying point inserts
- Multiple handles and 1-3/8" stand mount
- Available in White

Description

The Crest LQ 12 is an injection-molded two-way speaker system, engineered in the Crest tradition to provide superior performance from a compact and durable package. The enclosure is made from very high impact injection-molded polypropylene in a trapezoidal shape, with extensive ribbing and bracing. The grille is comprised of perforated metal protected by a high quality vinyl coating process.

The two-way system is comprised of a 12" cast frame premium woofer with a 4" voice coil, and a water-resistant treated cone and dust cap for superior environmental stability. Capable of over 500 W of continuous power handling (AES Std 2-1984). The high frequencies are handled by a Crest HF™2 two-inch titanium diaphragm compression driver utilizing ferrofluid, coupled to a 1" Quadratic Throat Geometry horn, molded integral to the cabinet. This horn provides outstanding dispersion coupled with a well-controlled pattern, and a smooth, even response. Utilizing Quadratic Throat Horn technology, under US Patent 6,059,069, the horn has lower distortion than many popular CD horn geometries. The Crest HF™2 driver utilizes the Radialinear Planar Phase Correction System, under US Patent 6,064,745, which provides smoother and extended high frequency response.

Input connection to the system is made via two 1/4" phone jacks, and two 4-pin Neutrik® jacks all connected in parallel are provided for signal input and daisy chaining capability, while a 4-pin Neutrik switching jack is provided for bi-amping flexibility while maintaining signal integrity.

The internal passive crossover features the DPS™ Dynamic Protection System tweeter protection circuit, and an advanced topology with high performance components, to provide high power handling and reliability. The crossover provides driver roll-off and protection, as well as driver EQ for the woofer and horn. The optimal integration of the crossover with the selected drivers results in a smooth frequency response from 76 Hz to 18 kHz. An EQ contour switch is provided enabling the user to select one of two EQ settings. One setting will yield a nominally flat frequency responce, the other reduces the upper mid range frequencies which can help in keeping bright rooms from overloading, or to help achieve a mellower voicing for those applications that prefer it, such as DJ use.

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Power Handling

There are many different approaches to power handling ratings. Crest rates this loudspeaker system's power handling using a full-range form of the AES Standard 2-1984. Using audio band 20 Hz to 20 kHz pink noise with peaks of four times the RMS level, this strenuous test signal assures the user that every portion of this system can withstand today's high technology music. This rating is contingent upon having a minimum of 3 dB of amplifier headroom available.

Frequency Response

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the Crest LQ 12 is measured at a distance of 1 meter using a 1 Watt (into the nominal impedance) swept-sine input signal. As shown in figure 1, the selected drivers in the Crest LQ 12 combine to give a smooth frequency response from 76 Hz to 18 kHz.

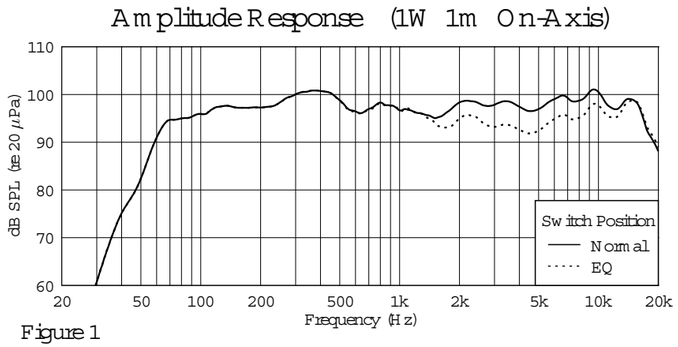


Figure 1

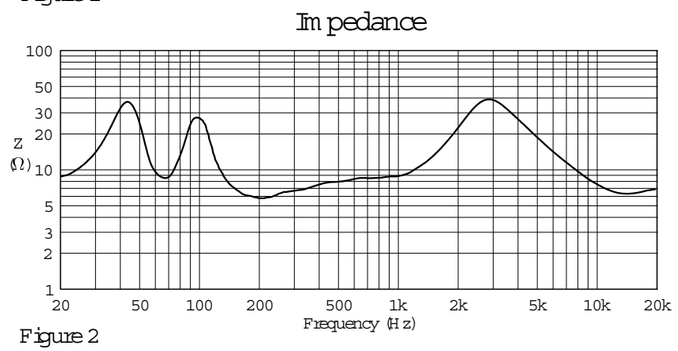


Figure 2

Directivity

Beamwidth is derived from the -6 dB points from the polar plots (see figure 3) which are measured in a whole space anechoic environment. Q and Directivity Index are plotted for the on-axis measurement position. These are specifications that provide a reference to the coverage characteristics of the unit. These parameters provide insight for proper placement and installation in the chosen environment. The blending of the components of the Crest LQ 12 exhibit a desirable beamwidth and directivity (figure 3 and 4) suitable for sound reinforcement applications.

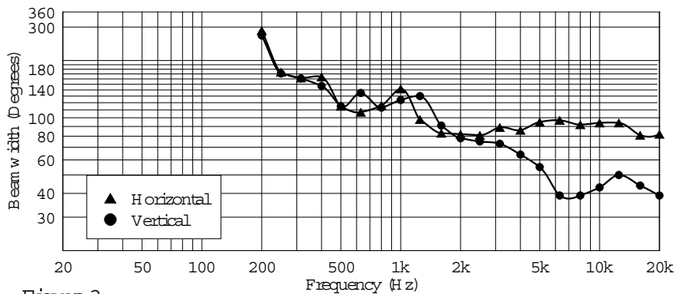


Figure 3

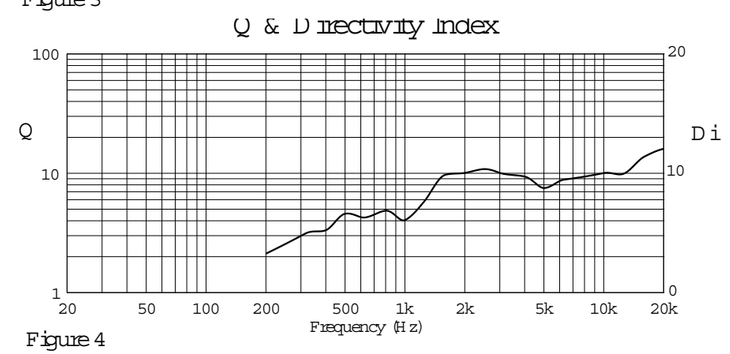
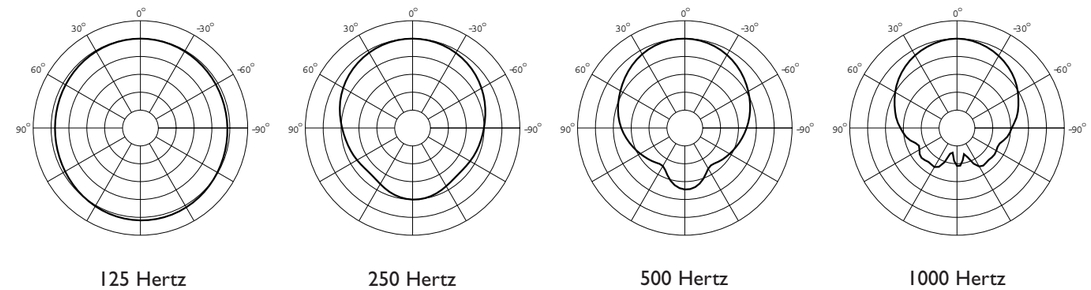


Figure 4

Horizontal Polars



Vertical Polars