

QB12 Subwoofer



Introduction

This document details Q Acoustics' first 12 inch subwoofer designed to integrate with the whole range of Q Acoustics speakers. This design incorporates many features recognisable in the current range of subwoofers notably the controls and connection panel which is used in both 7060 and 3060. Incorporated into this imposing unit are some well-hidden details including the new cabinet 'dart brace' and subtly engineered amplifier heat sink panel on the rear of the cabinet. The QB12 is finished to complement any bookshelf or tower speaker within the Q Acoustics range - available in black or white, high gloss or vinyl.

Cabinet Design & Engineering

- Dart bracing - Internal bracing provides additional cabinet rigidity and suppresses cabinet resonance.

The 'dart brace' provides high axial stiffness directly to the motor system, effectively providing a mechanical ground to the drive unit. The load is spread to all faces of the cabinet which also rigidly constrains the enclosure walls effectively over the subwoofer's operating bandwidth. The 'dart brace' not only gives superior mechanical stability to the drive unit over unbraced systems, that can otherwise result in drive unit 'bounce' on the mounting fixtures and baffle, but also reduces the 'ballooning' effect of the cabinet, critical for subwoofers that inherently contain high internal acoustic pressure.

- A reinforced MDF cabinet with a 36mm thick baffle.
- Custom die-cast aluminium heat sink on rear panel supports and cools the ultra-low distortion power amplifier and power supply.
- Recessed and hidden rear terminal panel, hides all plugs and channels cables neatly out through the base of the subwoofer.
- Custom designed adjustable spiked feet give firm support on carpeted floor. Reinforced rubber caps supplied for use with wooden floors.



Drive Unit



- Long-throw 12" driver delivers high sensitivity and excellent dynamics.
- High BI motor.
- High stiffness paper cone with straight sides.
- Large 50mm voice coil diameter to reduce thermal compression.

Electronics

- Ultra-low distortion 220W Class D power amplifier capable of delivering 34A peak current
- Active limiter prevents unpleasant distortion when amplifier over-driven
- Texas Instruments TPA3255 Class D Power Amplifier features an advanced integrated feedback design with proprietary high-speed gate driver error correction (PurePath™ Ultra-HD) delivering ultra-low distortion across the audio band.
- Analogue active filters with Linkwitz-Riley pole-zero shifting result in flat acoustic frequency and linear phase response.
- 0°/180° phase switch to optimise integration with left and right speakers.
- Auto switch-on from standby in the presence of an audio input. Can be overridden to force unit on continuously.

Specifications

Enclosure Type:	Infinite Baffle (sealed)
Enclosure Material:	MDF
Drive Units:	12" (305mm) High-Excursion
Peak Amplifier Power:	440W
Continuous Amplifier Power:	220 W
Frequency Range:	28Hz - 300Hz
Overall Dimensions:	400 x 400 x 446mm (H x W x D) without spikes
Weight:	21.5 kg
Mains Power:	100 V-240 V, 50/60 Hz
Input impedance:	13 k Ω
Input sensitivity:	150 mV, (L=R)
(for full power at 50Hz, level set to maximum).	300mV, (L only)
Input sensitivity for auto switch-on	1.5 mV (L=R) 3 mV (L only)
Crossover frequency range	70 Hz - 225 Hz (12dB/octave)

