

# LS50

## Product Information

### The Ultimate Mini Monitor – Provides Studio Quality Sound in the Home

Inspired by the legendary LS3/5a with technologies from Blade and beyond, to commemorate our 50th anniversary, LS50 is a reinterpretation of the R&D and engineering approach of the LS3/5a using the latest technologies developed at KEF.

Every aspect of the cabinet construction has been thoroughly researched to give the best possible sonic performance in the manner of the very best studio monitors. The LS50 uses KEF's latest driver technology in the spirit of the original design and incorporates numerous patent pending technological breakthroughs in cabinet construction, baffle shape and port design – all made possible by KEF's leadership in modern research techniques such as Finite Element Analysis.

Message from KEF Acoustic Engineering:

"The three key technological breakthroughs in the LS50 are the constrained layer damping, the curved baffle and the flexible elliptical reflex port. These combine together to give a clear and spacious sound. The curved baffle is shaped so that the soundwaves spread from the drive unit with minimum reflection from the edges and that gives a very nice spacious sound. The curvature also improves the rigidity of the baffle which reduces the vibration. The constrained layer damping which is between the brace and the enclosure walls and also the front baffle, prevents the cabinet vibrating and radiating sound. This can otherwise cause coloration in the mid-range. The port tube has a flexible wall; this is to allow mid-range sound that is travelling down the port tube to escape back into the cabinet and prevents longitudinal resonances. These can otherwise radiate and cause mid-range coloration. The port tube also has very carefully flared walls to avoid the chuffing noises that you can get when you get air turbulence in the port tube.

The LS50 high frequency unit has got a Tangerine Waveguide and optimum dome shape to reduce the spherical wave front. This together with the Z-Flex surround gives very wide dispersion, allowing a very spacious sound to be produced with a wide sweet spot.

The stiffened dome of the high frequency unit is centrally positioned in the magnesium aluminium alloy mid-range cone. These diaphragms both move as rigid pistons and the break up control of the mid-range unit allows an exceptionally accurate and clean sound. In this project the access we had to the very latest computing techniques allowed us to spend a considerable amount of time at the beginning of the project just exploring what happens inside the loudspeaker enclosure and the different geometries and materials we could use to make it perform better.



We had the Finite Element method for modelling the vibration and the air inside the box, the boundary element method for modelling the radiation into infinite space, and computational fluid dynamics to look at the air flow inside the reflex port. The main benefit of this technology was that it allowed us to evaluate how much coloration was radiated from the port and the cabinet walls. We could also see exactly how the cabinet walls vibrated and the sound pressure varied inside the enclosure."

LS50 is the ultimate mini monitor that you will enjoy the experience of discovering sounds on your recordings that you have never heard before while listening to a rich, multi-dimensional soundstage previously not attainable from such a compact design.

*'I was determined to put into practice the many possibilities I could see for improving loudspeakers through more rigorous engineering.'*  
Raymond Cooke OBE (1925-1995),  
founder of KEF

#### SPECIFICATIONS

Model	LS50
Design	Two-way bass reflex
Drive units	Uni-Q driver array: HF: 25mm (1in.) vented aluminium dome LF/MF: 130mm (5.25in.) magnesium/ aluminium alloy
Frequency range (-6dB)	47Hz - 45kHz
Frequency response (±3dB)	79Hz - 28kHz
Crossover frequency	2.2kHz
Amplifier requirements	25 - 100 W
Sensitivity (2.83V/1m)	85dB
Harmonic distortion 2nd & 3rd harmonics (90dB, 1m)	<0.4% 175Hz-20kHz
Maximum output	106dB
Nominal impedance	8Ω (min. 3.2Ω)
Weight	7.2kg (15.8lbs.)
Dimension (H x W x D) (with terminal)	302 x 200 x 278 mm (11.9 x 7.9 x 10.9 in.)
Finish	High gloss piano black cabinet