



ELECTROSTATIC LOUDSPEAKERS

QUAD

...the closest approach to the original sound

The Quad ESL

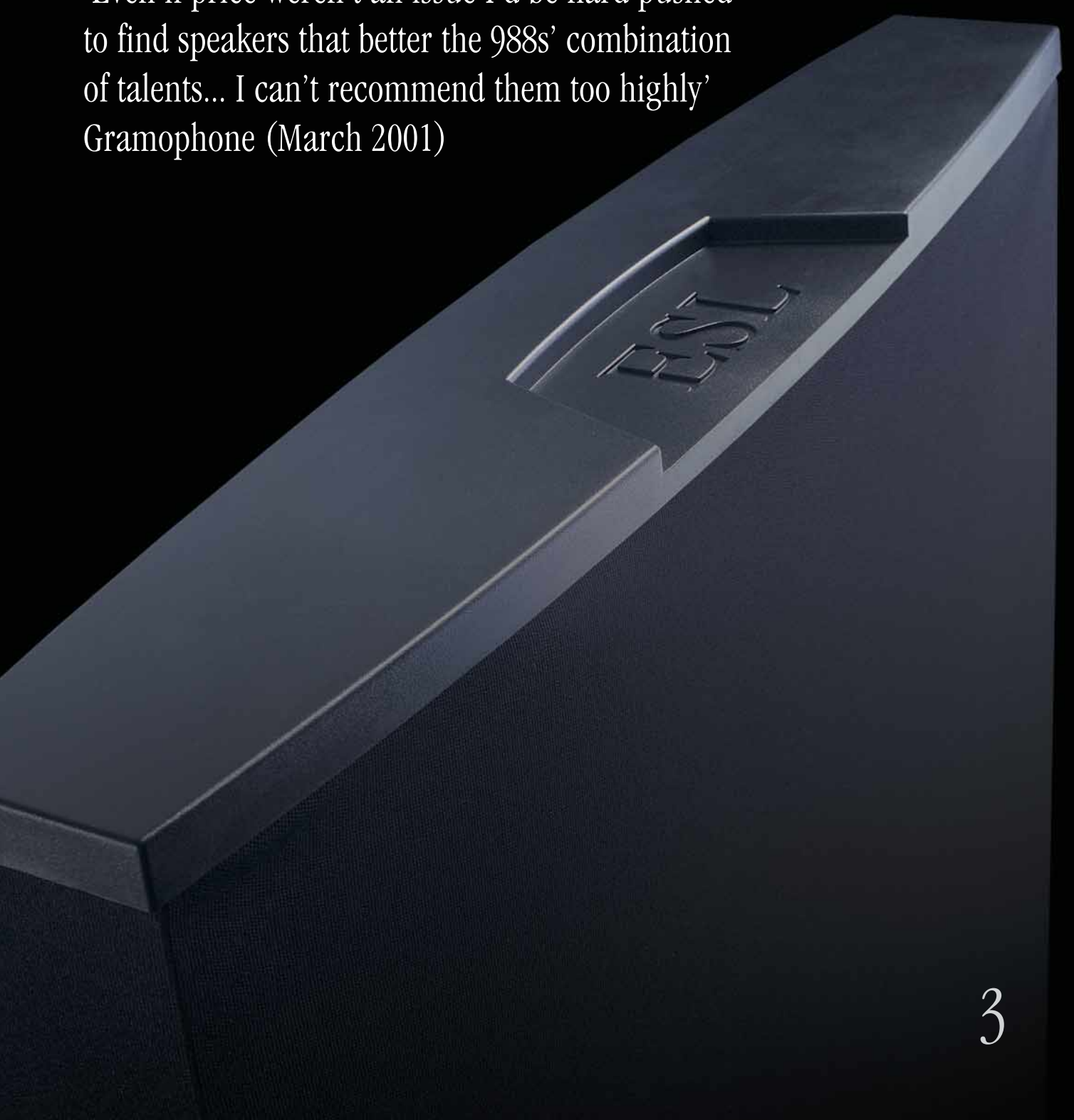


A legend in Electrostatic loudspeaker design

The Quad ESL is fundamentally different from conventional loudspeakers and even other electrostatic designs. Whilst most conventional speakers use cone type drive units and a coil moving in a magnetic field, Quad uses the full-range electrostatic principle, first introduced in 1956. The sound is not created by a cone but by a very thin diaphragm, less than one tenth the thickness of a human hair. This ultra-low mass diaphragm is coated with a conductive material and is stretched between two fixed electrode plates. The electrodes carry a positive charge and the diaphragm carries a negative charge. The size of the charge on the electrodes rises and falls to track the waveform of the musical signal; so attracting and repelling the diaphragm closer to and further from the electrode plates. It is the movement of the almost mass-less diaphragm that creates the sound we hear. Quad's unique ESL system takes the performance of electrostatic loudspeakers a step further. Acousticians have long recognised that the ideal loudspeaker should be a point source from which the waves of sound radiate in a fashion rather like the ripples resulting from a pebble dropped into a lake. It is

obvious that large cones and even larger electrostatic diaphragms cannot be point sources, so how can they be made to behave more like the perfect loudspeaker? Quad solved the problem with an elegant engineering solution that was subsequently awarded a patent. Instead of a large single electrode, Quad designed a number of electrodes arranged as a series of concentric rings. Each electrode is fed with a calibrated delay line so the sound first leaves the centre of the speaker then, after a short delay, the sound leaves the next ring and so on. The delayed sounds build up into a spherical waveform identical to that produced by a theoretical point source. This innovative step brought closer the achievement of the perfect loudspeaker. The Quad ESL is a première music reproduction loudspeaker constructed from the finest materials with meticulous attention to detail. It reaches the pinnacle of high-fidelity performance with an unparalleled ability to sonically 'disappear', and create convincing three-dimensional sound stages. Instruments and vocals occupy precise, accurately sized locations in space, giving an uncanny realism to reproduced sound.

‘Even if price weren’t an issue I’d be hard pushed to find speakers that better the 988s’ combination of talents... I can’t recommend them too highly’
Gramophone (March 2001)





‘Quads can deliver a sublime performance. They still take my breath away with their profound revelation’

– Hi-Fi World , Noel Keywood

The closest approach...

There are few things in life as rewarding as a truly invigorating live performance from our favourite artist or orchestra.

Reproducing that experience accurately in the home requires loudspeakers that go beyond the conventional. To really understand the ESL, a listener needs to be familiar with the nature of a live performance. Whilst the performance may be impressive and communicate all kinds of emotions, it is never artificial. It sounds real and natural.

At Quad, we believe this is the job of a loudspeaker. To present the music in the raw, natural form - nothing added, nothing taken away. In this respect, the ESL is an acquired taste. It displays none of the over-emphasized bass boom or mid-range projection that plagues moving-coil, box-bound speakers - so in comparison, the ESL can seem rather meek and polite. The characteristics, however, that can make these box speakers so impressive, are also those that cause fatigue and wear down the listener. Spend some time with the ESL and you too will begin to realise that it's not always the one that shouts the loudest that gets heard.

It is often said of 'box' or cabinet mounted loudspeakers that you can hear more of the box than the driver. This is true, even with high-end 'box' loudspeakers. The box - no matter how inert - will always colour the sound. Electrostatic loudspeakers are therefore in a league of their own in terms of 'transparency'.

But to get really close to the original sound, a standard planar electrostatic speaker, needs more. At a live performance, each sound comes from an identifiable position on the stage. To reproduce this three-dimensional sound 'image' accurately, we need to produce an interference pattern upon the listener of waves propagated from a pair of true point sources - in much the same way as a laser produces a hologram. The Quad ESL 988 and 989 speakers are the only electrostatic speakers in the world to effectively mimic a point-source.

Five minutes spent listening to a well set-up pair of Quad ESLs will confirm their ability to project the positions of each and every vocalist in a choir, and instrument in an orchestra - with a naturalness and level of detail that makes the Quad ESL totally unique in every respect.

‘Going back to conventional speakers afterwards merely highlights how great the 989 is’ – Hi-Fi News (July 2000)

The closest approach...

Ask many of the finest recording professionals in the world what their speaker of choice is as the answer is surprisingly common. The Quad ESL opens a window on a recording unlike any other speaker.

For professional musicians and studios, this is an invaluable asset, for no matter how good a moving coil loudspeaker may seem - no matter how impressive its dynamic ability, the laws of physics are such that it cannot be as fast and accurate as an electrostatic transducer. An ESL is like a giant capacitor, tracking the music signal with such precision and agility that using them is the only real way to know exactly what is on the recording.

The Quad ESL has been used by Tony Faulkner for many years. He uses the ESL 63, the ESL 63 Pro and now uses a pair of ESL 989s for his critical monitoring.


Tony has produced over a thousand classical music recordings using the Quad ESL because he knows he can trust what he hears - that the very essence of the performance is being transferred.

Likewise with acoustic engineers - what do they regard

as an absolute reference? Next time you are visiting a hi-fi show, look for the acoustic engineers - the amplifier designers - even the other loudspeaker designers. More likely than not, they will have a pair of ESLs hidden away in a corner.

Lastly consider the magazine reviewers - the so-called critics with golden ears who listen daily to a multitude of loudspeakers - assessing how they perform. What do they use to compare all other speakers?

Once again, the results are clear. Although arguments rage between them - Ken Kessler, Senior Reviewer at Hi-Fi News Magazine awarded the ESL-57 ‘Product of the Millennium’ back in 2000 and in his mind it has never been surpassed. Paul Seydor, Hollywood editor and the man in charge of the absolute sound waxes lyrical about the ESL 63 at every opportunity, whilst Stereophile magazine has awarded the ESL 989, not only Product of the Year in 2004, but Component of the Year as well - the highest of all awards. The real answer is that Quad ESLs have always been in a class of their own, each generation winning new fans and enthusiasts.

A close-up, profile view of a man with dark hair looking intently at a vintage audio component, possibly a turntable or amplifier, in a dimly lit room. The lighting is dramatic, with strong highlights and deep shadows. The background is blurred, showing a wooden chair and a window with light coming through.

‘When I return the 988s it will be in a package much too small for the speakers, but just large enough to carry a check for their remittance.’

— The Absolute Sound (July 2001)

‘The Best Late Night Speakers in The World...ever!’

— Hi-Fi World (December 2000)





ESL 989 vintage

After a number of years producing just a single colour version of the ESL 988 and ESL 989speakers, we decided to offer our customers a couple of new alternatives. Picture here is the 'vintage' finish, with wooden top and base caps and an classical style cloth 'sock'

‘Quad has done it again: the 988s are world class - the single driver presents a fabulously together sound that’s tough to match at any price’

— What Hi-Fi? (December 2000)



ESL 988

The ESL-988 replaces the much-loved ESL-63 model. Although of similar size and proportions, the resemblance is only skin deep – for more than 90% of the internal components have been re-designed, upgraded, or modified. Twenty years of materials science have led to improvements in virtually every component and area of construction.

The new model has better audio transformers, a new power supply, improved diaphragms, a strong heavyweight moulded base and new grille assemblies. Particular attention has been given to the structural integrity of the loudspeakers, which has been improved beyond all recognition.

The result of these changes is an electrostatic loudspeaker that is as much a leader today as its predecessor was 20 years ago. Larger dynamics and a smoother response are two of the most noticeable improvements in sound quality. A slight backward tilt lifts the stereo image when these speakers are floor standing.

ESL 989

The ESL-989 shares much of its technology with the ESL-988, but it is a larger model with two extra bass panels and a higher rated power supply. The extra panels increase the bass output, but also contribute to an enhanced performance in the mid-band, which was already widely regarded as the cleanest in the world. Although referred to as ‘bass panels’, the additional electrostatic panels are, in fact, full range (as are all the panels), but the increase in surface area allows a greater volume of air to be moved, leading to an improvement in the lower frequencies. This particular development had been anticipated for many years, but was never previously regarded as commercially and practically viable.

The ESL-989 is Quad’s finest loudspeaker. It is a true full range electrostatic loudspeaker reproducing music with an ease and naturalness that is best described as uncanny. It has a virtual absence of the familiar loudspeaker problems of colouration, distortion, phase and frequency response errors. All that remains is the music and the original ambience. To the listener these are the very ingredients needed to create a real sensation of being there.

The Quad electrostatic loudspeakers are unique and continue to be in a class of their own, but now have the versatility and range to cope with a much wider repertoire.

Specifications



Model	ESL 988	ESL 989
Maximum Power Output	2N/m2 at 2m on axis	2N/m2 at 2m on axis
Sensitivity	1.5u bar per volt referred to 1m (86dB/2.83V RMS)	1.5u bar per volt referred to 1m (86dB/2.83V RMS)
Impedance	8 ohm nominal	8 ohm nominal
Maximum continuous input voltage	10V	10V
Programme peak (20 Hz to 20 kHz)		
For undistorted output	40V	40V
Permitted peak input	55V	55V
Directivity index	125Hz5.0dB 500Hz6.4dB 1kHz7.2dB 8kHz10.6dB	125Hz5.0dB 500Hz6.4dB 1kHz7.2dB 8kHz10.6dB
Axis band limits	-6dB at 35Hz 3rd order	-6dB at 35Hz 3rd order
(low level)	-6dB → 20kHz	-6dB → 20kHz
AC Input	220-240V or 110-120V	220-240V or 110-120V
(double insulated)	See rating details on base of unit	See rating details on base of unit
Dimensions (H x W x D) (including 185mm base)	940mm x 670mm x 315mm (including 185mm base)	1335mm x 670mm x 315mm (including 185mm base)
Weight	20.5kg net	25.3kg net

Vintage & Nouveau

Both our international award-winning ESL loudspeakers are now available for the first time in a choice of colours and finishes. Whilst for some audiophiles such details are of trifling importance, Quad recognise that for many, the ESL needs to vanish into it's surroundings visually as well as audibly – whether these surroundings be a stately home or docklands apartment.

The original black-on-black finish is now complemented with the 'Vintage' and the 'Nouveau' finishes. Sonically, these are identical to the standard model, but aesthetically, they offer more variety. The Vintage models include a wooden base-plate, as well as the wooden top-cap, reminiscent of the older ESL-63 and a woven – yet acoustically transparent sock as an alternative to black. The Nouveau model has a brushed metal top-cap and co-ordinated base to complement the light blue colour of the cloth.



Vintage



Nouveau



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