

# Z Series



# QUAD

*the closest approach to the original sound.*

# Where It All Started

It was way back in the mono days of 1949 that Quad launched its first loudspeaker, the Corner Ribbon. This was, indeed, a prestige product, but it offered something special, a particularly clear and detailed upper midrange to treble performance from a large and delicate ribbon driver.

Plaudits abounded from the press and everyone who heard the Corner Ribbon. The Gramophone observed :

*“...smoothness, naturalness, and fidelity of reproduction has yet to be surpassed and, with very few exceptions, even approached.”*

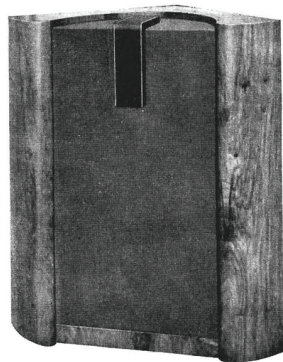
...And that was 1949. So, the question is, can Quad engineers replicate this performance today, or even surpass it? the answer, not surprisingly, is yes.

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## DEPTH PERSPECTIVE..

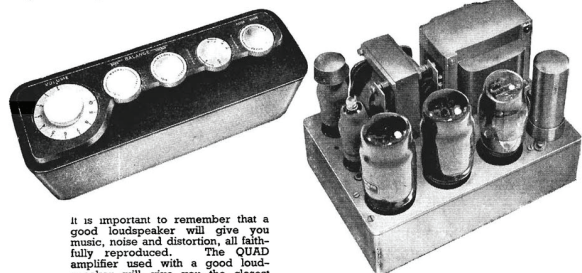
The ability of a reproducer in separating the instruments of an orchestra is dependant among other factors upon the area from which the sound appears to emanate. Many experimenters will have found that a larger area appears to improve orchestral analysis but that it detracts from the realism of solo instruments and the human voice. In the Corner Ribbon Loudspeaker, the sound source is small and forward, but it radiates a proportion of sounds in nearly all directions, including upwards and to the rear. The sound pattern reproduced from solo instruments is very similar to that obtained in nature and it is probably the only loudspeaker which can be used in direct comparison laboratory tests to give a complete illusion of most instruments to a critical audience. With an orchestra, the larger microphone distances influence the acoustics of the recording so that the apparent sound source in the loudspeaker recedes. Reflections from the back radiation add to the area of sound so that it now appears to emanate from an opening of eight to ten square feet.

The above is just one of the reasons why the Corner Ribbon Loudspeaker gives an analysis of sound in natural perspective.



THE  
CORNER RIBBON  
LOUDSPEAKER  
**£83**

controlled sale  
A booklet describing the development of this loudspeaker is available on request



It is important to remember that a good loudspeaker will give you music, noise and distortion, all faithfully reproduced. The Q.U.A.D. amplifier used with a good loudspeaker will give you the closest approach to the original sound.

THE Q.U.A.D. AMPLIFIER **£35**  
in two units as illustrated

**ACOUSTICAL**  
MANUFACTURING CO. LTD.  
HUNTINGDON - HUNTS - TEL. 151



Dimensions of the Corner Ribbon loudspeaker are: height, 34in.; maximum radius, 24in. The high-frequency horn is segmented to give improved sound distribution.

## Corner Ribbon Loudspeaker

### Realistic Sound Distribution

spherical and an elliptical reproducing point on high quality recordings is at once apparent.

The bass response is smooth, and judging from some organ recordings, effective down to frequencies of the order of 20 to 30c/s. In the top register the character of surface noise is much less objectionable than usual, due no doubt to the effective damping of the ribbon and the absence of resonant coloration. The response has not been measured by the makers above 18 kc/s, but is believed to extend to 30 kc/s.

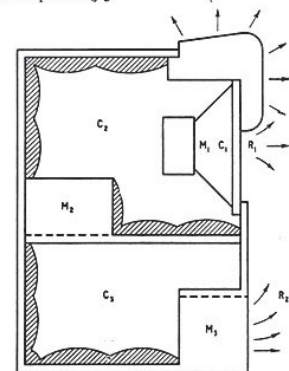
A cross-over network is included and the input impedance is 15 ohms. It is important that sustained single-tone inputs to the h.f. unit should not exceed a power of 1.5 watts, but on speech and music the power input to the loudspeaker as a whole can be raised to 12 watts. Normally, the Corner Ribbon loudspeaker will be installed by the manufacturers, and the price is £83.

THE development of this high-quality reproducer, which is made by the Acoustical Manufacturing Company, of Huntingdon, has been carried out against a background of measurement and subjective listening tests involving comparison between the original and the reproduced sound. In deciding on the final design, considerations of naturalness and "presence," for which methods of measurement have not yet been evolved, were given due weight.

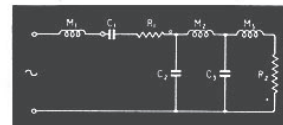
Essentially, the unit comprises a twin cone diaphragm loudspeaker for low frequencies and a horn-loaded ribbon diaphragm for frequencies above 2,000c/s. The back radiation from the l.f. unit is modified by a two-stage acoustic filter and emanates from a vent at the bottom of the cabinet.

Two stages are used to give a smooth downward extension of the low-frequency response without introducing complications in the region of 150-200c/s. The 0.00025in-thick aluminium ribbon diaphragm of the h.f. unit is loaded at the front by a multiple horn designed to give the optimum distribution both vertically and horizontally. The back radiation is directed towards the corner walls of the room and provides further extension of the sound source to enhance the realism of orchestra music. On speech the residual directional properties of the main cone predominate and give the appropriate effect of a point source.

We have had an opportunity of listening to this loudspeaker on a variety of programmes, and the manner in which the apparent source adapts itself automatically to the frequency content of the original is strikingly effective. Another outstanding quality of the performance is the transient response. One does not need to wait for loud and dramatic passages in the music to demonstrate this. It is there all the time, in the bowing attack of strings in pianissimo passages and in other subtle ways that will be appreciated by those that have ears to hear. For instance, the difference in quality between a



Section of bass acoustic filter, with equivalent circuit.  $R_1$  and  $R_2$  represent radiation resistance of the front of the cone and the cabinet vent.











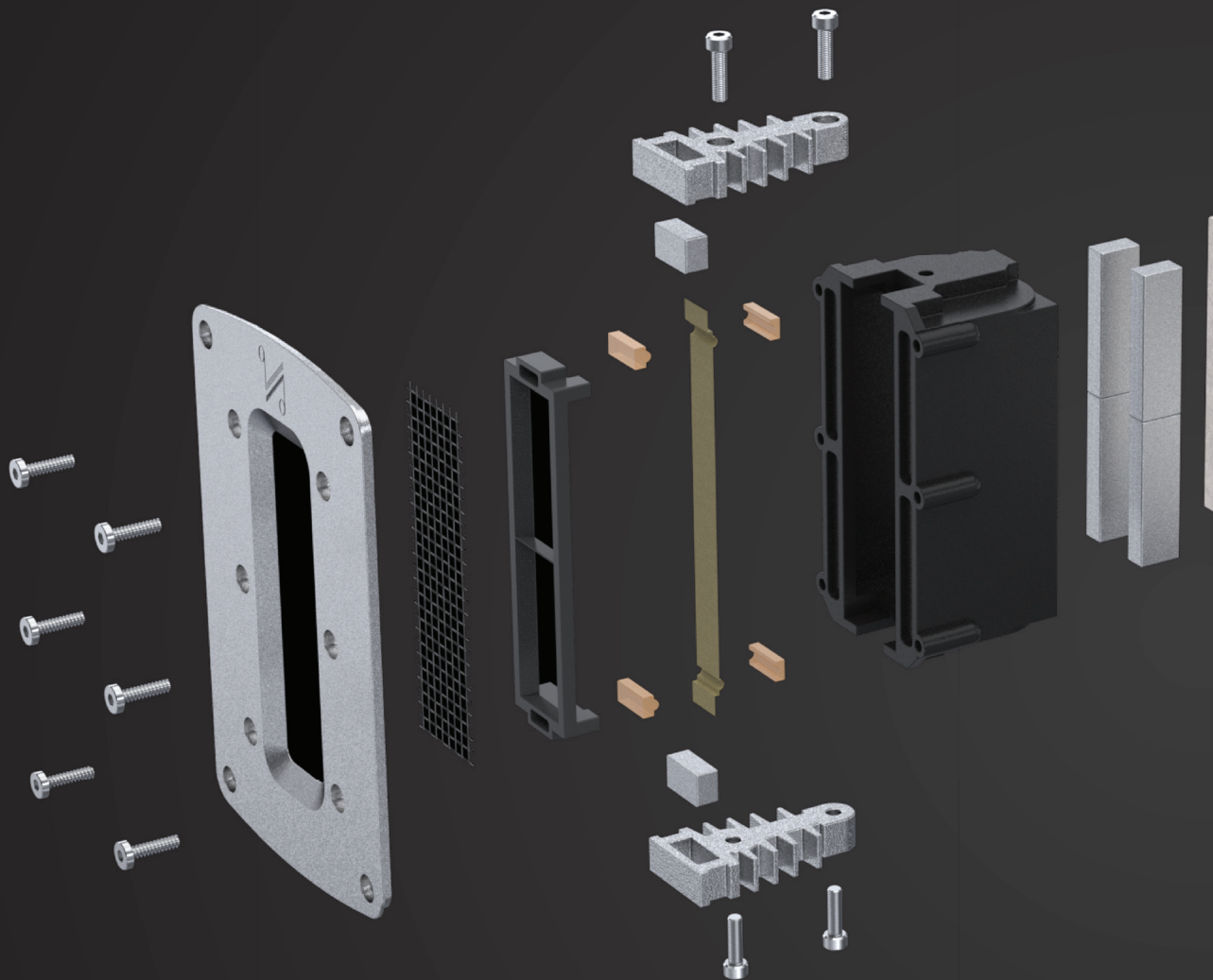
# Then And Now

The Quad corner ribbon was a speaker incomparable to competitors at it's time, all with thanks to the Quad ethos, which is still adhered to in all product development and to deliver; "The Closest Approach To The Original Sound".

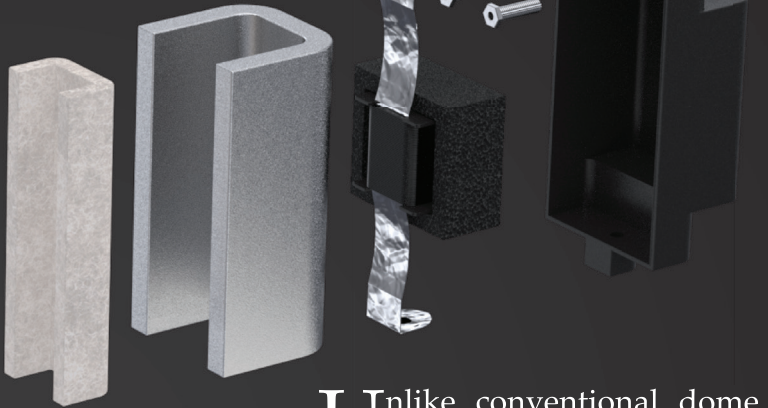
Being our first ever commercially available loudspeaker, the Corner Ribbon was not completely perfect - it generated a relatively low power and the ribbon unit was very fragile. As we know founder Peter Walker moved on to develop the world's first full range, push-pull Electrostatic speaker, if not the most iconic loudspeaker of our time.

So, to make a ribbon unit that handled today's high power amplifiers and to do the original Corner Ribbon justice was no mean task. The Z Series ribbon accomplishes this by utilising a composite ribbon sandwich substrate that is far more robust than earlier designs and immerses this ribbon in an exceptionally strong magnetic field to yield ultra-high sensitivity.

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Unlike conventional dome treble units where the voice coil 'motor' is attached separately to the diaphragm, Z Series ribbon is both the diaphragm and the motor system. The result is a unique combination of delicacy, smoothness and hear-through performance that helps make your music sing.

While taking influence from the unparalleled success of the ESL speaker, the ribbon itself is engineered to be extremely light and thin, which delivers the startling accuracy and wide coverage Quad is famous for.

In our flagship series, the larger 90 x 12mm true ribbon creates an even higher sensitivity and bandwidth which means better dynamics and an even smoother integration with the midrange frequencies.

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# Transparent Technology

In The Z Series floorstanders, this advanced ribbon unit is married to an equally high performance midrange driver with a unique double-roll-surround, especially designed to control edge breakup and give equal transparency to the all important vocal range.

Both the midrange and bass drivers feature Quad's woven glass fibre cone geometry. Combined with the double-roll-surround this again controls breakup modes, enhancing micro-detail in your music.

The bass section, similar to the original Corner Ribbon utilises an acoustic filter bass reflex system. This section uses a double chamber filter that eliminates "chuffing" found in inferior loudspeakers with conventional ports. This also maintains a natural and unforced reproduction right down to the lowest frequencies of a symphony orchestra, producing our signature sound as found in the iconic ESLs.

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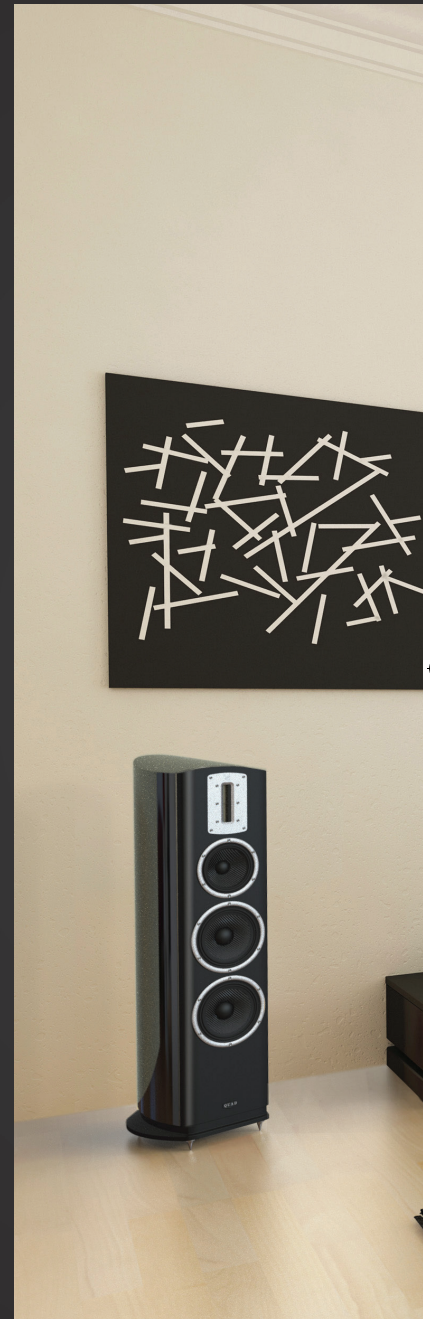


# The Finishing Touch

Of course, putting it all together is a phase-compensated Acoustic Butterworth crossover that is the result not only of Computer Aided Design, but also hundreds of hours of critical listening tests using all types and flavours of music.

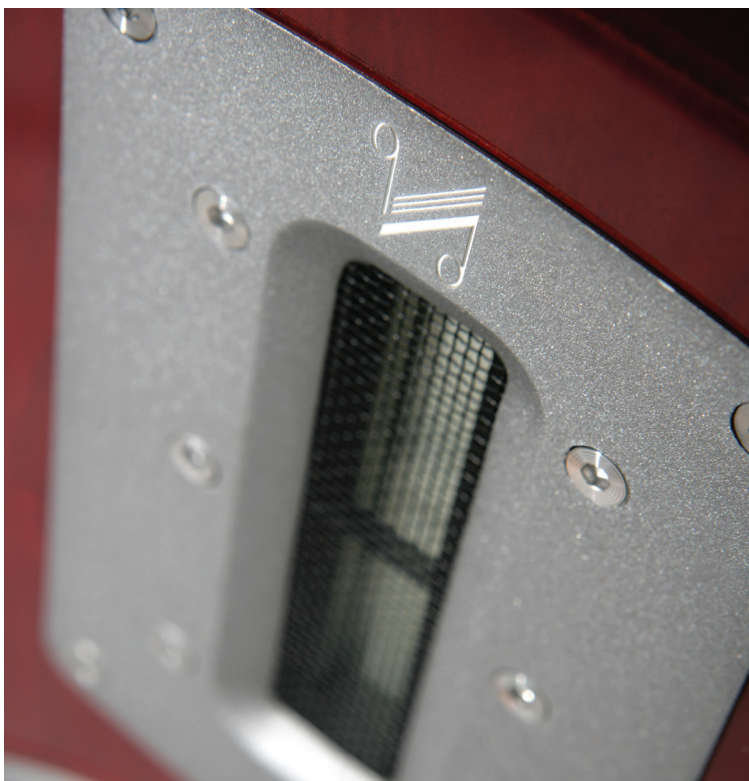
We don't need to describe the skillfully hand veneered cabinets as one look at the images throughout this brochure will give you a taste of how the Z Series furniture quality woodwork will look in your living room.

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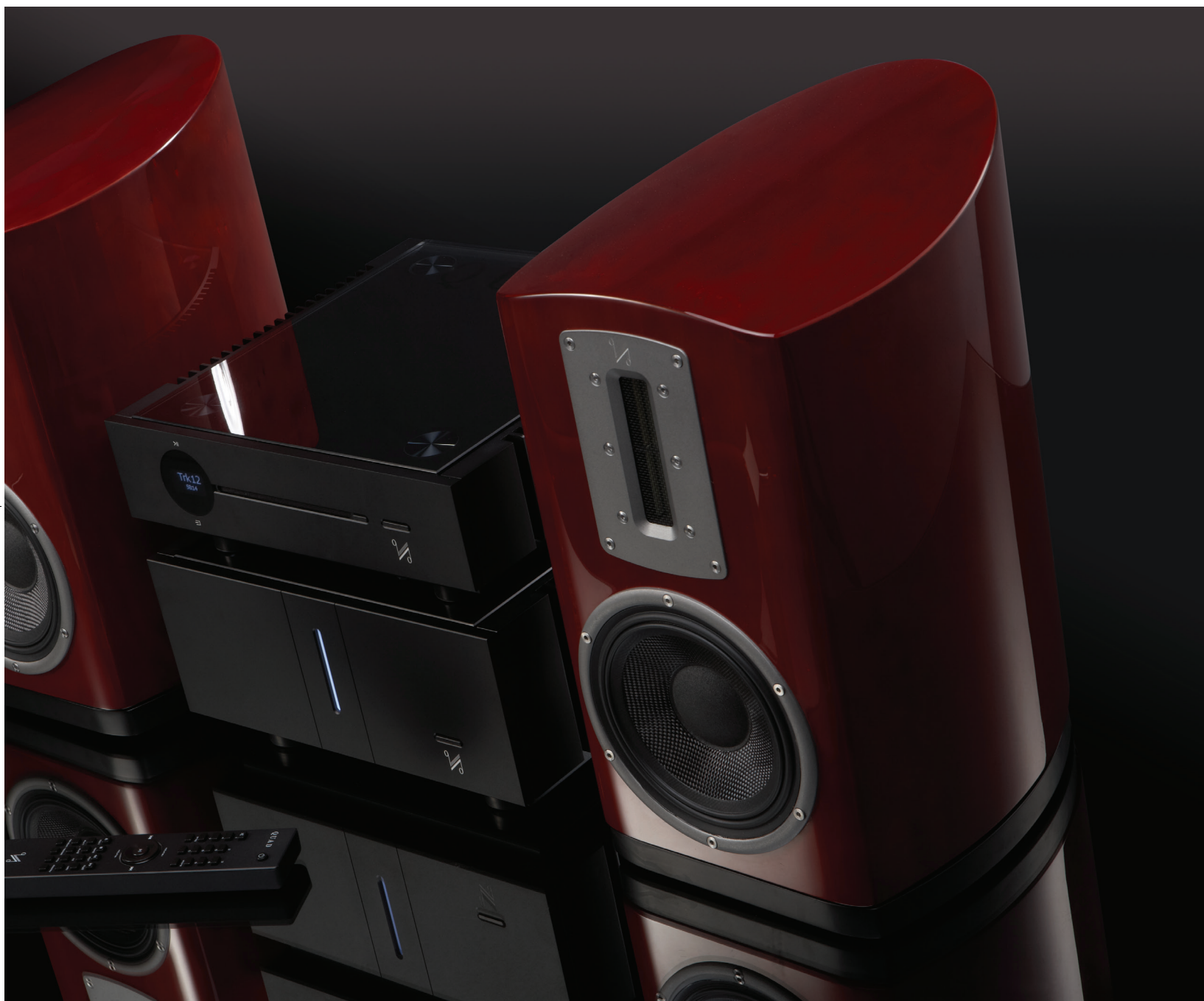












# Specifications



Model	Z1	Z2
<b>General Description</b>	bookshelf	bookshelf
<b>Enclosure type</b>	bass reflex	bass reflex
<b>Transducer complement</b>	2-way	2-way
<b>Bass driver</b>	150mm glass fibre	175mm glass fibre
<b>Midrange driver</b>		
<b>Treble driver</b>	90 x 12mm true ribbon	90 x 12mm true ribbon
<b>Sensitivity (1W @ 1m)</b>	86dB	84dB
<b>Recommended amplifier power</b>	40-150W	40-200W
<b>Nominal impedance</b>	8Ω	8Ω
<b>Minimum impedance</b>	4.6Ω	4.6Ω
<b>Frequency response (+/-3dB)</b>	56Hz - 20kHz	50Hz - 20kHz
<b>Bass Extension (-6dB)</b>	48Hz	45Hz
<b>Crossover frequency</b>	3.4kHz	3.4kHz
<b>Cabinet Volume (in litres)</b>	10L	15L
<b>Dimensions</b>	383 x 219 x 283mm	421 x 243 x 329mm
<b>Net weight</b>	6.5kg each	9kg each



## Z3

floor-standing  
bass reflex  
3-way  
2 x 175mm glass fibre  
150mm glass fibre  
90 x 12mm true ribbon  
89dB  
60-250W  
6Ω  
3.8Ω  
50Hz - 20kHz  
45Hz  
450Hz 3.6kHz  
34L  
965 x 267 x 340mm  
19kg each



## Z4

floor-standing  
bass reflex  
3-way  
3 x 165mm glass fibre  
150mm glass fibre  
90 x 12mm true ribbon  
90dB  
60-250W  
4Ω  
3.6Ω  
47Hz - 20kHz  
40Hz  
300Hz 3.5kHz  
43L  
1175 x 267 x 340mm  
23.5kg each



Piano Rosewood



Piano Black



Piano White





QUAD |

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