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Above: Wharfedale Diamond 11.1 (top left, bottom left, top right), 11.3 (centre) and 11.4 (bottom right)

## Only a Diamond cuts to the heart of the music

As Wharfedale celebrates its 85<sup>th</sup> birthday, the company's classic Diamond lineage of high-performance, high-value speakers reaches new heights with the Diamond 11 Series

*Cambridgeshire, England* – Since 1981, Wharfedale's famous Diamond speakers have served as the classic entry point to true high-fidelity sound, their exceptional value for money earning numerous 'product of the year' awards in the UK and around the world. Now, with the introduction of the all-new Diamond 11 Series, Wharfedale has once again raised the bar for affordable, high-performance loudspeakers.

Sporting extensive improvements both inside and out, Diamond 11 represents the most significantly enhanced Diamond series in years. The range comprises eight models: three standmounting speakers (Diamond 11.0, 11.1 and 11.2), three floorstanders (Diamond 11.3, 11.4 and 11.5) and two centre speakers for home cinema systems (Diamond 11.CC and 11.CS).

The most immediately obvious change is a return to the elegantly curved cabinet sides made famous by the Diamond 9 and Diamond 10 ranges, which yielded What Hi-Fi? Product of the Year Awards in 2005 and 2009 for the Diamond 9.1 and 10.1 respectively. The more recent Diamond 100 and Diamond 200 speakers had square-sided cabinets, but the Diamond 11 Series brings back the curves in response to global demand. The result is an affordable speaker range with a distinctly premium look and sound.

Extensive improvements made to the Diamond 11 Series include:

- New drive units across the range, designed and built in-house to deliver exceptional performance at this price level.
- Bass/midrange drivers incorporate massive magnet designs, special ribbed baskets and advanced suspension to complement their woven Kevlar cones.
- High-performance textile-domed tweeter sports an over-sized ceramic magnet and specially shaped rear chamber.
- Redesigned crossover network, perfected over thousands of hours of listening tests.
- Cabinet walls made from a sandwich of woods of differing density, ensuring excellent acoustic characteristics and an impeccable standard of finish.
- Curved cabinet walls enhance acoustic performance as well as the speakers' aesthetic qualities.
- Bass loading via an improved version of Wharfedale's slot-loaded distributed port, enabling deep, articulate and well-integrated bass with an absence of 'chuffing'.

## Wharfedale Diamond 11 Series – more detail

The latest generation of Diamond speakers includes design elements never previously seen at such affordable price points. At the start of the design process, Wharfedale's engineers went back to basics to create a loudspeaker system that would once again revolutionise this sector of the hi-fi market and bring high-end performance – and style – within reach of many music lovers, not just the wealthy few.

### Advanced driver systems

Whereas most affordable speaker systems are based on drive units that are built down to a price, Wharfedale started with the premise that Diamond drivers should be aimed at performance. That is why the Diamond 11 Series sports advanced driver systems incorporating elements that normally only find their way into high-end loudspeakers.

For example, the bass and midrange drivers use a basket with a network of ribs that maintain the rigidity of the basket while leaving a large open area behind the cone. The rigidity improves transient impact while the big open area reduces early reflections to cone and allows the generous, specially chosen internal cabinet absorbent to do its work.

The Diamond 11 Series speakers also feature massive magnet designs to both raise sensitivity and ensure absolute control of cone movement over lower bass frequencies. In addition, the use of a specially shaped one-part-forged pole piece with copper cap reduces inductance, controls the magnetic flux and ensures low distortion through the critical midrange area.

Then there is the progressive suspension which features a lightweight foamed surround for an extended midrange response, in conjunction with a super-long-throw voice coil motor system, to achieve unparalleled linearity and accuracy in this sector of the market. Naturally the woven Kevlar cone, a long-time favourite for Diamond designs, has been treated to provide a precise match to the new suspension elements, avoiding the 'midrange dip' caused by reflections from the surround edge.

High-frequency performance has been similarly enhanced with a sophisticated new tweeter design. Again, an over-sized ceramic magnet system is used, with a copper cap for flux control. And, here, the pole piece is vented through to a specially shaped rear chamber, damped with a fibre filling. This provides a low resonant frequency below 800Hz, ensuring excellent linearity throughout the operating bandwidth and allowing the textile dome to contribute to a lucid midrange performance in addition to precise high-frequency detailing.



Above: Wharfedale Diamond 11 Series bass/mid driver assembly (left) and tweeter assembly (right)

### Crossover integration

While the drive units are the heart of a loudspeaker system, they would be nothing without the integration of a precisely derived crossover. Wharfedale's engineers use a highly evolved virtual crossover software system to help create a series of circuit options for combining the bass/midrange and treble units seamlessly. These circuit options are then evaluated using stringent listening tests over a period of months, involving a wide range of music.

Once the final circuit strategy has been chosen, the design team fine tunes the crossover component values, the type of components and the circuit board layout to yield the most accurate, detailed and, above all, enjoyable musical performance using only listening tests as an arbiter of quality.

Special attention is paid to the lifelike qualities of vocals and natural instruments, as these are always the focus of listeners' subjective appraisal of a loudspeaker's performance. It is this attention to fine tuning, allied to excellent technical design, that gives Wharfedale Diamond speakers their enduring appeal in the affordable sector of the hi-fi market, from one generation to the next.

### Cabinet construction

While the cabinet, to the owner, is often just a piece of furniture, Wharfedale has long realised that it is the final piece of the design process that marks a speaker out of the ordinary. Since the early days of Wharfedale, when the founder, Gilbert Briggs, was experimenting with such rarities as sand-filled baffles, cabinet construction has always been part and parcel of the 'sound' of Wharfedale speakers.

For the Diamond 11 Series, Wharfedale's engineers have refined the multi-layer sandwich of woods of differing density to subdue the identifiable characteristics of the cabinet 'sound' and so let the drive units speak for themselves. Critical bracing of the cabinet panels, together with the curving of the cabinet walls to provide a non-boxy shape, have reduced resonances more than 25dB below the driver outputs. In addition, the cabinet walls are lined with a specially developed internal fibre which has been chosen because of its outstanding absorbent qualities across a wide bandwidth.

The result is that the listener hears the drive unit output unsullied by unwanted colorations caused by panel vibration or internal resonances, revealing more of the detail of the musical performance.

### Slot-loaded distributed port

The slot-loaded distributed port is a recent Diamond innovation, first introduced in the Diamond 100 Series in 2012, where the internal port tube opens into a slot formed between the cabinet and the plinth. This reduces the turbulence and audible 'chuffing' suffered by conventional ported systems, which is caused by the sudden outrush of high pressure air into the low pressure in the room. A further benefit is to increase the efficiency of energy transfer from the bass reflex tuning to the room.

Wharfedale has taken this one stage further for the Diamond 11 Series, profiling both ends of the port with a semi-parabolic entry and exit curve that linearises airflow through the port tube. This has allowed us to increase the volume of air in the slot-loaded system and further improve the performance of the low frequency output.

The result is an entirely natural and low-distortion recreation of the fundamental notes of bass instruments, matching the realistic sound of the midrange and treble characteristics. The low 'Q' (broad tuning) nature of this ported system also allows the listener to position Diamond 11 speakers close to a rear wall, helping to make the speakers less obtrusive in a room setting.



**Left:** Wharfedale Diamond 11.1 cutaway, showing: the curved, multi-layered cabinet walls; the flared red tube feeding the slot-loaded distributed port which exits at the base, loaded by a slot between cabinet and plinth; the internal bracing and damping material; the crossover network at the rear

## Quote from Peter Comeau – Wharfedale’s Director of Acoustic Design

“When Wharfedale launched the very first Diamond in 1981, the company defined a new class of speaker that delivered genuine hi-fi accuracy and musical brio at a remarkably affordable price. Since then, every iteration of the famous Diamond line has adhered to that tradition but improved upon it. With the Diamond 11 Series we started afresh, taking established Diamond design features like Kevlar bass/mid cones and the slot-loaded distributed port system and incorporating them into entirely redesigned speakers, superior in every way from the cabinets, to the drive units, to the crossover.

“The result of our technical endeavours is unquestionably the best Diamond range yet, delivering a natural sense of space and musical communication that is both instantly engaging and consistently appealing in the long term. These speakers draw the listener into the musical performance in a way normally expected only from models at considerably higher price levels, embodying the traditional Wharfedale attribute of being great all-rounders across various music types. Add the elegantly curved and immaculately finished cabinets and we are proud to have created a range of speakers that delivers premium quality at remarkably affordable prices – entirely fitting with Wharfedale’s 85-year legacy.”

## Wharfedale Diamond 11 Series – prices and availability

The Diamond 11 Series is available from July. All speakers come in a choice of black, white, walnut and rosewood. Recommended retail prices are as follows:

### **Bookshelf speakers**

Diamond 11.0: £159.95 per pair

Diamond 11.1: £269.95 per pair

Diamond 11.2: £349.95 per pair

### **Floorstanding speakers**

Diamond 11.3: £599.95 per pair

Diamond 11.4: £779.95 per pair

Diamond 11.5: £999.95 per pair

### **Home cinema centre speakers**

Diamond 11.CC: £149.95

Diamond 11.CS: £229.95

## Wharfedale Diamond 11 Series - specifications

Specifications	Diamond 11.0	Diamond 11.1	Diamond 11.2	Diamond 11.3
Configuration	2-way bookshelf	2-way bookshelf	2-way bookshelf	2.5-way floorstander
Enclosure type	Bass reflex (slot-loaded)	Bass reflex (slot-loaded)	Bass reflex (slot-loaded)	Bass reflex (slot-loaded)
Bass/mid driver	100mm woven Kevlar	130mm woven Kevlar	150mm woven Kevlar	130mm woven Kevlar
Bass driver	N/A	N/A	N/A	130mm woven Kevlar
Tweeter	25mm textile dome	25mm textile dome	25mm textile dome	25mm textile dome
Sensitivity	85dB	87dB	88dB	90dB
Recom'd amp power	15-75W	25-100W	25-125W	25-150W
Nominal impedance	8 Ohms compatible	8 Ohms compatible	8 Ohms compatible	8 Ohms compatible
Frequency response	75Hz-20kHz	55Hz-20kHz	48Hz-20kHz	44Hz-20kHz
Cabinet volume	3.95L	11.1L	13.2L	29.2L
Dimensions (HxWxD)	255x155x165mm	310x194x285mm	355x221x290mm	875x194x285mm
Weight (each)	3.1kg	6.8kg	9kg	15kg

Specifications	Diamond 11.4	Diamond 11.5	Diamond 11.CC	Diamond 11.CS
Configuration	3-way floorstander	3-way floorstander	2-way centre speaker	2-way centre speaker
Enclosure type	Bass reflex (slot-loaded)	Bass reflex (slot-loaded)	Bass reflex	Bass reflex
Bass/mid drivers	N/A	N/A	2x 100mm woven Kevlar	2x 130mm woven Kevlar
Bass drivers	2x 150mm woven Kevlar	2x 200mm woven Kevlar	N/A	N/A
Midrange driver	100mm woven Kevlar	100mm woven Kevlar	N/A	N/A
Tweeter	25mm textile dome	25mm textile dome	25mm textile dome	25mm textile dome
Sensitivity	91dB	90dB	87dB	87dB
Recom'd amp power	25-175W	25-200W	25-100W	25-150W
Nominal impedance	8 Ohms compatible	8 Ohms compatible	8 Ohms compatible	8 Ohms compatible
Frequency response	42Hz-20kHz	35Hz-20kHz	85Hz-20kHz	65Hz-20kHz
Cabinet volume	Mid 12L; Bass 30.9L	Mid 10.7; Bass 63L	5L	11L
Dimensions (HxWxD)	985x222x320mm	1125x290x350mm	145x420x138mm	170x480x200mm
Weight (each)	24kg	33.5kg	5kg	7.6kg



British loudspeakers have always enjoyed an excellent reputation around the world, and Wharfedale is perhaps the most famous brand of all. Stretching back to 1932, when Wharfedale's founder Gilbert Briggs built his first speaker in the cellar of his Yorkshire home, Wharfedale has been responsible for some of the most important loudspeakers ever produced, introducing many techniques and technologies that became commonplace such as the two-way loudspeaker (invented in 1945) and the use of ceramic magnets (pioneered in 1962). Today, as Wharfedale celebrates its 85<sup>th</sup> birthday, the company continues its quest to deliver excellent sound quality and value-for-money with a wide range of class-leading speakers, both traditional and wireless, including the latest iteration of the famous Diamond line – the classic entry point to high-fidelity sound.

[www.wharfedale.co.uk](http://www.wharfedale.co.uk)



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