

## WHARFEDALE Diamond 12.4 Light Oak Podnostojeći Zvučnik

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### WHARFEDALE Diamond 12.4 Light Oak Podnostojeći Z

Since 1982, Wharfedale's famous Diamond speakers have served as the classic entry point to true high-fidelity sound, their exceptional sonic value for money earning numerous 'product of the year' accolades in the UK and around the world. This autumn, with the introduction of the all-new Diamond 12 Series, Wharfedale once again raises the bar for affordable, high-performance loudspeakers.

To develop the new range, Wharfedale has collaborated with world-renowned speaker designer Karl-Heinz Fink for the first time. Fink's track record of delivering class-leading sound from modestly priced speakers is exceptional and with the Diamond 12 Series, he and Wharfedale's team of acoustic engineers have achieved a new entry-level benchmark.

Wharfedale determined that the Diamond 12 Series should be an opportunity to start afresh. A challenge was issued to Mr Fink: how much sonic performance can you wring from a range of speakers at classic Diamond price points? And so, he and Wharfedale's team set to work, delivering clean-sheet designs without a single part unaltered from the outgoing - and more costly - Diamond 11 Series.

**Klarity  
- The  
Difference  
is Clear**

Since  
the  
Diamond  
8 Series  
in 2001,  
Wharfedale  
has  
made  
the  
mid/bass  
cones  
for every

Diamond generation from Kevlar. 19 years and many award-winning ranges later, Wharfedale has developed a new composite called Klarity™. The chief ingredient of Klarity™ is polypropylene, a material that has been used to make speaker cones since the BBC researched its use for this purpose in the 1970s. Polypropylene cones are renowned for their characteristically low distortion and controlled 'breakup', as well as their resistance to moisture in the air. They also have a

reputation  
in some  
quarters  
for  
sounding  
a little  
'unexciting'

- a  
perception  
that is  
largely

**Bass/Mid  
Drivers  
- Cone  
Surround,  
Magnet  
and  
Voice  
Coil**

the  
result of  
mediocre  
engineering.  
When  
designed  
and  
implemented  
optimally,  
polypropylene

cones  
can  
sound  
enthralling

In the  
past,  
polypropylene  
cones  
have  
often  
been  
combined  
with  
high-  
damping  
surrounds  
to  
achieve  
a  
smooth  
response  
curve.

However,  
the  
hysteresis  
of these  
surrounds  
can  
restrict  
dynamics  
and  
make  
bass  
sound a  
little  
'soft'.

For the  
Diamond  
12  
Series,  
the aim  
was to  
combine  
the

Klarity™  
cone  
with a  
low-  
damping  
surround,  
thereby  
achieving  
both low  
colouration  
and  
expressive  
dynamics.  
This was  
not a  
simple  
task but,  
by  
simulating  
many  
different  
cone  
shapes  
and  
adding  
ribs to  
provide  
further  
stiffening,  
a flat  
response  
curve  
was  
achieved  
without  
resorting  
to a  
high-  
damping  
surround,  
thereby  
striking  
the ideal  
balance.  
The  
Klarity™  
diaphragms  
are  
driven  
by a  
substantial,  
precision-  
made  
magnet  
system  
with an  
aluminium  
compensation  
ring to  
minimise  
the

effect of variations in inductance as the voice coil travels. This contributes to an absence of distortion and intermodulation generated by the motor system. The voice coil is wound on a high-power epoxy/glass fibre bobbin - highly unusual in speakers at this price level. This has the advantage of not adding eddy currents and delivering greater power handling than an aluminium bobbin, whilst also being much stiffer than the Kapton type.

**Treble Unit and Crossover**

The Diamond 12 Series' treble unit sports a 25mm dome made from a woven polyester film with a high-loss coating to deliver open and smoothly extended high frequencies. The magnet system and the front plate have been optimised for wide dispersion and uncompressed behaviour. The front plate is flat and exposes

the dome as much as possible, with a short duct to balance the acoustic load and improve the SPL (sound pressure level) measurement.

The treble unit combines seamlessly with the mid/bass driver via a crossover network using an acoustic LKR 24dB topology.

This includes air core inductors of the type more commonly found in high-end speakers, selected because they produce the lowest distortion of all inductor types.

As the resistance of the coil is higher than a standard

laminated steel or ferrite core inductor, the magnetic structure of the mid/bass driver has been modified to compensate the resulting in fast, clean bass with no distortion from the inductor.

**Cabinet Construction**

The cabinet is a critical part of any high-performance loudspeaker. At entry-level price points, corners are often cut to constrain cost, but this is a mistake; no matter how good the drive units, their performance will be wasted if the cabinet's construction is suboptimal. For this reason, Diamond 12 Series speakers feature cabinets constructed with a

level of  
sophistication  
usually  
reserved  
for much  
more  
expensive  
designs.  
The  
rear-  
ported  
enclosure  
of each  
model is  
precisely  
sized so  
that the  
internal  
volume  
works in  
harmony  
with the  
drive  
unit  
system  
to  
deliver  
the  
desired  
sonic  
result.  
The  
cabinet  
walls are  
made  
from  
sections  
of wood  
fibre  
board of  
varying  
thickness,  
constructed  
in such a  
way as  
to  
subdue  
the  
identifiable  
characteristics  
of the  
cabinet's  
'sound'  
and  
ensure  
the  
drivers'  
output  
remains  
unsullied.  
The



resonant  
properties  
of each  
element  
– even  
the glue  
– were  
considered  
to  
determine  
the ideal  
combination  
of  
materials  
and  
placement.  
Inside  
the  
cabinet,  
Intelligent  
Spot  
Bracing  
connects  
opposing  
walls  
with a  
specific  
form of  
wood  
brace to  
achieve  
optimal  
reduction  
of  
cabinet  
resonance.  
These  
braces  
are  
precisely  
modelled  
by  
computer  
simulation  
to  
improve  
upon the  
commonplace  
‘figure of  
eight’  
brace,  
which  
can  
have the  
effect of  
transferring  
resonance  
from one  
wall to  
another.

Speaker type	2.5-way floorstand
Enclosure type	Bass reflex
Treble driver	25mm textile dom
Mid/bass driver	150mm Klarity™ c
Dedicated bass driver	150mm Klarity™ c
Sensitivity (2.83v @ 1m)	89dB
Recommended amp power	30-200W
Peak SPL	102dB
Nominal impedance	8Ω compatible
Minimum impedance	5Ω

Frequency response (+/-3dB)	40Hz-20kHz
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Bass extension (-6dB)	35Hz
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Crossover frequency	2.1kHz
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Dimensions (HxWxD)	1150x200x350mm
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Weight (each)	22.4kg
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