



**90 SERIES  
WIDE DISPERSION  
PROFESSIONAL SPEAKER  
ENCLOSURE**

2090

2190

3190

OPERATING MANUAL

# 90 Series

The WHARFEDALE Wireless Works was established in 1932 by Gilbert Briggs who soon established a reputation as one of the most innovative loudspeaker engineers of his generation. His company was at the leading edge of an exciting new technology which was dedicated to bringing the pleasure of music and entertainment into people's homes. As the technology advanced Wharfedale gave many music lovers their first taste of High Fidelity, mounting a series of live sound demonstrations which excited the audio world and heralded the birth of the modern hi-fi loudspeaker.

Today Wharfedale Systems takes the same uncompromising approach to the design and manufacturing of every audio product, using high-quality components and state-of-the-art testing equipment to ensure consistency and high performance. At Wharfedale we design and build all of our products and all our drive units. We control all the variables, so we don't have to compromise design goals.

Wharfedale 2090 Series of Professional Sound Loudspeakers are high quality systems suitable for club and studio use. They are straightforward to use, reliable in operation and capable of excellent performance.



## Wharfedale 2090 Series of Professional Sound Loudspeakers

- High Power, High Efficiency design based upon over 12 years of reliable operation of the Wharfedale 2080 series.
- Exclusive high-power Wharfedale Bass Units with 2 inch (50 mm) voice coils and laminated pulp cones.
- Exclusive low-distortion Wharfedale HF Units mounted in Conical Section horns for higher efficiency and controlled dispersion.
- Proprietary Wharfedale crossovers incorporating re-entrant overload protection on the HF Units
- Modern attractive styling blends well in most installations.
- Wide, uniform sound dispersion (2190, 3190).
- Wall and ceiling brackets included.



### Unpacking

All Wharfedale products are fully checked before leaving the factory.

After unpacking please inspect

cabinets for any physical damage. Please retain the shipping carton if possible and internal packing material in case the unit needs to be returned. Please check as soon as possible the unit is functioning correctly. In the event of any damage please contact your dealer immediately so that a written claim for damages can be initiated.

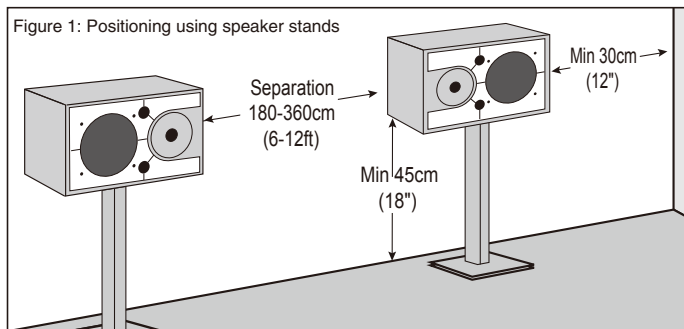
### Wharfedale Systems Limited Warranty

In the event of malfunction, contact your authorised Wharfedale dealer or distributor for information.

More information can be found at [www.wharfedalepro.com](http://www.wharfedalepro.com)

## POSITIONING THE 2090

All Wharfedale high performance loudspeaker systems are designed to work well with the majority of good audio equipment. They are also designed to produce good quality sound at high levels. If you need technical advice or would like to



You can mount your 2090s on conventional speaker stands (see figure 2).

## MODELS 2190 AND 3190 WIDE DISPERSION

People who use loudspeakers for public entertainment often put them high up on walls or near to a ceiling. The result is a dull, unexciting sound with no detail. This is because the sound absorption of the furnishing and the crowd of people moving around soaks up the high notes.

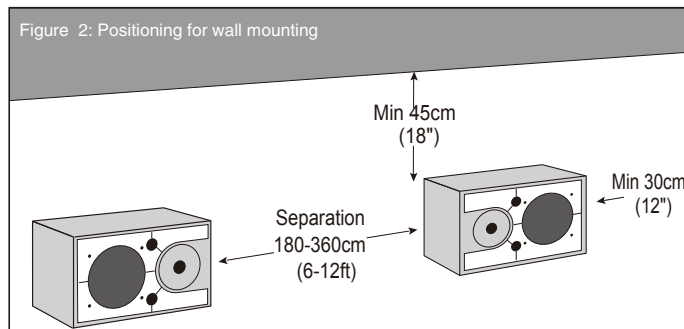
Some loudspeaker suppliers get round this problem by using a product with too much treble, often with painful results. Others try to bounce the sound off the walls or other reflecting surfaces. They hope that this will make a uniform sound all over the room. You can not guarantee this. All rooms have different amounts of sound absorption in different places. You will lose stereo information by spreading the sound around in this way.

## POSITIONING THE 2190 OR 3190

The 90 Series loudspeakers are packed with a pair of brackets, see figure (A) . This steel bracket allows the speaker to be fixed at an angle, either in a vertical or horizontal position. Mounting the bracket vertically and flush to the wall allows the speaker to be rotated left to right (see figure 2). Mounting the bracket horizontally and flush to the wall allows upward and downward tilting of the speaker (see figure 3).

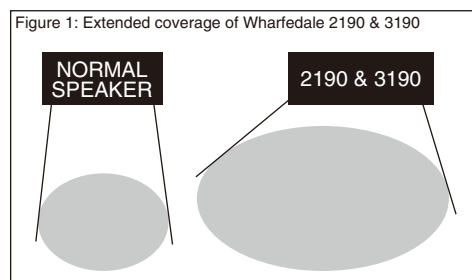


confirm their suitability please ask your dealer or write to us at the address shown. We hope that you will enjoy using and listening to your Wharfedale 2090's.



If you prefer you can wall mount them using suitable rotatable wall-mounting brackets.

The Wharfedale 2190 and 3190 enables you to direct the sound to where the people are. Conventional loudspeakers produce a narrow beam of sound at high frequencies. Anyone moving around in the room will move in and out of this beam, and will find the sound varying in detail. The 2190 and 3190 produces a much wider area of coverage (figure 1) using techniques pioneered by Wharfedale more than 25 years ago.



The 2190 and 3190 produces a much wider area of coverage (figure 1) using techniques pioneered by Wharfedale more than 25 years ago.

Figure A

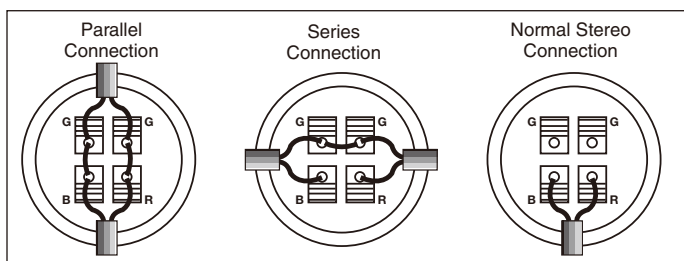


## CONNECTIONS AND PHASING

Use twin flex with a rib or coloured stripe to identify the positive wire. The current rating should be 10 amps minimum. The speakers are fitted with spring connectors to accept bare wire ends that can be inserted into the holes and clamped. Be careful to trim away any loose strands to avoid shorting the amplifier output. Connect the wire with the stripe or rib to the red (or +) terminal for both amplifier and loudspeaker for each channel.

To test the phasing of a stereo pair of loudspeakers switch the amplifier to mono if possible and play some music, listening to the bass. If you have wired one speaker 'out of phase' the bass will sound weak and ill-defined. Check your connections and reverse the connections to one speaker only. Refer to figure 4 below when making multiple loudspeaker connections.

Figure 4



## WIRING INSTRUCTIONS

There is a special terminal housing on the back of the 2090 loudspeakers in which the Green terminals are not connected internally. To connect the loudspeakers as multiple stereo pairs, as shown in figure 4, proceed as follows:

To place adjacent units in parallel use two link-bars G to B and G to R.

To place adjacent units in series use one link bar G to G.

For normal stereo connection use no links.

If you have wired up more than one stereo pair you will need to check the phasing of each pair separately.

## AVOIDING BURN OUT

It is easy to damage loudspeakers by over-driving. This happens when you turn the volume control up too far, causing distortion. If that happens, turn down the volume before you do any damage. It is more likely to happen if using an amplifier with too small a power rating for the combination of room size and loudspeakers. There are two remedies:

- Use a bigger amplifier (but with an output not greater than the power rating of the speakers).
- Use more speakers (in series-parallel arrangement, keeping the resultant impedance 4 to 8 ohms).

Note for each amplifier channel:

2 speakers in parallel = 2 ohms - this is too low.

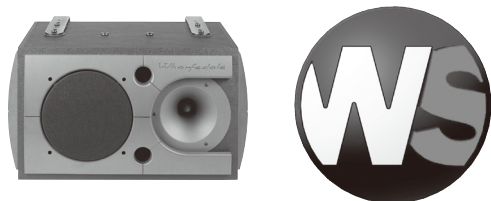
2 speakers in series = 8 ohms

4 speakers in series-parallel = 4 ohms

	<b>2090</b>	<b>2190</b>	<b>3190</b>
<b>Power Rating Programme Peak</b>	200W 400W	200W 400W	350W 700W
<b>Finish</b>	Black vinyl film cabinet covering; Gunmetal plastic mouldings; black cloth grille	Black vinyl film cabinet covering; Gunmetal plastic mouldings; black cloth grille	Black vinyl film cabinet covering; Gunmetal plastic mouldings; black cloth grille
<b>Frequency Range</b>	40 Hz-20kHz	40 Hz-20kHz	40 Hz-20kHz
<b>Sensitivity at 1m for 2.83v input</b>	90dB	90dB	93dB
<b>Drive Units</b>	200mm Wharfedale Bass Unit with high temperature 50mm voice coil with high-power magnet system 25mm fabric dome Wharfedale HF unit with ferrofluid cooling	200mm Wharfedale Bass Unit with high temperature 50mm voice coil with high-power magnet system 2 x 25mm fabric dome Wharfedale HF unit with ferrofluid cooling	2 x 200mm Wharfedale Bass Unit with high temperature 50mm voice coil with high-power magnet system 2 x 25mm fabric dome Wharfedale HF unit with ferrofluid cooling
<b>Nominal Impedance</b>	8 ohms	8 ohms	4 ohms
<b>Dimensions (HxWxD)mm</b>	270 x 445 x 220	270 x 445 x 250	270 x 445 x 315
<b>Weight (kg)</b>	7.9	9.5	15.4
<b>Bracket weight</b>	1.52kg	1.52kg	1.52kg

*(All specifications subject to change without notice)*

Thankyou for buying Wharfedale 2090 Loudspeaker Units.



WHARFEDALE SYSTEMS DIVISION  
 Huntingdon PE29 6XU United Kingdom  
[www.wharfedalepro.com](http://www.wharfedalepro.com)

The name 'WHARFEDALE' is a registered trademark of Wharfedale International Limited.  
 Wharfedale has a policy of continuous product development and reserves the right to change specification without notice.  
 Wharfedale is a member of the International Audio Group.