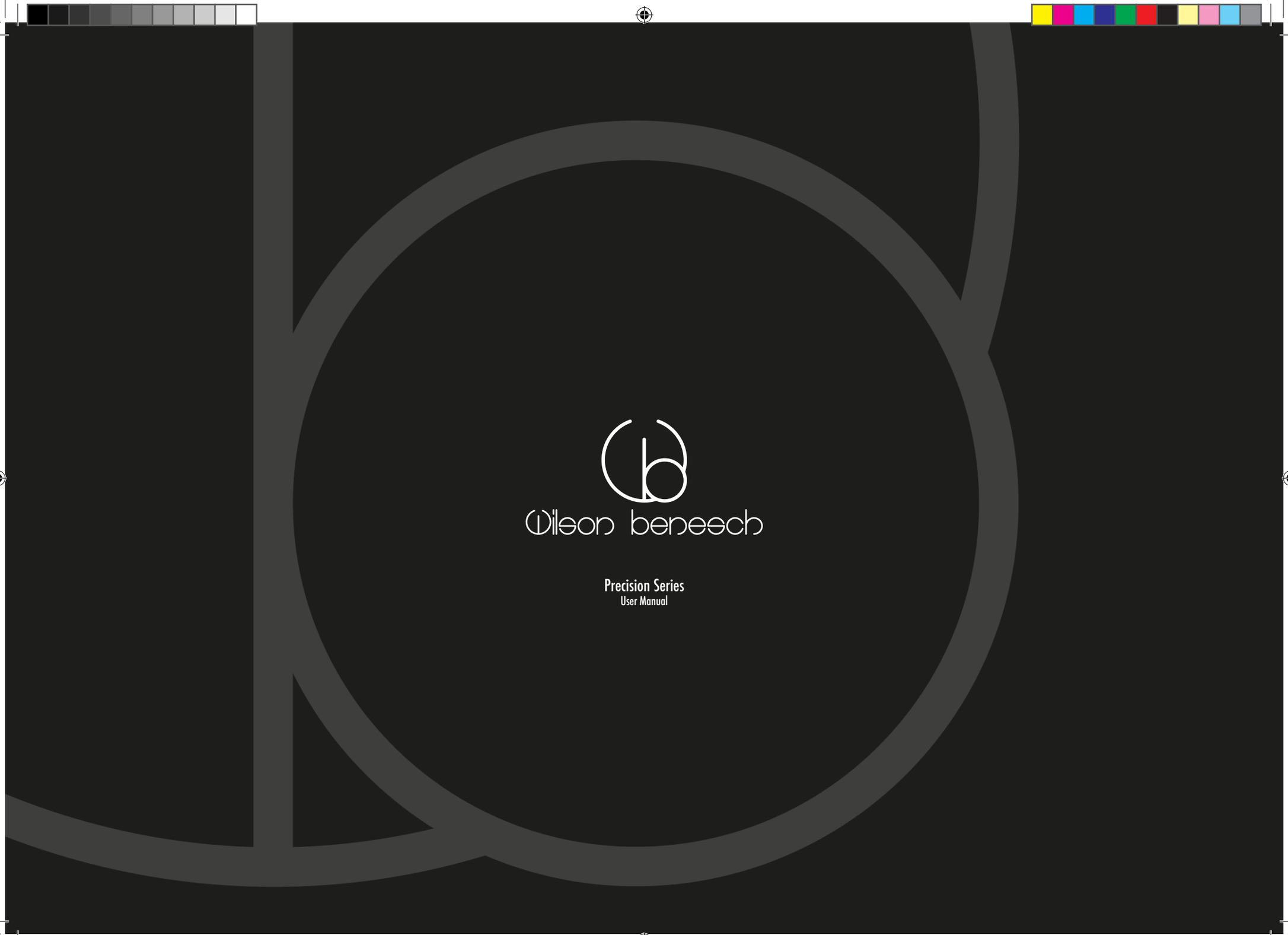

Precision Series

User Manual

Dear Valued Customer,

To the cognoscenti of British high-performance audio, the Wilson Benesch marque is recognised as one of the world's leading loudspeaker design and manufacturing companies. We are honoured that you have chosen a Precision Series loudspeaker for your audio system. Our team of engineers, craftspeople and designers have devoted every effort to manufacture this series of loudspeakers and we are extremely proud to present it to you. Our products are engineered to last a lifetime and we wish you many hours of enjoyment from your personal music collection with the Precision Series loudspeakers installed in your personal system.

Before starting your journey, we encourage you to pay special attention to the information contained in this manual. In order to extract maximum performance from the product, it is critical that it is setup correctly. Should you have any questions or require assistance, please do not hestitate to contact your authorised dealer or distributor.

On behalf of all the Team at Wilson Benesch,

Craig Milnes,
Design Director

Christina Milnes,
Managing Director

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1.1 Product Registration

Please register your product within 6-weeks of purchase, this can be completed online using our electronic registration service via our website, which can also be found by scanning the QR code printed on the guarantee card included with this product. Warranty conditions can be viewed towards the back of this manual. This guarantee is offered only to the first owner of this product and extends for 5-years from the date of purchase.

1.2 Unpacking: Important points before setup

On the outside of the shipping carton you will find a QR code which will automatically load an unpacking video on your device. It is possible to unpack the Precision Series products alone, but we recommend at least 2-people work together to avoid damage to the product or personal injury. Please observe normal procedures for lifting and correct posture when handling the speakers. It is strongly recommended that all watches and jewellery be removed prior to unpacking and gloves worn to allow better grip of the product and protection to the surface finish. Patient and careful setup is essential to obtain the maximum performance from this system.

Special care and attention must be taken to ensure that no pressure is applied to the drivers and in particular, the tweeter dome, when handling or moving the product from the packaging.

Once both speakers have been stood in an upright position on their spikes the bags can be removed and the packaging stored for future use. This packaging is essential for safe shipment of the loudspeaker. It is designed and tested specifically for use with the Precision Series. Due to the bespoke nature of the packaging, replacement costs are not insignificant and it is highly recommended therefore, that the packaging is retained for any potential later use.

1.3 What's in the Box

Your Precision Series loudspeakers are supplied with carefully designed packaging that allow for the loudspeaker to be installed with a minimal amount of lifting. Please use the QR code on the exterior of the shipping carton which shows an instructional video for unpacking the Precision Series products.

Also contained within the shipping container should be the following items:

- 1x Precision Series Manual
- 1x Precision Series Setup Proceedure Guide
- 1x Wilson Benesch Spanner with a 13mm / 22mm end
- A full set of spikes that are pre-installed on each loudspeaker
- A tweeter protection brace which should be removed prior to listening

2.1 The Subject of Room Acoustics

Acoustics is a complex subject and this text should be treated for what it is, a simple but informative guide. For a deeper understanding, we would recommend seeking out a range of texts on the subject in conjunction with the purchase and use of basic measurement equipment.

It is important to have a strong appreciation of the huge role played by the room and surroundings on the overall sound of the audio system. The air contained within the room is the link between the output of the loudspeaker and your ear. How this air behaves is dependent upon the attributes or characteristics of the room. It follows that a better understanding of basic acoustics will assist in making decisions about the way in which the room and subsequently the system can be initially installed and ultimately improved.

Room types fall between two extremes. A room can be 'dead' on the one hand - being full of highly acoustic energy absorbent materials - or very 'lively' on the other hand with a high proportion of non-absorbent, hard, reflective surfaces. A combination of materials with different characteristics to achieve a balance between these extremes is, of course, preferable to either extreme where performance and accuracy will suffer.

The contents of a room will impact on its overall acoustic character. As you would expect harder surfaces like glass and concrete tend to reflect and/or diffuse a broad bandwidth of acoustic energy. Complimentary materials that are soft and thick in section such as heavy natural fibre curtains will tend to absorb a broad band of frequencies.

2.2 Standing waves

When sound waves reflect between two parallel surfaces, the distance apart being equal to half the wavelength or less, dependent upon wave size, resonance modes referred to as 'standing waves' are created. The standing waves in your room will distort the frequency response of your system sympathetically boosting or cancelling certain frequencies. If a certain standing wave frequency is acoustically isolated from its modal neighbours its effect is more likely to be audible and problematic. This can compromise the accuracy of any loudspeaker.

2.3 Reflection, Absorption, Diffusion

The upper-range of frequencies is generally affected more by room contents than room shape. The surfaces and how they reflect, absorb or diffuse acoustic energy will tend to describe the 'sound' of a room. As is the case with all forms of energy, acoustic energy cannot be destroyed it can only be converted or reflected. The shape, thickness and material type of a surface will determine how the sound is reflected, how much of it is reflected and also how much is absorbed and converted into heat or kinetic energy.

Depending on the frequencies in question, the thickness, density and material of the surface or boundary, some energy may pass through entirely. This behaviour is commonly observed in the lower range of frequencies, being comprised of larger wavelengths that can pass through wall or ceiling boundaries and into an adjacent room, while the upper frequencies are either absorbed or reflected back inside the listening room.

Diffusion occurs when acoustic energy is reflected by a surface and dispersed in a random and/or disordered fashion. Usually, diffusion will occur when the acoustic energy meets a non-uniform or uneven surface. A tightly packed bookshelf with books of different sizes and profiles is one example of a commonly found listening room boundary which can result in diffusion of the upper frequencies.
Diffusion of sound energy at key areas of the listening room is often less damaging to system accuracy and therefore preferable to orderly reflection. In the case of reflection, the quantity of indirect sound reaching the listening position will be greater and therefore more influential. This mixing of indirect and direct sound at the listening position can result in audible inaccuracies and artefacts.

It should be appreciated that sound waves behave in much the same way as light waves or 'rays'. To imagine the loudspeaker driver as a floodlight can be helpful in determining which areas of the listening space are critical to the performance and accuracy of the system. The key "first points of reflection" can be roughly identified by having an assistant hold a mirror on each side wall while you are positioned in the listening chair. Once the speaker drivers can be seen in the mirror from the listening position the impact of this identified area should be considered in light of the above basic principles. By the same token, the first reflection point on the ceiling can also be considered for its influence as the first point of reflection.

Although many listening rooms are unsuitable for professional acoustic treatment products due to their dual role as a living and listening space, it can still be possible to make small but appreciable improvements by rearranging furniture, system components and of course the listening position. Consider the changeability of rooms; if the room is dressed with heavy curtains simply changing the curtains position can alter the balance of the system. It is the goal that is the guide and the owner is the pivot in this subtle balancing act.

2.4 Loudspeaker and Listening Position

The system, comprised of different components, installed in a room with a unique acoustic character and every listener's individual taste, should be appreciated as a unique sum comprised of a great many variables. It should be considered that in this balancing act experimentation is critical to getting the best from the system and more importantly, tuning to the listener's own satisfaction. There is no one simple set of rules for speaker placement that will fit for every scenario within which a Precision Series loudspeaker is installed. It is for this reason that no minimum or maximum parameters are stated for the positioning of each product. The listening position should also be evaluated in the same manner.

The distance between the speakers in relation to the distance from each speaker to the listening position will impact on the size of the sound stage presented. Additionally, if the listening position is moved closer to the speakers, the proportion of reflected sound to direct sound will decrease. A great many recommendations describe an equilateral triangle, whereby the distance between each speaker and the listening chair are the same, but again, experimentation is the key. A larger distance between the speakers can result in a larger and more engaging presentation. The distance between the speaker and rear and side walls should also be considered. Bass performance, in particular, will often suffer wherever a speaker is too close to one of these boundaries, resulting in "boomy" or over-bloated bass and/or cancellations. This effect is more pronounced still when placing the speaker into a corner where two boundaries meet.

The most valuable commodity in this process is time. Be prepared to make small changes over long periods of time. Positioning the loudspeakers in approximate position that you anticipate will work best and then wiring the loudspeakers up and commencing the burn-in period is advisable. During this burn-in period, the speaker will more than likely sound somewhat forward and etched, critical appraisal of the sound at this stage should always be avoided.

Once the 120-hour running in period has elapsed, it is time to choose a rough final position for the loudspeakers before making the final adjustments to toe and rake angles.

We would recommend selecting four musical passages as outlined below in helping you evaluate the various speaker positioning parameters and the effects of changing these.

- Select one with a distinctive and easily heard human voice. Spoken voice is ideal.
- Select one passage with a full orchestra like The Pines of Rome.
- Select one that is very emotional for you.
- Select one that has a strong rhythm and a good portion of bass content, as found in a typical dance music track for example.

2.5 Speaker Toe-in

The amount of speaker toe-in will define a sharper centre image at the expense of image width. The upper frequencies will become more pronounced as you bring the tweeters on axis with your ear at the listening position. While we generally recommend at least some speaker toe-in, the amount is not a precise or fixed value. Experimenting here is advisable and evaluation at the listening position, while an assistant makes toe-in adjustments, is one method to achieve the best balance.

2.6 Spikes & Speaker Rake Angle

The position of the tweeter has been designed to function best for listeners seated in conventional relaxed seating positions. However, the rake angle of the speaker can be changed by adjusting the installed speaker spikes. Tilting the speaker back slightly will have the effect of projecting the perceived sound stage a little higher. This can also change the perceived balance of the upper frequencies, as the tweeter will be most prominent when it is on axis with your ear at the listening position. All the spikes in your Precision Series loudspeaker are adjustable to allow you to alter the loudspeaker rake angle.

2.7 Loudspeaker Clearance and the Bass Port

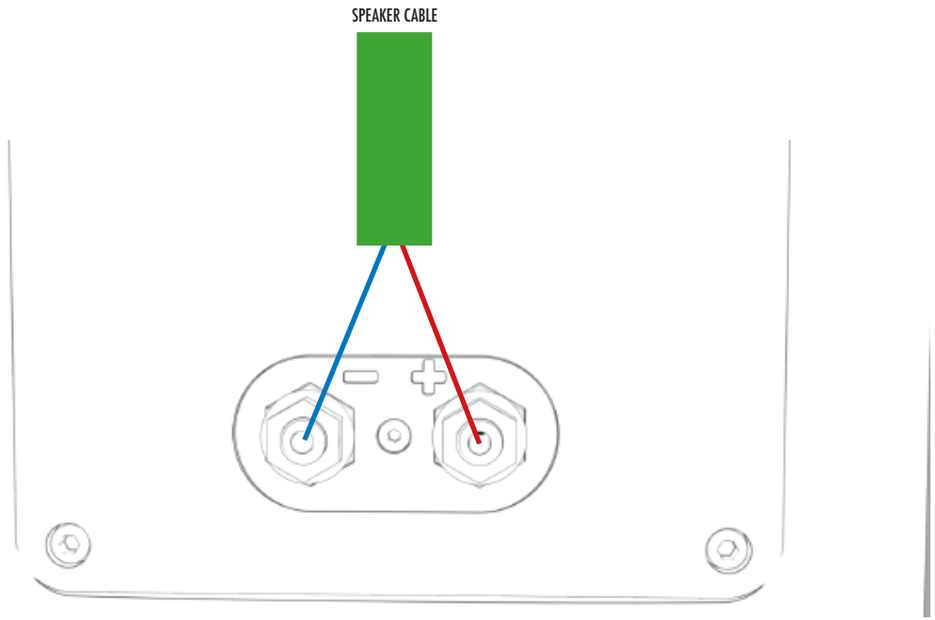
Both P2.0 and P3.0 loudspeakers feature a bass port on the underside of its foot that is in close proximity to the floor. The low-frequency augmentation of these two loudspeakers will behave in much the same way that it would should you place the loudspeakers next to a wall. That is to say, adjustments in the overall clearance of the P2.0 and P3.0 from the floor will change the overall balance in the system. Generally, it can be observed that a smaller clearance and closer placement to the floor will result in a more augmented low-frequency characteristic to the loudspeaker presentation, where a larger clearance between the floor and the bass port will result in a less augmented low-frequency characteristic to the presentation. This is a critical step in the loudspeaker setup procedure and in many cases, the balance of the system will change considerably as this parameter is adjusted.

3.1 Terminals

Wilson Benesch recommends the use of 8mm ring or spade connector cable terminations. A spanner is provided to tighten up the rhodium plated nuts. A light pinch of the end of the supplied spanner is more than sufficient to tighten the nuts. Please be careful to not over tighten the terminals as this could result in damage to the terminal plate or snapping of the terminal. The terminals will also accept 4mm banana plugs.

3.2 Precision Series loudspeaker Terminal Wiring

All Precision Series loudspeakers have one terminal losenge that is positioned at the rear loudspeaker. A single loudspeaker cable can be used to wire the Precision Series to your amplifier. As shown in the diagram below:



4.1 Running-in (120 hours)

Like anything of good quality a period of running in tends to see improvements in performance. The Precision Series enclosure requires time to settle in to its surroundings. Climatic and humidity variations will take time to adjust to and until these changes have been made the speaker will not perform at its best. The drivers require time to bed in physically and relax materially. The quality of the sound that you hear when you first use your Precision Series loudspeakers will improve significantly over time, though this change will not be instantly perceptible. However, the biggest changes to the performance of the loudspeaker will take place during what is commonly known as the running-in or burn-in period. Wilson Benesch recommends at least one hundred and twenty hours of running in before making any subjective judgements of the speaker's performance, but the Precision Series loudspeakers will continue to improve well beyond this.

4.2 Partnering Products

There are a huge number of products available throughout the world that can be partnered with Wilson Benesch loudspeakers and it would not be helpful to the end user to make any specific recommendations for any particular cabling or electronics products that are "guaranteed" to meet or exceed all of the expectations for the end user. System matching and synergy is a balancing act. Every listener is unique and what works well in one situation will not necessarily be the best way forward in another. Auditioning is critical to getting the best from any investment and specifications alone will only give an indication of performance. While the power specifications of any potential partnering amplifiers should be considered, there are of course many other factors that will influence how well a particular amplifier is able to drive a loudspeaker.

The Precision Series will deliver great insight into what is happening upstream of the speaker, in both the electronics and of course the program material. The presentation is capable of changing vastly depending on what components you choose to place before the loudspeaker. It follows that the system will pay great dividends if time is taken to evaluate and choose components that work well together and meet your own expectations for your system.

4.3 Surface Finish

Your Precision Series loudspeaker has been built using high grade materials and finishes. The surface finishes applied to all Wilson Benesch loudspeakers require no further attention other than the occasional dusting with a fine material. However, direct sunlight is very damaging to material finishes and should be avoided.

Treat the driver cones with respect and they will last a decade with relative ease. With a little care the speakers will look as good in 10-years as they do today and will probably sound even better.

4.4 Other Adjustments

Under no circumstance should you make any adjustment to the system's parts. Any adjustments not described as required by the setting up procedure will nullify all guarantees. Should there be any questions regarding the performance of this system, you should refer to your dealer immediately for advice and/or assistance. If in the unlikely event that the problem cannot be dealt with by your dealer, do not under any circumstances return the goods to Wilson Benesch without prior agreement with the company.

4.5 Magnet Precautions

The motors used in all Wilson Benesch speakers are built from the most powerful magnetic material in the world, Nd.Fe.B. Do not bring any metallic objects or sensitive electronic, electromagnetic or mechanical systems into close proximity of these devices. This includes pace makers or other critical devices. The company cannot accept responsibility for any damage or injury caused to any such systems as a result of accidental exposure.

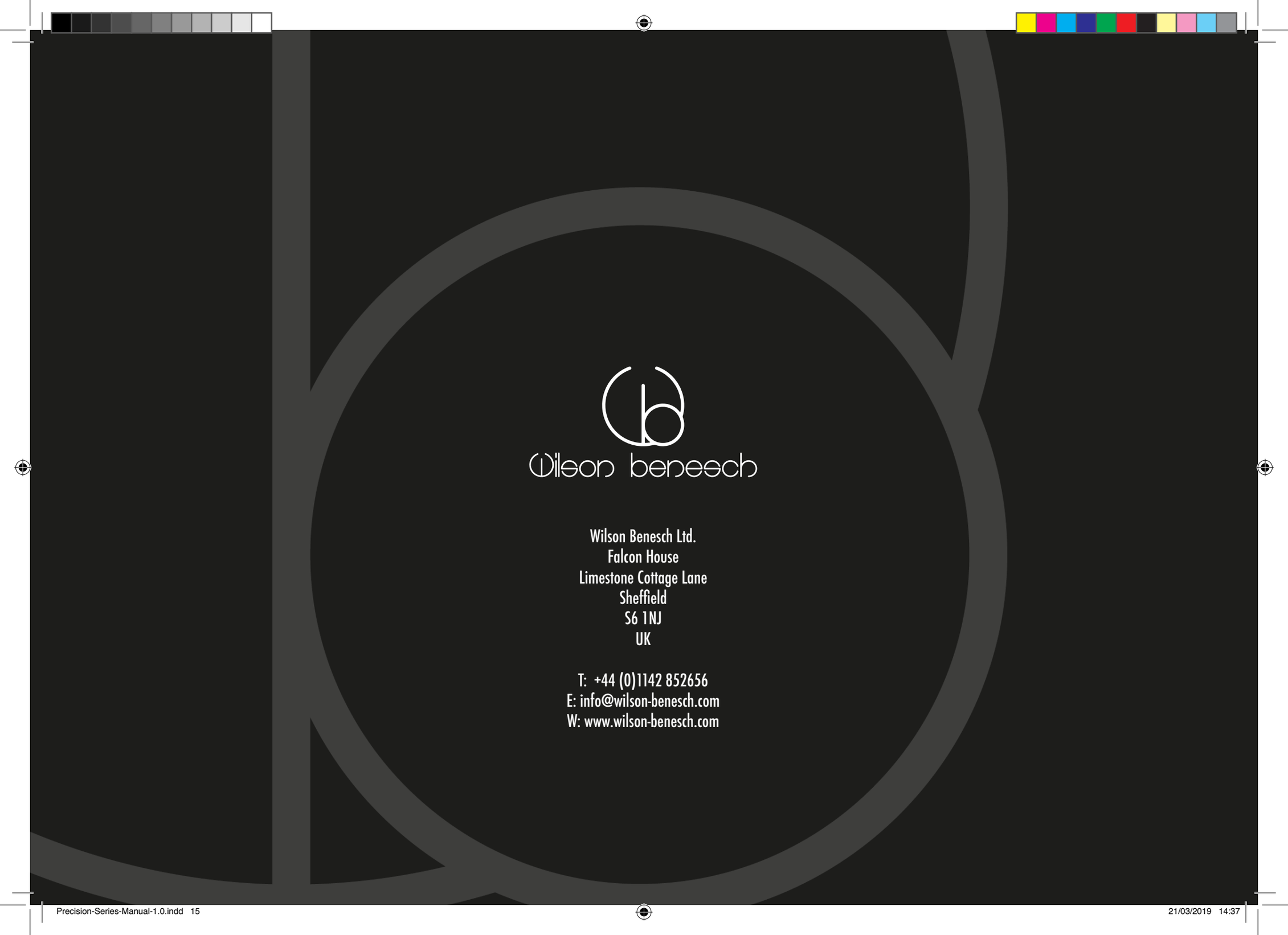
4.6 World Wide Warranty

Wilson Benesch offers a 5-year conditional warranty to the end user. It is done in collaboration with our distributors.

The conditions of this warranty are:
- That Wilson Benesch receives the necessary registration details from the end user.
- That these details are received within 6-weeks of purchase.
- The warranty is only valid for the first owner and is not transferable.
- That it is limited to the repair of the equipment only.
- That any claim is accompanied by the necessary proof of purchase.
- That cover does not extend to damage caused by faulty or unsuitable ancillary equipment.
- That the serial number has not been altered, deleted, removed or made illegible.
- That the product has not been abused or modified in any way.
- That is was purchased originally from a Wilson Benesch authorised dealer.

If the equipment is being used in the country of purchase, you should contact the Wilson Benesch authorised dealer from whom the equipment was purchased.

If the equipment is being used outside the country of purchase, you should contact the Wilson Benesch national distributor in the country of residence who will advise where the equipment can be serviced. You can call Wilson Benesch in the UK or visit our website to get the contact details of your local distributor. To validate your warranty, you will need the original sales receipt or other proof of ownership and date of purchase. Should you have any queries regarding the product or set-up, do not hesitate to contact us.



Wilson Benesch Ltd.
Falcon House
Limestone Cottage Lane
Sheffield
S6 1NJ
UK

T: +44 (0)1142 852656
E: info@wilson-benesch.com
W: www.wilson-benesch.com