



raising
expectations

Stephane Grappelli

(January 26, 1908 – December 1, 1997)

Grappelli was a pioneer jazz violinist who founded the quintet of the "Quintette du Hot Club de France" with Django Reinhardt. It was among the first all-string jazz bands.

After being born in Paris Grappelli the son of Italians was orphaned as a youth after his mother died and his father left to fight in World War I. His musical career began

with busking on the streets of Montmartre. He began playing the violin at the age of 13.

"Improvisation, it is a mystery. You can write a book about it, but by the end no one still knows what it is. When I improvise and I'm in good form, I'm like somebody half sleeping. I even forget that there are people in front of me. Great improvisers are like priests, they are thinking only of their God."



innovation
in materials technology

Benjamin Huntsman (1704 - 1776).

In the 1740s a form of the crucible steel process was discovered that allowed the manufacture of a better quality of steel than had previously been available. Before the introduction of Huntsman's technique, Sheffield produced about 200 tonnes of steel per year based on Swedish ore. The introduction of Huntsman's technique changed this radically; one hundred years later the amount had risen to over 80,000 tonnes



per year - almost half of Europe's total production. This discovery enabled Sheffield to develop from a small township into one of Europe's leading industrial cities.

Bessemer furnace

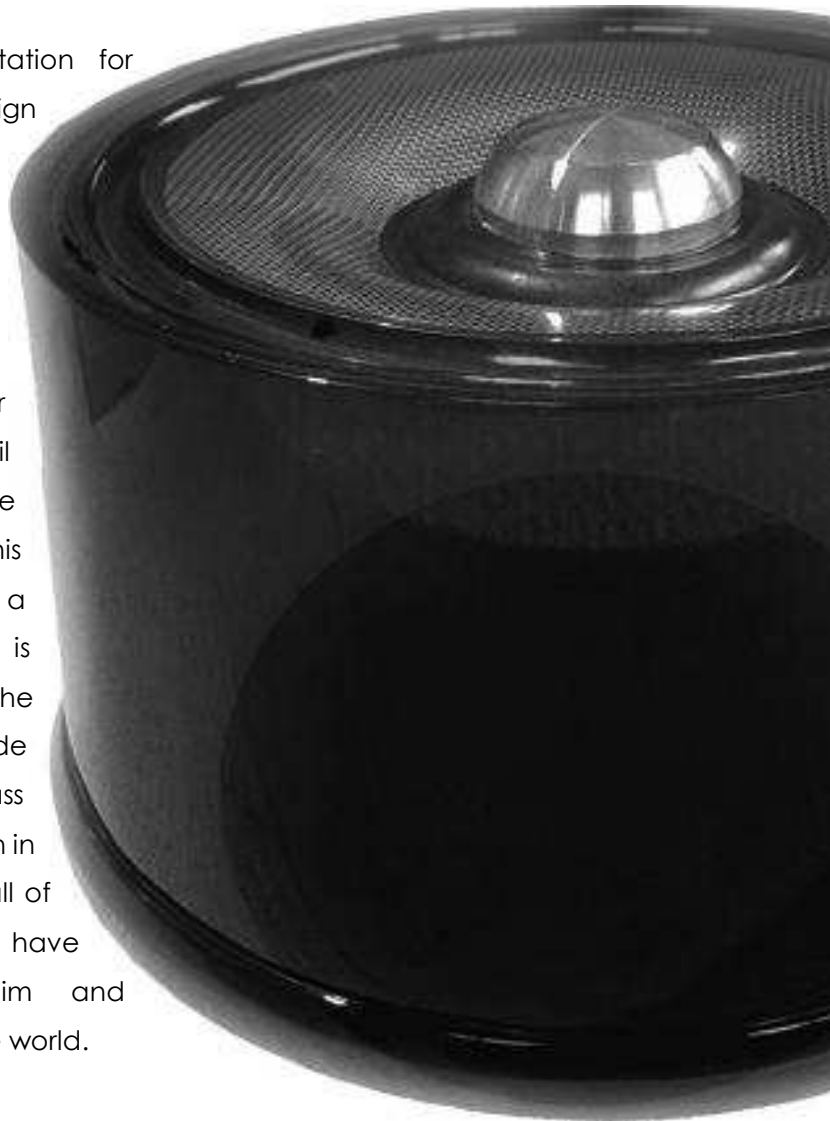
Sir Henry Bessemer (1813-1898) invented the first process for mass-producing steel inexpensively, essential to the development of skyscrapers. Bessemer patented "a decarbonisation process, utilizing a blast of air" in 1855.

Harry Brearley (1871 – 1948). Harry Brearley of the Brown-Firth research laboratory in Sheffield, England is most commonly credited as the "inventor" of stainless steel in 1916.

innovation
in design

Wilson Benesch

Has earned a reputation for quality product design that is unquestionably unique. The company conceives, develops and manufactures without the constraints of the committee or board. The final retail price is the end not the beginning of this process. The result is a purist approach that is quite rare today. The ability to think outside the box has led to class leading product design in every single product all of which can be seen to have won critical acclaim and awards throughout the world.



limits

Working within limits: The knock on effect of truly creative design is that it can provide a completely new development path. One good example can be seen in retrospect and begins in the very early years, where it was recognised that the only way to move forward analogue replay would be to build in the most advanced materials technology. This was before we had used carbon fibre composites. The research that was undertaken with carbon fibre composites



led to a better understanding of how energy travels within materials used in audio systems. This work provided not only the solid foundations for the growth of the company but also a completely new avenue for loudspeaker cabinet design. This elevation in quality / expectations would in turn foster the need for equally advanced dynamic drive units. It followed that we embarked on further extensive research that resulted in the Tactic and Isobaric Tactic design that would eventually make the Torus concept a possibility. All these milestones would not have been possible without the preceding research and development. One common concern of all the work has been the control or respect for structural borne energy. The Tours work gave rise to numerous ideas on how less exotic materials could be used. With a careful concern for the limits, these materials are able to form part of any design.

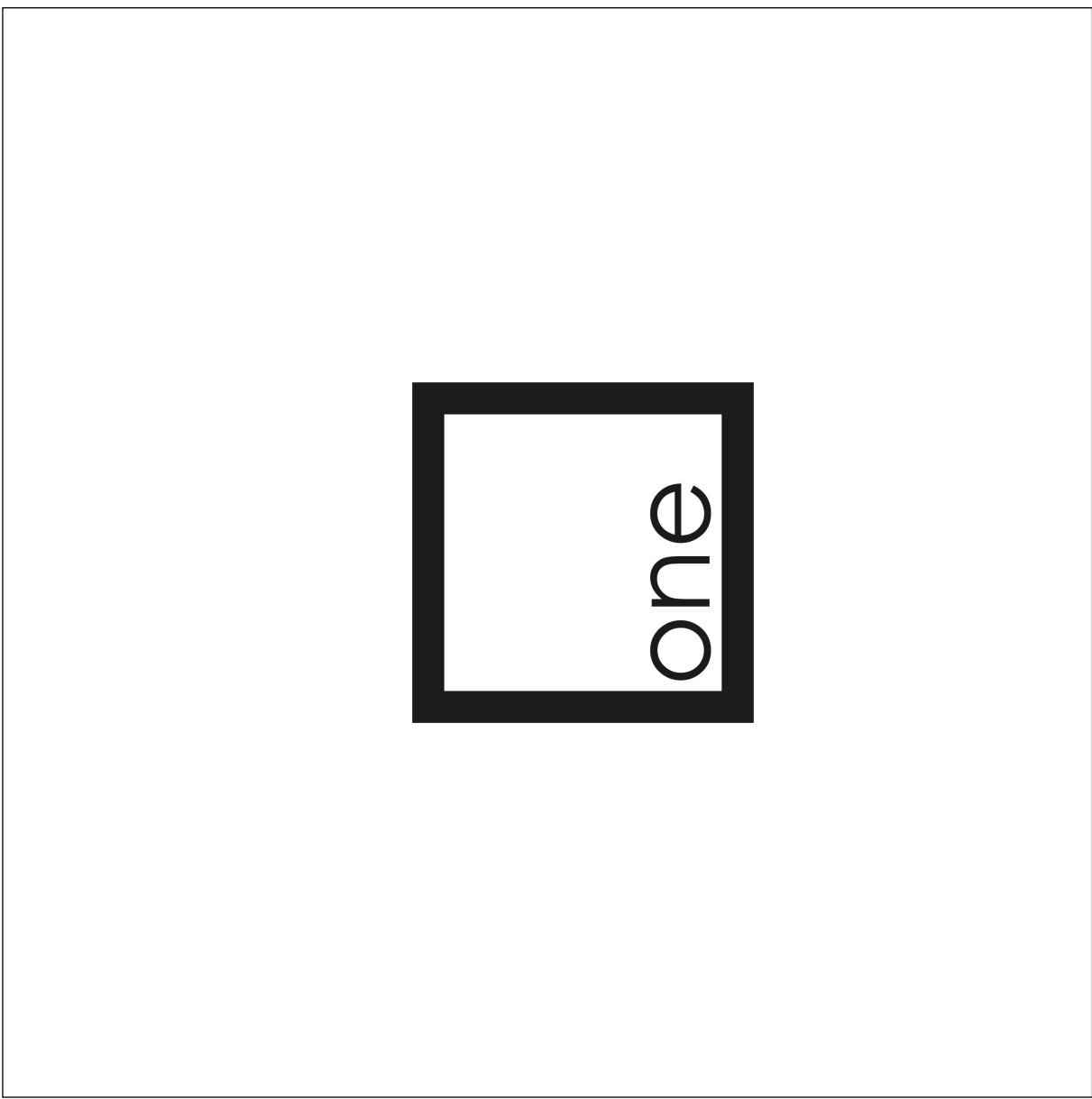
energy

Dealing with unwanted energy: By respecting the level of energy generated behind the driver and dealing with it in a different way, the Square design has addressed the limits of medium density fibreboard in a completely new way. Rather than ignoring the limits of the material, we have removed it all together and replaced it with a flexible material and a very stiff fibrous material. The knock on effect is that significant reductions in energy transmission can be



achieved. The rear wall of the traditional square enclosure has always been the main impact surface. By removing this facet, it is possible to achieve almost a 6dB reduction in sound radiated from the cabinet. The success of the dipole design has in part been attributable to this, leading to a marked absence of cabinet colouration, but with the penalty of inaccurate frequency response. The Square solution sees a carefully designed A.B.R. that not only encloses the air and provides a supporting role for the bass frequency output but also enables greater control over the frequency response whilst at the same time liberating the adjoining cabinet walls from the massive levels of resonant energy. Why hasn't anyone done this before? How many times has this been said of Wilson Benesch designs!

(b)

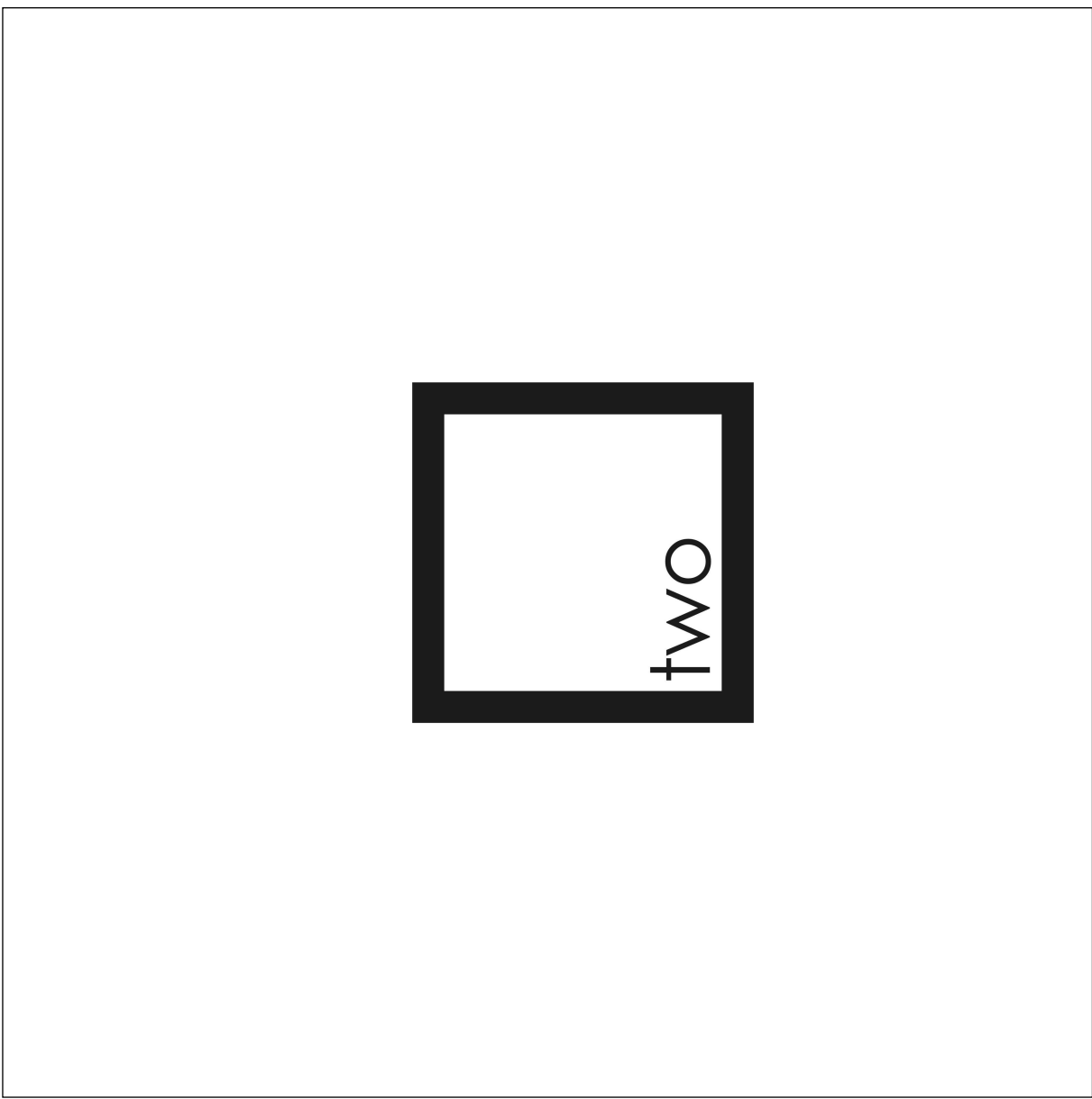


The Square One. The traditional rectilinear enclosure has historically suffered from weaknesses attributable to its shape. The design challenge is to accept, and then exploit the shape, and do things that cannot be done in curved enclosures. By turning a weakness to a design advantage, the Square One attempts to address the biggest problem of all square designs, the negative effects of the reflected and absorbed energy, in the impact zone at the back of the cabinet. By relieving the cabinet of this burden a number of benefits are realised.



In advanced composite Assisted Bass Radiator, consumes 75% of the rear wall of the Square One cabinet. This has a number of very important benefits:~ First of all, it immediately reduces the most troublesome part of the square enclosure, namely the back of the cabinet where the greatest level of impact energy occurs. Secondly the accuracy of the A.B.R. enables a more precise use of the "waste energy" from the back of the diaphragm. This allows a more accurate response to be produced both in the in the low frequencies and mid frequencies. Thirdly, it avoids the port chuffing noise, that would be unavoidable and easily audible, if placed close to a wall. Finally at the design stage, the level or output of the A.B.R., can be precisely tailored, in a way that is impossible with a port. This enables the speaker, to be tuned for use against walls, without suffering the over emphasis of the bass, that is a common problem with other designs.

(b)

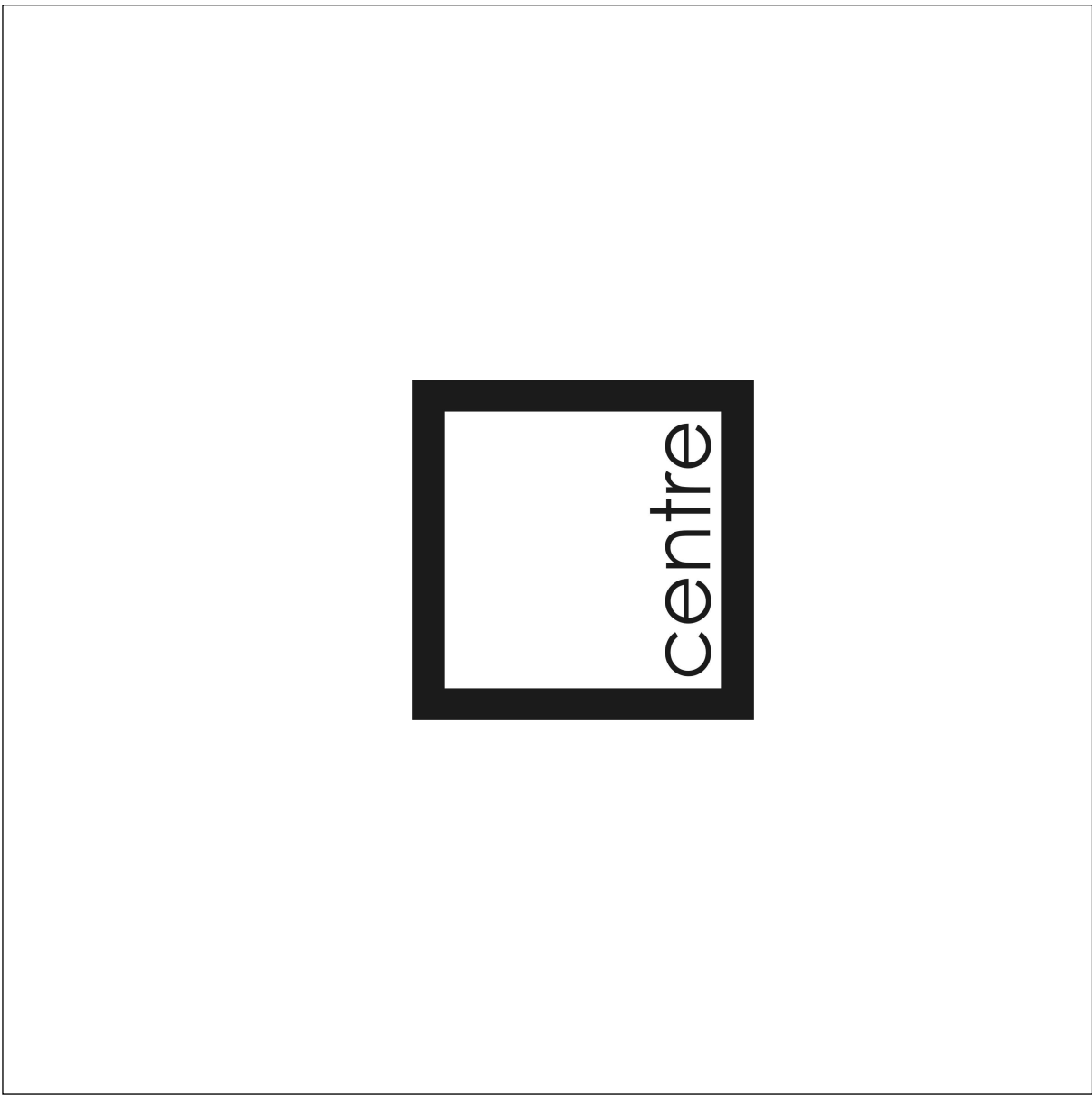


The Square Two, This two-way, floor standing design, provides an excellent price performance ratio. The Square Two sees an A.B.R. deployed in the same location as the Square One. The signal to noise ratio of the cabinet, is significantly lower than competing designs. The tweeter enjoys the benefit of its own chamber, as in the A.C.T. This detail improves the response of the tweeter, whilst also protecting the sensitive crossover components from the energy

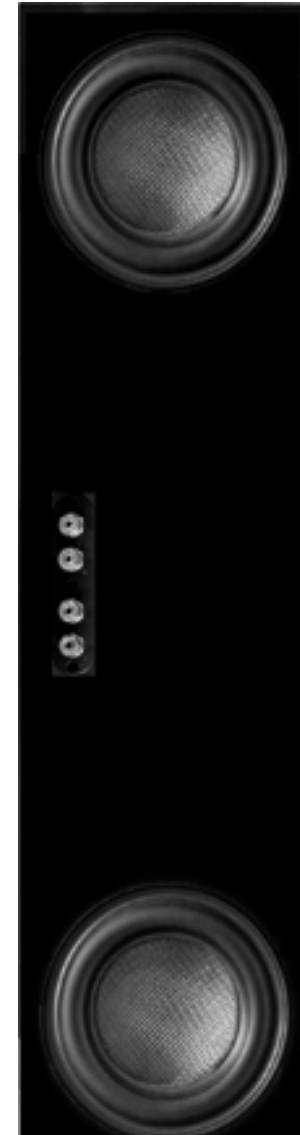


of the main driver. The chamber itself is of course a strong part of the cabinet, being a small enclosed structure. As in all Wilson Benesch designs, the bass driver is precisely tuned, to provide a natural low frequency roll off, that is supported by the precisely vented port at the bottom of the cabinet. All the Square designs benefit from the Wilson Benesch Tactic drive unit, crossover components, internal wiring and terminal provision. It follows that the character of the Square two, is very similar to the more exotic siblings in the Wilson Benesch marque. Transparent, free of boxy characteristics, fast and accurate. When higher levels of performance are required that are beyond the limits of the Square, then the Square Two is capable of providing that extra level of bandwidth.

(b)



The Centre Square is a low profile, high power solution to providing a channel of sound. Although it is called Centre Square, it should be appreciated that it can be seen as a very flexible design, that goes beyond the confines of being just a centre channel. It can be deployed against the wall in either a horizontal or vertical orientation. As a discrete component, it provides building block flexibility, with high output acoustically matched performance. As the rear wall forms an intrinsic part of this design, the two A.B.R.'s in this case, are located in the side of the enclosure. Both the mid range, and bass driver, benefit from the A.B.R. Like all Wilson Benesch loudspeakers that use two or more Tactic drive units, it is a two and a half way design, so phase is as pure as possible. Significantly, all these designs are capable of being enhanced by adding the Torus Infrasonic generator. By extending the frequency response well beyond 20 Hz, they are capable of providing a quality of performance that is well beyond many "high end" systems costing significantly more.



summary

The combination of these products enables a broad range of options for current Wilson Benesch owners and dealers, charged with building, or adding to Wilson Benesch systems. These options are not confined to the Square designs, because all the components used including:~

- The hand built Tactic drive units
- Scan tweeter
- Crossover components
- Internal wiring
- Soldered connections throughout
- Quality terminal provision
- Plus the acoustic design and build quality

are identical to those found in the more exotic Wilson Benesch loudspeakers. It follows that the same high precision, low colouration, pure phase, family sound can be expected. The fact that Wilson Benesch owners now have a collection of designs, that can be combined easily with the more High-end siblings is a very important achievement. Although the company has been under pressure for some years to release products at this price point, to our credit we have never found a design solution that we considered acceptable in terms of performance or value for money. The advent of multi channel systems caused even greater pressure, and so we are delighted to have found an original high quality solution, that we are confident will either meet, or exceed, the no compromise expectations of our customers.



innovation
in music

Armstrong was born August 4, 1901, to a poor family. He was abandoned by his father as an infant. His mother, left him and his younger sister to be raised by his grandmother Josephine Armstrong.

The influence of Armstrong on the development of jazz is virtually immeasurable.

As a virtuoso trumpet player, Armstrong had a unique tone and an extraordinary talent for melodic improvisation. Through his playing, the trumpet emerged as a solo instrument in and his innovations raised the bar musically for all who came after him.

Armstrong is considered to have essentially invented jazz singing. He had an extremely distinctive gravelly voice, which he deployed with great dexterity as an improviser, bending the lyrics and melody of a song for expressive purposes. He was also greatly skilled at scat singing, or wordless vocalizing, and according to some legends he invented it, during his recording "Heebie Jeebies" where the sheet music fell on the floor and he simply started singing nonsense syllables. Billie Holiday and Frank Sinatra are just two singers who were indebted to him.

Louis Armstrong died of a heart attack on July 6, 1971, aged 69.



specifications



Description	2 Way, true linear phase, assisted bass radiator, wall placement orientated.	2 Way, true linear phase, ported enclosure with assisted bass radiator.	2.5 Way, true linear phase, wall placement orientated monitor
Drive Units	1 x 170mm (7in) Wilson Benesch Tactic Drive Unit.	1 x 170mm (7in) Wilson Benesch Tactic Drive Unit.	1 x 170mm (7in) Wilson Benesch Bass Unit.
Low Frequency Loading	1 x 25mm (1in) Soft Dome Hand painted Silk, Ultra Linear Wilson Benesch Specific Tweeter. Assisted Bass Radiator.	1 x 25mm (1in) Soft Dome Hand painted Silk, Ultra Linear Wilson Benesch Specific Tweeter. Assisted radiator and tuned port at the base of the cabinet.	1 x 170mm (7in) Wilson Benesch Mid Range Unit. 1 x 25mm (1in) Soft Dome Hand painted Silk, Ultra Linear Wilson Benesch Specific Tweeter. Double chamber, assorted bass radiator enhanced.
Frequency Range	-6dB at 60Hz and 30kHz -3dB at 70Hz and 25kHz	-6dB at 50Hz and 30kHz -3dB at 60Hz and 25kHz	-6dB at 65Hz and 30kHz -3dB at 70Hz and 25kHz
Frequency Response	70Hz to 80Hz +/- 2dB on axis.	60Hz to 24Hz +/- 2dB on axis.	70Hz to 24Hz +/- 2dB on axis.
Sensitivity	87dB spl at 1 metre on axis. 2.83V Input.	86dB spl at 1 metre on axis. 2.83V Input.	86dB spl at 1 metre on axis. 2.83V Input.
Impedance	6 Ohms nominal, 4 Ohms minimum.	6 Ohms nominal, 4 Ohms minimum.	6 Ohms nominal, 4 Ohms minimum.
Crossover	Second order tweeter crossover. Selected polypropylene capacitors and air cored inductors are used throughout.	Second order tweeter crossover. Selected polypropylene capacitors and air cored inductors are used throughout.	First order bass roll-off. Second order tweeter crossover. Selected polypropylene capacitors and air cored inductors are used throughout.
Crossover Frequencies	Tweeter 5kHz	Tweeter 5kHz	Tweeter 5kHz Bass 500Hz
Internal Wiring	Multi-stranded, silver plated copper, PTFE jacketed cable harnesses. Soldered connections throughout. Short path PCB design. Links supplied for single or bi-wire application.	Multi-stranded, silver plated copper, PTFE jacketed cable harnesses. Soldered connections throughout. Short path PCB design. Links supplied for single or bi-wire application.	Multi-stranded, silver plated copper, PTFE jacketed cable harnesses. Soldered connections throughout. Short path PCB design. Links supplied for single or bi-wire application.
Input Connections	Bi-wireable, in-house machined gold plated copper alloy terminals.	Bi-wireable, in-house machined gold plated copper alloy terminals.	Bi-wireable, in-house machined gold plated copper alloy terminals.
Power Handling	200W peak unclipped program.	200W peak unclipped program.	200W peak unclipped program.
Maximum SPL	107dB at 1 metre.	107dB at 1 metre.	107dB at 1 metre.
Dimensions	Height 325mm Width 200mm Depth 285mm	975mm 200mm 255mm	210mm 790mm 200mm
Internal Volume	10 Litres	34 Litres	14 Litres
Net Weight	TBC	TBC	TBC
Finishes Available	High build piano Black Gloss Burr Walnut Gloss Maple Satin	High build piano Black Gloss Burr Walnut Gloss Maple Satin	High build piano Black Gloss Burr Walnut Gloss Maple Satin
Stands/ Wall Mounts	Available in black or silver	N/A	Available in black or silver



Wilson Benesch Ltd 2006. Wilson Benesch reserve the right to amend details of the specification without notice in line with technical developments.

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