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# Wilson Audio MAXX 2 Loudspeaker

by Roy Gregory

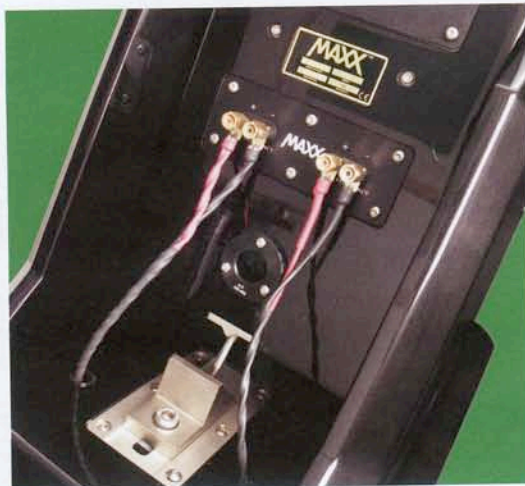
So much has been written about the (in)famous Linn Sondek and its response to variations in set-up that I'm hesitant to add any more. However, the most sensible thing anybody ever said to me about the LP12 went something like this: "Because the Sondek comes out of its box in one piece, people think that it's fully built and just needs a tweak or two. In fact, what you're getting is a kit of parts that have been loosely assembled simply to make them easier to transport; strip it down and start from scratch and then you won't get all the problems."

By now you'll probably have glanced at the top of the page to see if you're reading the right article. What, you might well wonder, does the LP12 have in common with Wilson's massive MAXX 2 loudspeaker system? Well, the answer is, "More than you might think". Just as the Linn required a deal of knowledge and care to get the best out of it, so too does the MAXX. Just as the Linn constituted a performance benchmark against which others were measured, again so does the MAXX. But most importantly of all, as vociferously as the Linn divided opinion, that debate looks like a garden party cake contest compared to the views I've heard expressed regarding the MAXX. If ever there was a love it or hate it product then this is it; which is why I was initially reluctant to review it, but why, ultimately I'm glad I did. You see, oddly enough, both camps in this particular debate can be right – and wrong – which is what makes the MAXX so interesting.

Whilst I'd hesitate to describe the MAXX2 as a kit of parts, it's certainly worth starting from scratch. That includes the physical elements that go together to make up the speaker, but

also the room they're going to be sited in and the system they're going to be connected to. In hi-fi everything matters; with the MAXX it matters more than ever.

How long does it take to set-up a pair of speakers? In this instance the best part of a day to actually get them into the house and then another day to optimize the positioning. The speakers themselves arrive in four parts: two bass units and two head sections. The real problem is the bass cabinets. Each containing a 13" and a 10.5" driver reflex loaded by a machined aluminium



port of MI Abrams calibre, they are built primarily of Wilson's proprietary M material, a mineral loaded micro-layered composite selected for its sonic properties and self damping. Even out of the huge crates they arrive in they're seriously heavy. I'm no shrinking violet when it comes to humping around heavy hi-fi but moving the MAXXs instilled a sense somewhere between respect and awe. They come on casters, but those aren't a lot of help when it comes to stairs. I'm large, Pedro (from Absolute Sounds) is considerably larger and he brought a helper who fits somewhere in between, size-wise. The three of us seriously struggled

getting these things into the house!

Once they're in the room, you have to add the head units between the upright wings that grace the tops of the bass units. These contain a pair of 7" midrange drivers and the inverted titanium dome tweeter, sourced from Focal. They stand on a machined blade at the front edge and a particularly vicious spike at the rear. A block of steps milled from satin-chromed solid brass can be slid fore and aft under the spike altering the tilt of the head, which is then fixed by a trio of grub screws that clamp it between the side wings. That's the basic assembly done; the positioning and adjustment of the speaker, together with the various tuning options on offer I'll leave to John Giolas (of Wilson) to explain. What you need to know is that John and Pedro worked like Trojans for a full day to get the speakers sounding the way they wanted, with Dave Wilson on hand to add the benefit of his experience if required. By now you'll be wondering not just whether any speaker could be worth the effort involved, but

whether a speaker demanding this level of care is a practical proposition. After all, were you to buy a set of MAXXs then you wouldn't have the Dave and John show rolling up to install them. But what becomes very clear very quickly is that the set-up procedure employed is extremely systematic, a system that Wilson are at great pains to instill in their distributors and dealers. So, whilst the lead role in my particular set-up might be ascribed to John Giolas, that was at my insistence and he was helped every step of the way by Pedro, who would be tasked with the installation of any speaker sold to a UK customer.

► So with listening position defined, ear height measured and upper range module tilt calculated there were still a few extra steps considered necessary over and above the standard procedure in this particular instance. This pair of MAXX2s has done the rounds for both review and demonstration, meaning the normally flawless finish had suffered a little. More importantly, the resistors located beneath a hatch in the head unit and used to trim the treble output were replaced, not for value but simply for new examples. Likewise, the bass output can be similarly adjusted, and in my room (somewhat surprisingly given its modest dimensions) it was decided to go with reduced bass damping, more in line with US voicing. Once again, these adjustments might not be necessary but it's nice to know they're available if required.

You might be wondering just how, once the speakers had been rolled, shoved, shunted and re-shunted into the perfect position, it's possible to spike something this heavy and awkward to get hold of. Never fear, these guys think of everything. Out



comes a slim-line jack that is specially built to slip under the cabinet and raise it enough to remove the casters and install the substantial spikes.

Once the speakers are finally positioned, you're confronted by a pair of imposing, four-way cabinets, widely spaced but standing well into the room. As tall as a person and significantly bulkier, their overhanging heads give them a brooding, almost menacing countenance, kind of like the bastard offspring of a black Dalek and a Cyber-

man. It's not a look I really go for, but hey, that's entirely personal. What it does do is send a message, loud and clear; I'm serious about my music and don't you forget it.

Despite their four-way configuration and separate head modules, the MAXX2s are single wired to a pair of terminals placed at the bottom rear of the bass cabinet. The upper range units are connected by a pair of umbilicals that extend from the rear of the bass cabinet's top surface. At 92dB efficient but with a 3 Ohm minimum impedance coupled with a 20Hz to 21kHz bandwidth (0-3dB), they present the driving amplifier with a somewhat schizophrenic requirement; on the one hand they demand speed and agility, on the other, current and control. Not a combination you often find within the confines of a single box. With this in mind I'd equipped myself with the audio equivalent of a garage full of Ferraris: supplementing the Hovland RADIA were the VTL S400, a pair of Karan KA M1200 mono-blocs, a pair of ARC Ref 210 mono-blocs and the Tom Evans Linear Bs. The only thing missing was the Lamm ML2. Is, a low powered design that does work with the MAXX, so long as you

## Installation and optimization

As described in the review, positioning and optimizing the MAXX2s in my listening room took the best part of a long day. Rather than trying to recount the sequence of events I thought it was far more sensible to have John Giolas explain what is an extremely systematic process, and the rationale behind it. Ed.

The Wilson Audio Setup Procedure (WASP) is an empirical approach to speaker setup. Dave Wilson developed this process in the eighties as he began to demonstrate his new loudspeakers at trade shows. He discovered that the sound of his voice changed as he moved about the room. Some areas of the room distorted and colored the sound of his voice, while in other locations it sounded neutral; he dubbed the latter areas "Zones of Neutrality." This phenomenon is caused by the interaction of the sound with the room's boundaries and its recognition allowed Dave to develop a systematic regimen for speaker setup. This is the process that I used at Roy's house to

setup the MAXX Series 2.

We start by clearing all objects from the area of setup. Starting at the back wall on the speaker side of the room, I stand against the wall BEHIND the location in which I intend to position one channel of the MAXX. Speaking in a moderately loud voice and at a constant volume, I project my voice out into the room. Near the rear wall, my voice has an overly heavy, "chesty" quality. As I progress into the room I observe the point where there is a sonic transition in my voice, where it is tonally correct and less spatially diffuse. When I hear this transition, I have entered the inner edge of the Zone of Neutrality. I place a piece of tape on the floor to mark this location.

I then want to discover where the Zone ends by progressing further into the room until I begin to hear my voice lose focus and correct tonality. This is caused by the return of the room's boundary contribution; my voice is now interacting with the opposite wall. I have reached the outer edge of the Zone of Neutrality. I place a piece of tape on the floor and mark this location too. The distance

between the "inner" and "outer" edge tape marks is usually between eight inches and fourteen inches. In Roy's room, it is approximately eight inches. Standing between the two tape marks, I position myself against the sidewall perpendicular to the intended speaker location. Using the same procedure as above, I begin moving into the room toward the opposite sidewall, progressing between the two pieces of tape. I mark the edges of the lateral Zone of Neutrality. The four pieces of tape now form a rectangle that establishes the Zone of Neutrality for this side of the room. I repeat the same process for the other side of the room. Using the four marks as my guide, I tape an outline to define the rectangular boundaries of the zone. This process eliminates a large chunk of real estate and leaves me with a small, sonically neutral area that I can work within far more efficiently. I roll the MAXXs back into position and begin the next step of the process. I position each MAXX so that the baffle is within the front third of its corresponding rectangle. I run another piece of tape along the inside front corner

► respect its operating envelope.

Source components included the VPI TNT6/JMW 12.5 and Koetsu Oblue Onyx, Lyra Titan I and Olympos cartridges, the Wadia 861SE and the ARC CD7: Phono amplification was delivered by the ARC PH7 and TEAD Groove Plus, while volume was set using the Lyra Connoisseur 4-2L SE, the ARC Ref 3 or the TEAD Vibe with the latest Pulse 2 power supply. The whole lot was supported (not all at once you understand) on finite-elemente and Symposium stands, while mains and signal cabling was Nordost Valhalla throughout.

Two words sum up the MAXX2 listening experience: power and precision. These qualities are central to the very nature of the beast, but perhaps more so than with any other speaker in my experience, it's necessary to appreciate not just what that nature is but the why as well. Understanding the MAXX2 means more than just

recognizing its sonic signature: it's about appreciating the cumulative process that results in that performance, a process which once deviated from will start to undermine and dilute the performance potential of the product. These are strong words with significant implications, but the more I live with the MAXX2s the more I'm convinced of their truth.

Let's start with "Precision". If you haven't read John Giolas' sidebar (overleaf) on the set-up procedure he employed, now's the time to do so. Next, consider for a second the fact that the optimum performance for the speaker depends on the exact height and distance to the listener's ear. That means, that if you sit forward or back, slump a little or sit up straight (God forbid you should lie down on the sofa) or move slightly to one side, you will effect the sound you hear. But hey, it can't make that much difference, can it? Don't you believe it!

Just under the front edge of my sofa there's a bit of tape, a bit of tape that marks the optimum position for the listening seat. On that tape is a red mark that tells me the precise centre line for my head. Okay, so it happens to line up with one of the junctions in the floorboards but it's there as a reminder, just in case I get confused as to which knot hole or floorboard represents what. Now my boards are 125mm wide – five inches in old money. What happens to the sound if I move that distance to the left or right? Playing a familiar track like 'Way Out Basie' (*Farmers Market Barbeque*, Analogue Productions APJ 023) make that movement and Danny Turner's sax loses its brilliance and impact, becoming duller, almost muted. The brass tuttis likewise, with the whole upper mid-band energy level slightly depressed, enough to remove that sudden quality and natural "blat" that makes them so impressively realistic. Drum punctuations are robbed of



of each MAXX. The corner provides an accurate indicator of the front-to-back location of the loudspeaker. I mark the tape in half-inch increments.

Next I set the proper angle of the MAXX midrange/tweeter module for correct propagation alignment. Since Wilson has "done the math," this is a simple matter of measuring the listening distance and ear height and referring to a calibrated table for the correct head alignment setting.

Finally, the listening begins. I use a piece of music that contains the set of variables I am looking to optimize – midrange beauty and accuracy, dynamic expression, deep bass extension, mid-bass balance and impact, soundstage focus and resolution, and so forth. I am also listening for a sense of flow and musical involvement. Great systems convey the musical intent of the performer.

I set the CD player to repeat a section of the chosen track so that I can more immediately hear the changes made with each move of the speaker. Within the Zone of Neutrality, I begin by moving

the MAXX forward and aft, first in one-inch increments, then in half-inch, and ultimately in movements as small as a quarter-inch. Each step is documented so that I can return to and re-explore a spot that showed promise. Through this process, I arrive at the front-to-back position of the MAXXs in Roy's room.

Through a similar process, I optimize the side-to-side location for each MAXX individually. Now that the MAXXs are optimized in the room, I carefully install the spike/diode (foot) assemblies, using Wilson Audio's customized jacks.

In almost all cases, Wilson loudspeakers perform optimally in fairly untreated rooms. However, the proximity of the right sidewall to the right MAXX was such that the system benefited from a small amount of absorbent material in this area. This was positioned empirically, moving a six-inch wide piece of room treatment incrementally (again, half an inch at a time) until the undesirable characteristics caused by this section of wall were mitigated. In Roy's room we also made some other adjustments to the speaker

itself, but whilst an available option in all cases these are outside the normal procedure. Roy has thus detailed them in the main text.

The WASP procedure takes considerably longer to carry out than it does to describe. Seen in the context of a single day, it might seem unnecessarily time consuming, almost pedantic. But what it delivers is a reliable, repeatable procedure for efficiently achieving a neutral, musical result with Wilson loudspeakers – a result that will benefit every day of their working life. A loudspeaker's musical performance is highly dependent on how well it is positioned in the room – far more so than any other part of the system. Time spent in this regard is always well invested, as a loudspeaker installed improperly, without consideration for the characteristics of the room, will not realize its sonic potential. For this reason, Wilson trains its dealers and distributors in the art and science of loudspeaker installation, using the WASP system, and contractually requires them to install each Wilson loudspeaker they sell into the client's home.

▶ snap, the soundstage of transparency, the performance of its life and intent. These are not subtle changes, marking as they do the difference between hi-fi and a truly memorable musical event.

Stand up and the difference is shocking. The treble becomes hashy, bright and intrusive, the brass – wince inducing. The spectral balance tilts dramatically as the high-frequencies start to shout and draw attention to themselves. A glaze drops over the soundstage and the music becomes disjointed and confused.



Suddenly, all that life and energy (and these speakers generate a lot of energy) becomes a problem instead of a benefit.

What order of difference are we talking about here? The difference between something which is direct, authoritative, engaging and exciting at its best and in the case of standing

listening, potentially rather unpleasant. Moving one plank sideways robs the sound of its magic, moving two renders it merely ordinary as the confident sense of coherence simply evaporates. What this means is that these speakers actually perform at their considerable best for a single listener in a single position. Which makes them the biggest, personally tuned headphones in the world – in which role they perform admirably. So, when I describe the sound of these speakers bear in mind that I'm talking about this set-up, this system and this room. With more space the results might be more forgiving, but somehow I don't really think that's what these speakers are about. They're all about sitting there and giving them your full attention. This is one of the most challenging products I've ever lived with. In every sense, the more you put in the more you get back. Understanding that and being sure that it's what you want is the key to a fruitful relationship with the MAXX2s.

As an aside, translate this scenario to a show environment, the situation in which most of you might have heard the MAXX2s. One guy, in one seat might get the benefit (as long as no one's in front of him); the rest of you are on the slippery slope somewhere between mediocrity and damnation. No wonder so many people think these speakers sound bad. It's because they do – if you're not in exactly the right place. But just like the little girl in the nursery rhyme, when they're good they're very, very good. Let's concentrate on that now...

The art of loudspeaker design is the skill of balanced compromise. The perfect speaker, the perfect speaker technology is yet to be invented, which means that, whatever route you take, each strength attributable to your chosen approach will come with an associated weakness. Examine Wilson's history and it quickly becomes apparent that it's a story of successive evolution and

refinement. Indeed, in many respects, the essential ingredients that constitute the MAXX2 share considerable common elements with the original WATT/Puppy system: the inverted dome tweeter, 7" midrange unit, low-diffraction housing and separate bass cabinet. And whilst the MAXX2s make no pretensions to

monitor status, there's no mistaking the common DNA either. That's where that precision comes in again. These speakers tell you a lot about the recording as well as the performance.



Where appropriate they establish a huge soundstage of tremendous transparency and positional focus, yet the acoustic space and the images that inhabit it are still carefully scaled. Crucially, playing solo acoustic instruments the speakers disappear, managing to sound much smaller than they actually are. This ability to match the physical scale and dynamic ▶

► scope of a recording, large or small, is one of the Wilson's key attributes.

The other is to capture the dynamic range, the energy spectrum of real instruments. One effect of this capability is that you can, if you wish simply play everything really loud, especially if you've got the kind of power I had on tap. But that misses the point. Do that and you won't get the best from the speakers; instead you get a shouty and far from subtle exaggeration that gets less impressive the longer you endure it. In fact, the MAXX2s are super-critical of both exact level and correct phase. This is one speaker that could finally convince me of the merits of remote control. The need for such precise control comes down to balancing the midrange presence and treble balance, but it starts in the bass.

Let's talk about physical and musical "power". On the face of it, sticking a pair of very large (but different) drivers in a huge box, loaded by a port built on a similar scale seems like a recipe for disaster. In practice, Wilson has achieved a level of bass power, control and definition that sets the standard for full-range loudspeaker systems. The MAXX2's ability to render pitch, to float rapid acoustic bass runs, to let the listener hear beneath the lowest notes is exceptional. Now, you don't just hear tube trains beneath recordings, you can actually tell what they are as well as separating them from the enclosed acoustic. The bass breathes effortlessly, even driven by the relatively modest Linear Bs; it's fast, tactile, agile and sure-footed, making even the most submerged bass lines apparent and musically relevant. It's also the foundation for the phenomenal stability and transparency of the speaker's soundstage.

Matching the sheer energy generated by that bass cabinet, which means, incidentally, matching the energy experienced from real instruments, puts quite a strain on the midrange; hence the twin 7" drivers where much of the

### "How much?"

More than anything else, it's the price of the MAXX that fuels dissent. The repeated cries of protest become so monotonous that you feel almost like installing a tape loop to save people the bother. As big as they are, and as impressive as they appear, there's no getting away from the fact that £33K is a lot of money; especially when you consider that there are plenty of products that can match the Wilsons for physical bulk and plenty more that exceed their technological content and which all cost considerably less. To understand why the Wilson products cost what they do, you need to appreciate the mindset behind them.

Visit the Wilson factory and one thing becomes abundantly clear; Dave's a VERY hands-on guy. There is no aspect of the production of his speakers that is governed by or dependent on anybody else.

Okay, so the drivers are bought in, but it's from external sources with whom Wilson have worked for years (the original WATT was one of the first products to use the Focal inverted dome, and Wilson have been refining and using ever since) and once they arrive they're

exhaustively checked and matched and in some cases modified. The cabinets are all constructed in house, CNC machined and built from raw sheet, whether from M material or the other specifically developed X material, Wilson's highest density cabinet material. Everything is also filled, painted and finished in house. Crossover components are checked, matched and wired and all final assembly is also, you guessed it, in house. Once passed for QC, the speakers are hand wrapped and packed in crates (built on-site, naturally).

So, every aspect of every process, from raw component stage onwards, is carried out at

competition use single, smaller units. The need to move air demands cone area and efficiency. The upside is the convincing life and dynamic range generated by the MAXX2; the downside is a less controlled cone, poorer dispersion as you approach the tweeter crossover and ultimately, higher levels of colouration. The combined demands of realistic dynamic response and pinpoint spatial definition leave the mid-band sounding slightly hollow and a little cupped in contrast to the power and substance of the vital mid-bass frequencies. It's a deliberate trade-off and one that I can both understand and support. But what makes the speaker so critical of volume is the similar dynamic demands placed on the tweeter.

The inverted titanium dome looks

Wilson's factory. From the sheet material that's cut for the cabinets to the source of each crossover component and the type of solder used to connect it (Wilson actually use two, one on bass legs and another on mid and treble) everything is checked and controlled by Wilson.

Now consider the scale of manufacturing we're talking about here. In numbers terms this is a boutique operation. You could save a fortune by sub-contracting the cabinetry, more by including the finishing. And Wilson are paying US pay-scales to get it all done. Hell, why not go the whole hog and have the products built in China? Because each step you move away from doing it yourself relinquishes a measure of control and with it, consistency and repeatability in the final product. If someone else makes your cabinets you can say you want them made from this particular fibre-board, but once its cut, glued and painted, who's to know? Hey, a resistor's just a resistor, right?

The flawless finish that covers the surface of a Wilson speaker is a visual metaphor for the care and consistency that's gone into its creation. By keeping absolutely every aspect of production in house, Wilson achieve a level of sample to sample variation that's vanishingly small. Each product is an extension of Dave Wilson's personal experience and approach to loudspeaker design. That's what you're buying into. The way he chooses to build those products ensures that each one approaches, as nearly as humanly possible, that personal model. It also ensures that these are pretty much the most expensive speakers on the planet to build. What you have to decide is how much value you place on that consistency, but one thing's for sure; buy a Wilson speaker and you and Dave Wilson both know what's under the paintwork.

almost quaint in comparison to the highly touted and high-tech offerings sported by much of the competition – and let's be clear, in several important ways it lags behind their performance too. Focal's own Beryllium units are beguilingly sweet and unobtrusive, the various diamond offerings refreshingly free from the endemic dome colourations we've all lived with for years. But Focal are keeping Beryllium to themselves for the moment, whilst the diamond offerings lack the efficiency and impulse response of the titanium unit used, making that the lesser of the various evils (and believe me when I say that pretty much all high-frequency units are evil in one way or another). The tweeter used in the MAXX2 can match the dynamic range and energy ►

▶ spectrum of the midrange units. The cost is that in doing so it can start to draw attention to itself, hence the absolutely critical relationship between the ear and the tweeter axis; too high and you'll start to hear it ring, which is why the speaker can sound so glaringly obvious if you stand up. Likewise, drive it too hard and its output starts to get unruly, although whether this is down to mechanical shortcomings or cabinet effects I'm not sure. Certainly, that overhanging upper midrange unit looks ominous, despite the careful contouring and surface treatment of the baffle.

Combine all this information and what you discover is that each recording has a sweet spot, a precise level that maximizes the midrange presence without over exciting the tweeter. Likewise, absolute phase becomes critical to the energy and presence across the mid-band. Get it wrong and you'll need a shade more volume in an attempt to compensate and the treble will start to harden. Switch phase, back off the level and suddenly the soundstage locks in and the energy levels and musical impact actually go up.

Just how easy it is to get music from the MAXX2s wrong also demonstrates how right it sounds when you get it... errr, right. These are not the most seamlessly integrated speakers in their price bracket. Nor do they excel in the areas of timbre and instrumental colour; the Nola Pegasus easily exceeds their sense of instrumental texture and character, both at low and high frequencies. But what they can do better than the competition is sound real. They manage to capture, in some cases frustratingly fleetingly, the sense of real people and instruments in a real space. Along the way they'll tell you more about the driving system and the recordings you play than almost any other speaker – possibly more than you want to know. As a reviewing tool they left me in no doubt regarding


the relative merits and nature of the equipment I partnered them with. At the same time they demanded my total attention and ruthlessly punished liberties taken over system set-up or equipment changes; it's almost as if they demand you take the task as seriously as they do.

Living with Wilson's MAXX2 has been a challenging and in some respects a daunting experience – it's also been rewarding, educational and one I'd



hate to have missed. It has been littered with moments and passages of musical majesty, breathtaking insights into performances and recordings that serve to remind one just what the high-fidelity promise is supposed to deliver. This is no, and will never be an easy product. Instead it throws down a gauntlet to all comers, listeners and competitors alike. Which is exactly why it enjoys benchmark status in an industry

as notoriously fickle as ours.

The MAXX2 asks questions of its potential purchasers. It wears its heart on its sleeve and demands you share its values. It makes no secret about why it costs what it does. There's no mystery about the technology it uses or the emotional investment it will require. In many ways it represents the ultimate, affordable example (the Alexandria makes anything look affordable) of one man's vision. If you share his values and his musical perspective there's probably no other speaker that will satisfy you. Even if you don't, the MAXX2s will challenge your own position, offering a stepping-stone to even greater glory. But then that's what setting standards is all about... 

#### TECHNICAL SPECIFICATIONS

Type:	Four-way reflex loaded loudspeaker
Driver Complement:	1x 25mm inverted titanium dome 2x 180mm pulp cone midrange 1x 265mm mid-bass 1x 330mm bass
Bandwidth:	Flat to 20Hz, -3dB at 21kHz
Efficiency:	92dB
Impedance:	3 Ohms minimum
Dimensions (WxHxD):	412 x 1630 x 605mm
Weight:	187kg ea.
Finishes:	Many (see product information)
Price:	£40000

#### UK Distributor:

Absolute Sounds Ltd  
Tel. (44)(0)20 8971 3909  
Net. [www.absolutesounds.co.uk](http://www.absolutesounds.co.uk)

#### Manufacturer:

Wilson Audio  
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