



The Complete Resolution

The A.C.T. One Evolution is a later descendant of perhaps the longest and most sustained design in the company history of Wilson Benesch. In 1994, the first floorstanding loudspeaker featuring the then completely new shell construction using carbon fibres caused a furor in the market - winning countless awards. Three loudspeaker generations and almost a quarter of a century later, Wilson Benesch wants to revive the market with its new A.C.T. One Evolution.

I admit that I have slept on some developments at Wilson Benesch. I still associate the British company from Sheffield, first of all, with the cantilever turntable with the unconventional carbon fibre tonearm, who, when placed in the hifi rack at a friend's house, made me angry - because it sounded much better than my then LP12. At this point, I noticed that somewhere in the product range, at the other end of the chain, the company's speakers emerged (which also benefit from carbon fibre). However, "Tactic Drive Unit" (which replaced the earlier Scanspeak chassis) and the revolutionary Torus subwoofer system went smoothly past me. So, with the A.C.T. One Evolution loudspeaker in my hands, my view has widened considerably. It is a type of tutoring in all things related to innovative speaker construction.

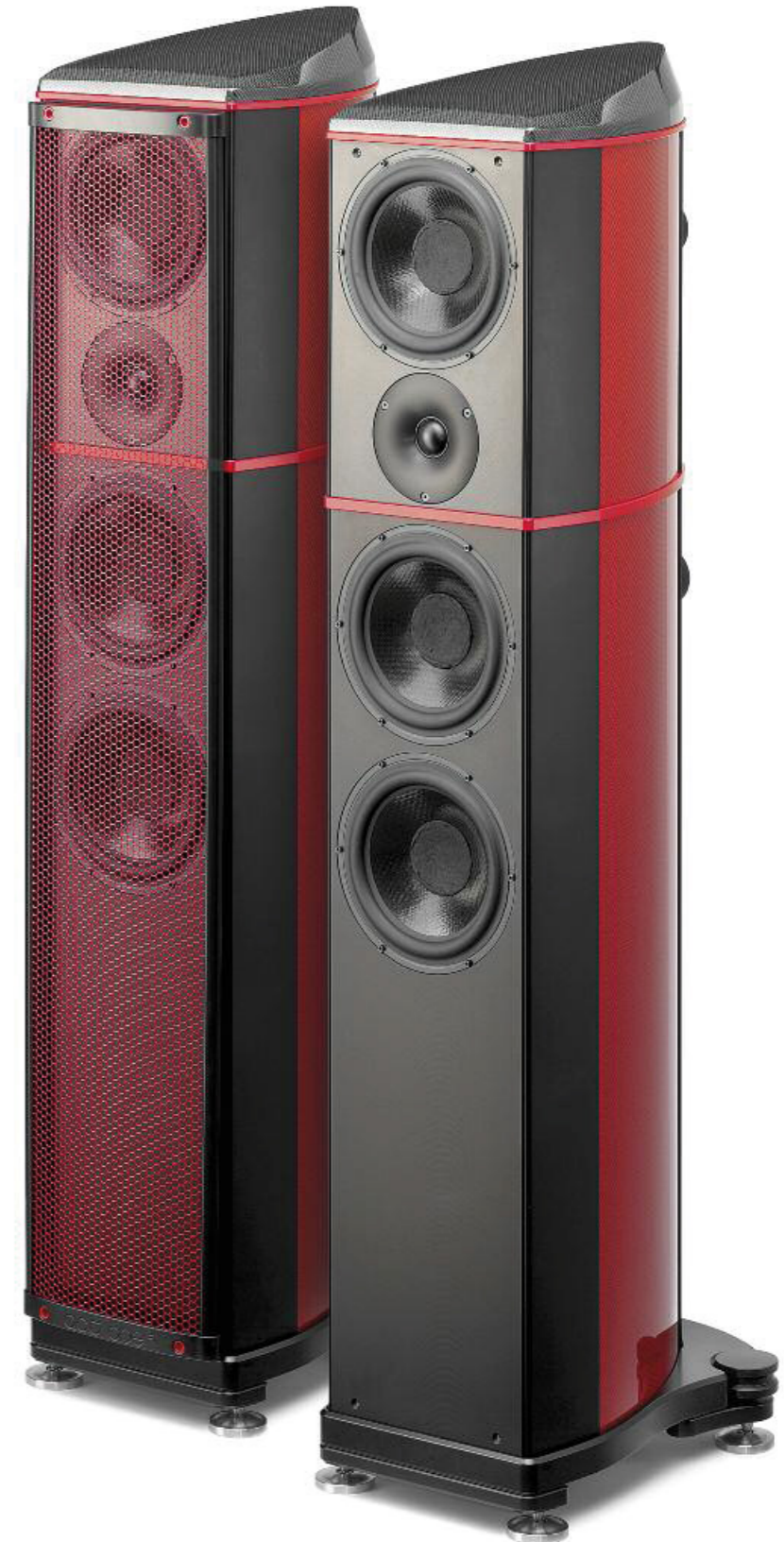
In order to better understand the genesis of the speaker, it helps to go back to the beginnings of the company. In 1989 the current owners Christina and Craig Milnes founded Wilson Benesch, with a starting capital of only 10,000 English pounds. Had an additional 25,000 pounds not been secured through the British Government's Ministry of Industry as part of a research project, Wilson Benesch might possibly have closed its doors rather soon. Today, however, they jointly lead an extremely successful high-end forge with 16 employees.

The background of the couple could not be more different: Christina studied psychology, sociology and business management with a focus on the development of the company. As the Managing Director, she is responsible for strategic development. Husband, Craig, is the Design Director at Wilson Benesch, he learned his engineering craft at the British Steel Corporation and graduated in Fine Art from Loughborough University. When their first born daughter was three, Craig used an Armstrong tube amplifier to partner with his first pair of home built loudspeakers, bringing music into the family home. Beside studying, Craig explored the high-end market and realised that there was no company that worked with innovative materials. Carbon fibre remained a relatively unknown material at the time,

but the profile of the material was on the rise following the transformation of Formula 1 motorsport through the incredible success of the McLaren MP4/1 - the first F1 car to use a carbon fibre monocoque chassis, but no one had until now thought of using the high-tech material for turntables or loudspeakers.

A.C.T. is an acronym of "Advanced Composite Technology" and means exactly this: the use of carbon fibre composites. The material has a very high stiffness and internal damping and is thus ideal for reducing resonance and possible sound discoloration through the loudspeaker housing. "More mass always leads to the problem of a lower resonant frequency," says Craig Milnes. If, however, a low-mass material (carbon fibre in the A.C.T. monocoques and the top components) is combined with a material of high tensile strength (high-strength steel or hybrid joints of aluminium and steel in the front, back and foot), the structure exhibits mutual self-damping. This is precisely the reason for the layered construction of the loudspeaker. Due to its shell construction, the entire structure in the vertical axis, the longest length of the loudspeaker, is stiffer, better damped and resonance can be better controlled, i.e., avoided.

The A.C.T. One Evolution is the iterative continued development of the loudspeaker, which appeared in 1994 as A.C.T. One, a design that has continued through A.C.T. and then A.C.T. C60. "It's like a Porsche 911" says Craig Milnes (and with his nice comparison





Good reflexes: The two reflex openings for the mid-range speakers are located in the upper part of the housing back. The large bass reflex opening radiates downwards. The tri-wire terminal is also located in the base of the loudspeaker - here with the original Bi-Wire-Silver bridges

comparison, he points to the league where he sees WB), whose development no one would even think of changing the basic form or the essential ingredients - but the technical details and the current interpretation. Thus the exterior (not the inner) of the loudspeaker developed in the 3D-CAD/CAM still strongly leans on the original A.C.T. One (Then still made in Greaves). However, many elements of the current flagship series "Geometry" have also been incorporated, the latest model of which is represented by: sculptural lines, a forwardly sloping headboard (to increase the stage and presence), the arched, elegantly rearward tapering body, each of which helps reduce the incidence of standing waves.

One of the obvious differences of the Evolution from its predecessors is the colour: carbon fibre has always been black, in the A.C.T. One Evolution P1 version, colour is introduced to the fibre for the first time: thanks to a collaboration with Hypetex, a team of Formula 1 engineers who have developed the process, in this sample, it is not simply any colour, but a very strong one: "Enzo Red" - in line with the famous red of the Enzo Ferrari. So the speed and dynamics with which the box performs acoustically is also expressed visually. And in fact she is real eye-candy. An almost petite fine spirit, which emanates an extraordinary quality.

In the foot of the loudspeaker is a comparatively rare tri-wiring terminal, which allows the owner a lot of connection possibilities. The original silver bridges can optionally be converted to bi-wiring or single-wiring. So that I do not have to put the loudspeaker every time on the side, when I change the speaker cable, the distribution had sent me a bridge made by Phonosophie, with which the wiring can be done outside the speaker base. I do not especially like the terminal-in-foot solution, but this is not the manufacturer's fault, looking at the back of the speaker, apart from the two reflex ports for the midrange driver units (the one for the woofer radiates out of the foot down) there are no other elements and thus this is a choice made on the basis of design aesthetics. Also, because one assumes at Wilson Benesch reasons that the owner of this loudspeaker will not be constantly changing the cable back and forth.

However, one should connect pay close attention when connecting the six cables of the terminal. I had swapped between two different cable types, yet the acoustic result was irritating and sobering: the sound produced by the loudspeaker, was a bit flat, with practically no bass. When I described to Michael Hannig of IBEX Audio, the importer of

Wilson Benesch, how the loudspeaker sounds, he says, no, he knows the A.C.T. One Evolution very well, and my sound description certainly does not describe it. When the connection error is identified, the loudspeaker plays however it is still not quite “free”. And now begins a little odyssey, in the search for how the loudspeaker can elicit its quality (which for the time being he does not share). Throw the review because a completely satisfactory result does not arrive at first? If I had followed this impulse, I would have deprived myself of a great experience - and would not have been fair to this wonderful speaker! Instead an angel (in the form of Carsten Thiele of local hifi-studio 10) hovered, with the necessary calmness and experience - after all he sells the loudspeaker - and helped with its unfolding.

By remote diagnostics, Michael Hannig had previously insisted that the Grandinote amplifier might not drive the loudspeaker sufficiently. Although rated with an efficiency of 89 dB combined with four to six ohms impedance is not exactly a hard load to drive, but the speaker does indeed benefit from slightly more power, such as a 200 Watt full-gain amplifier (ModWright KWI 200), with this the loudspeaker is dynamic, full-bodied and fleet footed. I then looked at the cabling again. After changing the power cables feeding the preamp and power stage to PS-Audio or Swisscables, the sound picture is even better, with discernible gains in the low frequency and imaging. Fine tuning. Now it becomes clear that before me is no “plug and play loudspeaker”, but

one that is quite selective with regard to its partnered equipment. But as with a real stage diva, you like it, because it can do things, of which others only dream. But more about that.

In order to get her full potential, Thiele brings – just for fun - a CH Precision power amp (of course other amps a few steps below do also work). There was a slight sense before that the bass was kicking and slightly over zealous which has now completely disappeared. Once again, the location of the loudspeakers is fine tuned and some equipment feet later (Thiele distributes extremely interesting tuning products under the company name CT, which certainly would be worth a story), the A.C.T. Evolution One is now so that I have trouble leaving the listening room at all. Now she literally grabbed me.

A first rehearsal: electronic music is certainly not my preferred style, but I like to make an exception in the case of Trentemøller’s intelligent minimal album ‘The Last Resort’ from 2006 (Poker Flat, PFRLP 18, 2-LP). The reason why, among other things, is that the loudspeaker can be put to work immediately. First surprise: The bass goes very low, which was not to be expected in the face of the modest (though probably average) sized living room dimensions. In addition to the clever reflex tuning, this is attributable to the fact that the loudspeaker can dispense entirely with internal bracing due to its innovative design, which thus increases the

Previous Page: Everyone the Same - Bass and Center have almost identical chassis made of isotactic polypropylene.
This page: The high-resolution hybrid tweeter has a membrane of carbon and silk

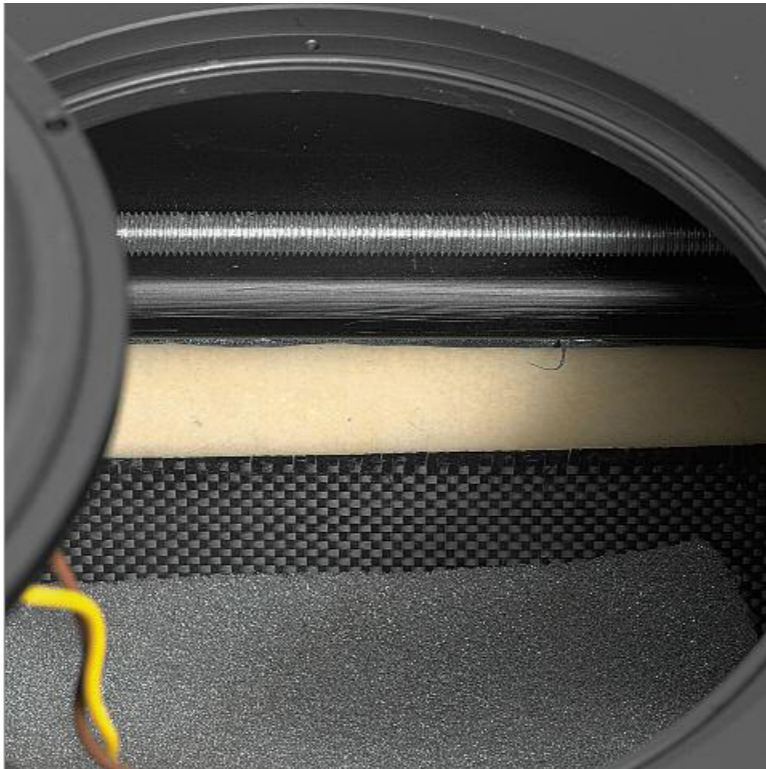


Wilson Benesch does not reveal exactly what the small patch on the back of the membrane does. Only that it is a multi-functional visco-elastic material

internal air volume relative to other loudspeakers of a comparable size - and in this respect there is therefore more air for the bass reflex.

The piece "Into the trees" traverses between ambient and techno; Refined sound layers build up over a driving beat, gently building: When looking behind the chassis, several layers of insulating material appear. The Wilson Benesch speaker is connected from top to bottom (a very clear, free-playing tweeter!) putting you directly on the dancefloor with primordial force (I personally always sat directly between the speakers, meaning my girlfriend had to suffer an inferior listening position, but that may be a different story). Very good focus, exploding dynamics and mids, all elements sound great and natural. But their greatest strength is that they have no one particular strength, it is therefore in their balance. Perhaps the most impressive thing for me, however, is how the loudspeaker practically dissolves itself: the music does not play from the housings at any moment, it IS in the room.

I am amazed at how far you can pull the loudspeaker apart without the sound imaging collapsing (my own loudspeakers do not do that). The A.C.T. One Evolution is the best sound I have achieved in my listening room.



Quite open: When looking behind the chassis, several layers of insulating material appear. The Wilson Benesch is connected from head to foot

Normally, says Design Director Craig Milnes, different materials are used in different drive units in the loudspeaker chassis, these have with different resonance characteristics, damping properties, efficiency and linearity. These materials lead to distortions, phase shifts and a negative influence on the impulse behaviour. Electrostatics bypass the problem, but must be quite large to achieve reasonable output. He solves the problem, says Milnes by using one and the same drive unit for quite different tasks, with the exception of small modifications which serve the purpose of optimizing the frequency response.

Like the flagship of the company, the Cardinal, the A.C.T. One Evolution is a two-and-a-half-way speaker, but with four chassis. A new, relatively large 25 mm tweeter with a linear response of up to 30 kHz and a drop of -6 dB up to 35 kHz and a very light hybrid membrane made of carbon and silk, with the speed of a hard dome material but the tonal direction and broadband of a classic, rather soft tweeter. Three 170 mm Tactic II drive units made of so-called isotactic polypropylene (IPP), a polymer developed at the Leeds University, is five times stiffer than ordinary polypropylene and, according to Wilson Benesch, in terms of stiffness and damping it has so-called "visco-elastic" absorption properties by virtue of its chemical

characteristics, in a simplified manner, that is to say, it is possible for the material to absorb more resonant energy. This in turn makes for an altogether natural acoustic presentation that is free of sibilance. The lowest driver is responsible for the lower bass (up to 34 hertz!). The two others flank the tweeter, the lower one is responsible for the upper midrange, the upper one for the lower midrange: A so-called "Troika" structure (which is also used in the Cardinal) and its independent chambers within the loudspeaker, this is one of the main differences to any other A.C.T. before the Evolution.

The magnet driving the Tactic II was developed in cooperation with the physics department at the Sheffield University. The

neodymium magnet motor has been refined to increase and maximise the magnetic flux in the driver. A polypropylene cone in a streamlined basket combines the requirements of the lightweight construction with a guaranteed high stiffness. The two midrange drive units can be driven directly from the amplifier without any filters. As a result, particular attention has been paid to the critical midrange which is intended to play free of phase shifts, extremely linear and almost completely distortion-free and free from discoloration.

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- Team Player**
 - Record Player:** Artemis SA-1
 - Tonearm:** Schröder No.2 Cartridges: Lyra Scala, Soundsmith „Hyperion“
 - Preamps:** Funk MTX V3b, Grandinote Proemio, CH Precision L1
 - Poweramplifier:** Pass XA- 30.5, Grandinote Silva, CH Precision A1
 - Poweramplifier:** ModWright KWI 200
 - Phono-Pre:** Tom Evans „The Groove Anniversary MK2“
 - Phono- Pre:** Tom Evans The Groove 20th Anniversary MK2
 - Loudspeaker:** Sehring S902
 - Cables:** HMS Gran Finale, Gran Finale Jubilee, HMS Suprema, PS Audio AC12, Swisscables Reference Plus (Netzkabel), Harmonic Technology Magic Link 3 (XLR-Kabel); JPS Labs Aluminata (RCA); Heavens Gate Audio Ultra Supreme, Fast Audio Black Science, MasterBuilt Reference Line (Lautsprecherkabel)
 - Power Strip:** Iso- tek Orion
 - Accessories:** Phonosophie Wandsteckdose und Sicherung, TimeTable, Time Justin, Time „T for 3“, Audioplan Antispikes, CT Au- dio Resonanztechnik - Steppness I + II, Doppello; Fast Audio Absorber, Acoustic System Resonatoren, Audiophil Schumann Generator, Nadelreiniger Lyra SPT, Onzow ZeroDust
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The high-quality spikes are comfortably adjustable and stand on specially coupled steel balls held captive in Wilson Benesch's supplied Kinematic Cups

This is clear from another example: *Misty* is an album that I normally only pick when the system is well tuned (although it actually works fantastic exactly the opposite way). The Yamamoto Tsuyoshi Trio (TBM 30, LP) is in this excellent recording from the year 1974 in the Tokyo Aoi studio - the best performance. The A.C.T. One Evolution is happy with this "diet" and is setting up a stage that I have not yet heard so extensively and plastically. To the left is the piano, with chanting, sometimes hard, and then almost caressing attacks, so eagerly lingering in the room as if you were there. What a breathtaking naturalness: through the filter-liberated midrange drive units, the piano does not only sound like a piano but creates an almost perfect illusion of a real piano. You can see the hand on the keys, the hammer pressing on the steel sides, the sound that resonates and enters the room. To the right is the contrabassist, who reaches deeply into the strings, and the percussionist, whose jazz beads so casually (and yet precisely) sweeps across the skins, as if he were reading a newspaper. The loudspeaker makes a great

impression at the top and never gets tight even in the low frequencies. Timeless and extremely dynamic - despite its versatility, a loudspeaker from a single cask. "Dry and cultivated, like a really good martini," which I say in an American manner, which is a good thing. In order to remain in the comparison of spirits, it also has the lemony freshness of a good "whiskey sour".

On Fink's superbly produced 2 LP live album (*Ninja Tune, ZEN 201*) from 2013, the singer-songwriter kindly hands over the last album page to the previously accompanying Royal Concert Orchestra, which concludes with a composition by Charles Ives From 1908: "The unfinished question," which revolves around the

"perpetual question of being". An almost meditative string theme, in which a glittering "questioning" trumpet bumps from the right, and as a disturbing element and a reverberation a flute quartet, which moves tonally into the quiet chords of the strings. The piece presents some acoustic cliffs, but the A.C.T. One Evolution turns them all in a sovereign manner. Despite the considerable aggressiveness of the flute, which represent a challenge for each loudspeaker, it remains tonally undisturbed in all its dynamic presence. The stage is fluid, the space impressive, the musicians close to touch. The

detachment from the sense of their being a loudspeaker there at all reaches a degree, which I know so of no other! At the end of the last bar, you feel so drawn into the concert hall that you are involuntarily exhorting yourself not to be the first to applaud because you do not want to destroy the exciting reverberation of the music and the wonderful moment. Bravo!

Wilson Benesch A.C.T. One Evolution P1 Loudspeakers

Type: 2.5-way loudspeaker **Efficiency:** 89 dB **Nominal Impedance:** nominal 6 Ohm, minimum 4 Ohm **Frequency Response:** 34Hz - 30kHz **Special features:** Hybrid construction using carbon fiber monocoque, same chassis for low and midrange drive units made of isotactic polypropylene, tweeter with carbon / silk hybrid membrane. **Finish:** 13 standard colors (plus 4 P1 collection finishes, extra charge) **Dimensions:** 119 x 22,5 x 40 cm **Weight:** 46 kg **Warranty:** 5 years
