

Active Loudspeaker Klangwerk ELLA

Sound Sculpture - or Active Beauty



It was at the High-End 2012 that the Klangwerk GmbH from Zurich first attracted our attention. A visually striking loudspeaker interacted with a Weiss D/A converter so harmoniously that we became curious about this remarkable piece of audio art. The term “loudspeaker” is almost too profane for such a tasty and stylish design. For me it is merely an appealingly fine interpretation of a sculpture that is able to reproduce music at the highest level – if such an extraordinary product can be described in brief at all.

The Brains behind the Ella

Klangwerk was founded by Markus Thomann. Being an architect, his life revolves around beautiful things and this carries over admirably to his own products. But why did he become a loudspeaker manufacturer? Markus Thomann recalls: “As an architect and technophile I was interested in expanding music reproduction into acoustic room design. I started to wonder how invisible music can find visual expression in the objects and their position in the room. The sounding objects should convey music and incarnate an inner logic just like musical instruments speak through their shapes. But I wanted to find self-contained, logical forms that neither curry favor with instruments nor regress to trivial cubes.”

Active vs. Passive Technology

Both technologies and the philosophies behind them have their followers and Klangwerk uses both options. The approach is pragmatic: The smaller models, especially the wall-mounted loudspeakers, are passive and only the Ella as the top model is active. The latter technology dispenses with the “hi-fi entourage”, meaning a rack full of devices and the corresponding cabling, and is definitely preferred by female inmates. The fact that active speakers already accommodate the indispensable power amplifiers in their enclosure saves separate external devices (see

above) which require space and – as a consequence – the approval of the householder. But back to technology: Active loudspeakers are also equipped with active crossovers. They ensure optimal control of the integrated power amps, which are individually adapted to the chassis. Another big advantage. Questions concerning cable parameters between amplifiers and loudspeakers and the resulting disagreements thus become redundant. In daily practice active systems have undeniably less problems with compatibility. In return they don't offer hi-fi fans any opportunities to try out different power amp or loudspeaker cables – a topic which belongs to the realm of personal preferences and cannot be discussed seriously. Everybody has to decide for himself.

Technical Inspection

The Klangwerk amplifiers are developed and manufactured by the Swiss company Relec SA in Yverdon, which used to build active loudspeaker systems for Studer, too. A pretty good recommendation. A glance into the open enclosure and at the electronics gives proof of the consequent implementation of balanced circuits. The construction of the analog boards strictly adheres to this principle. The purely analog design focuses on precision in phase and magnitude and not on the almost limitless possibilities of digital signal processors. The analog solutions of Relec SA (called CPR and AOI) are worldwide unique. The Compensated-Phase-Response-System uses allpass filters to linearize the phase response of the respective chassis without affecting the different frequency ranges. This results in a constant group delay and sounds “more correct”. The AOI (Adaptive Output Impedance) system controls the movement of the membrane and voice coil and uses an electronic filter for correction, if required. In this way the output impedance of the amplifier is always perfectly adapted to the respective frequency range. The AOI system reduces almost completely the sound colorations

we know so well from uncontrolled chassis. Sound colorations are generally caused by resonances and overshoots of the chassis. The AOI continuously accelerates or decelerates the membranes as required which reduces the tendency for overshoots. All this leads to the conclusion that active systems provide more transparency, dynamics and precision. The sound is being reproduced easier and with less effort. What's more, the CPR/AOI technology facilitates a more authentic depiction of spatiality. The



stereo field will not necessarily become wider or deeper (which is sometimes caused by faulty phase response), but simply more neutral in accordance with the recording.

Balanced Signal Routing

As a result of the active design the power amplifier is located closer to the chassis and the length of the

speaker cables, which are crucial for the overall sound, can be reduced to a minimum. On the other hand the cables between source device and active speaker will have to be longer and should typically be balanced. Those cables offer the advantage that the plus and minus conductors are shielded and much less prone to interferences.

Balanced signal routing can be maintained with all electrical devices. Although this design is more dif-

stand a lot! You can turn this loudspeaker up to a level that makes you shiver. Nonetheless the reproduction stays clean as a whistle – it simply gets louder! The active Ella can be adjusted to the room, of course. Two potentiometers control bass intensity (wall distance) and volume (balance and preamplifier sensitivity). These two factors have a major impact on the sound in the room, as the conditions differ from user to user. The Klangwerk Ella may

be positioned close to a wall, but a minimum distance of 35" from corners is recommended by the manufacturer. The listening axis' should intersect slightly in front of the listening position to expand the listening area. This is all it takes to enjoy an excellent speaker system which will captivate you within seconds.

Specifications

With a weight of ca. 45 lbs and dimensions of 45" x 8.5" x 7.4" (H x W x D) the Ella does not dominate the room. On the contrary: Due to its special tilted front you are simply curious to hear its performance.

While the enclosure is made of internally braced MDF, the reinforced front consists of cast stone. Experts know the name CREANIT® or CORIAN® – an artificial stone with great inner damping that doesn't have to be varnished and impresses with a matte white surface.

The enclosure in light-grey Nextel and the white front of cast stone (tilted under high temperatures) produce an interesting play of colors. Of course, different color variations are also available.

One of the three mid/bass drivers (equipped with HDA membranes from Audax) is mounted on the front panel. The other two radiate to the sides and are interconnected for impulse compensation. Together with the front driver they form a triangle around the tweeter. It is almost unbelievable how intensely those three 5" drivers generate a really solid low end. Only hearing is believing! On the front panel below the large chassis you may have noticed a 1" magnesium membrane (from Audax too) with



ficult to implement in preamplifiers and CD players, it offers big sonic advantages – that are based on sophisticated principles too complex to explain at this point.

Searching for the Red Light

The rear panel houses a green power indicator which turns red when signal levels are too high and the dynamic limiter sets in. But even at high volume levels the red light didn't come on: Ella can

a transparent surface cover which enhances side-ward dispersion in the top frequency range. The waveguide and AOI permit a very low crossover frequency around 1700 Hz, without which a pure 2-way system wouldn't be possible at all. In addition there's an XLR jack for signal connection and a power connector. That's all. Done.

Sonic Behavior

In view of the technical effort mentioned above it is understandable why active loudspeakers are becoming more and more popular. When the manufacturer himself sets up the jewel at my home, I get a little foretaste of Ella's hidden powers. The "Göteborgs Kammarkör" sings "Oktober" and instantly fills the room – I'm flabbergasted! How come? Lo and behold the Ella rests on a little socket that hides the bass reflex ports of the loudspeaker. For less solid floors that tend to resonate Klangwerk offers an additional steel plate with integrated little spikes to reduce vibrations. The Ella – like many other active loudspeaker systems – exhibits no inherent sound.

Especially praiseworthy is the expressive high frequency range which doesn't hide, forget or suppress anything. The expression "flawless audio reproduction" comes to my mind... I reach for a compilation CD, which hasn't been released yet (but hopefully will soon), and listen to it from beginning to end. And I constantly catch myself pushing the "louder" button of the CD player's remote control. The compilation leads me through all musical genres. Manu Katché's song title "Number One" could also be attributed to the Ella and the way it imparts the music's coherently flowing sound – despite the potentially difficult saxophone. Oscar Peterson's "You Look Good To Me" and Livingston Taylor's "Isn't She Lovely" seem to praise the elegant looks of the Klangwerk loudspeaker. Deborah Henson-Conant's live recording "Under the Bed" impresses with smooth and transparent harp sounds before Diana Krall and her crystal clear piano on "Temptation" fill the room with bluesy shades. And as soon as the dust-dry upright bass and Diana's smoky voice come in, every listener is captivated by the stylish Swiss extravaganza called Ella.

In a Nutshell

The Swiss Ella is more than a stylish and truly active loudspeaker – it's a sculpture made for musical enjoyment. Art comes from ability and Markus Thomann from Klangwerk has succeeded in creating a gorgeous and excellently designed transducer with perfect look and sound!

Information

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