



Question Of Balance

How Brinkmann's Flagship Turntable Continues To Define State-of-the-Art

In the fast-paced, technologically driven world of hifi, it is the rare product indeed that defies obsolescence. It is even more uncommon—and more impressive—when a product can continue to evolve and improve for decades. After 35 years of continuous refinement, the Brinkmann Balance is just such a product. Thanks to the validity of its original design principles on the one hand and the ability of its inventor to relentlessly innovate on the other, the Brinkmann Balance is at once both „Classic“ and „Avant Garde“

The story of the Balance begins with Helmut Brinkmann's design philosophy which is, in a word, simplicity. Every aspect of the Balance's design—and that of all Brinkmann products—has been distilled to its essence, which enables these components to achieve „Classic“ status. It also means that Brinkmann turntables are uniquely simple and hassle-free to set-up; what's more, the set-up remains stable over time, obviating the need for periodic tuning or readjustment.

Given the iconic status of the Balance, as well as the numerous innovations and enhancements that have attended its long history, Brinkmann Audio has authored this short history of the Balance.

Helmut Brinkmann's first turntable, named "Konstant", debuted in 1980. Designed for "Audiolabor", Helmut's original company, the table had a heavy platter, a suspension system and versatile tonearm bases that mounted on steel rods. The tonearm bases on the Konstant lacked ultimate rigidity but the arm mounting flexibility was a very popular feature; as a result, an evolution of this concept has found a revival in Brinkmann's new Spyder. Theoretical models coupled with manufacturing experience proved that the combination of a heavy platter and suspension wasn't ideal because once the suspension is set into motion, it tends to remain in motion. The high mass

platter was considered essential because it gave volume, weight and energy to the sound, so a "Suspension-less" solution was required.

The heavy platter also made it essential to have a high precision, close-tolerance bearing to reduce "Platter Rocking" defined as any extraneous, i.e., non-rotational, motion of the platter. The need for ultra-precision tolerances inspired Helmut to develop the Heated Bearing because materials like steel and aluminum expand or shrink with changes in temperature. Due to friction-induced heat, traditional (i.e., non-heated) bearings expand as the platter spins; therefore, tolerances must be a compromise between initial and operational bearing temperature. By comparison, heating the bearing allows for optimal tolerances since the bearing temperature doesn't fluctuate and tolerances remain constant over the life of the turntable. Thanks to the Heated Bearing design pioneered by Brinkmann, the Balance achieves its best sound quality from the moment of turn-on: a "First" in turntable design!



Two other features developed for with the Konstant and retained for the original Balance were the glass platter mat and the clamping system. The first Konstant TTs had an acrylic mat which scratched easily, expanded and contracted with temperature and therefore compromised the intimate connection between platter and record; additionally, compared to crystal glass, acrylic sounded less open. Helmut experimented with a rubber mat suction system to enhance the connection between platter and LP, but the rubber collected dust, was almost impossible to keep clean and consequently damaged the LPs over time. Glass solved the problems inherent to both the acrylic and rubber employed in the Konstant.

Brinkmann's Clamping System, comprised of a spacer and record clamp, provides excellent contact between platter and LP, and ensures the LP doesn't slow down when the cartridge hits heavily modulated grooves. The tension in the LP that is created by the spacer raising the LP in the middle and the clamp forcing it down transmits sound faster, like a tight guitar string transmits sound faster than a loose string.

The first few Balance Turntables were shipped in 1985. This early production did not utilize threaded spikes; as a result, the underside of the chassis made full contact with the surface upon which it was placed. This was a workable solution for some systems, but not ideal for all. Spikes were added in 1987 because they function as a focused and fast resonance discharge point, providing unidirectional energy drainage sometimes called a "Mechanical Diode." The recommendation that provides the best results in most systems is to have the spikes barely extended (i.e., as close to the chassis as possible) so that the chassis is barely lifted above its mounting surface. (When the chassis has full

contact and the spikes don't touch the surface, the sound might be less dynamic in some systems...experimentation is recommended!)

The first iteration of the Balance had a simple "Wall Wart" Power Supply Unit (PSU) that connected to the motor housing. In 1987, the addition of the bearing heater required more power and a stand-alone PSU. The development of this outboard power supply demonstrated what Helmut Brinkmann already knew from designing amplifiers, parts like capacitors, for example, could have a dramatic influence on the sound. Consequently, the drive circuitry and PSU underwent a series of changes and updates over time. This fascination with power supply design also led to the creation of the RÖNt Tubed Power Supply in 1993. A friend of Helmut's acquired a large quantity of East German (Russian) army tubes and, Helmut decided to investigate how a PSU with tubes might sound. The result of Helmut's research was the RÖNt, now in its second iteration, which further enhances the state-of-the-art performance of the Balance (...and all other Brinkmann turntables!) providing a richer, more musical sound.

In 2010, the Balance celebrated 25 years of series production. Brinkmann celebrated with a numbered, limited-edition 25th anniversary model which included a specially developed Isolation Base designed in conjunction with HRS (Harmonic Resolution Systems). This HRS M3X option is still available, as it provides the ultimate platform for the Balance.



When the Balance debuted in 1985, it used a "Pabst" brand motor, originally designed to drive capstans in open-reel tape machines. These motors are very durable and came from a time when German engineering was The World Standard. Over the years, Helmut improved and optimized the circuitry driving the Pabst motor until he had maximized its performance and, by the time Brinkmann ran out of stock a few years ago, the synergy between motor and circuitry was perfect. With supplies dwindling, however, Helmut used the opportunity to create his own, bespoke motor specifically designed to elevate the Balance to an even higher performance level.

Obviously, the new motor had to improve upon the Pabst's performance. By this time, Helmut had developed his own direct drive motor (for use in Brinkmann's Bardo and Oasis Turntables) and acquired great expertise arranging magnets and coils for maximum speed stability with a minimum of control. Everything Helmut had learned went into the Sinus (Sine) motor, which debuted in 2012. At the same time, the drive circuitry underwent another series of revisions and enhancements to perfectly accommodate the new motor. Additionally, the TT bearing was housed in a synthetic POM casing because the resonant characteristics of the aluminum housing, which worked perfectly with the Pabst motor didn't compliment with the new motor and the change to synthetic imparted a remarkable cohesion to the sound.



Although a 2-arm version of the Balance had been offered in 1985, it only remained in production for a few years because it was impractical and difficult to produce. The motor and switch mounting which worked for the 1-arm Balance had to be modified for the 2-arm, with a connection through the chassis that caused the switch to be deployed on one side and the motor on the other. A new 2-arm version debuted in 2012. At the same time, an extended top plate for tonearm bases was added to allow maximum flexibility, enabling the Balance to accommodate most tonearms between 9" and 12" length.

After 35 years, the Balance has remained in continuous production because it's the "ideal" turntable. Rather than succumbing to

marketing pressures to change models, or altering aesthetics without improving performance, decades of experience, experimentation, obsessive attention to detail and painstaking prototyping work have led to a state of "Perfect Balance". The original Balance TT was less compatible with some tonearms, sounded very dynamic though sometimes a little rough. With each improvement, the sound has become demonstrably more refined without losing the dynamic force or "slam" for which the Balance has always been renowned and the 'Table has become more versatile.

Although the outward appearance of the Balance has remained stable over time, this history illustrates the numerous engineering improvements that, for 35 years, have kept Balance the undisputed leader in turntable performance.



Balance Timeline

1980-The “Konstant,” Helmut’s first turntable, is built for his original company, “Audiolabor” The Konstant’s High Mass Platter, Glass Mat and Clamping System were retained for The Balance

1985-Helmut founds Brinkmann Audio Systems and the original Balance—developed through experience gained from Konstant—debuts.

1987-Heated Main Bearing, Outboard PSU and Threaded Chassis Spikes are incorporated

1993-RöNt Tubed Power Supply is introduced

2010-Balance 25th anniversary design includes specially developed HRS Isolation Base which remains a recommended option.

2012-Bespoke “Sinus” motor, designed and manufactured by Brinkmann, replaces Pabst motor used in previous Balance Turntables. New Motor Drive Circuitry and POM Bearing Housing are introduced. New Two-arm Balance debuts.