



# Question Of Balance

## How Brinkmann's Flagship Turntable Has Defined State-of-the-Art For More Than 40 Years

In the fast-paced, technologically driven world of High-End Audio, 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 without losing its identity. 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 has enabled the Balance to achieve „Classic“ status. It also means that Brinkmann turntables are uniquely simple and hassle-free to install and optimize; what's more, their set-ups will remain stable over time, mitigating 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 of our Flagship Turntable.

Helmut Brinkmann's first turntable, named "Konstant", debuted in 1980 and embodied the design principles employed in the Balance series of turntables. 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 based 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 Spyder turntable. 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. This technique has been employed in all subsequent Brinkmann Turntables.

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 therefore 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. To this day, rigorous sonic evaluation and selection of every part and material used in every Brinkmann product is a foundation of Brinkmann Design Philosophy.

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 third iteration, which further enhances the state-of-the-art performance of the Balance (...and all other Brinkmann turntables!) providing a richer, more liquid and 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 and provides the ultimate platform for the Balance.



When the Balance debuted in 1985, it—and many other High-End Turntables—used a “Papst” 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 proprietary circuitry he developed to drive the Papst motor until he had maximized its performance and, by the time Brinkmann ran out of stock, 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. (It should be noted that many other companies still use the original Papst design, now manufactured by other suppliers.)

Obviously, this new motor had to improve upon the Papst's performance. By this time, Helmut had developed his own direct drive motor (for use in Brinkmann's Bardo, Oasis and, more recently, Taurus Turntables) and acquired great expertise arranging magnets and coils for maximum speed stability with a minimum of electrical intervention, which he felt degraded sound. Everything Helmut had learned went into the Sinus (Sinusoidal) motor, which debuted in the Balance 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 Papst motor but didn't compliment with the new motor. The change to



synthetic imparted a remarkable cohesion to the sound: another example of critical listening influencing materials selection.

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 'table, 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" in length.

In 2018, to celebrate the "33-1/3 Anniversary" of the first Balance, Brinkmann launched a numbered and custom-engraved Special Edition Balance (a 2-arm model) which included a 12.1 tonearm, bespoke HRS Isolation Base, RöNt II with NOS Mullard Tubes, Anniversary Book and Custom Flight Case. More recently, Helmut wanted to replicate—and improve upon—the sound of the Mullard GZ34 Rectifier Tube, which he considered the best sonic choice with our RöNt but which has become virtually unavailable. Brinkmann introduced the RöNt III Tubed Power Supply which features Helmut's proprietary BZ34 "Rectifier Tube Simulator" which, when compared to available tubes, offers superior performance, ideal unit-to-unit consistency and greatly extended lifespan. RöNt III also features revised ground paths and other circuit enhancements.

After 40 years, the Balance has remained in continuous production because it's the "ideal" turntable concept. Rather than succumbing to marketing pressures to replace models or altering aesthetics without improving performance, decades of experience, experimentation, obsessive attention to detail and painstaking prototyping have led to a state of "Perfect Balance". The original Balance, for example, was less compatible with various tonearms and 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; at the same time, the 'Table has become increasingly versatile.

Although the outward appearance of the Balance has remained consistent over time, this brief history illustrates the numerous engineering improvements that, for more than 35 years, have kept Balance at the State-of-the-Art and justifies its place as one of High-End Audio's true icons.



## 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 Papst motor used in previous Balance Turntables. New Motor Drive Circuitry and POM Bearing Housing are introduced. New Two-arm Balance and extended arm boards debut.

**2018**-Special Edition “33-1/3 Anniversary” Balance debuts

**2022**-RöNt III featuring BZ34 “Tube Rectifier Simulator” and other enhancements is introduced.