



The Rega RP10 skeletal turntable.

Rega is extremely pleased to announce the launch of the much awaited RP10.

Rega's design philosophy extends further than ever before with advanced components built around our radical new plinth design. Featuring the brand new RB2000 tonearm, a ceramic flywheel effect platter and the custom RP10 power supply (allowing total control and accuracy over both motor vibration and speed performance) guarantee the highest level of performance from a Rega turntable to date.



The Evolution of Revolution

Evolution is a well proven and documented process in many areas of our lives. This applies in particular to design engineers and machines. Over the past forty years our cars have become more reliable and economical whilst we take for granted the reliability and speed of modern aircraft. Rega is no exception to evolution. Rega's experience and previous achievements allow us to continually develop and produce better products.



The RP10 represents probably the biggest step forward in the evolution of Roy Gandy's turntable design philosophies. Low mass, high rigidity plinths combined with electronically controlled low vibration motors, high flywheel effect platters and lower mass higher stability tonearms.

The RP10 will also be available with its perfect partner, the Apheta moving coil cartridge, factory fitted as a package option.

RP10 Custom power supply

Housed in Rega's custom design case is a brand new advanced anti vibration and speed control circuit dedicated to running the 24v low noise motor. The speed and control of the motor is achieved by using a new DSP (digital signal processing) generator built upon a high stability crystal. The device will divide the accurate square wave from the crystal to the exact frequency required to turn the platter at the selected speed. The DSP core will also generate a near perfect sinusoidal waveform to power the motor. Factory set vibration and speed adjustments are then made to the power supply to tune the motor for optimal performance.

RB2000 Tonearm

The RB2000 tonearm is packed with new features pushing the boundaries of tonearm design. As with all Rega tonearms, each one is meticulously hand built by a team of highly skilled technicians. The RB2000 uses improved bearings with each one being hand selected to be an interference fit with the paired spindle matching both the inside and outside diameters. This is a Rega developed method of increasing the amount of detail retrieved from the record surface, designed specifically to maximise performance of the tonearm and cartridge.

The entire tonearm structure is designed to have the minimum of mechanical joints whilst using the stiffest materials in all critical areas. The tolerance of the RB2000 tonearm is so tight that no adhesive is used at any point throughout the construction. A brand new low mass, precision engineered, vertical bearing assembly has been manufactured to further compliment the inherent design philosophy of the RP10 turntable.

The RB2000 uses the latest award winning Rega arm tube. Each one which is meticulously hand polished (keeping mass to an absolute minimum) and has been completely redesigned to redistribute mass and further reduce stresses and resonances. This advanced design tube increases the stiffness and rigidity of the overall assembly whilst reducing stress on the bearings even further.



Magnesium and Phenolic - Dual bracing

A super lightweight plinth combined with a double brace mounted specifically where the increased rigidity is required (between the tonearm mounting and the main hub bearing) forms a structurally sound “stressed beam” assembly. This design prevents energy absorption and unwanted resonances which will add un-natural distortions to the music. The RP10 takes our double brace technology to the next level. Not content with an unprecedented stiffness to mass ratio, Rega have obsessively reduced any resonant properties by using two different materials for the new stressed beam. The top layer is magnesium and the bottom layer is pheno-lic (two of the lightest and stiffest materials available). Incorporating two different materials into the brace structure lowers their ability to pick up unwanted airborne vibrations. Simply put, different materials have different natural resonances. By using two different materials together they decrease the natural frequency of each other by self damping.

Super flywheel effect ceramic platter

The RP10 uses a custom ceramic flywheel effect platter. The platter is produced from ceramic oxide powder which is compressed, fired and diamond cut to ensure perfect accuracy and flatness across the surface. The new platter features a modified construction over the previous P9 version with improved coupling to the sub platter.

24V Low noise motor

The motor is a high specification, 24V twin phase synchronous unit. It is controlled by Rega’s unique and innovative RP10-PSU power supply. The motor drives the CNC machined pulley, sub platter and hub-bearing assembly via the twin belt drive. Each motor is individually hand tuned to its own custom power supply in the factory to minimise vibration, motor noise and ensure optimum performance.

Skeletal plinth design with polyolefin foam core

Controversially Rega has always researched methods of producing light but stiff and rigid plinths. The technology is simple: unwanted noise at microscopic levels is developed by the turntable motor and main bearing. The plinth can also pick up airborne vibration from the music. From the beginning in the 1970’s Rega pioneered the use of a stressed skin structure for the plinth. This uses two layers of phenolic resin with a lightweight particle or fibre board sandwiched between the skins. This technique has been used in many applications where stiff, light structures are needed such as an aircraft wing or a Formula 1 chassis.

The current increase in interest in turntables has allowed Rega to research and develop higher technology structures for the customer who is happy pay a little more for higher sound quality. The all new RP10 turntable utilises a unique new stressed skin structure produced from thin phenolic skins sandwiching a featherweight nitrogen expanded, closed cell, polyolefin foam core. This material has been developed exclusively for Rega over a three year period. The RP10 plinth is 7 times lighter than the weight of the original Planar 3 plinth. Rega has added even more stiffness in the crucial area between the arm and the main bearing.

De-coupled outer frame and dust cover

A common problem for many skeletal design turntables is the inability to incorporate an effective dust cover into the design. We have constructed an outer frame that minimises contact between the inner and outer plinth. The only points of contact are three location devices on the feet which centralises the inner and outer plinths perfectly. This makes set-up extremely easy and allows the use of a dust cover. The RP10 can be used without the outer frame if so desired.



Turntable design & mythology

Today there are many approaches to Hi-Fi design which follow established and informed engineering or electronic principles. Amplifier and loudspeaker design has been well documented over the years with excellent technical publications. These subjects have been based on tried and tested acoustic criteria and many computer software programs now exist that enable a near amateur to design a passable working loudspeaker based on known acoustic and mathematical parameters.

Enter turntable design: When it comes to turntable design we are limited to a few poorly informed articles describing only very limited aspects of design. This is a subject full of mythology. Designers propose theories that counter the basic laws of physics, use terminology that doesn't actually exist in the engineering world, build products that are more like beautiful sculptures than acoustic reproduction machines and sell items costing tens of thousands of pounds that hardly function as intended and often fail to work at all.

For instance a very common myth is "the heavier the better" concept. Turntable bases weighing tens of kilograms are not uncommon. The reality is that the base actually needs to be as light as possible to prevent unwanted bearing and motor noise being transferred to the turntable or record. Platters also fall under a similar myth with many platter designs becoming so heavy that it is impossible to design a correctly functioning bearing (and some so light that anyone can hear the speed inconsistency). The turntable platter itself needs to be of enough weight to spin at a constant speed within the confines of the chosen bearing and motor drive system.

Many amateur designers in any field choose one component in a design and try to achieve an extreme in size, weight and quality. They believe that by taking one theory to its extreme the design will become "perfect". The reality of all engineering, design (and life) is that perfection is not possible. Based on this reality, Rega's goal has always been to optimise a mixture of numerous "correct compromises" thus bringing the designer nearer to the unachievable goal of perfection.
