

= Roksan Xerxes =

The Roksan Xerxes transcription turntable (often shortened to Xerxes) is a record player named after the Persian king Xerxes I and produced by London @-@ based Roksan Audio . Designed by Roksan co @-@ founder , Touraj Moghaddam , the Xerxes is a belt @-@ driven turntable that has a solid plinth . Launched in 1985 , the sound quality of the product positioned it as a strong competitor against the established industry leader , the Linn Sondek LP12 . Many reviewers use the Xerxes as a reference turntable .

The production version of the Xerxes is called " Xerxes.20plus " , a reference to the 20th anniversary of the launch , in 2005 .

= = History = =

Before Touraj Moghaddam founded Roksan , he had become dissatisfied with the state of the audio arts when he heard his little television set reproduce Thelonious Monk in a more musically satisfying way than his high @-@ end Linn / Naim tri @-@ amped audio system . Through experimentation , he deduced that the existing turntable design failed because the cartridge was not being held still wherever the groove went . He believed that the mean line traced by the groove relative to the body of the cartridge needed to be constant . His ideas led him away from using the sprung sub @-@ chassis as part of the speed @-@ controlling system . Needing a top plinth roughly an inch (25 mm) thick made from wood with a density of about 700 to 800 kg / m³ , Moghaddam found suitable material in a fire door with which he built a prototype . His friend Tufan Hashemi ? then an investment analyst ? heard the new prototype turntable and wanted one . They agreed to team up to start production ; Roksan Audio was formed . The Xerxes , introduced in 1985 , secured the advocacy of Roger Macer , a successful independent hi @-@ fi retailer in London who sold the then market leader , the Linn Sondek . Hashemi credits Macer with urging him to start satisfying the demand of " dozens or more a week " from his customers . The product , named after the Persian king Xerxes I , was launched at a hi @-@ fi show in 1985 where the Roksan Darius loudspeaker concept was also unveiled .

= = = Design principles = = =

Tufan Hashemi said Roksan sought to create equipment that would excel in high @-@ quality musical reproduction and capable of involving the listener on an emotional level . Product characteristics were to include precision and transparency of the sound . Moghaddam , acting as chief designer , set out to find solutions to engineering problems he saw as inherent in the belt @-@ driven suspended sub @-@ chassis turntable design of Edgar Villchur , where the sub @-@ chassis and tonearm are free to rotate . Moghaddam believed that the design generated undesirable torsional modes . One such torsional mode is said to be caused by " groove drag " ? dynamic forces exerted by the stylus on the record as it tracked it . Moghaddam chose to attenuate the torsion by mounting the turntable @-@ drive motor casing on its own bearing . The motor , mounted separately and tethered to a spring , is allowed limited rotation about its own axis ; because the load varied with groove modulations , the increases in drag would thus be dampened by the spring @-@ loaded motor , and the platter acceleration mitigated . In the words of Tufan Hashemi , Roksan Audio 's managing director :

" We argued that using a suspended or floating surface to support a record could not allow it to be accurately read , as the record itself would be floating . We said that the record surface should remain stationary and solid but in complete isolation from the rest of the deck , and our design provided a very stable base for isolating a record without suspending it . "

Like the LP12 , the Xerxes has a two @-@ piece platter ? sub @-@ platter configuration on which sits a thin felt mat . And while the LP12 's platters are made of mazak , the Xerxes ' platters are of aluminium . The outer platter is rigid and peripherally weighted . However , the Roksan 's outer platter weighs less than half of that of the LP12 , to reduce load on the main bearing , yet is able to

achieve a greater inertia because of its weight distribution .

A second challenge was how to overcome the rotation of the suspended parts ? the sub @-@ chassis , platter , arm and cartridge ? relative to the motor . This was done by re @-@ imagining a suspension that had less freedom of lateral movement relative to the drive motor . The Xerxes uses a relatively light medium @-@ density fibreboard (MDF) top board on which the bearing and tonearm assemblies are mounted . Firm rubber " Blobs " mounted on the bottom board (along with the motor assembly) support yet decouple from the top board . Aesthetically , the two boards are encased by a wooden surround fixed to the base board with screws . These design principles can be seen throughout the evolution of the Xerxes , right through to the Xerxes 20plus .

= = Construction = =

The original Xerxes design is deliberately a radical departure from the traditional suspended sub @-@ chassis design . Instead of having a three @-@ point sprung suspension separating the plinth from the sub @-@ chassis , the Xerxes is made up of two boards separated from each other by stiff rubber " Blobs " . The top plinth sees mountings for the main bearing and tonearm . A hole is cut out from the top board for the motor assembly to emerge from its fixture on the board below . On the lower board , to which an outer surround is attached , three compliant rubber feet give additional isolation to the turntable 's chosen placement . One notable characteristic of the deck is the large C @-@ shaped groove cut into the top plinth to control how vibrations would be transmitted from platter to the tonearm area . However , the cut @-@ out is prone to a commonly observed " plinth sag " , where the part of it would bend out of true with the rest of the board .

While some other designs use clamps to couple the disc to the platter , Roksan shares the same philosophy as Linn in believing that rigid coupling would cause rumble to be transmitted from the main bearing , thus colouring the sound . To further increase isolation , the Xerxes possesses a spindle that allows the user to centre the record , but which is supposed to be removed during listening so that the disc rests solely on the felt mat .

The bearing @-@ mounted spring @-@ loaded motor is powered by an outboard power supply designated the XPS . Its basic power supply switchable between 33 and 45 rpm . Throughout the years , there have been many changes which have significantly improved this table . The earliest and most important of these was a new main bearing (c . 1989) . Other changes include modifications to components such as the outboard power supply , now in its seventh version , and the suspension blobs .

= = Partnering = =

= = = Tonearms and cartridges = = =

Early versions were a platform for mounting third party tonearms . Prior to the launch of Roksan 's maiden tonearm ? the Artemiz , it was most commonly partnered with the Rega RB300 (at the " budget " end) , and the SME V (at the " top " end) . Other 12 @-@ inch arms , like AudioQuest or SME 309 , were also chosen by buyers . The Rega was able to function in a way that seemed more synergistic with the Xerxes than the LP12 . In both price and performance terms , the original Xerxes , fitted with the Rega RB300 costing £ 95 , became a head @-@ on (and cheaper) alternative to the LP12 fitted with the Linn Ittok arm .

By 2010 , Roksan has three tonearms to partner their deck : the Artemiz , the Tabriz (and its ' Zi ' version) and the unipivot Nima .

= = = Roksan Artemiz = = =

Launched in 1987 priced at £ 350 , Artemiz is the flagship tonearm whose design was also a break from established conventions . The arm and headshell is a one @-@ piece construction ; the large

@-@ gauge aluminium tube interference @-@ fitted at one end into a massive yoke that is the bearing . The tube is flat at the other end to provide for mounting the cartridge . The arm is finished in a matt resonant paint . Unusually , there is no finger lift for cueing but the arm is fitted with a conventional lever @-@ operated lift / lower assembly .

The bearing housings are at either side and the vertical bearings are above and below the arm tube are massive , and machined from a single solid piece . The bearings have a pyramidal arrangement : the upper component , consisting of three ball @-@ bearings arranged in a triangle , rests on a single ball @-@ bearing below . The bearings have deliberate play in them which allows movement in response to the dynamic forces when records are tracked .

The Artemiz also possesses an " intelligent counterweight " . Its fulcrum is balanced on a stub at the rear of the arm so that its weight is decoupled from the arm and its centre of gravity low . A rider , with a small indentation for the fulcrum , can be moved incrementally along the stub to adjust tracking weight . The pendulum is tuned to 2Hz , outside the range of warps and vibrations from footfalls . Bias is adjustable by spring and a threaded counterweight . The arm is wired using Isoda wire made to Roksan 's specification . One end is terminated by cartridge tags , and the other has gold @-@ plated RCA phono jacks . The wire has one join , in the arm base , where the thin cartridge wires are melded with sturdier phono leads .

= = Power supplies and accessories = =

In 1989 , Roksan introduced the Artaxerxes phono stage ? a moving coil phono pre @-@ amplifier designed to sit inside the turntable . Roksan also marketed a three @-@ legged table dedicated to the deck . In 1987 Roksan launched the Shiraz moving coil phono cartridge . In 1989 , Roksan launched the budget Radius record player , Tabriz arm and Corus moving magnet cartridge .

= = Popularity = =

It was launched in 1985 into already established competition where Linn Sondek LP12 dominated . Other competitors included the Well Tempered Table , the Phonosophie P3 , the Michell GyroDec , Pink Triangle , the Dunlop Systemdek , and the Logic DM @-@ 101 . At its launch , the Xerxes was priced at around UK £ 300 ? approximately £ 100 cheaper than an LP12 .

The company was highly influential in the way hi @-@ fi was sold , and it managed to wrest market share from Linn and Naim , who had a stranglehold in the UK . Hi @-@ fi critic Art Dudley observed that prior to Roksan arriving on the scene ,

people who valued a component 's rhythmic and melodic capabilities had only one real turntable choice , the (still splendid) Linn LP12 . But the first Roksan Xerxes was so good , and so superior to the pre @-@ Lingo LP12 , that honest listeners among the so @-@ called / self @-@ called ' Flat @-@ Earthers ' had no choice but to say so .

The Xerxes is known for its speed stability and its ability to extract information and detail from the record groove . It thus became acceptable to acknowledge good performance from products by companies other than Linn , Naim , and Rega . What Hi @-@ Fi ? considered the Xerxes " arguably the first turntable to give the previously all conquering Linn Sondek LP12 a real run for its money " .

Throughout the Inspector Morse TV series , the lead character , when seen at home , is often listening to music on his Xerxes . According to the manufacturers , the producers of the show deliberately sought to feature one in the series , from the first episode , to highlight Morse 's passion for music . In the first episode , The Dead of Jericho , the people associated with the fictional manufacturer of the turntable (Richards Audio Research) were the focal point of the storyline .

= = Versions = =

The Xerxes exists in four distinct versions . The original two @-@ plinth Xerxes (1985) was discontinued after about eight years ' production , after the Touraj Moghaddam Signature (TMS) was launched . On the 10th anniversary of the company (1995) , Roksan reprised the entry @-@

level Xerxes turntable with a 3 @-@ plinth design named Xerxes.X. Its top plinth houses the tonearm and the main bearing , and is isolated from the base by five Blobs , which also allow the plinth to be adjusted in two planes ? parallel and perpendicular to the motor and main bearing . The motor is driven by XPS V Reference motor drive , which receives power from DS1.5 Reference Power Supply .

The Xerxes.20 which superseded the Xerxes.X in 2005 incorporated new main bearing ball and the new Rmat @-@ 5 sub @-@ plinth . The bearing , attached to the inner platter , has an unusually small @-@ diameter hardened @-@ steel spindle , which sits on top of a tungsten ball that measures 2 mm and is machined to a tolerance in the order of micrometres . The corresponding housing is made of bronze . The two @-@ piece platter , when fit together , are snug and will not resonate .

According to the manufacturer , the Xerxes.20plus incorporates key design elements from the TMS3 , including the tungsten carbide bearing ball , inner and outer aluminium platter , mat and decoupler blobs . The isolation between the plinth layers of the 20 has been improved for the Plus . The bearing is of a higher quality ; the platter and sub @-@ platter have been redesigned . A mat with distinctive cut @-@ outs is placed on the platter assembly to support the disc . While the top board sits on decoupling blobs , the lower half has bright polished @-@ metal feet . The bearing ball , Blobs and mat are available to existing owners for retrofitting their legacy Xerxes.10 and Xerxes.20 turntables .

= = = Specifications of the Xerxes.20plus = = =

Main bearing spindle : hardened tool steel

Roundness & concentricity : < 5 µm

Length - diameter ratio : 11 : 1

Main bearing ball : tungsten carbide

Roundness : < 1 µm

Diameter : 2 mm

Main bearing housing : solid phosphor bronze

Clearance : 2 / 1 @, @ 0000 "

Inner and platter : 2 @-@ piece solid aluminium alloy , interference fitted (both)

Structure : 3 @-@ plinth

Isolation : 3 @-@ level decoupling with " blobs "

Motor : custom made 24 @-@ pole synchronous

Pulley : solid aluminium alloy

Roundness and concentricity : < 1 µm

Belt : ground neoprene

Motor mount : unique synchronising bearing

Motor drive : external speed controller

Wow & flutter : < 0 @. @ 02 %

Rumble : < ? 80 dB

Dimensions : 450 mm × 370 mm × 115 mm

Weight : 12 kg

(Source : UK distributor)