

XD1 Record Player System

Marc Gomez has been for years developing and refining the concept of the turntable he always wanted to have as the best platform for his world-famous arms, condensing the design into its essentials - the purest form of the ultra-high performance record player.

By suppressing all superfluousness and concentrating on the engineering essentials, Gomez has created another masterpiece with the distinctive engineering and performance of his arms.

The result is an elegant, compact and minimalistic record player with the grandest and purest sound yet.

The essence



The XD1 has been designed taking special care to isolating the record player from external air-borne and structure-born vibrations. Starting with a very small surface and volume footprint in order to minimise the effect of the sound pressure waves that would excite the structure of the record player. Not having a plinth and making a very compact and dense chassis greatly reduces the vibrations caused by the sound waves.

We have developed a state of the art isolation system that filters vibrations from 0,5Hz and well beyond 20kHz. This provides the quietest and most stable noise floor for the cartridge and arm to work. We achieve this by combining two isolation systems. The first one is an isolation platform working in the 0,5-100Hz range, complemented by isolation modules inside the record player's feet that work in the 100Hz-40kHz range.

An extremely powerful and quiet direct drive motor rotates the high mass proprietary platter with industry-reference levels of wow and flutter. The motor is specifically designed for record player applications with all the advantages that represents compared to using off-the-shelf industrial motors. We modify the latest top of the range Technics motor and adapt it to our needs, achieving outstanding results.



Specifications

High-density monoblock chassis

Machined from a single piece of Mg-Si alloy, removing just the minimum required to nest the platter, motor and electronics.

Diffraction edges

Along the chassis and the legs, several sharp edges diffract the sound waves reducing the negative impact they have in the sonic performance of the turntable.

Stabilising motor bracket

The motor is connected to the bracket at three points through high-pressure coupling devices, providing an accurate coupling without residual stresses. The bracket is connected to the chassis through a high-area contact surface with friction damping.

Modified Technics DD motor

Our research has led us to choose the latest top of the range direct motor drive from Technics. In our view, it offers the best performance in terms of power, quietness, accuracy and reliability for our application. We modify it and adapt it to our needs, achieving unparalleled results.

Motor pre-loading system

The motor stator is rigidly coupled to the chassis at three points above the motor bracket, adding a critical increase in stiffness for the motor assembly. This is a determinant factor in the resolution and dynamics that this turntable conveys.

Motor damping system

Located at strategic points around the stator of the motor, damping elements reduce the high frequency vibrations that would negatively affect resolution. The motor vibrates less and can rotate the platter more accurately.

Platter with laminar flow

Designed with a specific gap to create a laminar flow for constant drag and more stable speed.

High stiffness and inertia platter

Precision machined from precipitation-aged Mg-Si alloy with a tall section, achieving increased stiffness for the target mass of the platter. It nests a top platter and a flywheel in the lower portion of the rim.

Top platter for ultra-low magnetic field

Top platter layer of 16mm proprietary advanced technical polymer infused with carbon fiber micro powder and UHM carbon nanotubes. It keeps magnetic field away from cartridge for maximum resolution and provides levels of damping not possible with other material formulations. The tiniest micro details can be retrieved by the cartridge once the magnetic interaction with the platter is removed.

Precision micro-machined top platter surface

Special micro-ridge profile with controlled pitch and height, designed to provide unprecedented record coupling to the platter. This feature is proprietary to SAT and is machined on a very unique CNC lathe using dedicated fixtures and diamond cutting tools - the only ones able to machine the carbon micro fibers with the required precision and surface finish.

Decoupled record spindle

Dedicated record austenitic stainless steel spindle is fixed to the platter without direct connection to the motor.

Rigidly coupled platter

Platter assembly is connected to the rotor of the motor via three high-contact-surface screws, assuring metal-to-metal and a high-rigidity and stable coupling. This solution is much more effective than dropping the platter onto a spindle/rotor or sub-plater.



High-stiffness high-mass legs with fully adjustable feet

The massive legs are integral parts of the mechanical structure of the turntable and have a very important contribution into the stiffness and damping characteristics of the system. They have been designed through extensive FEA studies and the geometry and position optimised through virtual design of experiments technology (VDoE).

Dual complementary turntable isolation system

The suspension system is an integral part of the record player, designed to work in conjunction with it to achieve the highest level of isolation.

SAT mount for armboards

For the first SAT record player we have developed a new proprietary mount system which is class leading in terms of stiffness.

Structural ultra-high-rigidity short path construction

Arms are connected with motor through massive, continuous and uninterrupted sections of metal for uncompromised rigidity.

The arm does not move with respect to the platter spindle, keeping a stable position and thus generating less distortion. This translates into more resolution, faster and sharper transients as well as longer decays.

Proprietary buttons mechanism

Made of solid aluminium and machined with the same care and precision as the rest of the components of the turntable. The speed control buttons and their actuation mechanism are entirely designed and manufactured by SAT specifically for this turntable.

Precision record clamp

Designed in conjunction with the decoupled spindle, it provides a firm coupling of the record to the platter. Thanks to its exquisite engineering, through the use of precision ball bearings, the operation is silky-smooth and the control of the load on the record is very accurate.

Hand-build by the designer one at a time

As with the SAT pickup arms, Gomez builds every unit of the XD1 record player with the outmost care in Gothenburg. For this exclusive product, only he is involved in the whole build process, from the quality control of the components to the final assembling and packaging.



The XD1 Record Player System is delivered with a unique and exclusive arm - the CF1-Ti series. Available in 9 and 12 inch versions. This new arm is a special edition of the CF1 series that incorporates an internal titanium tube under the carbon fibre laminate for an even higher stiffness. The headshell frame is also machined from titanium instead of stainless steel as on the standard CF1 series.

The CF1-Ti arms will only be available as part of the XD1 Record Player System and will provide the highest performance available today to complement the XD1.