

TAD

Reference Series

TAD

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DISC PLAYER
D700



Our pursuit of pure sound has no boundary

TAD's relentless pursuit of pure sound has not rested with the TAD-D600 CD/SACD player, which was introduced in 2010 and has since won critical acclaim for its uncompromised approach to delivering sound in its purest form. In designing its successor, the TAD-D700, our engineers have taken extra steps to further refine the already great disc player by eliminating elements that might otherwise degrade the purity of sound. The Ultra-High Precision Crystal Generator (UPCG), TAD's proprietary master-clock technology, has been upgraded to a third-generation that boasts even greater precision. The post digital-to-analog conversion circuitry has been polished to generate even more accurate and dynamic audio signals. The redesigned chassis provides even greater sturdiness with a touch of Japanese artistic elegance. All these refinements and engineering marvels incorporated into the TAD-D700 combine to reproduce every minute detail of original recordings without adding or taking anything away in order to bring alive musicians' outburst of artistic expression or music producers' creative intentions.

Higher sound quality brought about by greater precision of digital-to-analog conversion

True to TAD's long-held philosophy of delivering artistic expression in music as it was originally performed, the D700 incorporates a digital-to-analog conversion technology that boasts the highest level of precision. As the clock performance makes a crucial difference to the precision of D/A conversion, TAD engineers have spent years developing a new master clock for the D700. The fruit of their meticulous efforts is the Ultra-High C/N* Master Clock UPCG, which greatly reduces jitter in the frequency bands around the clock center frequency. Our original approach to engineering based on theories and real-world testing makes it possible to bring alive the purity of musical performance.

*C/N: Carrier-to-noise ratio



TAD's uncompromised pursuit of engineering excellence, as evidenced in the D700, has taken the purity of sound to an unprecedented level

Digital to Analog Conversion Technology

Third-generation UPCG with a ultra-high C/N master clock

In designing disc players capable of providing the most accurate sound reproduction, TAD has been focused on achieving greater C/N performance by reducing jitter in the lower frequency sideband ranges relative to the center frequencies. With the D700, we have taken an extra step by incorporating an oscillator with an SC-cut crystal to reduce phase noise even further. This oscillator was jointly developed with a crystal manufacturer and has a minimum level of temperature deviation for oscillation at room temperature. The upgraded third-generation UPCG with a ultra-high C/N master clock is responsible for smooth and dynamic reproduction of music with superb spatial characteristics. The oscillator delivers consistently high C/N performance over an extended period of time and operates reliably and with low power consumption.



Ultra-High C/N Master Clock UPCG

Simplified, high-purity audio output circuit

TAD's pursuit of simplicity has culminated in a newly developed current-feedback amplifier incorporated into the D700's I/V converter, which feeds back current coming from D/A converters without altering it. This design achieves lower impedance and greater noise-resistant characteristics, contributing to pure signal transmission. Its input stage is equipped with FET devices hand-selected and paired by our certified specialists. This ingenious design enables a ultra-wide-range signal transmission, resulting in an unprecedented level of precision in signal conversion. Our attempt to eliminate magnetic distortions has taken a step further. The nonmagnetic, highly reliable carbon resistors used for feedback resistance contribute to a nonmagnetic signal path. The combination of TAD's proprietary discrete circuit design and carefully selected high-grade components improves signal linearity ranging from very weak to very strong levels, bringing out the real presence of music.



Audio output circuit

Parallel-connected twin differential D/A converters with Burr-Brown PCM1794A DACs

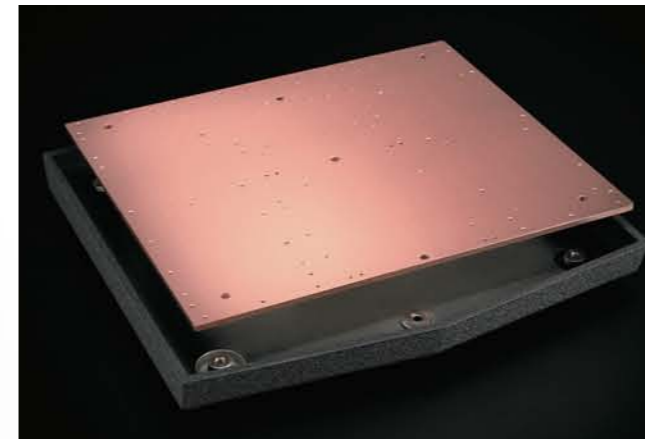
Two Burr-Brown PCM1794As, widely recognized as best-in-class DACs, are connected in parallel—one for each channel—in a balanced configuration. This improves audio performance in S/N ratio, linearity, dynamic range, and distortion. In this design, audio signals are transmitted in their purest forms from the D/A converters to the subsequent analog audio circuit, which results in a faithful reproduction of even the most delicate music nuances and brings dense, finely textured sound.

- Gold-plated coaxial connectors and high-quality semi-rigid coaxial cables are employed for the wiring of the master clock oscillator to achieve a high-purity transmission path.
- The precision brushless DC servo motor, which is free from brush-induced friction, reduces operating noise and has a longer operating life.
- The CD/SACD mechanism and its control circuit are equipped with a high C/N clock to reduce jitter and improve sound quality.
- The pressure-sensitive, rather than capacitive-sensitive, keys and static-lighting LED display on the front panel eliminate the effect of high-frequency noise on sound quality.
- Digital output (upconverted to 88.2 kHz sampling frequency) exceeds the CD format specifications to deliver higher-quality sound reproduction.

Vibration Absorber Technology

Heavy die-cast aluminum chassis is the cornerstone of sturdy structure

One of the most important factors in the quest to improve sound quality is to control noise-causing vibration. The D700 is built on a die-cast aluminum chassis with high vibration-absorption characteristics. A heavy 6 mm-thick copper-plated steel plate is fitted into the chassis to further dampen vibration and lower the center of gravity. This two-layered structure achieves greater rigidity to suppress vibrations to minimize their effect on the disc-drive mechanism. Furthermore, the copper plating has the additional benefits of lowering the ground impedance and improving the S/N ratio.



Sturdy two-layered chassis

High Quality Construction

Powerful 400 VA transformer with its internal coil directly connected to the power supply circuit

A powerful transformer plays a critical role in ensuring highly stable power supply and fast responses. In the D700, a powerful toroidal transformer with a 400 VA power rating—not uncommon in power amplifiers but unheard-of in disc players—powers the audio circuit to achieve greater signal transition performance. The entire power supply is housed in a sturdy die-cast aluminum monocoque chassis to suppress unwanted vibrations. To increase the purity of power supply, the internal coil of the transformer is directly connected to the power supply circuit, minimizing the contact points with lead wires. Furthermore, terminals for directly connected coils, mounting terminals for motherboards, and clamping screws are all made of oxygen-free copper coated with nonmagnetic materials to eliminate even the slightest magnetic distortions. The result is more faithful reproduction of recordings of pianissimo sections, as well as those of full-scale operas and symphonic orchestras.



High-output toroidal transformer

Outboard power supply prevents vibrations and electromagnetic interference from affecting the main unit

The D700's power supply is physically separated from the main unit. This design prevents vibrations and stray electromagnetic fields from the transformer from affecting the disc-drive mechanism and audio circuit inside the main unit, and significantly improves sound quality. In addition, the two-unit design allows large-capacity transformers and rectification circuit to be incorporated into a power supply unit without compromise, which is not the case with an all-in-one design.

Three-point support spikes ensure greater stability and vibration-dampening characteristics

In order to stably support its heavy chassis and block transmission of vibration from the surface below, the D700 is equipped with die-cast aluminum three-point support spikes. This extremely stiff suspension thoroughly dampens any vibration that might otherwise be transmitted upward from ground contact, and eliminates rocking even if the surface on which the unit sits is not perfectly flat. The three-point support system is yet another key element that enables the D700 to reproduce high-quality sound.

Built with Japanese artistic elegance

The D700 is housed in an enclosure built with the combination of die-casting and cutting processes, which is rarely seen in hi-fi components. The design of the die-cast aluminum chassis of the main unit and the power supply is inspired by stone walls of Japanese castles, with the patterns on the surface chosen to give a dynamic and three-dimensional illusion.



Patterns that give a three-dimensional illusion

Sturdy, high-precision CD/SACD mechanism

The D700 boasts an upgraded CD/SACD drive mechanism to achieve greater accuracy in signal reading. The sturdy disc-drive unit comes with a high-precision loading mechanism that opens and closes the disc tray with little vibration or noise, thanks to the built-in metal shaft bearings. The pickup employs an infinite conjugate optics system that ensures both stable operation and high-precision signal readout. The rigid disc tray is made of meticulously machined aluminum to suppress vibration and has a vibration-dampening black coating to prevent the diffusion of a laser beam and achieve even greater accuracy in signal readout.



Aluminum disc tray

Doubling as a high-precision stand-alone D/A converter unit

The D700 double as a high-performance stand-alone D/A converter capable of processing digital signals up to 192 kHz and 24 bit. The D700 is equipped with a high-precision sampling-rate converter that works with the Ultra-High C/N Master Clock UPCG to reclock digital signals fed from external sources, including digital data streams from a computer.

TAD-D700 Specifications

■ Audio output • Digital output connectors: XLR connector x 1; Coaxial connector x 1 • Analog output: Balanced output x 1; Unbalanced output x 1 • Output sampling frequency: 44.1 kHz, 88.2 kHz (CD) ■ Frequency response: CD: 4 Hz to 20 kHz; SACD: 4 Hz to 40 kHz ■ S/N ratio: 115 dB ■ Input • Digital input connectors: XLR connector x 1; Coaxial connector x 1 • Input sampling frequency (XLR/Coaxial): 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz ■ Power source: AC 120 V, 60 Hz (USA); AC 230 V, 50 Hz/60 Hz (Europe) ■ Power consumption: 43 W ■ Power consumption during standby: 0.5 W ■ Dimensions: Main unit: 450 mm (17-23/32 in.) (W) x 185 mm (7-9/32 in.) (H) x 440 mm (17-11/32 in.) (D); Power supply: 220 mm (8-11/16 in.) (W) x 185 mm (7-9/32 in.) (H) x 430 mm (16-15/16 in.) (D) ■ Weight: Main unit: 26.5 kg (58 lb 7 oz); Power supply: 14.0 kg (30 lb 14 oz)



Remote control



Power supply rear panel



Main unit rear panel