

# DENON



**110**  
Anniversary

DEFINING AUDIO  
EXCELLENCE  
SINCE 1910

## DENON DCD-A110

**DIGITAL**  
**CINEMA** AVAILABLE AT  
**DIGITAL CINEMA**

### DENON 110-YEAR ANNIVERSARY EDITION DCD-A110 SACD PLAYER

Celebrate 110 years of defining audio excellence with the masterfully crafted Denon limited series Anniversary Edition silver graphite SACD player, the DCD-A110. Offering a Quad DAC configuration and new Ultra AL32 Processing upgrade your expectations and enjoy your music in perfect detail.

#### HIGHLIGHTS

Defining audio excellence since 1910

Includes Certificate of Authenticity

Denon's original disc drive design

Listen to your music, no matter the format

Ultra AL32 Processing

Discover a more powerful sound stage

#### YOUR BENEFITS

Denon is proud to release our limited series Anniversary Edition silver graphite DCD-A110 SACD Player.

Signed by Denon's Head of Engineering and a premium 5-year out-of-box warranty.

Featuring Denon's patented original Advanced S.V.H. Mechanism for high data reading accuracy from any disc.

Enjoy SACD/CD playback and CD-ROM and DVD-ROM playback of compilations, so your biggest issue is what album to listen to next.

With Denon's patented technology, smooth out your audio signal with up to 384-kHz/32-bit support.

With its new Quad DAC configuration, listen to a more robust and detailed sound with perfect spatial expression.



SINCE 1910 | DEFINING AUDIO EXCELLENCE



ULTRA AL32  
PROCESSING





### Denon Celebrates 110 Years of Defining Audio Excellence

Celebrate 110 years of defining audio excellence with the Denon limited series Anniversary Edition silver graphite DCD-A110 SACD Player. Denon has been upgrading your expectations in the audio and video industry since 1910 and we are proud to celebrate this great achievement with the DCD-A110 and its partner product, the PMA-A110.

### Designed with Your Expectations as Our Starting Point

Denon's new DCD-A110 was carefully designed to exceed the high standards of our predecessor SACD players. Boasting a limited-edition silver graphite color, heavy cabinet, cast-iron feet, and Denon's own patented Advanced S.V.H. CD mechanism, the DCD-A110 is specially crafted for the most dedicated fans. Designed and engineered with aspiration in mind, the DCD-A110 is as elegant to look at as it is to listen to with a special 110-year inlay logo to celebrate this milestone anniversary.

### Certificate of Authenticity and 5-Year Warranty

This Denon limited series Anniversary Edition flagship SACD Player comes with a special Certificate of Authenticity stamped with the approval of Denon's Head Engineer and a premium, 5-year out-of-box warranty.

### DSD Data Disc Playback Support

In addition to CD and Super Audio CD, the DCD-A110 can play DSD (2.8-MHz/5.6-MHz) files and Hi-Res audio files up to 192-kHz/24-bit recorded on DVD-R/RW and DVD+R/RW discs. You can also play music files with sampling frequencies of up to 48-kHz recorded on CD-R/RW discs.

### Ultra AL32 Processing with 384-kHz/32-bit Support

The DCD-A110 is equipped with Ultra AL32 Processing, the latest in analog waveform reproduction technology from Denon. Ultra AL32 Processing utilizes data interpolation algorithms and supports Hi-Res 192-kHz/24-bit PCM signal input. These algorithms interpolate points that should exist before and after the points in large quantities of data to achieve a smooth waveform that is close to that of the original signal.

These algorithms up-sample the bandwidth from the original content, smoothing out the waveform and improving the sound reproduction. Ultra AL32 Processing doubles the processing bandwidth from the previous generation up-sampling 384-kHz/32-bit content to 1.512-MHz. By carefully restoring data that was lost during digital recording, the resulting playback sound is highly detailed, free of interference, accurately localized, richly expressive in the lower range, and beautifully faithful to the original sound.

### Intel Inside - Ultra AL32 Processing

Intel's latest Field Programmable Gate Array, the Cyclone 10, is on board to support the massive data computation required to support Ultra AL32 processing. This processor realizes half the EMI and heat generation of the Cyclone IV previously used in AL32 processing.

### Quad DAC Configuration

The DCD-A110 introduces a new Quad DAC configuration for a more powerful and better spatial expression of the sound stage. Each DAC converts the large amount of data coming from the Ultra AL32 processing for both left and right signal dispatch. This allows the current output bundling to achieve the best sound, and also surpass the operating frequency limit of the DACs, for an outstanding audio performance. This improves the low noise level, improving S/N ratio by 4 to 6dB depending on the sampling frequency of the content (6dB for PCM and 4dB for DSD), as well as the Total Harmonic Distortion accordingly. Lastly, the DCD-A110 does not use a traditional OP-Amp's Post Filter Circuit. It is equipped with full discrete filter stage with carefully selected custom tuned audio parts selected by the Denon sound master to achieve outstanding audio performance and an expansive sound stage.

### DAC Master Clock Design

Because accuracy is the key to performance, the DCD-A110 is equipped with two clock oscillators, one for each sampling frequency (44.1-kHz and 48-kHz), that can be switched between the frequencies to thoroughly suppress jitter. The high-quality clock is the reference for the four-audio DAC operation and ensures that the digital audio circuitry performs at its maximum potential. To supply a cleaner master clock directly to the DACs, the DCD-A110 is equipped with tri-state buffer type multiplexers. The Master clock signal supplied from the crystal oscillator passes through the buffer circuit only once to the DAC, impacting the jitter of only 18 fs (femto second = 10<sup>-15</sup> second).

### Independent Digital and Analog Power Supply

To eliminate mutual interference and noise, the power supply units for the digital and analog circuits are fully independent even though the signals have different characteristics.

### Dedicated Fully Discrete Power Supply for Analog Audio Circuitry

The DCD-A110 analog power supply circuit features a fully discrete design that is optimized for audio with the original Denon large-capacity (3300 µF) block capacitor used for the power unit of the analog audio circuitry after the D/A converter. The DCD-A110 boasts custom parts, such as High-Power Bipolar Junction Transistor, Fully Discrete Voltage Regulator Circuit, high-sound-quality electrolytic capacitors and polyphenylene sulfide capacitors. These specially designed parts have been co-developed with select manufacturers through an extensive regimen of repeated listening tests. These parts enable a clean, yet robust, stable supply of power, resulting in a sound that is delightfully balanced between a strong foundation and delicate details.

### Advanced S.V.H. Mechanism, Denon's Original Disc Drive Design

The DCD-A110's disc drive is equipped with the Advanced S.V.H. (Suppress Vibration Hybrid) Mechanism inherited from Denon's high-end models. Signal paths have been shortened to an absolute minimum and circuits have been miniaturized to ensure that excess current and noise will not occur. The various parts are made with

different materials such as a copper plate for the top panel to strengthen rigidity, diecast aluminum for the disc tray, and 2mm thick steel for the mechanism brackets. Improvements in high-mass, vibration-resistant properties and the dispersal of resonance points contribute to a high level of vibration resistance. In addition, the mechanism's low center of gravity suppresses any vibration occurring inside the mechanism due to disc rotation, and the mechanism structure also effectively suppresses external vibration. By eliminating unwanted vibration, servo-related operations are minimized, and by also minimizing unnecessary controls and current consumption, digital signals can be read from the disc with optimum accuracy under stable conditions.

### High-Grade Audio Components

All audio components have been carefully selected and optimized for the best sound quality. The DCD-A110 inherits its customized audio Denon capacitor from the "DCD-SX1 Limited", our premium SACD player only sold in Japan. AMRS and MELF resistors have been largely adopted in the audio and power sections. MELF resistors offer higher performance with low current noise.

### Circuitry with Minimized Signal Paths

DCD-A110 circuits have been thoroughly redesigned to adhere closely to the "simple & straight" design philosophy. Circuit patterns have been reworked from the ground up to make the signal paths as short as possible and ensure that the original sound is faithfully reproduced across the sonic spectrum. As a result, interference between circuits and between left and right channels as well as adverse influences on audio signals are minimized, producing clean, highly transparent sound.

### Direct Mechanical Ground Construction

The integrity of musical signals deteriorates when they are subject to internal vibration caused by disc rotation or the power transformer or to airborne vibration caused by sound pressure from the speakers. To guard against such influences, Denon engineers designed a vibration suppression structure called "Direct Mechanical Ground Construction". In this design, the power transformers – themselves a source of vibration – have been placed close to the feet of the DCD-A110 where unwanted vibration is funneled directly to the ground and prevented from affecting nearby circuitry. Also, by placing the drive mechanism – the part with the greatest mass – low in the center of the chassis, the low center of gravity effectively absorbs internal vibration caused by disc rotation and also protects the mechanism from external vibration. To further shut out external vibration, the 1.2mm thick main chassis has been reinforced with two 1.6mm thick steel plates to produce a highly rigid three-layer structure with sufficient vibration-resistant mass.

Technical Information		Control	
<b>Mechanism</b>		<b>App Control via Network Player</b>	
Mechanism	Denon original SACD mechanism with copper plate cover		yes
<b>Audio</b>		<b>Remote Controller</b>	
DAC	TI Advanced Current Segment PCM1795(192k/32bit) x4		yes (aluminum top) (controllable PMA-A110)
Digital Processing	ULTRA AL32 Processing	Foot	Aluminum
Dual Clock (for 44.1/48kHz)	yes	<b>Other</b>	
Harmonic distortion	SACD: 0.0005% CD: 0.0015%	Instruction Manual	Web Manual Paper
S/N	SACD: 122dB CD: 122dB	Foot	Aluminum
Dynamic range	SACD: 118dB CD: 101dB	<b>Cosmetic</b>	
		Panel Color	GS
		Front Panel	Aluminum
		Top cover	Aluminum
		Function button	Aluminum