

DENON

DVD Audio-Video / Super Audio CD Player

DVD-5910

## New Reference Universal Player from DENON is Pure Innovation.

DENON is proud to announce the release of its latest flagship universal player, the DVD-5910. This player represents the culmination of various technologies related to deliver the highest picture and sound quality that DENON has developed for the many DVD players that it has released in recent years. Together with exclusive audio and visual technologies that have been newly developed for the DVD-5910, this model also employs the latest in high-performance devices and interfaces which will provide superior and unprecedented processing capabilities.

The DVD-5910's video circuitry employs the Dual Discrete Video Circuit (DDVC), a proprietary DENON technology that implements separate and discrete video paths and the finest in high-performance devices such as a newly-developed I/P converter and digital scaler with true 10-bit processing, and dual 14-bit, 216-MHz video DACs, delivering enhanced video playback quality. In addition, the audio circuitry features the exclusive and all new Advanced AL24 Processing, the ultimate 24-bit, 192-kHz D/A converters, and other audio components based on technologies that DENON has continuously developed, and improved over many years, ensuring exceptional audio playback performance. To support these technologies, the DVD-5910 incorporates an original drive mechanism and vibration-resistant chassis construction that suppress outside vibrations, signal interference, and other adverse influences on the audio and video signals. The DVD-5910 includes a wealth of audio/video interfaces such as DVI and HDMI digital video outputs, the well-established DENON Link and IEEE-1394 digital audio outputs.



### ■ Video Section

#### • Latest I/P converter from Silicon Optix, Inc.

The DVD-5910 uses the finest 10-bit I/P converter developed through a joint development effort that merged image processing algorithms of Silicon Optix, Inc., and DENON video technology on the foundation of an image processing device from Teranex, manufacturer of video processors for broadcast use in the United States. This 10-bit processing offers high conversion performance and dramatically improves motion detection capability. Regularity in pixel-level patterns are rapidly and accurately detected not only in the 3:2 patterns of film sources but in other patterns as well during I/P (Interlaced/Progressive) conversion. Even when sources contain both Video mode and Film mode material, each mode is detected and processed accurately at high speed. Flicker caused by detection delays is avoided, and Progressive playback with high picture quality is possible from a variety of discs. In addition, Multi-Directional Diagonal Filter (MDDF) technology, used for the first time in the DVD-5910, accurately detects and corrects the directionality of lines on a per-pixel level to avoid "jaggies" that easily appear when video sources are I/P converted, ensuring smooth picture playback.

#### • Newly-developed DENON Pixel Image Correction (DPIC), for more natural contour correction

The DPI Correction feature that incorporates original DENON enhancement technology and makes high-definition video correction possible, has been advanced to even greater heights in the DVD-5910. DPI Correction performs detection and correction through 10-bit processing to significantly improve contour correction. This new contour correction circuit uses enhancement processing technology that also considers the influence of pixels surrounding the target pixels. It uses new algorithms to sample and analyze a total of 9 pixels of video data. Video images are detected and processed in vertical, horizontal, and diagonal directions at a highly detailed per-pixel level to produce contours that are visually more natural. Luminance and chroma signals are also processed with the same algorithms to suppress ringing noise and other artifacts that easily occur during enhancement. By performing the type of processing that is most effective for the current video image, the picture is free of degradation and appears more natural.

#### • High-performance DVDO video scaler

The DVD-5910 incorporates a high-performance video scaler, completed through joint development between Anchor Bay Technologies, Inc. (ABT), owner of the DVDO brand of advanced video technologies, and DENON. This high-precision 10-bit scaler works with HDMI and DVI digital video output signals. The scaler executes optimum conversion to suit the output to the independent HDMI and DVI transmitters. Users can enjoy the best picture quality for their particular applications. This newly-developed scaler can also simultaneously output the scaled digital video signals through HDMI and DVI (provided resolution is the same).

#### • Newly-developed Dual Discrete Video Circuit (DDVC)

The DVD-5910's video circuit features DENON's own DDVC technology designed to enhance the quality of video signals. The use of dedicated circuits -- one independent block for composite and S-video signals, another block for component signals, and a dual DAC configuration with built-in video encoder -- has made it possible to reproduce detailed video images with greater precision. In order to bring out the maximum quality from both video and audio signals, the DVD-5910 has a discrete configuration in which the video, audio, and digital blocks that comprise this universal player are all completely isolated from each other in terms of their circuit configuration, boards, and power supplies. DENON engineers have used the expertise gained from their development of earlier universal players to design a configuration that thoroughly suppresses mutual interference among the circuits and prevents noise from affecting the video and audio signals.

#### • High-speed, high-precision 14-bit 216-MHz video DAC

To ensure that high-grade video signals from the latest high-performance I/P converter are reproduced with utmost fidelity to the original images, the DVD-5910 has an extremely fast and accurate 14-bit, 216-MHz video DAC. Oversampling of 8x for Progressive and 16x for Interlaced signals results in sharp, detailed pictures. Composite, S-video, and component signals each have their own dedicated video DAC, a design that enhances the reproducibility of low-level video signals and reproduces high-definition images that are faithful to the original. In addition, Noise Shaped Video (NSV) technology is used to improve the S/N of video signals and further boost their linearity.

#### • Super Sub Alias Filter

The DVD-5910's Super Sub Alias Filter cuts signals of unwanted frequencies following D/A conversion. This filter produces flat characteristics, ensuring that adverse influences do not affect video signals inside the essential frequency band, sufficient cutoff characteristics are maintained, and folding noise is eliminated.

#### • Supports fine picture quality adjustments

Besides the exclusive DPI Correction feature, a total of 12 picture quality adjustments are possible, including contrast, sharpness, white level, chroma level, noise reduction settings, and gamma. Up to five combinations of settings can also be stored in memory, giving the user freedom to adjust picture quality in considerable detail according to individual preferences.

#### • Simultaneous output through high-grade HDMI and DVI digital video interfaces

The DVD-5910 supports the HDMI and DVI digital video interfaces, and simultaneous output through both interfaces is possible. The HDMI can be used to transmit YCbCr format signals or RGB format signals. Since digital transmission of multi-channel audio is also possible when audio is output through the HDMI (\*1), a single cable for the HDMI interface is sufficient for the digital transmission of both video and audio signals. The DVI-D allows the transmission of digital video signals in RGB format. Both interfaces support HDCP copyright protection technology (\*2) and can be connected to the digital inputs of high-definition monitors.

\*1) Version 1.1 compliant. HDMI audio output capacity is dependent on the monitor being used.

\*2) HDMI and DVI outputs are HDCP compliant. Video cannot be viewed if connected to a monitor that does not support HDCP; video can be viewed only on HDCP-compliant monitors.

#### • Simultaneous output possible for all video signals

- Supports PAL and NTSC
- THX Ultra certified

#### ■ Audio Section

##### • Advanced AL24 Processing, original DENON technology for high-quality audio

In addition to the existing AL24 Processing Plus bit expansion technology, the PCM signal playback system (2ch stereo) also uses Advanced AL24 Processing that dramatically improves information volume in the time axis region using high-speed signal detection and processing technology. Besides AL24 Processing Plus that expands original 16-bit digital data to 24 bits, the new Advanced AL24 Processing technology uses algorithms developed by DENON and large-capacity DSP and FPGA calculation devices to interpolate data along the time axis, and up-converted sampling is used to achieve natural interpolation without losing original data. A digital filter is used to further expand adaptability and perform optimum filtering for ringing-free pulse response and for pulsive music data and attack sounds. This results in more natural reproduction of spatial information such as the delicate nuances in the music, the locations of the performers, and the breadth, height, and depth of the concert hall.

For multi-channel linear PCM audio playback, AL24 Processing Plus technology works to faithfully reproduce the original sound of recordings.

##### • High-accuracy D/A converters for all channels

Two of the latest high-accuracy 24-bit, 192-kHz differential operation D/A converters have been dedicated to the two stereo channels, and three additional DACs are used for 5.1-channel playback, delivering significantly improved separation and superior S/N, dynamic range and other aspects of audio performance. Since highly accurate D/A conversion is achieved for all channels, the sonic result is refreshingly transparent. During 2-channel stereo playback, these D/A converters are used in monaural mode, operating as differential output converters independently dedicated to the left and right channels, to achieve high-quality playback of stereo signals.

##### • Audio output dedicated to high-quality 2-channel playback

- Pure Direct mode, for greater purity in the audio signal
- DENON Link, for high-grade audio transmission
- IEEA 1394 digital interface
- HDMI output, for multi-channel audio
- Designed for high sound quality
- Bass management function tailored for home theater environments

#### ■ Construction

##### • Construction designed to thoroughly suppress vibration and mutual interference among circuit blocks

- Four-box layout to isolate circuits and minimize mutual interference
- Thorough vibration-resistant construction

##### • DENON original high-accuracy drive mechanism

#### ■ Other Features

- Supports playback of a wide variety of discs
- Playback frequency ranges of SACDs are switchable (50 kHz / 100 kHz)
- Independent bass management for analog audio output and HDMI audio signals
- Remote controller with backlight keys
- Wealth of output terminals

#### ■ Input/Output Terminals For Every A/V System

##### • Video outputs

HDMI: 1 set  
DVI-D: 1 set  
Component: 2 sets (RCA, BNC)  
Composite: 2 sets  
S-Video: 2 sets

##### • Audio outputs

Optical digital: 1 set  
Coaxial digital: 1 set  
DENON Link: 1 set  
IEEE 1394: 2 sets  
Analog (L/R): 1 set  
5.1-channel (FL/FR/C/SL/SR/SW): 1 set

#### ■ Specifications

##### • Video Section

Signal system .....NTSC  
Disc played .....DVD Audio/Video, Music CD, SuperAudioCD, CD-R/RW(audio/MP3/WMA/JPEG), Video CD DVD-R/RW(Video mode), DVD+R/RW Picture CD

##### Video outputs

Composite Video Output: .....1.0 Vp-p (with 75 ohms load)  
S-Video Output: .....Y: 1.0 Vp-p (with 75 ohms load),  
C: 0.286 Vp-p  
Component Video Output: .....Y, Pb/Cb, Pr/Cr:  
Y: 1.0 Vp-p (with 75 ohms load),  
Pb/Cb: 0.648 Vp-p (with 75 ohms load),  
Pr/Cr: 0.648 Vp-p (with 75 ohms load)

##### • Audio Section

Frequency response  
DVD .....2 Hz - 88 kHz (192 kHz sampling),  
2 Hz - 44 kHz (96 kHz sampling),  
2 Hz - 22 kHz (48 kHz sampling)  
SACD .....2 Hz - 100 kHz  
CD, VCD .....2 Hz - 20 kHz  
Signal-to-noise ratio .....125 dB  
Dynamic range .....112 dB  
Total harmonic distortion .....0.0008%

##### • General

Power supply .....AC 120 V, 60 Hz  
Power Consumption .....80 W  
Dimensions .....17-3/32" x 6-11/16" x 17-1/64"  
434 (W) x 170 (H) x 432 (D) mm  
Weight .....41 lbs 14 oz, 19.0 kg



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