

# MDS COMPACT DISC PLAYER DP-450



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The DP-450 is the dedicated CD player which realizes both sophisticated performance and fine sound quality with the full of technologies developed in the DP-570 SACD/CD player.

Vibration control in CD players that read audio data from rotating discs greatly impact the sound quality. By installing newly-developed drive mechanism and refurbishing the chassis framework, the DP-450 significantly improves the anti-vibration and vibration damping performance.

The high-performance DAC chip and improved filter circuit fully produce ideal electronic performance and sound quality including the low noise characteristic.

Making full use of cutting edge technologies, the DP-450 extracts the true colors of any CD to deliver a listening experience that stays with you.

## Internal view



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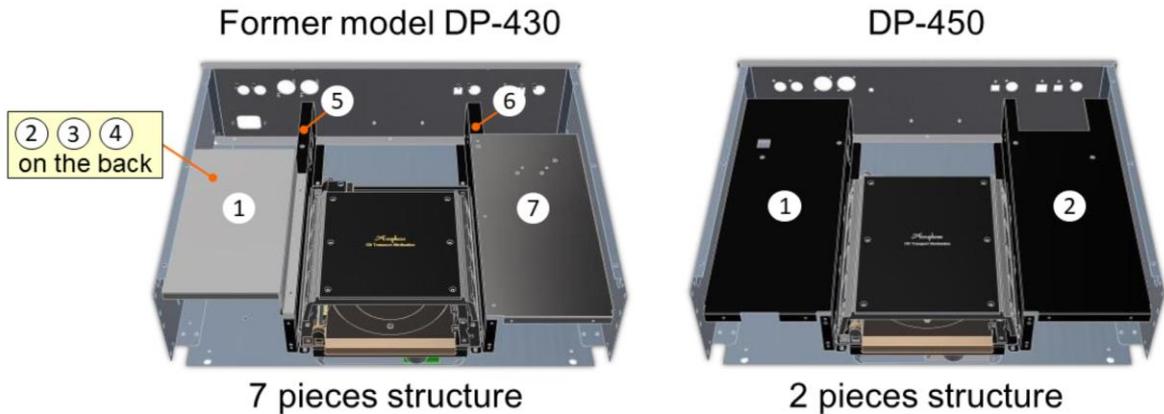
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DP-450 is applied the systematic layout.  
Each circuit block is logically placed to make the signal path short as possible.

The digital circuit is on the right side and the analog circuit is on the left side at the rear panel.

# Chassis structure

- High rigidity chassis structure with minimum necessary components



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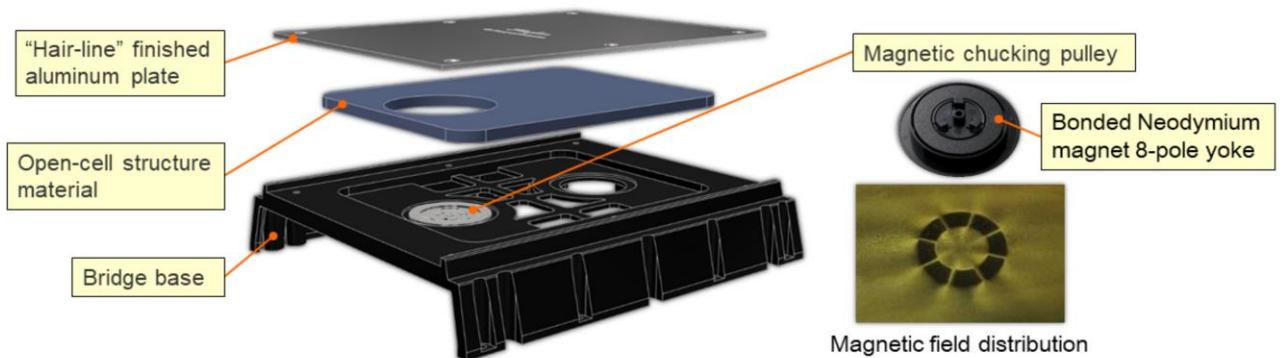
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The strong integrated chassis structure that supports the CD drive mechanism adopts the 2 pieces structure, from the 7 pieces in the former DP-430.

This enhanced chassis rigidity helps to improve the anti-vibration and vibration damping performance.

# Newly designed disc drive mechanism

- Three-layer large bridge cover with excellent sound insulation
- Magnetic chucking pulley for the disc rotation without wobbling

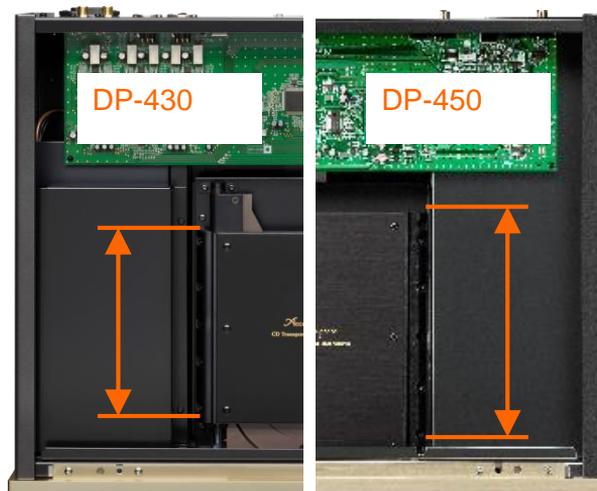


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The newly-developed CD drive mechanism makes the bridge cover larger than former model, and applied three-layer structure with the open-cell structure material which absorbs the operational vibrations and noises.

The chucking magnet is an 8 pole-neodymium bonded magnet for high magnetic flux density and dimensional accuracy, and it enables uniform disc rotation without wobbling.



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# Newly designed disc drive mechanism

- Newly developed viscoelastic damper
  - Changing the material and shape



Viscoelastic damper



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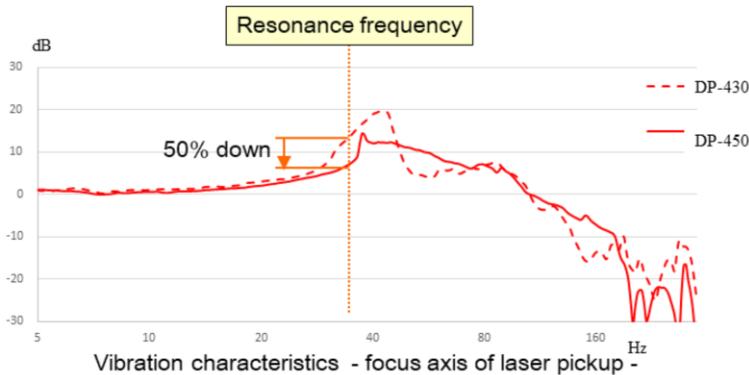
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The traverse unit which is loaded with the laser pick up and the viscoelastic dampers that isolate the vibrations among main chassis are very important parts for the vibration characteristics.

In the DP-450, the high –performance viscoelastic dampers which is designed with new material and shape are incorporated.

# Anti-vibration characteristics

- 50% decrease of external vibrations to the laser pickup @ the laser pickup resonance frequency
- 10 times higher reading precision



Laser pickup

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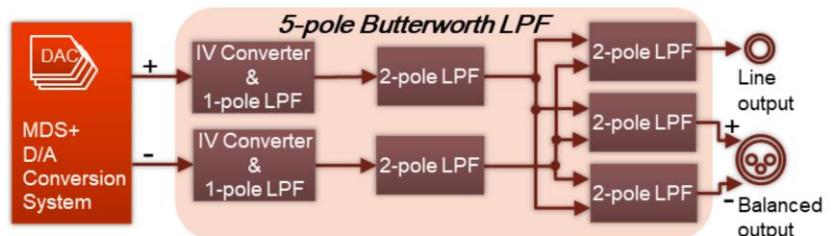
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Thanks to the newly-developed CD drive mechanism, the DP-450 succeeds in 50% (6dB) reducing the external vibrations from being transmitted to the laser pickup at the resonance frequency.

This results in 10 times higher reading precision of the DP-450, compared with former DP-430.

# D/A converter

- MDS+(Multiple Delta Sigma +) D/A conversion system
  - 4 parallel D/A converters per channel
  - ES9026PRO 32bit Hyper Stream II 8-channel DAC
- Direct Balanced Filter
  - Balanced connected independence post low pass filter



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For D/A converter section, Accuphase updates the DAC chip to ESS Technology's 32bit Hyper Stream II DAC ES9026PRO for DP-450.

\*\* DP-430 uses Asahi Kasei Micro Electronics AK4490EQ.

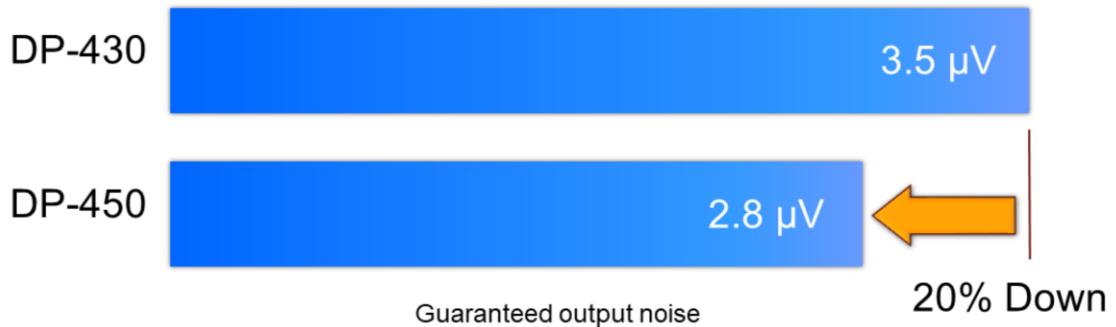
ES9026PRO has 8 DACs inside, and DP-450 uses 4 DACs connected in parallel per channel with Accuphase's unique technology, Multiple Delta Sigma + conversion system.

Fully-balanced structure is employed in DP-450.

In addition, the independent low pass filter is installed for each audio output(Direct Balanced Filter), thanks to this, the sound signals from all the outputs become high quality.

## Ultra low noise

- 20% lower than the former model
  - Guaranteed output noise:  $2.8\mu\text{V}$  (S/N ratio: 119dB)



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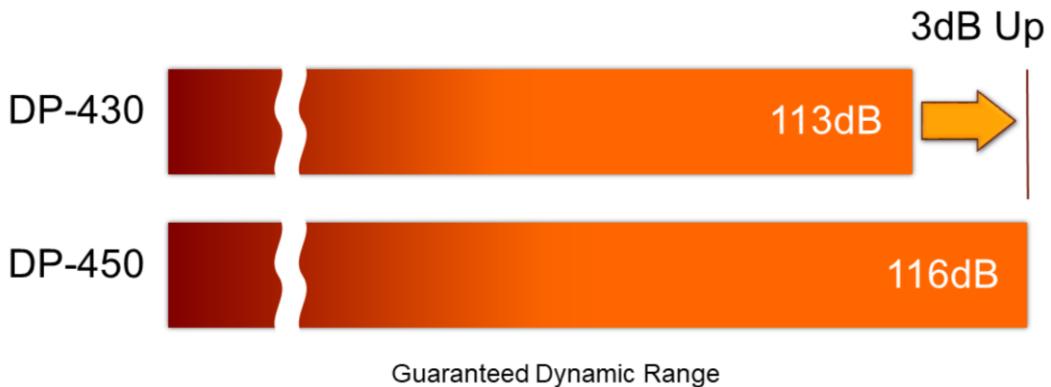
Ultra Low Noise is one of the main technical features of DP-450.

DP-450 guarantees 119dB Signal to Noise ratio which means  $2.8\mu\text{V}$  of output noise voltage.

The former model, DP-430 still shows the excellent noise performance, however, DP-450 achieves 20% lower output noise voltage than DP-430.

# Super high Dynamic Range

- 3dB higher than the former model



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The Dynamic Range is the value that indicates the ratio of maximum playable signal to minimum.

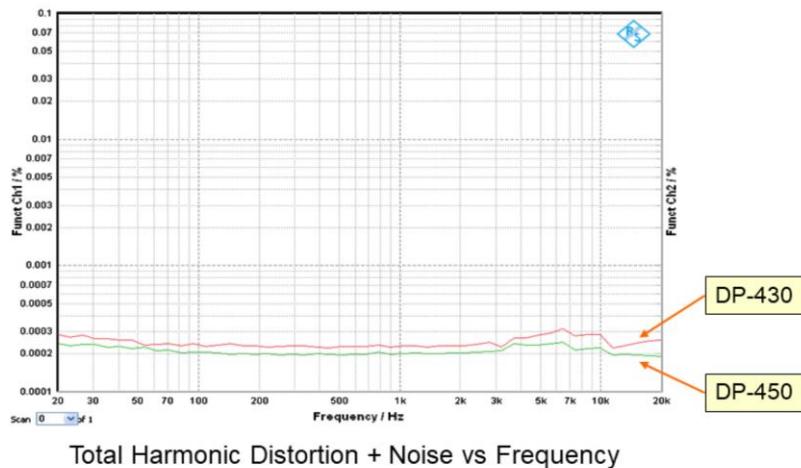
The higher Dynamic Range is, the higher the reproducibility of the small signal is.

The former model, DP-430 still has the high Dynamic range performance, however, DP-450 achieves 3dB higher than DP-430.

\*\* "3dB higher" means 40% up.

# Ultra low THD+Noise

- 10% lower over the entire frequency band than DP-430



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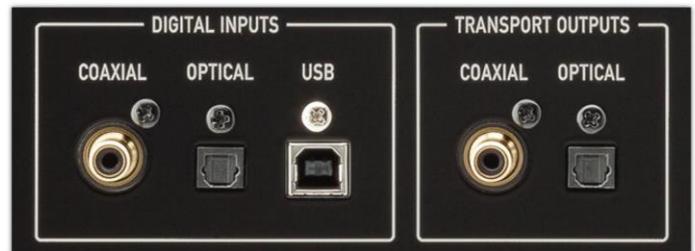
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DP-450 proves itself the great Total Harmonic Distortion(THD) + Noise characteristics which are quite important for music playback.

This graph clearly illustrates that DP-450 obtains the 10% lower THD+Noise characteristics over the entire frequency band than DP-430.

# Digital inputs / Transport outputs

- Digital inputs
  - Coaxial: 192kHz/24bit
  - Optical: 96kHz/24bit
  - USB2.0: 384kHz/32bit, 11.2896MHz/1bit
- Transport outputs
  - Coaxial: 44.1kHz/16bit
  - Optical: 44.1kHz/16bit



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DP-450 has 3 digital inputs, Coaxial, Optical and USB. USB Input accepts 384kHz/32bit-PCM or 11.2896MHz-DSD.

Coaxial and Optical Transport outputs are also available. Transport part and DAC part can work separately. DG-68 can be connected easily between Transport output and Digital input of DP-450.

# Front display

- High visibility
  - Sampling frequency and number of effective bits



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DP-450 can show the sampling frequency and the number of effective bits of all input signals on the front display.

Quantization bits are counted directly from the raw data by using a high speed Complicated Programmable Logic Device.

## Furthermore

- Programmable play mode available



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DP-450 provides a programmable playlist feature. It allows you to enjoy listening the music in the order you prefer.