

Accuphase

PRECISION MDSD DIGITAL PROCESSOR

DC-500

- 8MDS / 8MDS++ D/A converter with ANCC
- Direct Balanced Filter with completely separate Line and Balanced signal paths using ANCC
- Proprietary muting circuit eliminates all relay switching noise between tracks
- Sampling frequency and quantization bit display
- 6 digital inputs (HS-LINK, USB × 2, OPTICAL × 2, COAXIAL)
- Balanced output phase selector
- Natural grain side panels with a high-gloss finish
- Top plate with anodized aluminum hairline finish





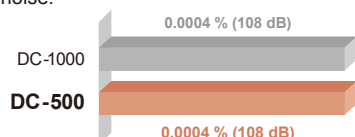
A high-performance digital processor for a multitude of sound sources

As the avenues available to enjoy music have diversified in recent years, the D/A converter has taken on an increasingly important role. The DC-500 digital processor was developed by relying on technology from the DC-1000. By driving 8 parallel circuits featuring low-noise, low-distortion ANCC technology, this D/A converter faithfully transforms sound sources into analog signals. Its 6 digital inputs – including two USB inputs – enable playback from a wide range of music sources. The DC-500 delivers astonishing musical experiences that will move your soul.

The Technology of Precision

■ MDSD (Multiple Double Speed DSD) principle

DSD signals contain a large amount of quantization noise at frequencies higher than the range of human hearing, so digital filters have to be used to remove high frequency noise. Conventional D/A converters change Direct Stream Digital (DSD) signals into PCM signals before applying a digital filter to remove high-frequency noise. The MDSD principle employed in the DC-500, however, generates 8 phase-shifted DSD signals and then inputs them to the 8 circuits in the MDS++ type D/A converter. The entire circuit then operates as a moving-average filter with completely linear phase characteristics to eliminate high frequency noise. MDSD represents a ground-breaking playback method that does not convert DSD signals into PCM signals, but instead operates as a filter that eliminates high frequency noise.



Total harmonic distortion + noise performance (guaranteed values)

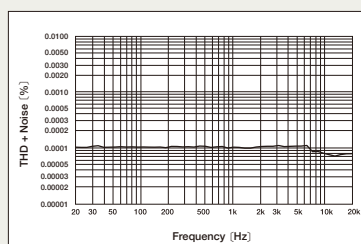
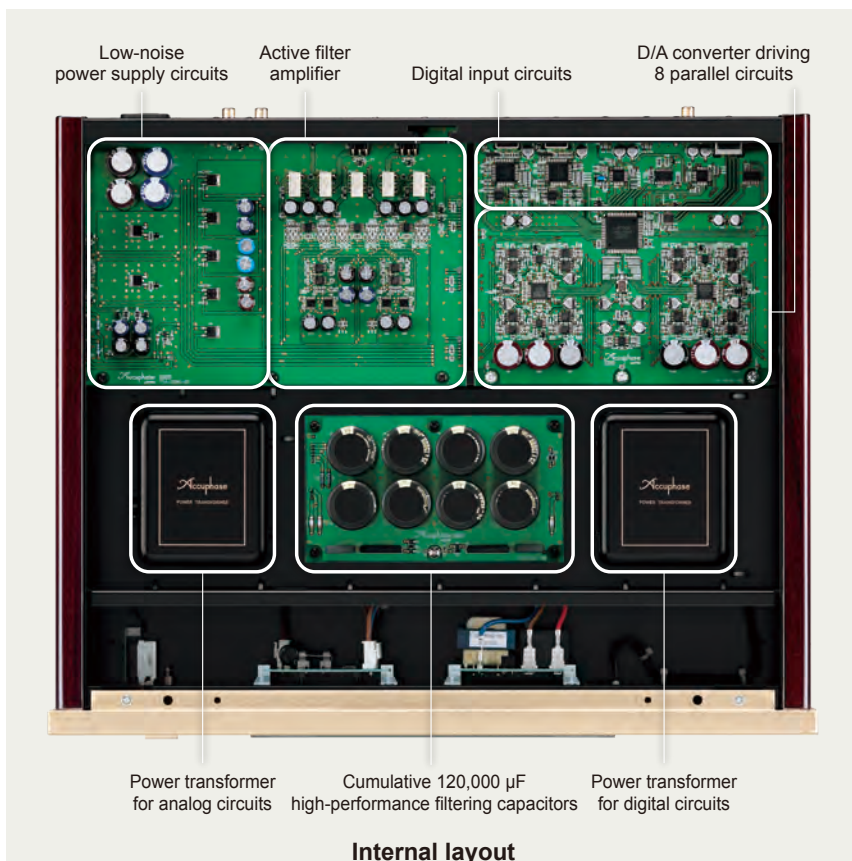
■ An MDS++ D/A converter driving 8 parallel circuits using ANCC

MDS++ is a revolutionary D/A conversion method that employs delta-sigma type D/A converters connected in parallel for drastically improved performance. By passing output from the high-performance ES9028PRO (ESS Technologies) through 8 parallel converter circuits, the DC-500 provides a theoretical 2.8 ($=\sqrt{8}$) increase in overall performance for distortion, noise, linearity, and more. Because the improvements provided by the MDS++ conversion principle are independent of signal frequency and level, output signal noise at very low levels can also be minimized, a feat that conventional delta-sigma converters have extreme difficulty to achieve. Additionally, the I-V conversion circuit features the low-noise, low distortion Accuphase Noise and distortion Canceling Circuit (ANCC) technology to further enhance the effectiveness of MDS++.

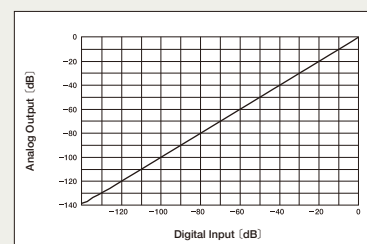


■ Direct Balanced Filter using ANCC

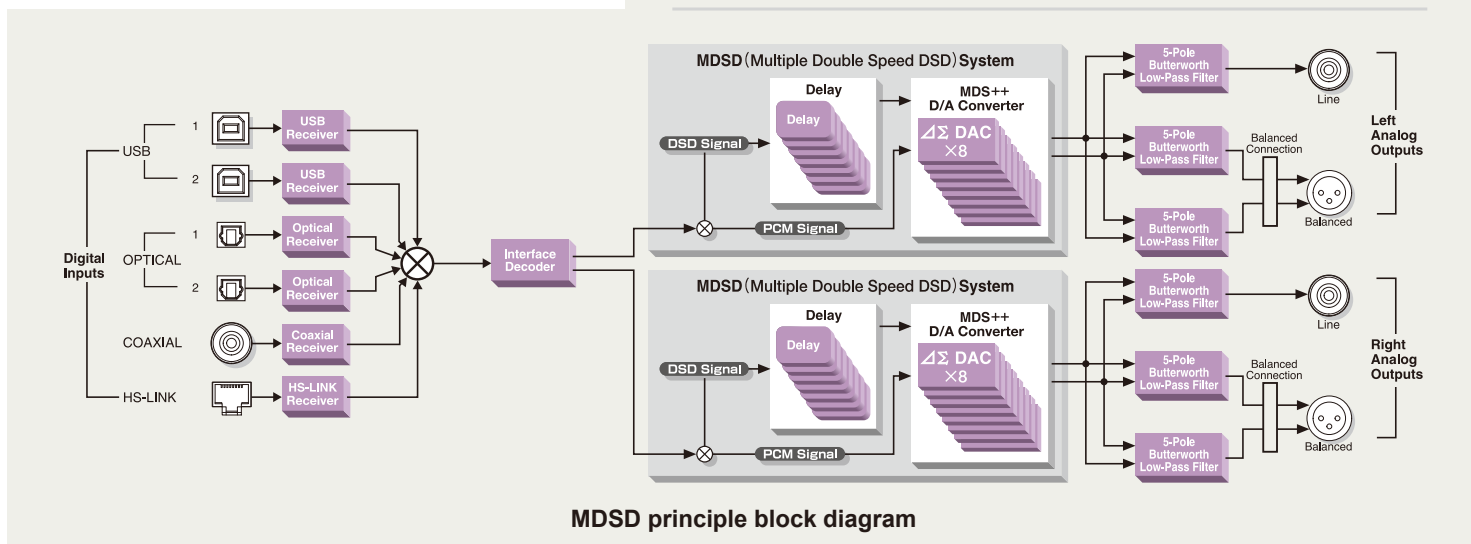
Independent Line and Balanced output circuits and a Direct Balanced Filter featuring ANCC ensure the ideal output signal.



Total harmonic distortion (incl. noise)



Linearity (digital input vs. analog output)



Advanced Features

- 6 digital inputs (HS-LINK, USB × 2, OPTICAL × 2, COAXIAL) ①
- 2 analog outputs (BALANCED, LINE) ②
- D/A converter (8MDS, 8MDS++) driving 8 parallel circuits using ANCC ③
- Direct Balanced Filter with completely separate Line and Balanced signal paths using ANCC ④
- Proprietary muting circuit eliminates all relay switching noise between tracks ⑤
- Low-noise power supply circuits featuring large-capacity, high-quality custom filtering capacitors ⑥
- Large power transformers with completely independent analog and digital circuitry ⑦
- Sampling frequency and quantization bit display ⑧
- Output level adjustments that can control different outputs from other players ⑨
- Phase selector that can invert the balanced output ⑩
- Natural grain side panels with a high-gloss finish ⑪
- Top plate with anodized aluminum hairline finish ⑫
- High-carbon cast iron insulators ⑬
- High quality audio cable ASL-10B ⑭



① Digital inputs



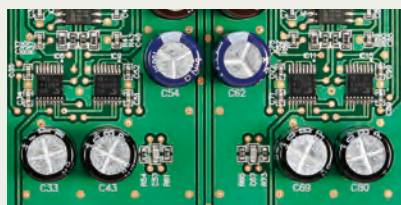
② Analog outputs



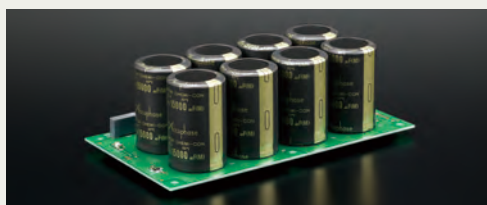
③ D/A converter driving 8 parallel circuits



④ Direct Balanced Filter



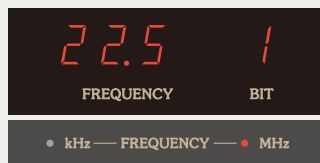
⑤ Muting circuit for noiseless intervals between tracks



⑥ Filtering capacitors



⑦ Power transformers



⑧ Sampling frequency and quantization bit display



⑨ Output level adjustment



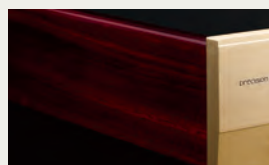
⑬ High-carbon cast iron insulators



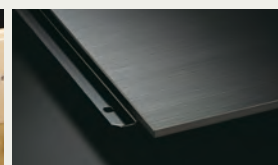
⑭ Audio cable ASL-10B



⑩ Phase selector switch



⑪ Side panel

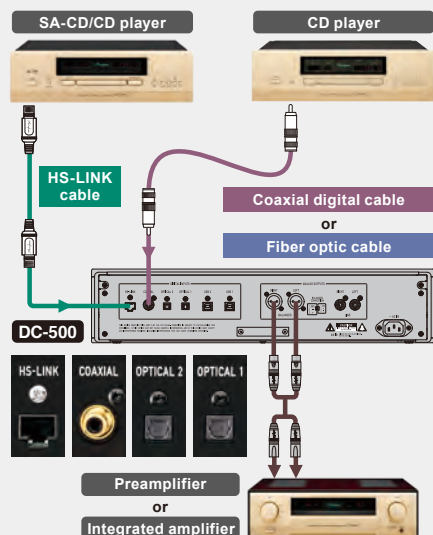


⑫ Top plate



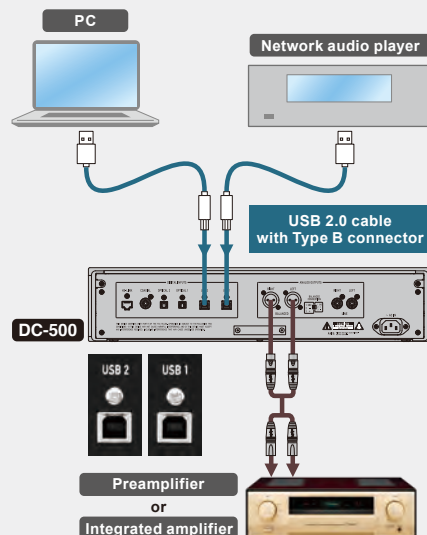
Connection with SA-CD/CD players or CD players

When connected to an SA-CD/CD player or CD player, the DC-500's high-performance D/A converter will convert inputs to analog signals for total musical enjoyment on your stereo system.



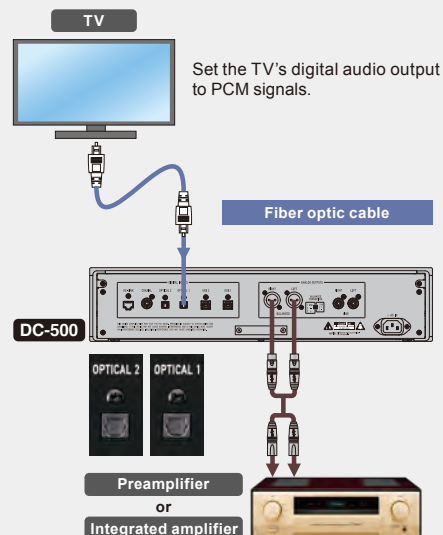
Connection with a PC, etc.

With two USB (Type B) ports, the DC-500 provides crisp, quality playback of high-resolution data via USB cable connections to a computer or network audio player.

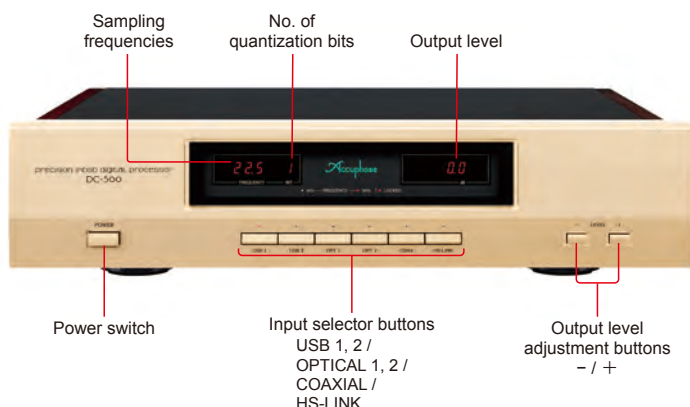


Connection with a TV, etc.

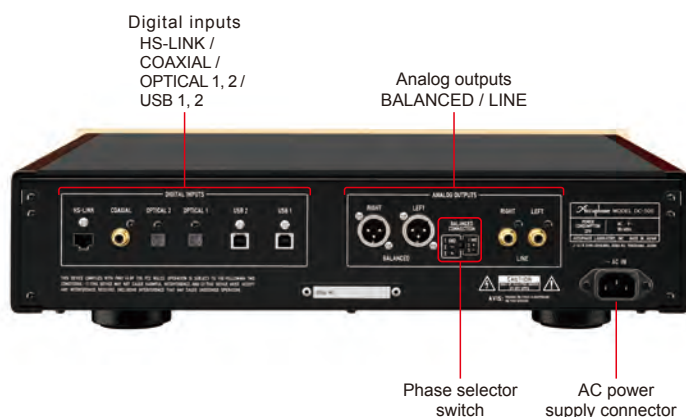
Connecting a TV to the DC-500 with a digital signal allows you to enjoy music and audio through your stereo system via analog signals converted by the DC-500's high-performance D/A converter.



Front panel



Rear panel



DC-500 Guaranteed Specifications

Digital inputs	HS-LINK	Proprietary standard	Dedicated HS-LINK cable	
	USB	USB 2.0 High Speed	USB 2.0 Type B	
	OPTICAL	JEITA CP-1212 compliant	JEITA standard optical fiber cable	
	COAXIAL	IEC 60958 compliant, AES-3 compliant	75-ohm coaxial digital cable	
Sampling frequencies	HS-Link (Ver. 2)	DSD	2.8 / 5.6 MHz	1-bit
		PCM	32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192 / 352.8 / 384 kHz	16 to 32-bit
	HS-Link (Ver. 1)	DSD	2.8 MHz	1-bit
		PCM	32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192 kHz	16 to 24-bit
	USB	DSD	2.8 / 5.6 / 11.2 / 22.5 MHz (DoP up to 11.2 MHz)	1-bit
		PCM	44.1 / 48 / 88.2 / 96 / 176.4 / 192 / 352.8 / 384 kHz	16 to 32-bit
	OPTICAL	PCM	32 / 44.1 / 48 / 88.2 / 96 kHz	16 to 24-bit
	COAXIAL	PCM	32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192 kHz	16 to 24-bit

• Guaranteed specifications are measured according to the JEITA CP-2402A standard.

D/A converter		DSD	8MDSD principle
		PCM	8MDS++ principle
Frequency response		0.5 Hz to 50,000 Hz	+0 dB, -3 dB
Total harmonic distortion + Noise		0.0004 %	20 to 20,000 Hz
Signal-to-noise ratio		121 dB	
Dynamic range		119 dB	
Channel separation		118 dB	20 to 20,000 Hz
Output voltage and impedance	BALANCED	2.5 V, 50 ohms	Balanced XLR type
	LINE	2.5 V, 50 ohms	RCA phono jacks
Output level control		0 to -80 dB	Digital
Power requirements		120 V, 220 V, 230 V AC (voltage as indicated on rear panel)	
		50 / 60 Hz	
Power consumption		22 W	
Maximum dimensions		Width 465 mm (18.3 in) × Height 114 mm (4.5 in) × Depth 386 mm (15.2 in)	
Mass	Net	15.6 kg (34.4 lbs)	
	In shipping carton	21 kg (47 lbs)	

Supplied accessories

• AC power cord (2 m) • Audio cable ASL-10B with plugs (1 m) • USB Driver 4 CD • USB Driver 4 Setup Guide • Cleaning cloth

Remarks

- ★ This product is available in versions for 120/220/230 V AC. Make sure that the voltage shown on the rear panel matches the AC line voltage in your area.
- ★ The 230 V version has an Eco Mode that switches power off after 120 minutes of inactivity.
- ★ The shape of the plug of the supplied AC power cord depends on the voltage rating and destination country.

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ACCUPHASE LABORATORY, INC.