

Accuphase

PRECISION MDSD SA-CD PLAYER

DP-770

- High-rigidity, high-precision aluminum machined SA-CD/CD drive with low center of gravity
- MDSD/MDS++ D/A converter driving 8 parallel channels using ANCC
- Programmable playlists so that you can enjoy your music in the order you want
- Data disc playback
- Direct Balanced Filter with completely separate line and balanced signals
- Display with sampling frequency and number of quantization bits
- Abundant transport outputs and digital inputs
- Digital connections to an Accuphase Voicing Equalizer
- Balanced output phase selector




SUPER AUDIO CD


COMPACT
disc
DIGITAL AUDIO



Our highest performing combined SA-CD/CD player

The high-rigidity, high-precision drive traverse mechanism equipped with an outer rotor brushless DC motor drive rotates discs smoothly and delivers accurate data reading, while the 8MDS (DSD signal) / 8MDS++ (PCM signal) type D/A converter driving the ES9028 PRO (ESS Technologies) processor in 8 parallel channels converts the inputs into highly precise analog signals. The DP-770 also incorporates numerous noise suppression technologies like ANCC* to create an unparalleled musical experience.

The Technology of Precision

Transporter Features and Characteristics

■ Accurate Reading

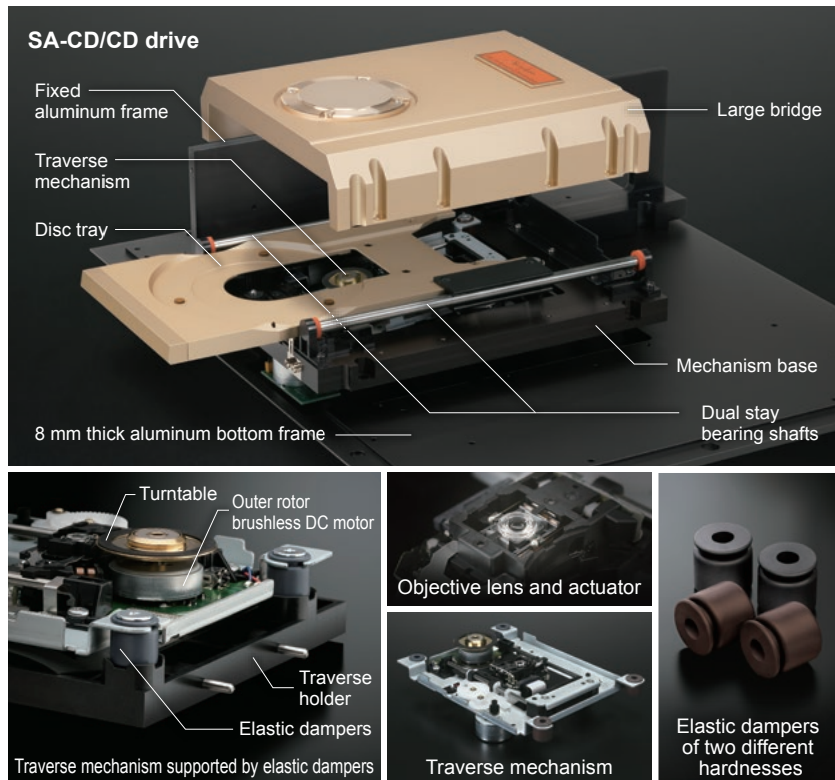
Vibration countermeasures in SA-CD/CD players that read audio data from rapidly rotating discs greatly impact sound quality. The DP-770 uses a highly rigid 6.9 kg (15.2 lbs) SA-CD/CD drive mounted on a 3.4 kg (7.5 lbs) bottom plate to create a low center of gravity. This prevents the housing from wobbling, while significantly reducing external vibrations from reaching the traverse mechanism. The traverse and disc loading mechanisms are assembled using elastic dampers of two different hardnesses to reduce resonance in the objective lens and actuator, thus improving reading precision.

■ Smooth Disc Loading

Carved from an aluminum block and then finished with a hard anodized aluminum and satin treatment, the elegant and elaborate disc tray uses high-quality dual stay bearing shafts to open and close smoothly and quietly.

■ Quiet Operation

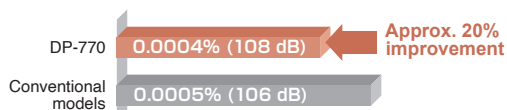
The DP-770 uses an outer rotor brushless DC motor to rotate discs. The minimal vibration and operating noise of this motor create a listening environment so quiet that it almost feels like there is no rotating component at all.



Digital Processor Features and Characteristics

■ MDS (Multiple Double Speed DSD) Principle

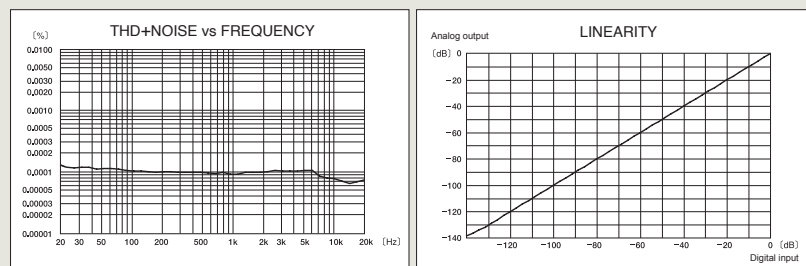
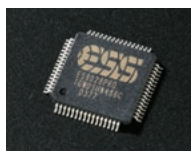
Typical D/A converters process sound sources that use DSD signals by first converting the source to a PCM signal and then using a digital filter to remove high frequency noise. The MDS principle employed in the DP-770, however, inputs 8 phase-shifted DSD signals into the 8 parallel channels in the MDS++ type D/A converter. The entire circuit then operates as a moving-average filter with completely linear phase characteristics to eliminate high frequency noise. MDS represents a ground-breaking playback method that eliminates high frequency noise without converting DSD signals into PCM signals.



Total harmonic distortion + noise performance (guaranteed values)

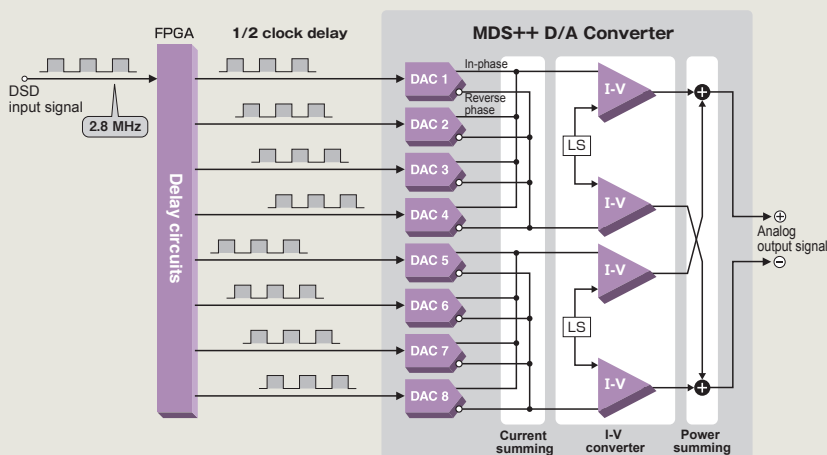
■ MDS++ (Multiple Delta Sigma) Converter Principle with 8 Parallel Channels

The D/A converter drastically improves performance with the MDS++ conversion principle by driving multiple delta-sigma type D/A converters connected in parallel. By passing output from the high-performance ES9028PRO (ESS Technologies) through 8 parallel converter channels, the DP-770 provides a theoretical $2.8\times$ ($=\sqrt{8}$) increase in overall performance for distortion, noise, linearity, and more. Because the improvements provided by the MDS++ principle are independent of signal frequency and level, noise at very low levels can also be minimized, a feat that conventional delta-sigma converters find extremely difficult



Total harmonic distortion (incl. noise) vs. frequency response

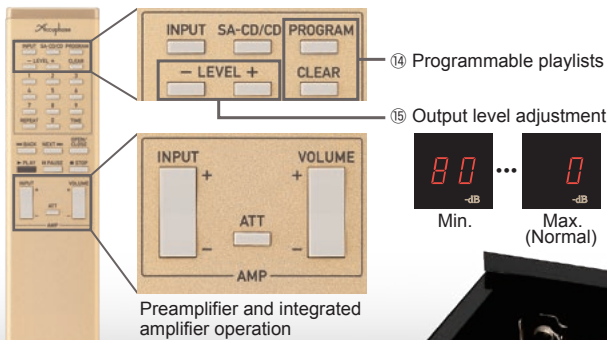
Linearity (digital input vs. analog output)



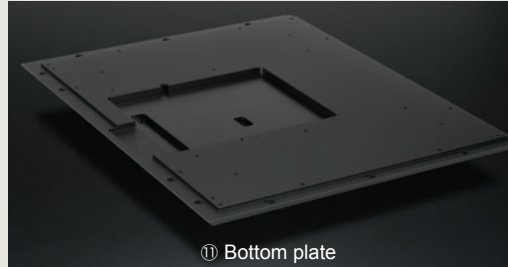
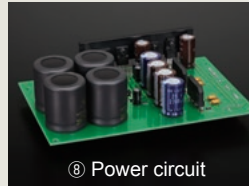
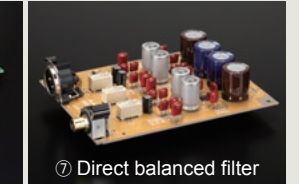
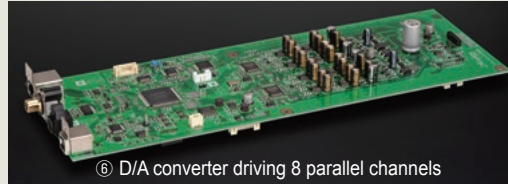
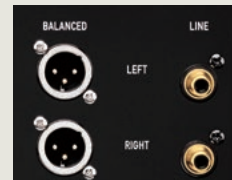
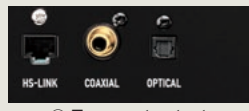
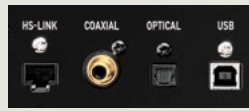
MDS principle block diagram

Advanced Features

- High-rigidity, high-precision machined aluminum SA-CD/CD drive with a low center of gravity
- Data disc playback (including DSD discs)
- Digital connections to an Accuphase Voicing Equalizer
- Abundant digital inputs (HS-LINK, COAXIAL, OPTICAL, USB) ... ①
- Plentiful transport outputs (HS-LINK, COAXIAL, OPTICAL) ... ②
- 2 (BALANCED, LINE) analog outputs ... ③
- Phase selector to invert the balanced output ... ④
- Display with sampling frequency and number of quantization bits ... ⑤
- MDSD / MDS++ D/A converter driving 8 parallel channels using ANCC ... ⑥
- Direct Balanced Filter circuit with completely separate line and balance signals on a glass cloth fluorocarbon resin substrate with low dielectric constant and minimum loss ... ⑦
- Low noise power circuits equipped with custom-made smoothing capacitors for high sound quality ... ⑧
- Large power supply transformer with independent analog and digital channels ... ⑨
- Natural grain wood case with a mirror finish handcrafted by artisans using carefully selected virgin wood ... ⑩
- 8 mm thick machined aluminum bottom plate ... ⑪
- Advanced high-carbon cast iron insulators ... ⑫
- High quality audio cable ASL-10B ... ⑬
- Programmable playlists so that you can enjoy track playback in any order ... ⑭
- Output level adjustment ... ⑮

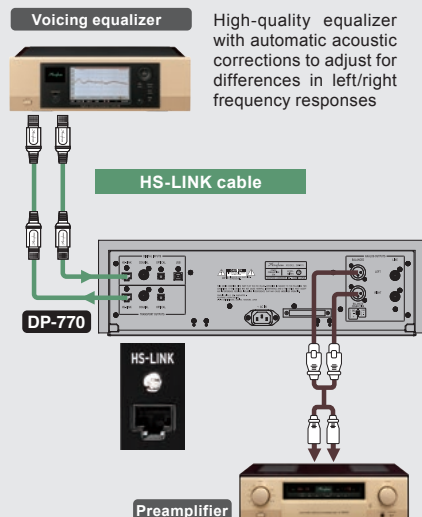


■ Remote Commander RC-140 (included)



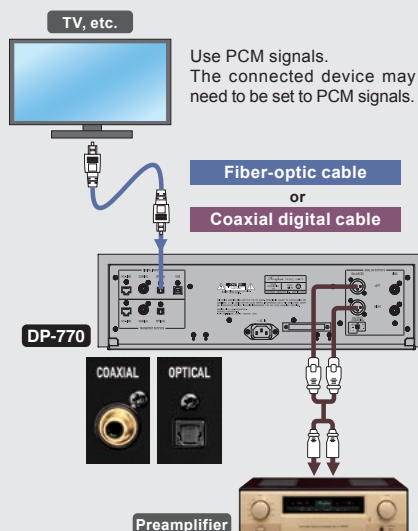
Connecting to a Voicing Equalizer

Connecting a voicing equalizer between the DP-770's transport outputs and digital inputs allows for acoustic corrections to the digital signals of the CD playback in the digital domain.



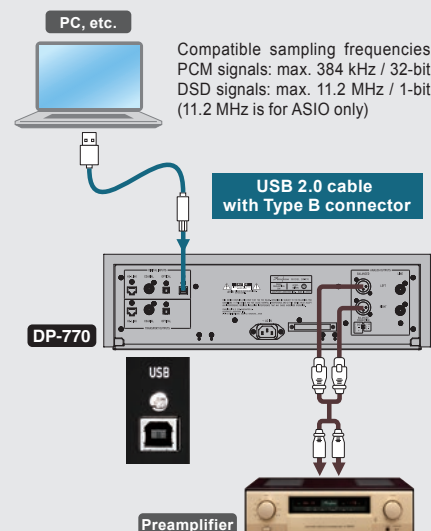
Connecting to TVs, etc.

When connecting to a TV or other device that outputs digital signals, the DP-770's high-quality D/A converter converts music and speech to analog signals so that you can enjoy them on your stereo system.

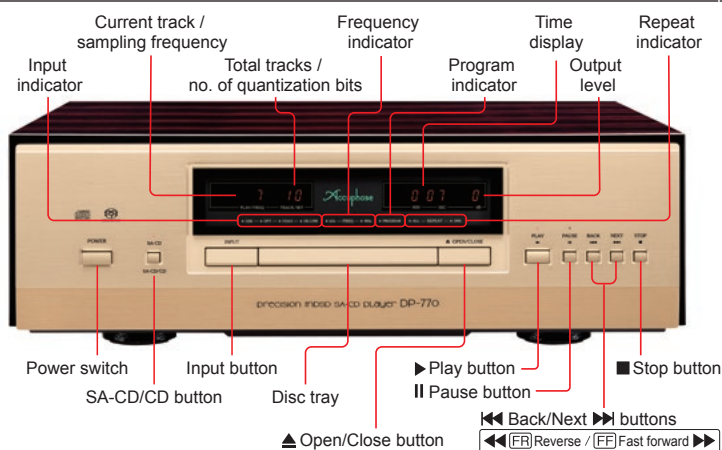


Connecting to PCs, etc.

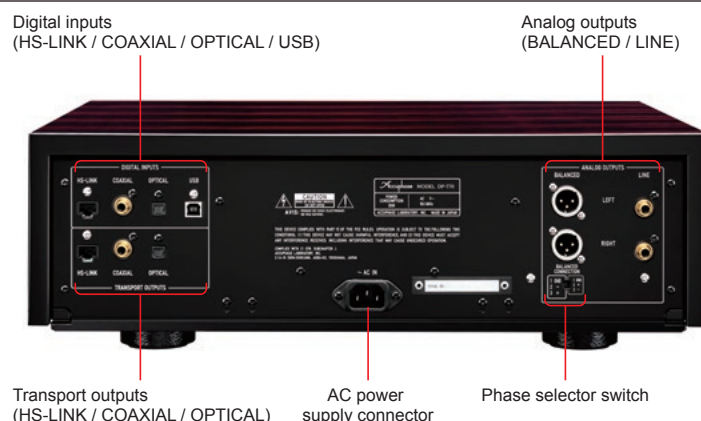
The DP-770 features a USB port (type B) for high resolution data playback when connecting to a PC using a USB cable.



Front Panel



Rear Panel



DP-770 Guaranteed Specifications

Compatible Disc Formats	2-channel Super Audio CD		
	CD		
Data Read Principle	Data disc	CD-R/RW DVD-R/RW/+R/+RW	Supported formats: WAV, FLAC, DSF, DSDIFF
	Non-contact optical pickup		
Laser Diode Wavelength	SA-CD	655 nm	
	CD	790 nm	
Transport Outputs	HS-LINK	Proprietary standard	Dedicated HS-LINK cable
	OPTICAL	JEITA CP-1212 compliant	JEITA standard optical fiber cable
	COAXIAL	IEC 60958 / AES-3 compliant	75-ohm coaxial digital cable
Digital Inputs	HS-LINK	Proprietary standard	Dedicated HS-LINK cable
	USB	USB 2.0 High-Speed (480 Mbps) standard	USB 2.0 cable with Type B connector
	OPTICAL	JEITA CP-1212 compliant	JEITA standard optical fiber cable
	COAXIAL	IEC 60958 / AES-3 compliant	75-ohm coaxial digital cable

Sampling Frequencies	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
	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
	USB	DSD	2.8 / 5.6 / 11.2 MHz (11.2 MHz: ASIO only)	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	
D/A Converter		DSD	8 MDSD principle	
		PCM	8 MDS++ principle	
Frequency Response		0.5 to 50,000 Hz	+0, -3.0 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 jack	
Output Level Control		0 dB to -80 dB	1-dB steps	Digital
Power Requirements		120 V, 220 V, 230 V AC (voltage as indicated on rear panel), 50/60 Hz		
Power Consumption		30 W		
Maximum Dimensions		Width 477 mm (18.8 in) × Height 156 mm (6.1 in) × Depth 395 mm (15.6 in)		
Mass		Net	28.5 kg (62.8 lbs)	
		In shipping carton	36 kg (80 lbs)	

Supplied accessories

- AC power cord (2 m)
- Audio cable ASL-10B with plugs
- Remote Commander RC-140
- USB Utility 3 CD
- USB Utility 3 CD 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.

