Accuphase

INTEGRATED STEREO AMPLIFIER

E-270

● Revolutionary AAVA volume control ● Output stage with high-power transistors in parallel push-pull arrangement delivers high quality power: 90 watts x 2 into 8 ohms ● Power amplifier stage features instrumentation amplifier configuration for balanced signal transmission. ● Logic-control relays for shortest signal paths ● Strong power supply with massive high-efficiency transformer and large filtering capacitors ● MAIN IN button allows separate use of preamplifier and power amplifier sections ● Numeric indication of volume level

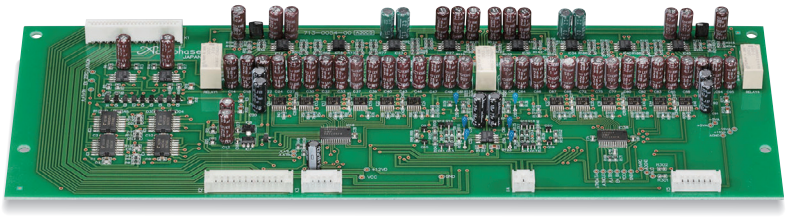
Taking the integrated amplifier to further heights — Pursuit of performance and sound quality results in capability well beyond its class, approaching the level of separate type amplifiers.

Revolutionary AAVA volume control. A power amplifier section featuring high power transistors in parallel push-pull configuration, complemented by a robust power supply and low impedance output stage. 120 watts of quality power into 4 ohms, with a damping factor of 400. Current feedback amplifier topology assures excellent phase characteristics in the high range, and instrumentation amplifier principle enables fully balanced signal paths. Power MOS-FET switches in the protection circuitry eliminate the need for mechanical contacts.

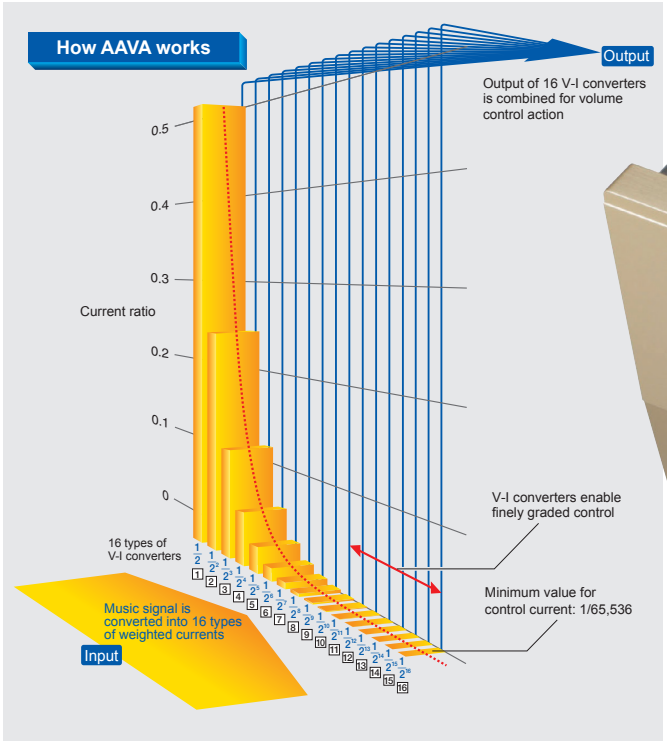
Innovative Technology

AAVA volume control with further lowered noise floor

The volume control in the preamplifier section is a crucial component with a decisive influence on performance and sound quality. AAVA is a revolutionary type of completely analog volume control that completely does away with any variable resistors in the signal path. This ensures that the signal remains perfectly unaltered, free from the adverse effects of impedance changes. As a result, both S/N ratio and sound quality are excellent at any volume setting.



■ AAVA volume control assembly with higher integration density of components and circuitry

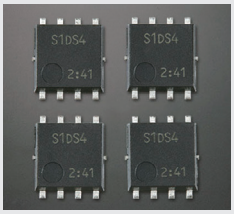


- **Configuration with a total of 18 V-I converter amplifiers, paralleled for upper two units, reduces overall AAVA impedance to one half and results in lower noise. Input stage with five buffer amplifiers ensures powerful drive capability.**
- **No more left/right tracking differences or crosstalk.**
- **Attenuator and balance control also implemented by AAVA, eliminating additional circuitry.**
- **Operation feel is exactly the same as a conventional volume control, and remote control is also possible.**
- **Combination of 16 types of weighted V-I converter amplifiers gives 65,536 possible volume steps.**
- **Volume level can be displayed accurately as a numeric indication.**

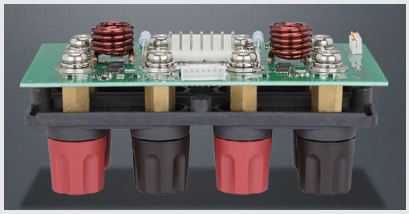
Advanced Features

- **Protection circuitry employs semiconductor (MOS-FET) switches for low impedance and excellent long-term reliability.**
- **Two sets of large speaker terminals. Y lugs and banana plugs are also supported.**
- **Balanced remote sensing technology provides balanced feedback for both the signal and GND lines from near the speaker terminals to ensure low impedance and high damping factor. Minimizing the amplifier's output impedance results in a damping factor of 400.**
- **Bi-wiring connection using the two sets of speaker terminals is supported.**
- **Analog peak power meters with new LED lighting for improved legibility.**
- **Versatile array of input options including balanced inputs to shut out external noise interference.**
- **MAIN IN button and preamplifier output and power amplifier input connectors allow independent use of both sections.**
- **Individual phase setting is possible for each input position (with memory).**

  The balanced connectors support both pin 2 ⊕ and pin 3 ⊕ configurations.
- **Rear panel expansion slot allows the use of option boards.**
- **Option boards provide additional versatility for digital input (USB, coaxial, optical) handling or analog record playback.**
- **DAC input selector allows displaying the sampling frequency of the digital signal onto which the amplifier has locked.**
- **With the AD-30 board, MC/MM switching on the front panel is possible.**
- **Logic-controlled relays for signal switching assure high sound quality and long-term reliability.**
- **Dedicated headphone amplifier optimized for sound quality.**
- **"High Carbon" cast iron insulator feet with superior damping characteristics further enhance sound quality.**



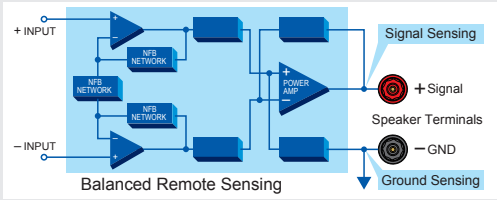
Semiconductor MOS-FET switches



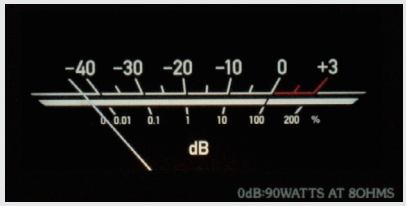
Assembly with protection circuitry directly linked to speaker terminals

Speaker selector

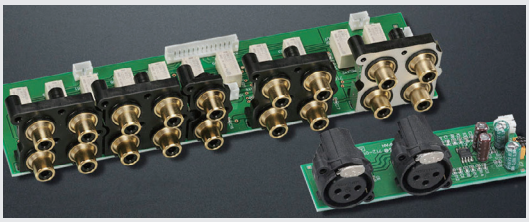
Preamplifier/ power amplifier separation button



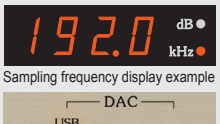
Balanced Remote Sensing



Peak power meters



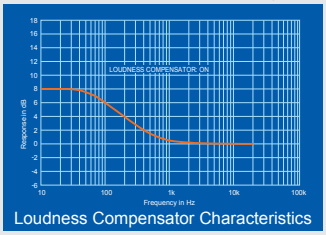
Line and balanced input connectors



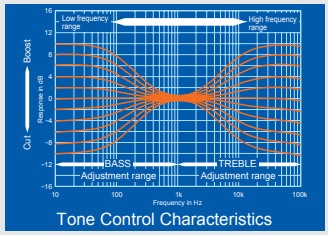
Sampling frequency display example

DAC input selector

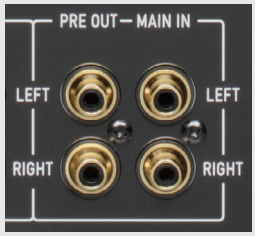
Left: MC/MM selector button
Right: Phase selector button



Loudness Compensator Characteristics



Tone Control Characteristics



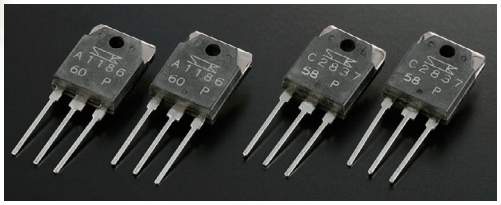
PRE OUT/MAIN IN connectors

■ **Supplied Remote Commander RC-230**
Allows volume adjustment and input source switching.

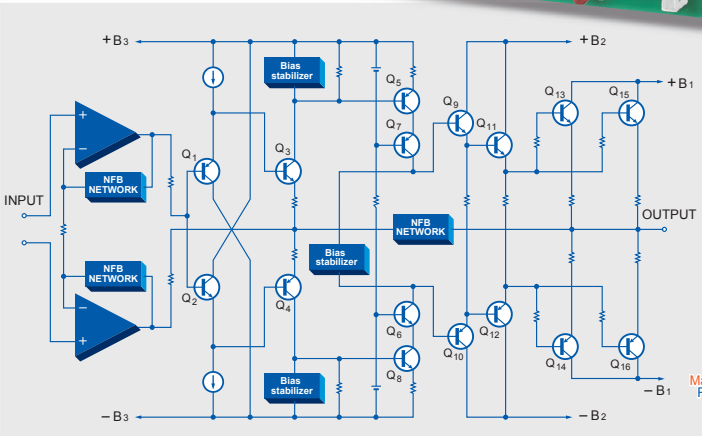
Designed for Maximum Sound Quality

■ **Parallel push-pull output stage and power amplifier stage mounted on large heat sink. Two identical units are arranged on the left and right sides of the chassis.**

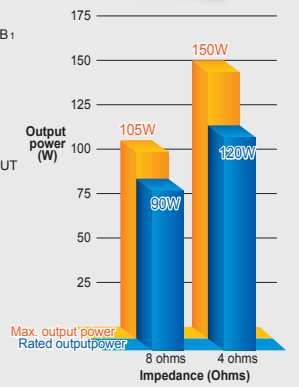
■ **Power amp units use high-power transistors in a robust parallel push-pull configuration, producing ample output of 120 watts into 4 ohms or 90 watts into 8 ohms per channel.**



■ **Strong power supply with massive high-efficiency transformer and large filtering capacitors.**
The E-270 uses a massive power transformer with high output capability. Highly effective filtering is realized with two custom-made aluminum electrolytic capacitors, each with a vastly increased 30,000 µF rating.



Circuit diagram of E-270 power amplifier (one channel)

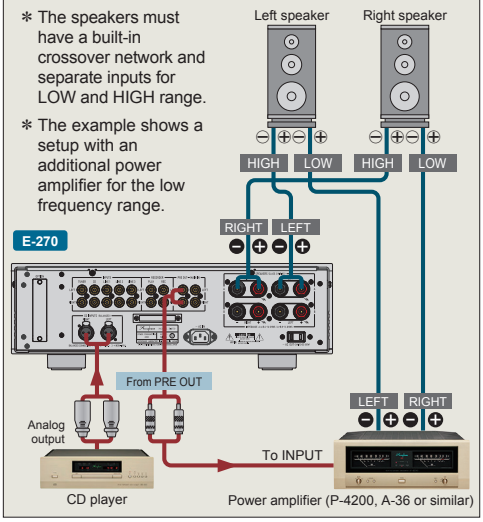


Output power characteristics

Bi-amping for further enhanced sound

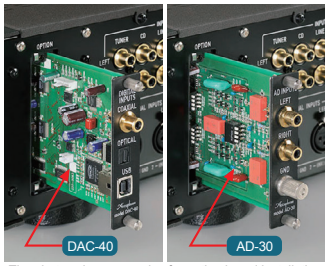
In a bi-amped setup, the speaker units for the LOW frequency range and the HIGH frequency range are driven by separate amplifiers, which enables playback with even higher sound quality.

* The speakers must have a built-in crossover network and separate inputs for LOW and HIGH range.
* The example shows a setup with an additional power amplifier for the low frequency range.

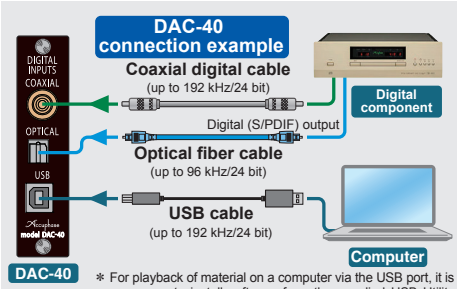


Dedicated Option Boards

- The E-270 provides one slot for an option board on the rear panel.
- Option boards can be used to realize direct connection of digital signals for high-quality music playback, or to enjoy high-quality playback of analog records.
- The Analog Disc Input Boards AD-9/AD-10/AD-20 can also be used. In this case, the MC/MM button on the front panel of the E-270 has no effect. MC/MM switching must be performed on the board.



The photos show examples for option board installation.



* For playback of material on a computer via the USB port, it is necessary to install software from the supplied USB Utility CD-ROM. (Not required with an Apple Macintosh computer.)

Digital Input Board DAC-40

Provides inputs for reproducing digital music signals from digital components.

- Switching between the COAXIAL, OPTICAL, or USB input can be performed on the front panel of the E-270, and the sampling frequency can be shown on the display.
- COAXIAL: For 75-ohm coaxial cable, IEC 60958/AES-3 compliant
  Supported sampling frequency range: 32 kHz to 192 kHz, 24 bit
- OPTICAL: For optical fiber cable, IEC 60958/AES-3 compliant
  Supported sampling frequency range: 32 kHz to 96 kHz, 24 bit
- USB: For USB cable with Type B connector
  USB 2.0 High Speed (480 Mbps) compliant
  Supported sampling frequency range: 32 kHz to 192 kHz, 24 bit

Analog Disc Input Board AD-30

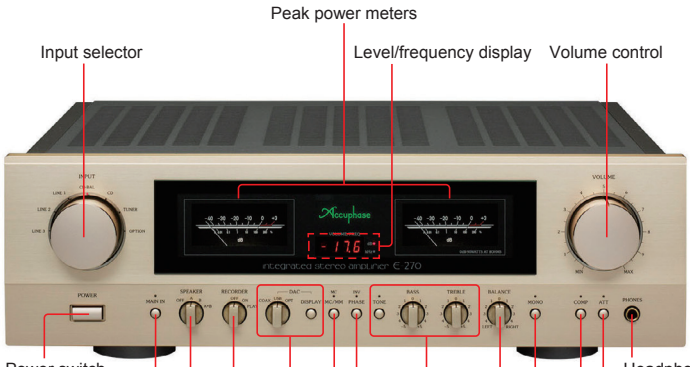
Features a high-performance, high-gain phono equalizer for playback of analog records with outstanding sound quality.

- MM/MC switching can be performed on the front panel of the E-270.
- On-board switches for input impedance switching and subsonic filter
  MC: Gain 66 dB, Impedance 30/100/300 ohms
  MM: Gain 40 dB, Impedance 47 kilohms

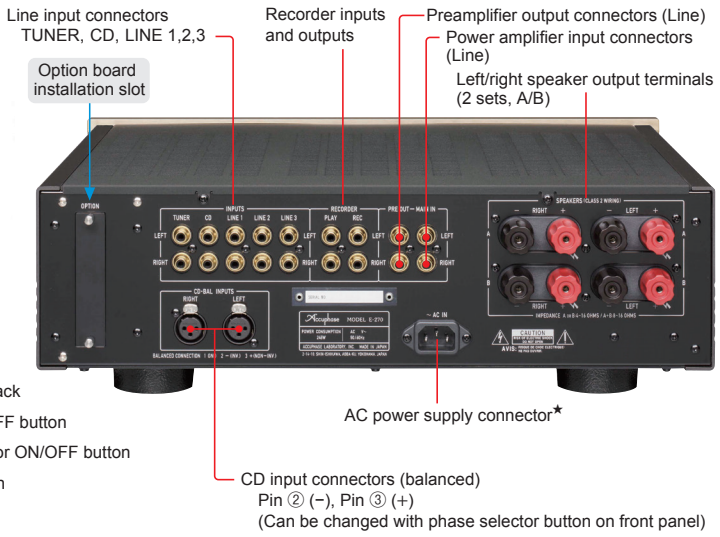
Line Input Board LINE-10

Provides an additional set of unbalanced line level inputs.

Front panel



Rear panel



E-270 Guaranteed Specifications

* Guaranteed specifications are measured according to EIA standard RS-490.

- **Rated Continuous Average Output Power (both channels operating simultaneously, 20 - 20,000 Hz)**
  120 W/ch 4-ohm load
  90 W/ch 8-ohm load
- **Total Harmonic Distortion (both channels operating simultaneously, 20 - 20,000 Hz)**
  0.05% 4 to 16 ohm load
- **Intermodulation Distortion** 0.01%
- **Frequency Characteristics** HIGH LEVEL INPUT
  At rated continuous average output: 20 - 20,000 Hz +0, –0.5 dB
  MAIN IN
  At rated continuous average output: 20 - 20,000 Hz +0, –0.2 dB
  At 1 watt output: 3 - 150,000 Hz +0, –3.0 dB
- **Damping Factor** 400 (with 8-ohm load, 50 Hz)
- **Input Sensitivity, Input Impedance**

Input	Input sensitivity		Input impedance
	For rated output	For 1 W output (EIA)	
HIGH LEVEL INPUT	134 mV	14.2 mV	20 kilohms
BALANCED INPUT	134 mV	14.2 mV	40 kilohms
MAIN IN	1.07 V	113 mV	20 kilohms

- **Output Voltage, Output Impedance** PRE OUTPUT 1.07 V 50 ohms (at rated continuous average output)
- **Gain** HIGH LEVEL INPUT → PRE OUTPUT : 18 dB
  MAIN IN → OUTPUT: 28 dB
- **Tone Controls** Turnover frequency and adjustment range
  BASS: 300 Hz ±10 dB (50 Hz)
  TREBLE: 3 kHz ±10 dB (20 kHz)
- **Loudness Compensation** +6 dB (100 Hz)
- **Attenuator** –20 dB
- **S/N Ratio, Input-converted Noise**

Input	Input shorted (A weighting) S/N ratio at rated output	EIA S/N
HIGH LEVEL INPUT	106 dB	97 dB
BALANCED INPUT	91 dB	96 dB
MAIN IN	122 dB	102 dB

- **Power Level Meters** Logarithmic peak level indicatio n, shown in dB and %
- **Load Impedance** 4 - 16 ohms (Terminals A and B)
- **Stereo Headphones** Suitable impedance: 8 ohms or higher
- **Power Requirements** 120 V/220 V/230 V AC, 50/60 Hz (Voltage as indicated on rear panel)
- **Power Consumption** 46 watts idle
  245 watts in accordance with IEC 60065
- **Maximum Dimensions** Width 465 mm (18.3")
  Height 151 mm (5.9")
  Depth 420 mm (16.5")
- **Mass** 20.0 kg (44. lbs) net
  26.0 kg (57.3 lbs) in shipping carton

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 AC inlet and plug of the supplied power cord depends on the voltage rating and destination country.*

Supplied accessories
- **AC power cord**
- **Remote commander RC-230**

• The specifications and appearance of this product are subject to change without notice.

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ACCUPHASE LABORATORY, INC.

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