Accuphase

INTEGRATED STEREO AMPLIFIER

E-370

● Revolutionary AAVA volume control ● Output stage with high power transistors in parallel push-pull configuration produces quality power: 100 watts x 2 into 8 ohms ● Instrumentation amplifier principle for power amplifier input stage allows fully balanced signal transmission, complemented by current feedback amplification circuitry ● Logic-control relays for shortest signal paths ● Strong power supply with massive high-efficiency transformer and large filtering capacitors ● POWER IN button allows separate use of preamplifier and power amplifier sections ● Numeric indication of volume level

Prepare to Be Surprised—The E-370 takes the performance and sound quality of the integrated amplifier to another level. Featuring a wealth of technological advances, such as the renowned AAVA volume control with even lower noise level and a power amplifier section with super low impedance, it delivers S/N ratio and drive power that stand out from the crowd. With sound quality to rival much higher ranked products, it opens up a world of unlimited musical enjoyment.

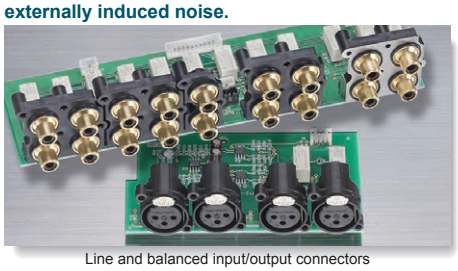
Inheriting outstanding technology from the top-of-the-line E-600 and the high-power version E-470, the E-370 represents a full model change from the E-360. It is an integrated amplifier that redefines what this product category can do, both in terms of technical excellence and sonic performance. Internally, the preamplifier and power amplifier sections are kept entirely separate, in order to allow each to develop their full potential, rivaling the functional concept and quality of separate type components. With a simple flick of a switch, the POWER IN feature allows individual use of the two sections.

At the heart of the preamplifier section is the same version of the AAVA volume control as found in the E-600, pushing the noise floor to an absolute minimum. The power amplifier block employs the latest instrumentation amplifier topology, enabling fully balanced signal transmission in all stages. This reliably shuts out external noise interference and ensures perfectly stable operation. As a result, overall S/N ratio has been improved by 3 dB. Other impressive features include MOS-FET switches in place of relays for speaker protection, helping to ensure superb electrical characteristics and improve long-term reliability. The circuit topology of the output stage is designed for extremely low impedance, resulting in a damping factor of over 400, demonstrating excellent speaker drive capability.

Bipolar transistors arranged in a parallel push-pull configuration for each channel further enhance performance with low-impedance loads, producing an impressive 150 watts into 4 ohms.

Preamplifier Section Functions and Features

Hermetically sealed relays designed for industrial communication applications are used in an optimized logically controlled configuration to realize a wide array of input choices, including balanced connections that are impervious to externally induced noise.



Line and balanced input/output connectors

Individual phase setting is possible for each input position. The balanced connectors support both pin 2⊕ and pin 3⊕ configurations.

PHASE selector button

Two option board installation slots on the rear panel provide further versatility.

The DAC input selector button allows the user to select the desired input when using the Digital Input Board DAC-40 With USB Port. Display of the sampling frequency of the locked digital signal is also possible.

DAC input selector button and LED indicators

Sampling frequency display example

When the Analog Disc Input Board AD-30 is installed, MC/MM switching is possible with a selector on the front panel of the E-370.

MC/MM selector button

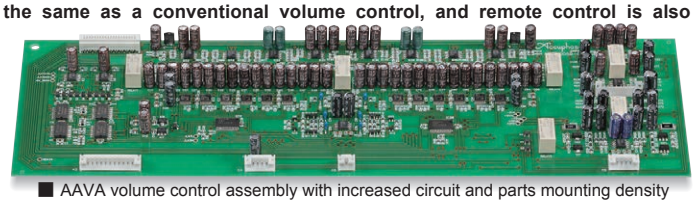
A dedicated headphone amplifier optimized for sound quality is built in. Setting the speaker output to OFF allows musical enjoyment via headphones only.

AAVA (Accuphase Analog Vari-gain Amplifier) Volume Control

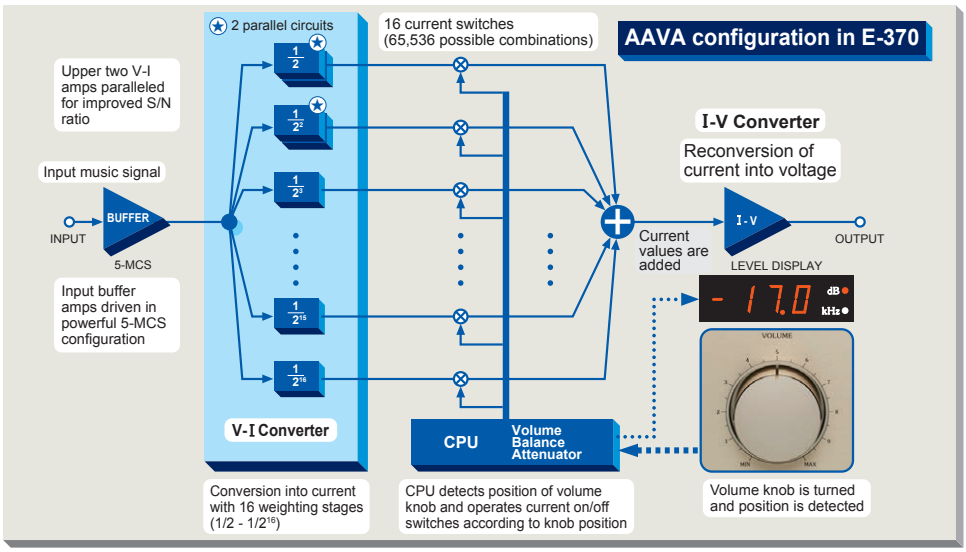
AAVA volume control with further lowered noise floor

The volume control is the most important aspect of a preamplifier, with a decisive influence of performance and sound quality. AAVA is a revolutionary type of completely analog volume control that does away with any variable resistors in the signal path. This ensures that the signal remains completely 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.

- **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.**



■ AAVA volume control assembly with increased circuit and parts mounting density



Power Amplifier Section Functions and Features

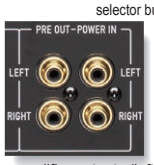
Strong power supply with oversized high-efficiency transformer and large filtering capacitors (30,000 µF x 2) providing 1.5 times more smoothing capacity.

Massive power transformer

Filtering capacitors

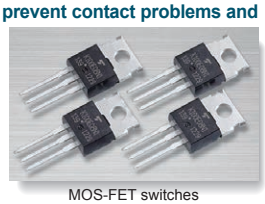
POWER IN button and separate preamplifier outputs/power amplifier inputs give independent access to preamplifier and power amplifier sections. This makes it easy for example to try another preamplifier or add a second power amplifier for bi-amping.

POWER IN selector button



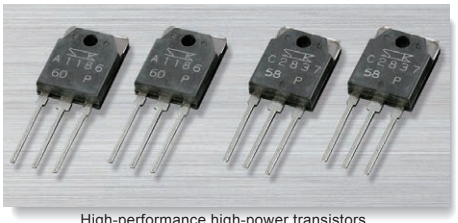
Preamplifier outputs (left)
Power amplifier inputs (right)

Semiconductor (MOS-FET) switches used for speaker protection circuitry prevent contact problems and ensure long-term reliability. Eliminating mechanical contacts from the music signal path also further enhances sound quality.

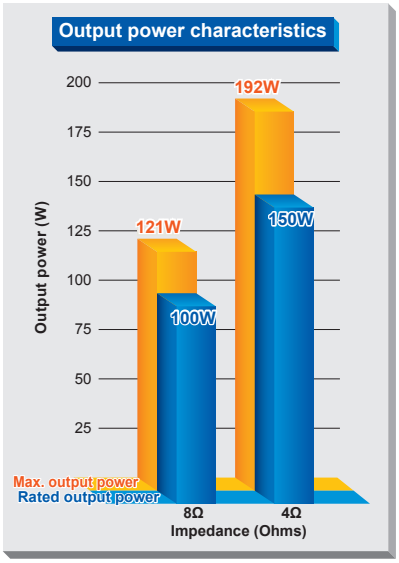


MOS-FET switches

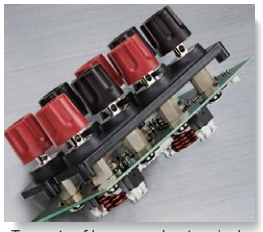
Parallel push-pull power amplifier unit with high-power transistors produces ample power: 150 watts per channel into 4 ohms or 100 watts per channel into 8 ohms.



High-performance high-power transistors designed for audio applications

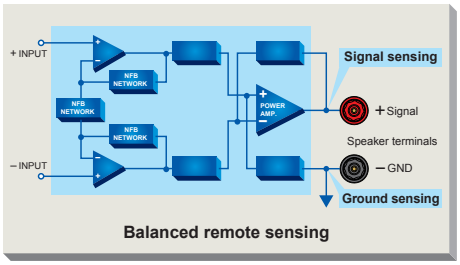


Two sets of large speaker terminals (A / B) also accept spade and banana connectors and facilitate bi-wiring connection of loudspeakers.
Metal bus bars directly link the speaker terminals with the output circuitry, for minimum losses and maximized performance.



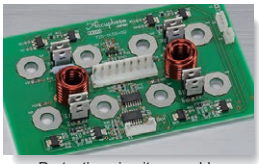
Two sets of large speaker terminals

Balanced remote sensing technology provides feedback for both the signal and GND lines from near the speaker terminals to ensure lowest impedance and improved damping factor.



Balanced remote sensing

Redesigned NFB circuit topology minimizes output impedance and improves the damping factor, thereby contributing to enhanced sound quality.



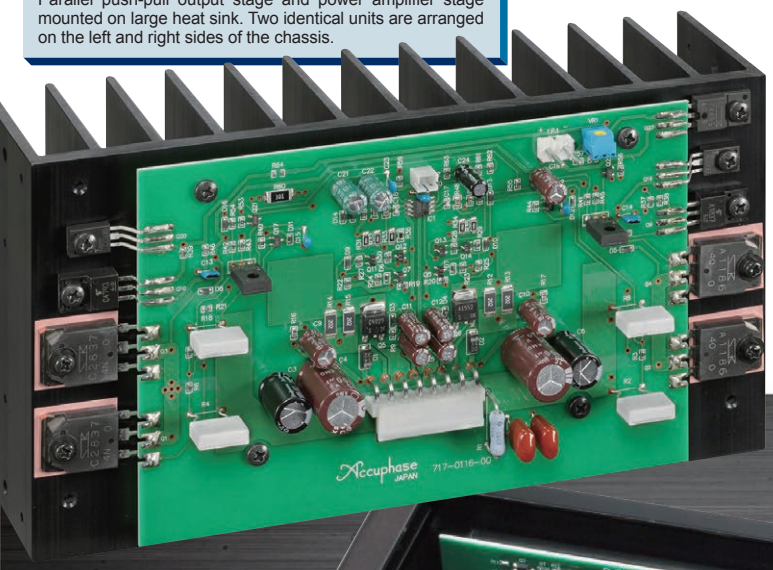
Protection circuit assembly

The analog peak power meters feature a new type of LED lighting for improved readability. The meters provide visual enjoyment as well as precise information about constantly fluctuating output levels.

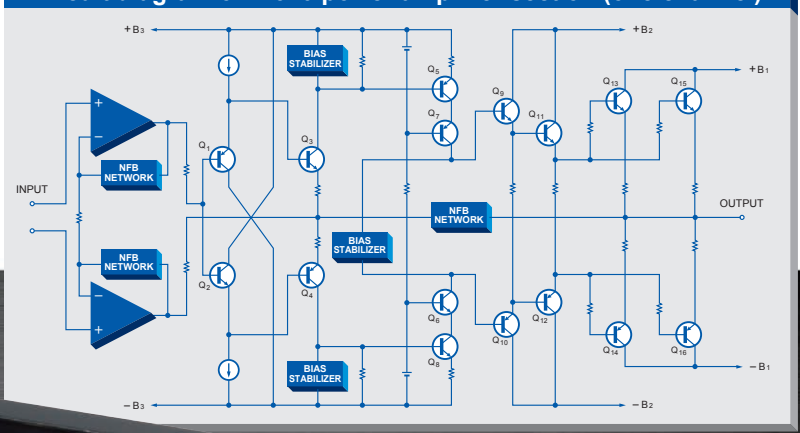
The use of High Carbon cast iron insulator feet further enhances sound quality.

Power amplifier assembly

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.



Circuit diagram of E-370 power amplifier section (one channel)

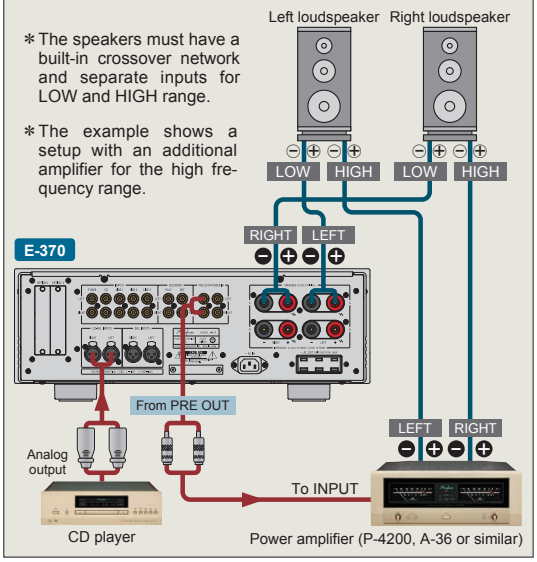


Supplied remote commander RC-230
Allows volume adjustment and input source switching.

Connection Example For Bi-amping Setup

In a bi-amped setup, the speaker units for the LOW frequency range and HIGH frequency range are driven by separate amplifiers of equal gain, for even better 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 amplifier for the high frequency range.



Option Boards

- **Two slots allowing easy insertion of option boards are provided on the rear panel.**
- **Option boards can be used to implement high-quality reproduction of a digital music signal supplied directly to the amplifier, or high-quality reproduction of analog records.**
- **It is also possible to install two identical boards.**

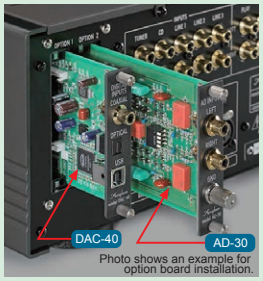
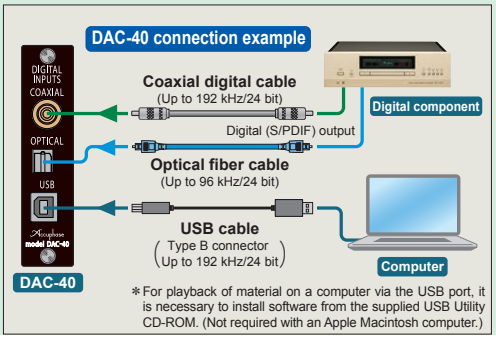


Photo shows an example for option board installation.



* 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

Features a high sound quality, high-performance MDS++ D/A converter. The USB port allows connection to a computer via USB cable, for reproduction of high-resolution music library data with superior sound quality.

- **COAXIAL:** For 75-ohm coaxial cable
  Supported sampling frequency range: 32 kHz to 192 kHz, 24 bit
- **OPTICAL:** For optical fiber cable
  Supported sampling frequency range: 32 kHz to 96 kHz, 24 bit
- **USB:** For USB cable (Type B connector)
  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.

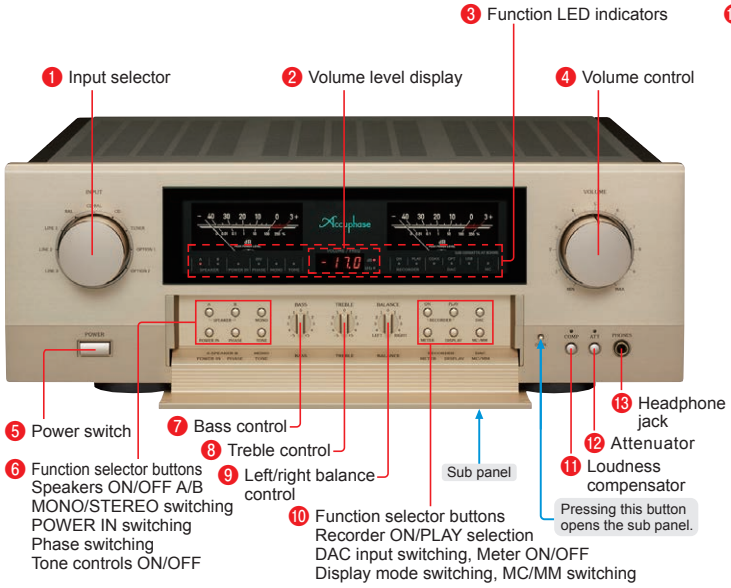
- **MC/MM switching is possible on the front panel of the E-370.**
- **Internal DIP switches control MC input impedance and subsonic filter on/off.**

MC	Gain:	66 dB
	Input impedance:	30/100/300 Ω (selectable)
MM	Gain:	40 dB
	Input impedance:	47 kΩ

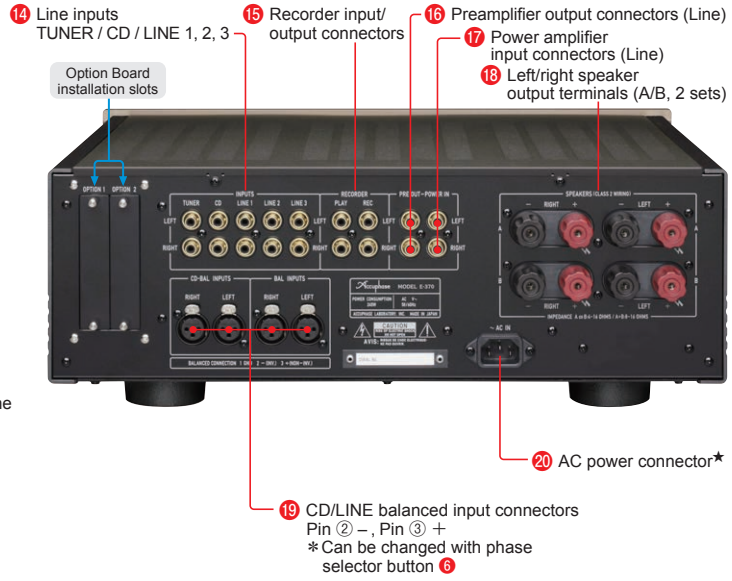
Line Input Board LINE-10

Provides a set of general line level inputs.

Front Panel



Rear Panel



E-370 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)
  150 W/ch 4-ohm load
  100 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
  POWER INPUT
  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	142 mV	14.2 mV	20 kΩ
BALANCED INPUT	142 mV	14.2 mV	40 kΩ
POWER IN	1.13 V	113 mV	20 kΩ

- **Output Voltage, Output Impedance**
  PRE OUTPUT 1.13 V 50 ohms
  (at rated continuous average output)
- **Gain** HIGH LEVEL INPUT → PRE OUTPUT: 18 dB
  POWER 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	S/N ratio (EIA)
HIGH LEVEL INPUT	107 dB	98 dB
BALANCED INPUT	97 dB	97 dB
POWER IN	123 dB	102 dB

- **Power Meters** Logarithmic peak level indication, shown in dB and %
- **Load Impedance** 4 - 16 ohms (Terminals A or B)
  8 - 16 ohms (Terminals A and B simultaneously)
- **Stereo Headphones** Suitable impedance: 8 ohms or higher
- **Power Requirements** 120 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 (18-5/16")
  Height 171 mm (6-6/8")
  Depth 422 mm (16-5/8")
- **Mass** 22.7 kg (50.1 lbs) net
  29.0 kg (63.1 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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